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‘COMPLETELY OVER THE TOP’ EXTENSION OF THE RAILWAY TO BRYNMAWR

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Issued by:	Eur Ing Dr John Down BSc. PhD, CEng, MIEE Development Director	Signature
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Summary:

A proposal is made to extend the Pontypool and Blaenavon Railway northwards from its centre just outside Blaenavon to Waunafon and ‘completely over the top’ and round to a new station at Brynmawr near Noble Square.

1. Introduction

This document is directed primarily at policy makers and funding agencies, together with councillors and officers of Blaenau Gwent County Borough Council and Monmouthshire County Council. It sets out the vision of the Pontypool and Blaenavon Railway Company (PBRCo) of extending its tourist railway to Brynmawr. It is stressed that the PBRCo is a registered charity, and that its railway is managed, administered, operated, and maintained entirely by volunteers. ‘Completely over the top’ refers to the need for the railway to ‘go over the top’ at the station at Waunafon, where the height is 1401ft above sea level – the highest railway station in England and Wales, before falling towards Brynmawr. Hopefully the nature of contents of this document can also be made to reach the ordinary residents of the respective boroughs, who if the plans are realised, will reap benefits tangible, intangible, short-term and in the years to come.

This document is effectively an updated ‘snapshot’ of a paper first published in July 2007 which accompanied a ‘Candidate Site Assessment Form’, being part of the development process surrounding the production of Blaenau Gwent County Borough Council’s ‘Local Development Plan, 2006-2021’. In turn the July 2007 document is derived from two sections of a draft report submitted to Torfaen County Borough Council, in April 2007 and which described the opportunities and challenges presented by rebuilding the railway line between Brynmawr in the north, and Wainfelin, just north of Pontypool in the south. Part of the line, between Furnace Sidings (just north of Blaenavon at Garn-yr-Erw) and Whistle Inn (3/4 mile to the north), is already operational, and, indeed, has been since 1983. Funding, from the Heads of the Valleys (HoV) programme, which became available from April 2008, has allowed physical work on rebuilding the line a further 1.25 miles southwards to Blaenavon (High Level) station. This work is approaching completion, and operations over the whole 2 miles of line are planned to start from April 2010. A further investment from the HoV programme announced in November 2008 saw work begin on a new branch line from the railway’s ‘centre of gravity’ at Furnace Sidings, some 1/3 mile southwards to Big Pit. It is planned to open on April 2011. In recent years, and on the basis of informal discussions with HoV officers, the railway company has taken the view that HoV are possibly minded to support substantial and wide ranging extensions to the railway in due course.

1.1. The overall development plan

Before discussing any possible extension in the direction of Brynmawr it is worth considering such an extension in the context of PBRCo’s overall development plan. The maps on the following pages outline the railway company’s proposals. In very broad terms, the central core of the railway is either complete, under construction or funded – all with finite delivery dates. This central core provides, as it were, the ‘centre of gravity’ of the railway, and further planned developments will extend the railway either to the north to Brynmawr, or to the south to the northern edge of Pontypool, or, ideally both. This bi-lateral uncertainty has bedevilled clear planning for best part of a decade, for, until the dice is seen to fall one way or the other, it is difficult to know upon which end to focus!

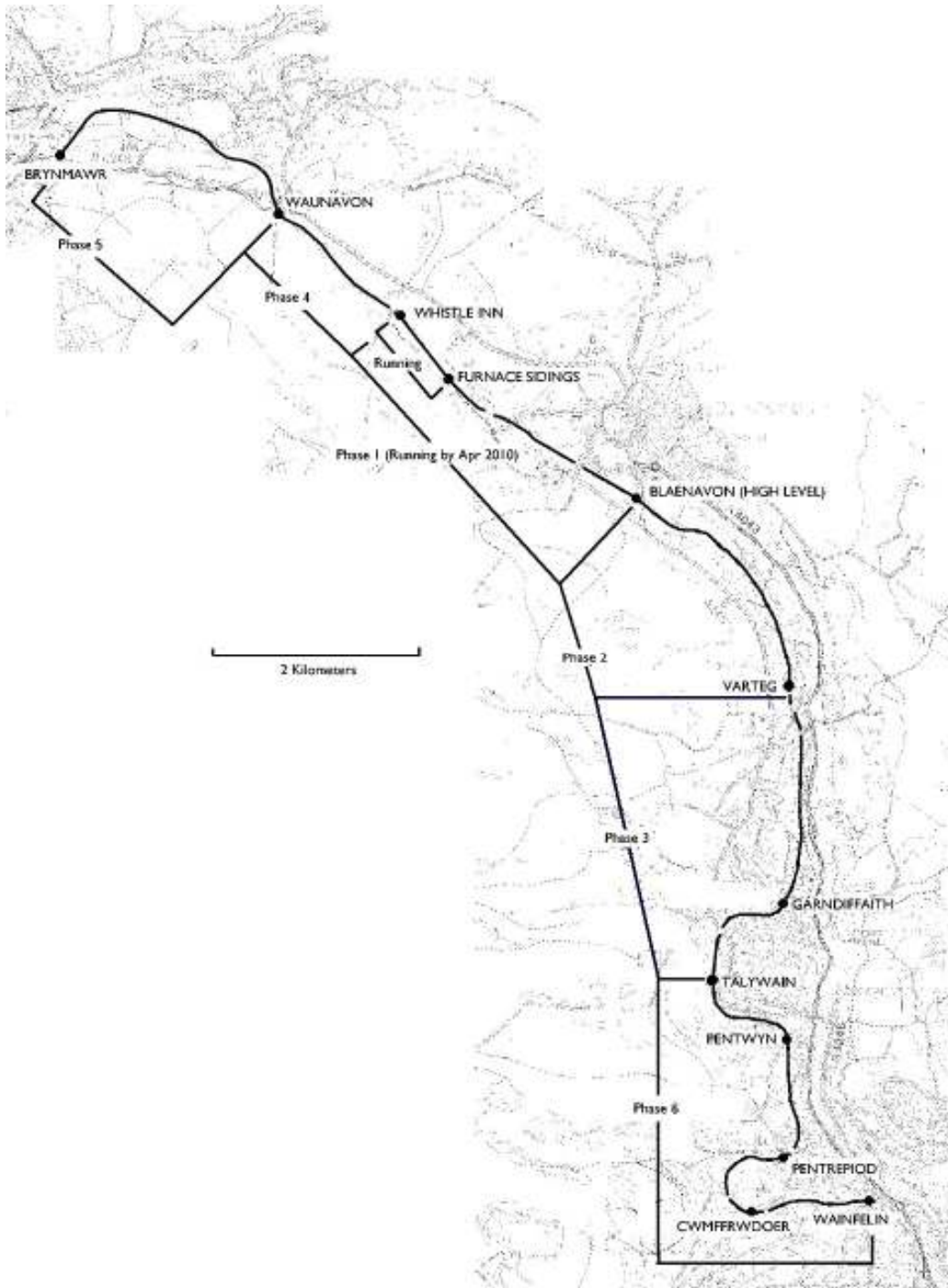
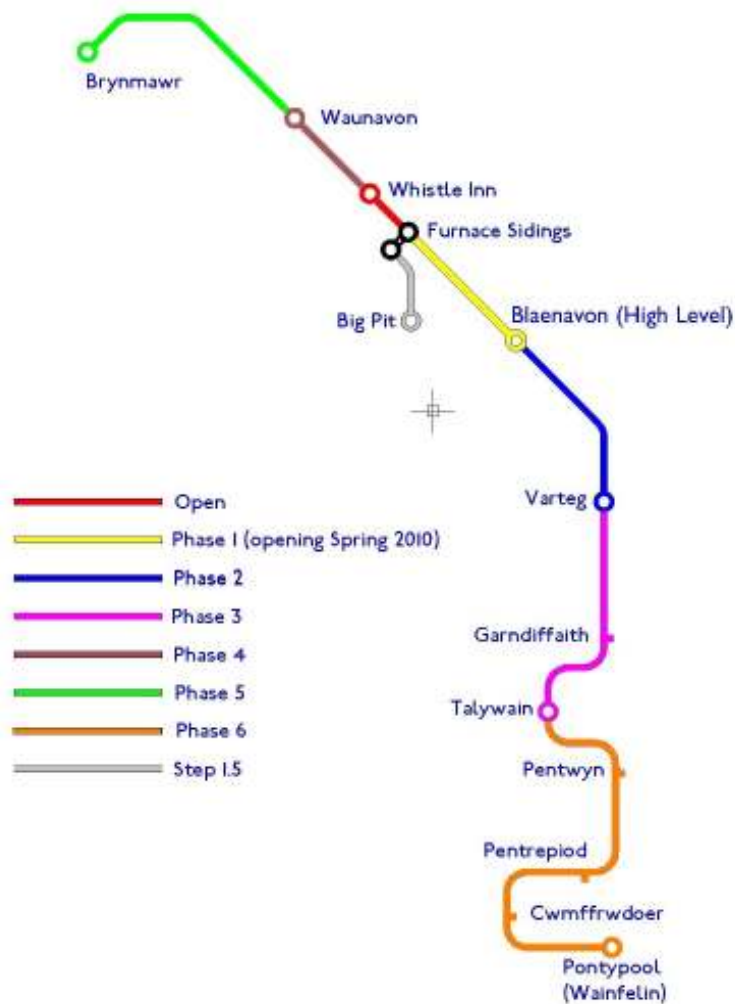


