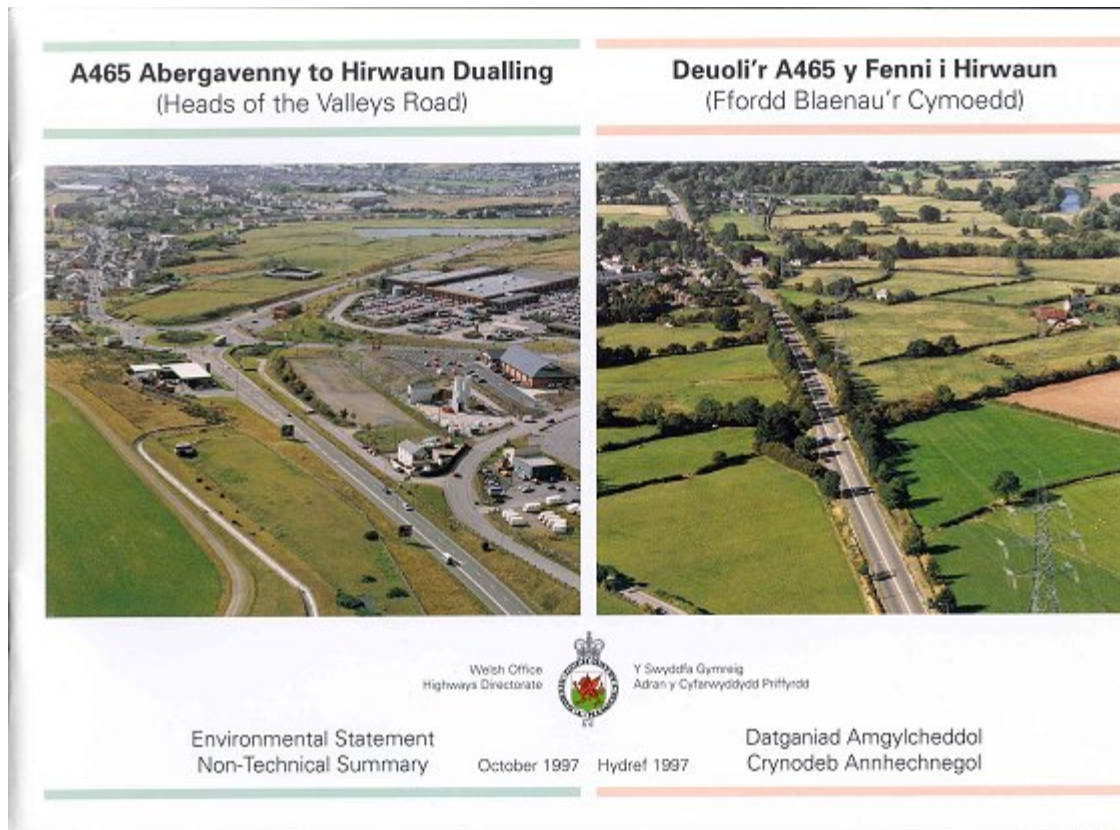


# A465 Abergavenny to Hirwaun Dualling (Heads of the Valleys Road)

## Non-Technical Summary



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## **Introduction**

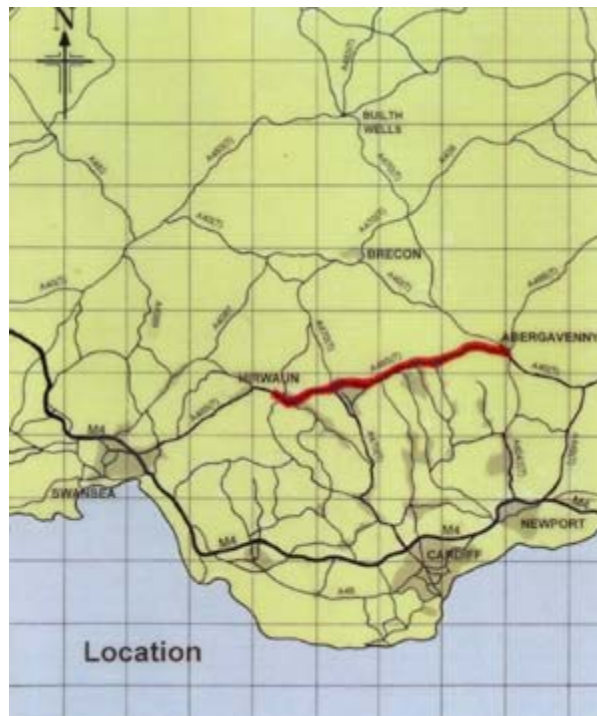
The A465 trunk road links south and west Wales to the Midlands and the north of England. The Secretary of State for Wales proposes to improve the A465 between Abergavenny and Hirwaun, a distance of approximately 40km (25 miles). The A465 over this length is a three lane single carriageway road and the proposals are to improve this to a two lane dual carriageway, with climbing lanes in some areas.

The improvement to the A465 is needed to upgrade the quality of service on this strategic route, and thereby improve the safety of the road, ease traffic congestion, and assist in the economic regeneration of the area, whilst ensuring that these objectives are pursued with

proper care for the environment.

Public Consultation was held between 24 October and 20 December 1994 when several alternative routes were presented in brochures and at public exhibitions. These were held in Abergavenny, Beaufort Hill, Tredegar, Dowlais and Hirwaun and were attended by over 3,000 people. 31,000 brochures and 25,000 questionnaires were distributed by hand, by post and from deposit points at the local exhibitions. A total of 1,084 completed questionnaires was returned, together with 648 letters.

Following the consultation the Secretary of State for Wales announced the Preferred Route in July 1995



The Preferred Route has been divided into seven Sections

Section 1: Abergavenny to