Fig.1 The overall plan envisages the rebuilding of the railway in six phases. The map is shown to a consistent scale and indicates that the penetration of the railway into Blaenau Gwent is relatively modest

PONTYPOOL AND BLAENAVON RAILWAY – THE BIG PLAN



- This is the BIG PLAN for the PONTYPOOL AND BLAENAVON RAILWAY
- It represents the furthest ambitions to which the PBR aspires.
- The line between Furnace Sidings and Whistle Inn is just under ¾ mile and has been operating since 1984
- Phase 1 to Blaenavon (High Level) – to give a total of about 2 miles is approaching completion is planned to be operating by April 2010.
- Step 1.5 (the Big Pit branch) is receiving funding, and physical work is under way. It is planned to open in April 2011.
- Phase 4 to Waunavon and then phase 5 to Brynmawr are attracting considerable political interest, and positive negotiations are in progress with Sustrans to enable cycleway and rail to lie side-by-side over much of the route
- Phases 2,3 and phase 6 are expected to be delayed by several years. The cycleway NCN46 currently runs along the trackbed and discussions with Sustrans are under way to explore engineering solutions to address this issue.
- Phase 6 was threatened by a potential breach in the formation resulting from proposed opencasting operations which would have permanently prevented further southward progress, but this threat now appears to have receded

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Fig 2. The railway's overall plan is shown in here in Harry Beck's famous 'Underground' style, which perhaps gives a clearer overview of the situation.

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1.2 Comparison between extension to the north and to the south

There are very obvious differences between a northern extension, and an extension to the south. An extension all the way to Brynmawr would be a magnificent affair. The railway would penetrate three counties, serve the highest standard gauge station in England and Wales, travel through the wilderness of the Milfraen Bog in Torfaen, and look out onto wonderful views across the Usk Valley to the Sugar Loaf and the western flank of the Black Mountains (including the strange and dominant Pen Cerrig Calch) during its journey through Monmouthshire. Further round on the northern flanks of Mynydd Rheinallt would come peerless views into the Clydach Gorge with the southern edge of the Llangattock Escarpment as a backdrop. If it were possible to run a cycletrack alongside the railway formation – and there would seem to be few engineering impediments to such a proposal - then these views would be open to both passengers, and to cyclists, walkers and those on horseback. It’s a wonderful dream! Now whilst the railway would pass through unspoilt scenery, the area, by its very nature is sparsely populated, and therein lies the paradox: the project once capitalised, must then operate at least in a manner that is revenue neutral. From PBRCo’s standpoint the benefit of widespread, but unquantifiable regeneration gain is cold comfort when operating costs must be met. PBRCo has never received revenue support from municipal sources, and is loathe to so do. It is, however, not above trying to muster sponsorship from one of the newer supermarket operators in Brynmawr, on the basis that the railway has the potential to bring shoppers from Blaenavon almost to its door. Spin off growth would also be anticipated from Sustrans plans to develop an area close to the end of the route as, paraphrasing their terminology, a ‘World Heritage Site Gateway’.

On the other hand a southerly extension has less obvious ‘headline’ appeal, and scenery on a less grand scale. Extension to the maximum proposed would be about twice as long as the Brynmawr extension, but very likely realised at less cost. It would nevertheless meander through some very attractive scenery, scenery which promises a rich experience in both flora and fauna, and of industrial heritage. It is not suggested that the journey would lack excitement, and the unfolding panorama would also include passage over several viaducts and under a long bridge, sufficiently long to behave as a short tunnel. Importantly, despite being of greater length, significant population centres would be reached at Talywain (about halfway), and particularly at Pontypool (Wainfelin). Their almost certain capacity to provide a sizeable passenger base, and, with it a dependable revenue stream contrasts strongly with the northern route, where the need to build a sound passenger base would represent a significant challenge.

It is not the purpose of this paper to propose one route in preference to the other, only to re-iterate PBRCo’s desire to see the uncertainty resolved. It is PBRCo’s fervent wish that whichever extension comes first, development of one does not seriously hinder consideration and forward planning of the other

Any plan to further rebuild the line in the direction of Brynmawr, must be undertaken in two distinct steps, so that each step is tested for commercial viability (or at least, revenue neutrality), before the next step is undertaken. The overall plan for an extended railway sees its early future as a so-called Heritage Railway, and as an important player in the tourism product in Torfaen, Monmouthshire and Blaenau Gwent, however, extension brings with it the opportunity both to serve as a community railway, and possibly even as a commercial carrier.

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If, for convenience, we couch the proposed development in terms of PBRCo’s overall plan, that is, in phases, then the Brynmawr project require completion of Phases 4 and Phase 5. In order to reap early revenue benefits from the overall project, extension from the railway’s existing northern terminus at Whistle Inn towards Waunafon (Phase 4), must be completed firstly, with . extension from Waunafon to Brynmawr (Phase 5), following immediately. Because this draft is directed primarily at the planning authorities of Monmouthshire, Brecon Beacons and Blaenau Gwent a discussion on Phase 4 (which is, except for the northern tip, entirely within Torfaen) is relatively brief. Discussion relating to Phase 5 is, by contrast, more detailed.

2. Phase 4 – extension from Whistle Inn to Waunafon

2.1 Historical background

This part of the route, from Waunafon southwards down to the Whistle Inn formed part of the route from Brynmawr to Blaenavon (High Level). It was authorised by the Brynmawr and Blaenavon Act of 1866 and both passenger and goods trains were running a few years later. Some 300m south of Waunafon station a branch, built in 1870, veered to the West to serve the Milfraen Colliery. The space between the single platform station at Waunafon and the branch was occupied by a series of loops and sidings. In 1913 a small platform, called Garn-yr-Erw halt was built just north of the Whistle Road Bridge. It was used only by miners, and did not appear in any public timetable. No trace of it exists today.

Trains ceased to run on the Milfraen Colliery branch after 1931 and the track was removed in 1937. Regular passenger services on the route ceased in 1941 and all traffic ceased in 1953. The line was retained for wagon storage until 1953, and around 1950, a temporary siding was laid in connection with opencast workings on the Blorenge, branching east roughly at the point where the Milfraen Colliery branch had previously branched west. Track along the whole route was finally lifted in July 1961.

2.2 Walkover survey details

A walkover survey of the Phase 4 was made in early 2007 when distances were estimated, physical features noted and described, and a photographic evidence of the state of the trackbed made. The railway company is in co-operative discussions with Sustrans concerning the details of accommodating a 3m wide cycleway alongside the line of the route. On a purely engineering basis there would seem to be few problems with such a proposal, and the railway company would welcome the opportunity to use railway formation used to support both a line of rails and a leisure route capable of supporting the needs of cyclist as well as pedestrians and those on horseback

The raw data from the walkover survey are not included in this document, since it remains to be fully evaluated, despite being included in the July 2007 paper. It is considered that they have little relevance in terms of the response by planning authorities in Monmouthshire, Brecon Beacons and Blaenau Gwent.

2.3 Ownership of the route

The route, which formally starts at the southern abutment wall of the Whistle Inn bridge, and will terminate at some convenient point just short of the point at which the B4248 crossed the

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railway on a wrought iron bridge supported by masonry abutments has been determined, by admeasurement, to be 1478m long. The first 134m is in the ownership of Torfaen County Borough Council, whilst the remainder is owned by Walter’s Mining Ltd. A short strip at the northern end is owned by Celtic Energy Limited.

2.4 Description of the route

We choose to describe the route in a south to north(up) direction, since this both reflects the direction in which the route would be relaid, and is how it would appear to a passenger making his first trip from Furnace Sidings. Travelling north from the Whistle Inn, the route immediately passes under the Whistle Inn road bridge. At present the space under the bridge is occupied by an open concrete channel that carries a stream that carries the headwaters of the Avon Llwyd. The stream was diverted from its original course in the early eighties. It passes under the bridge flowing in a southerly or down direction before veering sharply away to the east in a man made channel some distance from the railway. It then returns to run more or less parallel to the railway down the valley. North of the bridge the stream continues to occupy the centreline of the trackbed for some 115m before veering to the west. Immediately north of the bridge and invisible to the eye is a concrete box channel service tunnel that lies transverse to the route, and roughly parallel to the Whistle Inn road, and which carries two large water mains in cast iron pipes from the Grwyne Fawr Dam in the nearby Black Mountains west over the Coity mountain to a reservoir near Abertillery to serve the population there. It is not known to what extent the roof of the service tunnel is fit to carry the weight of trains, but it would clearly represent a significant cost element in any extension initiative. A little further the route crosses on a stone built culvert, which once carried the Avon Llwyd stream, but which now runs quite full with issues from other tributaries, and there are some other remaining historical items related to controlling the stream, which remain unused, now having fallen redundant as a result of the stream deviation, For almost 1000m the route runs in a wide shallow cutting in otherwise largely featureless moorland. Featureless it may be, but it has a wilderness quality and unique charm to the walker, cyclist and rail passenger.

The only significant item of built environment is a pier, at about 370m along the route, of a long defunct structure which crossed the line. This once supported an open aqueduct. As we travel further north the cutting falls away to yield to views across a wide expanse of mountain moorland, the Milfraen bog. The bog is home to important flora and fauna – particularly birds such as the endangered Lapwing or Peewit, and the Small-eared Owl. Runoff from peat land is normally dominated by surface and near surface flows causing large flood peaks. However, Waunafon’s degraded valley fen peat moorland includes organic layers up to 0.5m deep that are unsaturated in summer. So while, overland flow may be affected by rainfall onto saturated ponds, runoff in soil pipes, and through channel incised between the tufts of heath, this degraded peat land has a significant storage capacity in summer and commensurate capacity for seasonal flood attenuation. These unusual characteristics render the Milfraen Bog an almost unique ecological resource.

2.5 Extension

Extension of this route from Whistle Inn to Waunafon, is made difficult both by land ownership problems and by technical difficulties, The land ownership issue extends for most of the route

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whilst technical difficulties are localised around the southern end of the line, with possible modest problems at the north end.

There are several sound reasons underpinning PBRCo’s aspirations to reach Waunafon. Operationally, the most important, is to reach level ground which is finally reached at Waunafon station where the height above the Newlyn Datum is 1401feet – the highest station in England and Wales. There is level ground here because the local contouring forms a natural saddle, that is, the land rises to both east and west, and falls to both north and south. In straightforward terms, level ground is needed so that an engine can ‘run round’ its train at the completion of its journey. Such an operation is not permitted on ground that is significantly graded. Therefore the minimum requirement to permit conventional locomotive hauled trains (whether steam or diesel) is to have a line of rails between Blaenavon (High Level) (where there is level ground) and Waunafon. That is Step 1.2 and Phase 4 must be complete.

Most of the remaining advantages of reaching Waunafon relate to the provision of marketing opportunities. The longer route intrinsically provides improved marketing opportunities, and the opportunity to charge higher fares, though it is rarely commercially possible to increase fares pro rata to length. Opening a station at Waunafon would significantly improve the catchment from the A475 ‘Heads of the Valleys’ road (though not, of course, as effectively as extending to Brynmawr). With, as noted previously, a station built at Waunafon at an altitude of 1401 ft, the unique selling point of being able to advertise Waunafon as the ‘highest standard-gauge station in England and Wales’, would be powerful incentive in attracting passengers.

2.6 Engineering and political issues

Until a few years ago, the channel which ran under the Whistle Inn road bridge ran very close to the railway in the vicinity of Whistle Inn Halt, and this gave rise to grave concerns as the watercourse undercut the formation. In 2001 a new watercourse was constructed to avoid the undercutting problem, but, despite the strongest exhortations at the time from PBRCo at the time for the watercourse to be diverted from under the bridge to a closed culvert under the road (as indeed, had been the original course of the stream, prior to the diversion in the early eighties)), those pleas were ignored. Accordingly the first major engineering problem to be faced is how to accommodate the watercourse. The width of the formation under the bridge is 7.7m and it may just possible to build a concrete channel of suitable dimensions to carry the stream, but this would have to be with the agreement of the National Rivers Authority / Inland Waterways Board / Environment Agency. Even if this were possible the stream continues to occupy the centreline of the route, and diversion would therefore be required. Whilst this might be quite simple there would remain the need to culvert the stream under the railway, so that its course would be changed from the west side of the railway to the east. The lost opportunity of not re-culverting the stream in 2001 will subsequently require significant funding if this difficulty is to be removed. Even under such circumstances there remains the problem of diverting the stream further north, and building a shallow culvert, unless the stream is diverted back to its pre -early eighties course.

At the northern end, the original station house at Waunafon station is in private ownership, and the lie of the land has been significantly changed. Before the track was lifted in 1961, the line passed under the B4248 Blaenavon-Brynmawr road which was carried on a wrought iron deck

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bridge, supported by masonry abutments. The bridge was subsequently demolished and a long-standing irregularity in the direction of the road straightened out. Any relaying of the track in his area should not result in an alignment that would preclude any possible extension to Brynmawr. Simultaneously, any intrusion into the private land included with the station house must be avoided. LR2001 (see reference below) provides a practical plan for the construction of a station at Waunafon, but it does not address the matter of any future extension to Brynmawr.

For the first 134m or so beyond the Whistle Inn bridge, the trackbed is owned by TCBC and this is not expected to hinder development. Beyond this point, northwards, the trackbed is owned by Walters Mining Ltd, though they sold the surrounding Milfraen Bog to Celtic Energy Ltd. in 2005. Initially the area was proposed for opencasting. , though it no longer obvious for what purpose the owners have for the land. This area, of 3800 acres, is referred to by Walters Mining Ltd. as the Pwll Du site, is claimed to have reserves of over 10 million tonnes of coal. Walters also claim that the site has tremendous potential for variety of onward uses after coal extraction and restoration. However in the prevailing political climate planning approval to permit mining seems unlikely. Some years ago PBRCo briefly approached Walters Mining to investigate the possibility of extending the line of Walters’ land. Generally the response was negative, but was couched in terms that suggested that they would only permit railway development after opencasting was complete. Unsurprisingly, faced with this impasse, little progress has been made in detailed planning for a railway.

Maps have also been released into the public domain by Sustrans which suggest that they plan to extend NCN 46 along most the line of the trackbed. Although a detailed survey has not been made as part of this study, a brief examination suggests that there is almost certainly sufficient formation width to accommodate both rail and cycletrack reasonably comfortably side by side. The amicable dialogue now in progress between PBRCo and Sustrans augers well. This dialogue should avoid the potentially costly effects of building the cycleway precisely along the prior centre line of the railway, before the railway’s requirements are taken into account.

Whilst it is acknowledged that extension to Waunafon is subject to a number of political and engineering threats, it is considered that these are less intractable than when a study was made in 2001. In that year Torfaen County Borough Council commissioned a study using L&R Consulting of Liverpool, in association with Ove Arup and Rob Shorland Ball into the then plans for the railway, which, at the time, extended form Talywain in the south to Waunafon in the north. It is only in last few years that the railways aspirations have broadened. The study was published in November 2001, and its conclusions, which fully supported the aspirations of the railway company at the time, were duly presented to Torfaen County Borough Council. In Spring of 2002 the conclusions were formally accepted by Torfaen County Borough Council, who embedded the plans into their existing LDP as ‘ED10’ (Economic development). Since then and in the last few years, TCBC have clearly demonstrated that their support was far from tacit. Since then the so-called ‘L&R document’ (Ref.1) has formed an important element in the railway company’s planning activities, and is referred to in this document, for the sake of brevity as LR2001.

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In the light of the situation that obtained whilst LR2001 was being prepared, it was considered that there was a realistic possibility of extension to Waunavon being made impossible. Under the then circumstances, LR2001 proposed three compromise solutions for resolving the situation, and these are shown as Figs. 9, 10 and 11 of LR2001.

Detailed examination of these proposals and the related drawings will soon show that they are designed to avoid crossing the Milfraen Bog, and so effectively prevent extension to Waunafon.

Accordingly, it is easy to see that these proposals seek to solve the problem of access across the Pwll Du site (ie across the Milfraen Bog) , but, of course, they do not, they simply avoid it.

In all cases all are ‘new works’ that add nothing of heritage value, nor do they improve access to the existing heritage. The Figs. 9 and 10 of LR2001 solutions are now slightly compromised by the construction of a car park at the junction between the Whistle Inn road and the B4248 which limits the eastward extension by some metres. The Fig. 11 of LR2001 proposal would result in some loss of built heritage. All are expensive and require significant civil engineering works. All solutions assume that the stream is diverted to its pre-early eighties condition, an opportunity that was lost in the 2001 second diversion, and which course of action requires that LR2001 Figs.9, 10 and 11 schemes must additionally capitalise the cost of stream re-diversion. None of the proposed schemes has attracted widespread support from PBRCo other than as a temporary expedient.

LR2001 Fig. 8 proposes a terminal station at Waunafon. It has received cautious support from PBRCo, but the following additional comments are made.

- It is noted that the proposed track alignment extends in Blaenau Gwent County Borough
- Nothing in the track alignment should compromise the ability of the route to cross the B4248 and extend further northwards, with the intention of extending to Brynmawr. However comprehensive road works will be required to cross the railway, whether on the level or otherwise. The proposed alignment does not appear to meet this criterion.
- The extent of the curtilage of the private house that was once the station master’s house at the original Waunafon should be determined as part of the track alignment exercise, although a superficial examination suggests that it should propose few if any problems. There is no evidence that it ever stood on or abutted the original platform.
- It has been suggested that plans have been produced by TCBC to re-align and improve the B4248 road through Torfaen. Such plans should fully recognise the possible future requirement to extend north to Brynmawr.
- Although the proposals indicate the presence of a ticketing kiosk on the platform, this is scarcely sufficient to meet the needs of passengers waiting at over 1400ft for a train – some further accommodation will be necessary.

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3 Phase 5 - possible extension from Waunavon northwards towards Brynmawr

3.1 Introduction to Phase 5

Any possible extension of the railway northwards to Brynmawr would require the railway to cross the B4248. It would also cross the county borough boundary from Torfaen briefly into the county borough Blaenau Gwent for some 111m. It would then enter Monmouthshire where it crossed the centreline of the B4248 road. Some 36m from the centreline of the road, whilst still in Monmouthshire, the railway would enter the Brecon Beacons National Park. The line of the railway would continue for some 1331m in Monmouthshire, before running a further 198m alongside the Monmouthshire - Blaenau Gwent boundary. At this stage the precise relationship between the railway and county boundary has not been accurately determined, but the line of the railway would finally travel a further 1191m to the point where it meets the embankment carrying the B4248 road as it nears Brynmawr. The embankment here, replaces a bridge which once spanned the railway. The total distance of the route is thus 2720m by admeasurement of Ordnance Survey maps (this compares with a value of 2753m derived from the bridge register, though this refers to the centreline of the erstwhile bridge).

The objects of PBRCo are to:

*‘advance the education of the public in the history and development of railway locomotion by the restoring to working order, operating and maintaining the historic railway line or any parts thereof **between Pontypool and Blaenavon** and to preserve any buildings, structures or amenities necessary to protect the character of the said railway line’*

It is clear that, were the PBRCo to pursue such a course, which would involve operation well outside the Pontypool to Blaenavon axis, so that, on the face of it, the Registrar of Companies might deem that PBRCo was operating ultra vires. That said, it would be a simple matter to form a putative ‘Brynmawr and Blaenavon’ Company using PBRCo directors with an appropriate set of Memorandum and Articles.

3.2 Opportunities

The PBRCo has sensed for some time that there are growing aspirations within Blaenau Gwent to explore the practicality of a link between Blaenavon and Waunavon, both within the officers and members of Blaenau Gwent County Borough Council, and amongst the wider public. A recent meeting with the Monmouthshire’s Head of Tourism suggest warm support from Monmouthshire County Council, though they have quickly pointed out that planning matters covering those parts of the route within the Brecon Beacons National Park are a matter for the Brecon Beacons National Park Authority. Only that part of the route that lies close to the crossing of the B4248 lies within their authority.

There has been low level interest from Blaenau Gwent CBC for many years. Some evidence of this takes the form of a report published some 20 years ago and entitled: *‘Feasibility report of the proposed route extension between the Whistle Inn, Garn-yr-Erw and Brynmawr’*, prepared by Blaenau Gwent Borough Council for the Pontypool and Blaenavon Company (1983) Ltd. in January, 1987, and written by their Chief Planner, D.R.Powell, B.Sc (Hons.), Dip.T.P., M.R.T.P.I. In this section it will be referred to as POWELL1987 (Ref.2)

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Since then a sporadic correspondence was maintained with Peter Law AM until his death, though the PBRCo has made no attempt to gauge public interest. Quite apart from the challenges presented by Phase 4 – extension northwards to Waunavon, there are also challenges in realising the ambitions of Phase 5. These challenges are of various types – political, land ownership and engineering.

However, since early 2007, there has been correspondence between Blaenau Gwent County Borough Council and PBRCo which was initiated by Blaenau Gwent CBC, and which effectively invited a deposition for inclusion into their Local Development Plan. Subsequent meetings with Blaenau Gwent’s Assembly Minister, Trish Law, and Member of Parliament Dai Davies have reinforced this invitation.

From those meetings it is clear that there is considerable public interest in the new passenger railway which was opened from Ebbw Vale to Cardiff in February 2008. Hopefully, this branch will soon be linked to Newport. There is also we understand, considerable public lobbying activity in attempting to secure an extension from the intermediate station on the Ebbw Vale branch at Aberbeeg to Brynmawr. From this might come the extraordinary notion of the PBR establishing a main line connection at Brynmawr!

Although we believe the subsequent litany of technical and ownership issues relating to rebuilding the Waunafon to Brynmawr section makes for gloomy reading, the almost ideal profile and position of a potential station alone, almost make the matter worth pursuing, but only if there is a general consensus of agreement from officers in the Monmouthshire, Brecon Beacons and Blaenau Gwent authorities and their members, and from the people of the area (particularly Brynmawr) and their ward councillors.

As the railway approaches Brynmawr it performs a complete ninety degree turn before reaching the Blaenavon Road, to the south east of Noble Square Industrial Estate. Originally the railway passed under the road, towards the original Brynmawr station. Since this area has since been re-developed, further extension appears unlikely to be possible –even if it were desirable. However the final 400 metres or so of the trackbed, before it abuts the Blaenavon Road (the bridge was removed and infilled in 1973) appears to be of ideal profile for development of a terminal station and, undisturbed by opencasting, retains much of its original provenance.

The idea of a community railway between Brynmawr and Blaenavon, and indeed beyond, with the opportunity it would provide for shoppers – in both directions, is an attractive one. This matter has been discussed with TCBCs Economic Generation Head and his view is that if the notion was strongly grasped, it could provide the Heads of the Valley scheme with an ideal opportunity to demonstrate a real cross-county border initiative, involving three counties, and which would stand as a shining example to other local authorities.

3.3 History

The construction of the line from Brynmawr to Blaenavon was first authorised by the Brynmawr and Blaenavon Railway Act of 1866 which authorised the construction of the line. The purpose of the line was to provide a route for iron from the Blaenavon Ironworks to reach the

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railways in the heads of the valleys – the so-called Merthyr, Tredegar and Abergavenny line, by which means the produce of Blaenavon could be distributed world-wide without undue delay. The line was completed in the late eighteen sixties and the LNWR (which, doubtless, was a major subscriber to the initial share issue) were operating passenger trains over the line by 1872. The branch served several collieries between Brynmawr and Waunafon. The first of these was the Waun Nantyglo colliery, which was situated a little east of a tramway which later carried the B4248 Brynmawr to Blaenavon Road. The connection was removed by 1925. As Waunafon was approached on a facing branch to the left was built, leading to Clydach colliery, but these had gone by 1915, to be replaced by New Clydach Colliery sidings. Vestiges of these remained until 1950. Thereafter history was similar to that relating to the Phase 4 route, that is, regular passenger services on the route ceased in 1941 and all traffic ceasing in 1953, retained for wagon storage until 1953, finally lifted in July 1961.

3.4 Description of the route

Since much of the route has, until recently been in private hands only a limited walkover survey has been attempted. In order to complete the survey, a desktop survey has been undertaken by referring to old maps, aerial photography and by reference to the British Railways structures survey.

The Brynmawr and Blaenavon made a flanking junction with the Merthyr Tredegar and Abergavenny Railway (MTA), veering away from the Abergavenny route, which left Brynmawr station in a north-north-east direction. The Blaenavon branch left in an east-north-east direction. As noted in the previous section both routes passed under bridges over which ran a tramway. This tramway later became part of the B4248 Blaenavon Road, and more substantial bridges were subsequently constructed. The Blaenavon branch then describes a wide arc in open country round the northern flank of Mynydd Rheinallt till its direction faces approximately south-east as it heads towards Waunafon.

Today much of the original route has been removed. The site of the original Brynmawr station has been razed to the ground, and redeveloped as a light industrial site. The road-over-rail bridge and its abutments on the B4248 road (Bridge 2) have been removed and filled in, as have the bridge which carried the original Blaenavon road (Bridge 3), and which forms a T-junction with the B4248 very close to the site of the bridges. Remarkably, beyond this point, however, a site, ideal dimensionally for a small station and an associated car park has been reclaimed, and this adds considerably to the suspicion that Blaenau Gwent CBC may have long term ambitions to re-institute a rail link to Blaenavon. Direct questions to their officers have failed to elicit an unequivocal response. With potential to serve as a terminal station, HMRI will be unlikely to permit operation unless the site is level along its length. It is intended that a level survey is undertaken shortly. Immediately beyond the putative station site the railway passes on a low embankment over a lengthy, but narrow tunnel (Bridge 4). This tunnel now carries a public right of way, and once carried a branch of Nantyglo Level tramway. It is a masonry structure, charming in itself, and of some heritage value. It is clear that commendable efforts have been made to retain this structure

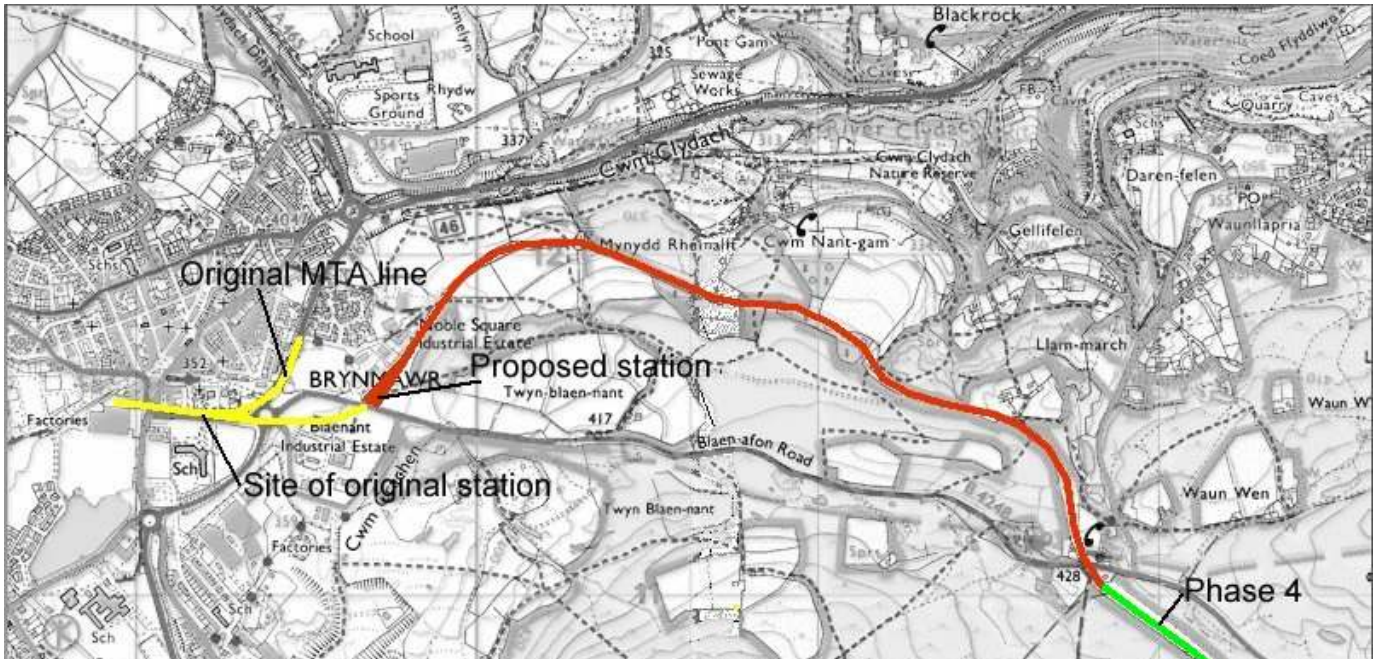


Fig.3 The route between Brynmawr and Waunafon – Phase 5 development is shown in red, phase 4 in green. No development is proposed over the sections shown in yellow.

A few metres beyond this point, the formation has been breached. This breach, some 1300m long, is the result of opencasting and subsequent land reclamation schemes. The extent of the damage to the formation is difficult to determine, without an on the ground inspection, and although the damage to the formation appears total for the first 500m or so (probably up to the parish boundary), beyond that point, inspection of aerial photographs suggest that the damage appears increasingly marginal. The countryside here is open moorland with magnificent views into the Clydach Gorge, and beyond to the sheer bluffs of the Llangattock escarpment. Beyond the breach the prospect remains open except where trees have been allowed to grow close to the line. After passing through a gate, most of the formation is covered in tarmac to provide an access road to several houses in the area. At 2740.9m from the junction at Brynmawr the railway passes between a pair of abutments which once carried a wrought iron deck bridge, called Racehorse Bridge (Bridge 6). This bridge carried a minor road that served a few dwellings in the area. Beyond the bridge the gradient of the formation has been modified in order that the access road interfaces with the B4248 in a smooth transition. As has been noted in the Phase 4 section, that the erstwhile bridge which carried the B4248 road (Bridge 7) over the line has been removed and the local topology considerably modified to improve the alignment of the road.

Since the land over which a survey was planned was in private hands, and a complete walkover survey not undertaken, the table below, extracted and abridged from the British Railways Bridge Register, identifies the main structures on the route from Brynmawr to Waunafon, and is, perforce, presented in reverse order, that is from Brynmawr to Waunafon. Note that the rebuilt railway will start beyond the erstwhile bridge at 405.0m.

Metres	Type				
0			Brynmawr Junction with MTA		
326.9	OB*	OB	Tramway OB (1) (abutments only)		
355.0	Con OB	OB	Blaenavon Road OB (2)	Reinforced concrete deck, abutments and piers. Constructed 1934.	Originally a tramroad OB (3 spans). Reconstructed 1934. Maintained by Breconshire County Council [now Powys - AJW] under Agt dated 05/09/1933. 76362
405.0	Met OB	OB	Twyn Blaenant OB (3)	WI main girders; brick jack arches. Opening filled in 1973. Structure still remains.	
523.0	Mas UB	UB	Nantyglo Level Tramway UB (4)	Semicircular stone arch, 14" thick on face. 3'-0" rise.	Sold to Duke of Beaufort 13/03/1967. Deed 37302.
774.5	Mas UB	UB	Brick Yard UB (5)	Semicircular brick arch; stone facing 14" thick. Rise 4'-0".	Sold to Duke of Beaufort 13/03/1967. Deed 37302.
814.7		LC	Lewis' LC (removed)		Agreement to eliminate crossing 26/11/1942. Closed 01/1943.
1217.1		LC	Lewis' LC (removed)		Out of use 08/1942.
1800.6		LC	Walter's LC		
2097.6		LC	Walter's LC (removed)		"Inspector says this does not exist 23/12/1897".
2670.5		LC	FP LC		
2740.9	Met OB	OB	Race Horse OB (6)	WI Main and cross girders; brick jack arches. Centres of cross girders 3'-4".	69930
3158.3	*Met OB	OB	Waenavon OB (7) (removed)	WI main girders; brick jack arches.	Bridge demolished and cutting filled in c01/1967.
3238.8	STN*	Stn	WAENAVON STATION (closed)	-	Closed (P) 05 May 1941.

Fig.4 Extract from British Railway 'structures register' for Phase 5

3.5 Constraints to development

The constraints to development over this relatively short length of 2.7km fall into two types – land ownership issues and engineering issues.

POWELL1987 asserted that ownership of the land over which the railway ran was vested in

- The Duke of Beaufort's Estate
- British Coal - Opencast Executive
- British Coal – Deep Mines
-

It is understood that around 1978 British Coal may have conveyed their titles to Walter's Mining Ltd. However, since then, Sustrans have actively sought to secure land along the route, either by long lease,

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outright purchase, or by securing a Right of Way agreement. The situation has therefore changed markedly since 1987, when POWELL 1987 was published.

In the figure below Section A represents a section largely owned by the Duke of Beaufort’s Estate. Sustrans secured a long lease from the estate in March 2000 for this section, but excluding the Brynmawr station area.. Section B represents a section, the western side of which was purchased outright by Sustrans in August 1999 from a private vendor, the eastern section remains in the ownership of the Coal Authority, but over which Sustrans have secured a Right of Way. PBRCo has now determined the precise geographical extent of occupation (either by lease or by right of way) by Sustrans and is currently determining the relationship of this land to the route of the original railway. There are also areas along the route which have escaped registration with the Land Registry, and these are currently under investigation by PBRCo.

Recently talks have opened with Sustrans and early meetings suggest that the future is best served by co-operative working. Sustrans have effective control of many parts of the Phase 5 route except the Brynmawr station area, which, in any case, falls outside their area of interest. However, like PBRCo, Sustrans have made little progress on Stage 4 logjam,. Sustrans have advised that they have secured funds for the physical implementation and that the work must be completed within three years from the beginning of their funding round, which began in February 2009! . They have asked that PBRCo make a detailed trace of the proposed route of the railway very shortly so that PBRCo’s plans could be incorporated into those of Sustrans, before the physical work on the cycleway begins.

This raises an immediate and critical issue for PBRCo. If the cycletrack and railway are to co-exist, then:

- (a) the precise line of the railway must be determined***
- (b) the necessary legal requirements and planning consent steps must be completed***
- (c) fences and other structures must be erected in order to identify those positions on the ground where the railway is to lie.***

All this work, and certainly (a) and (b) above, must be completed in a very short time – say less than six months. If this work is not done, the costs of installing the railway will rise enormously. These inflated costs may well place the Phase 5 extension out of the reach of realistic funding and the extension will have to be permanently abandoned.

It is therefore imperative that a feasibility study is funded without delay.

Since there is cost in both financial and time terms associated with this pre-emptive work, it should not proceed unless there is both some reasonable ‘seed’ funding available to undertake the pre-emptive work, and that there is a clear commitment by funding agencies, probably the HoV programme, to seek funding to underwrite the capital cost of both Phase 5 and Phase 4. Step (a) is expected to raise few difficulties, as PBRCo has access to the original pre-1866 two chain surveys, and has 25-inch scale maps of the line of the route in several editions showing the railway (or its remains) in several epochs. Insofar as (b) is concerned there will be significant costs associated with this work, and it is worth considering at this early stage whether an application for a Transport and Works Act Order is justified. The current view is that it would be, since such an application will expose any serious local objections to the scheme at an early stage, however, whether to seek an Order to cover just Phase 5 or both Phases 4 and 5 raises delicate questions. A PBRCo officer undertook much of the preparatory research and pre-emptive work in a previous order which was granted in June 2006 . This was the Pontypool and Blaenavon (Phase 1) Order, SI 1691, so, with the advantage of local knowledge, there is sound justification for repeating this approach. To an extent the physical work in (c) may overlap into Sustrans

physical work phase, but this must largely be guided by Sustrans themselves. Again there will be some modest costs associated with this work. In total it is suggested that the cost of this pre-emptive work might lie in the region of £100K. It is expected that the cost of the TWAO will represent a large fraction of this amount

The engineering problems are, perhaps, more tractable, and there is certainly less urgency associated with their solution. The previous section noted that part of the track bed had been covered in tarmac and gradients altered in order to secure access to two or three dwellings in the area. Quite apart from the physical difficulties that this imposes on rebuilding the railway, it is not known whether formal rights are attached to this access, or whether there is a quasi-easement granted by the landowners to the occupants. Were the railway to be re-established then alternative access methods for the occupants would have to be found.

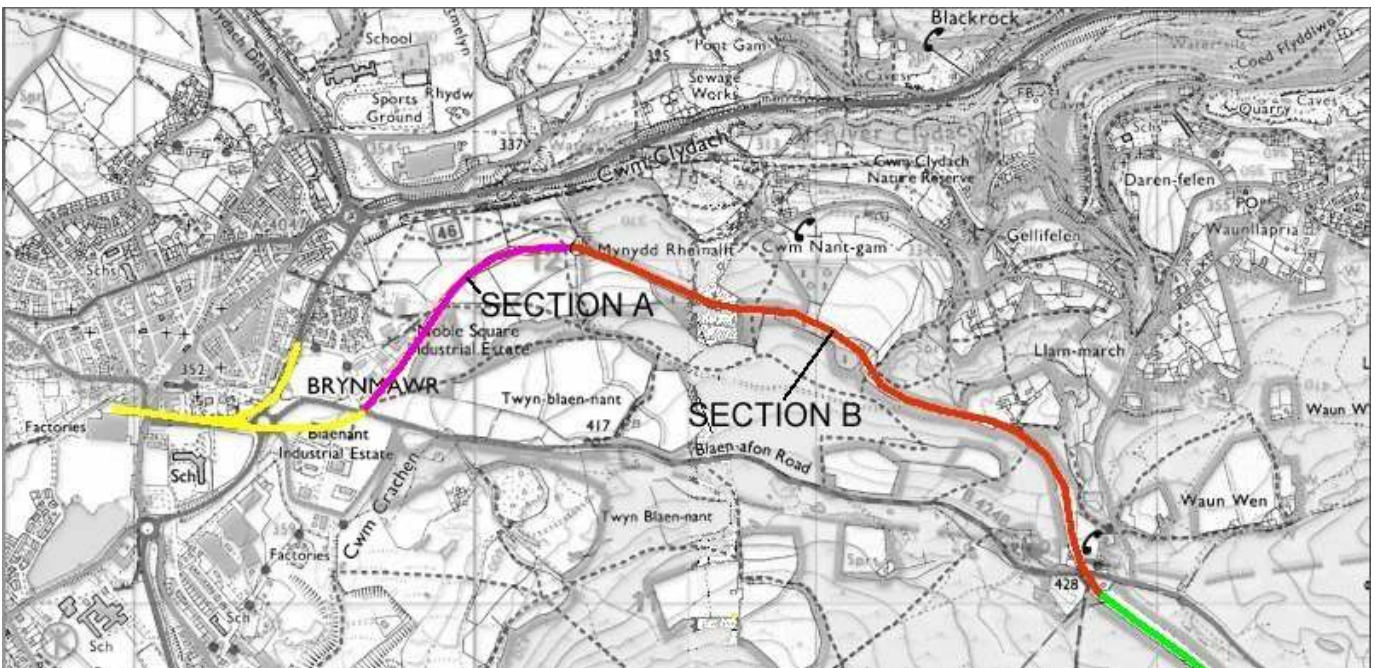


Fig.5 POWELL1987 asserts that Section A of Phase 5 is owned by Duke of Beaufort's Estate, the eastern part of Section A has been leased to Sustrans. The situation in section B is more complex and is discussed in the text.

Without an on site inspection it is impossible to accurately determine the extent of the engineering requirements to rebuild the formation of that part of the route that has been subject to land reclamation activity.

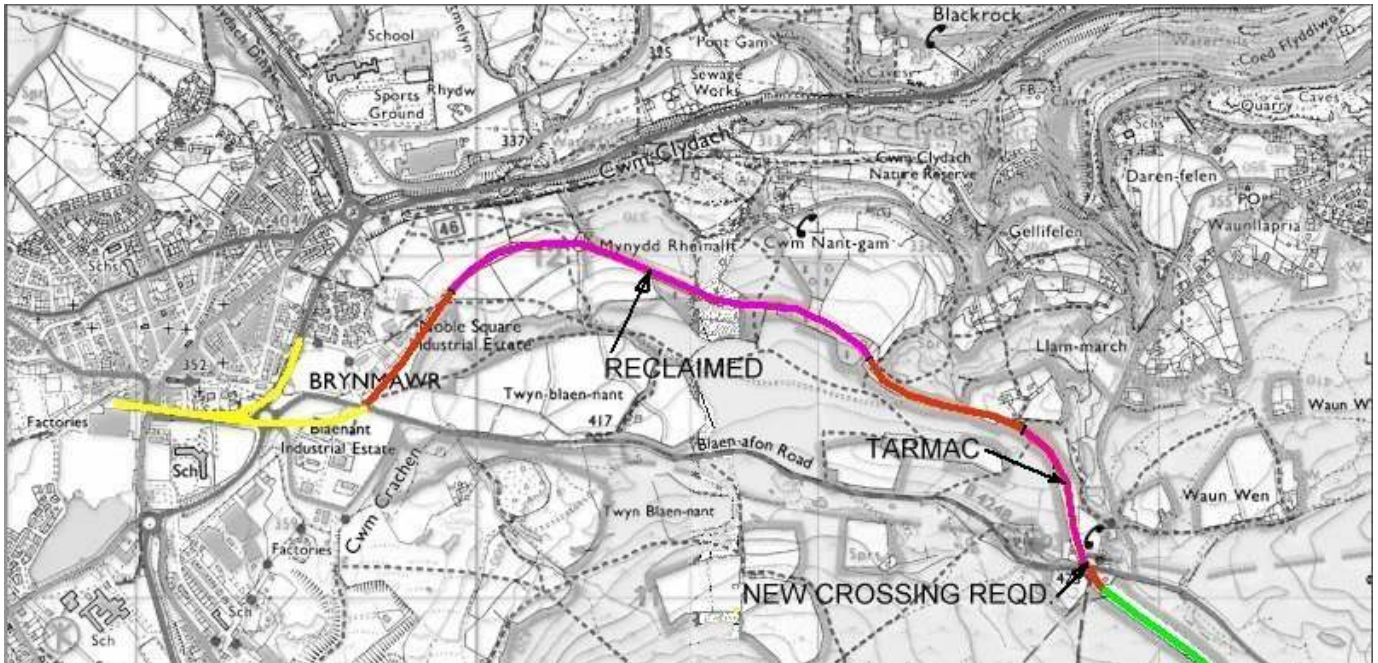


Fig.6 The condition of the formation along the line marked 'reclaimed' has not been completely examined, though much has been swept away- especially long those parts to the west of the route. The area marked 'tarmac' will need careful appraisal. The challenges set by the need to provide a road/rail crossing are considerable

Insofar as the section that has been covered in Tarmac, again it is difficult to postulate what engineering requirements are needed without determining the legal status of the access route from the B4248 road to the dwellings that are served by it. So far as vehicular access is concerned, there is no possibility of a railway and roadway being able to pass alongside each other between the abutments of Bridge 6 (Racehorse road over rail bridge), and therefore an entirely new route for access to the dwellings must be determined. At this stage it is not possible to plan any such route without further research. Perhaps the largest engineering constraint is set by the need to cross the B4248 – the main Blaenavon- Brynmawr Road. Three solutions are possible – a level crossing, a rail over road bridge or a road over rail bridge. The choice will be determined by the relative rail and road traffic densities. If either is sufficiently low it might be possible to put forward a plan to use a level crossing, though, as a main road, it is unlikely that sparse road traffic could be used as a supporting factor. It may just be possible to use the low level of rail traffic as a supporting factor, though, again, any proposal to use the railway as a community railway would mitigate against this approach. Perhaps more seriously is the attitude of HMRI, which, following serious accidents involving level crossings over the last five years or so, is unlikely to sanction such a solution.



Fig.7 Viewed from close to the Blaenavon road, looking north-east, the original course of the line runs from the left, and could provide a site for a small terminus to serve Brynmawr, if the gradient is not too severe. The flat area on the right has the potential to make a good-sized car park.

At present, a road over rail bridge appears to be the only realistic solution, but the costs would be considerable. Over the last decade a number of schemes have been put forward to improve the B4248, and steps should be taken to ensure that the local authorities, regulatory authorities and the Assembly are made aware of the potential requirement to run a railway across the road, since it is at this stage that the costs of providing such a bridge are most efficiently met. It would be useful to determine whether the original 1866 Act authorizing the Brynmawr and Blaenavon Railway has been formally extinguished, as the requirement to bring a Transport and Works Act Order before the National Assembly would be much simplified if the original authorization remains in force today.



Fig.8 The attractive arch over which the line once ran, and which would be just outside the proposed Brynmawr station. The arch once carried the Nantyglo Level tramway.



Fig.9 A view south east at the eastern abutment of 'Racehorse Road' bridge, close to Waunavon which once carried a small road to a group of nearby dwellings. Access is now provided by the tarmac road between the abutments on the line of the railway



Fig.10 A view to the north west from the western abutment of 'Racehorse Road'. On the extreme right a gate which marks the limit of the tarmac road is seen. The position of the line of the railway ahead is confused and requires detailed examination. On the far horizon, the summits of Cribin and Pen y Fan can just be seen.

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4. References

Ref.1

'Outline business plan and development scoping study for the Pontypool and Blaenavon Railway' - final report to TCBC and study partners (L&R Consulting and associates) November 2001.

Ref.2

'Feasibility report of the proposed route extension between the Whistle Inn, Garn-yr-Erw and Brynmawr', prepared by Blaenau Gwent Borough Council for the Pontypool and Blaenavon Company (1983) Ltd. in January, 1987, and written by their Chief Planner, D.R.Powell, B.Sc (Hons.), Dip.T.P., M.R.T.P.I.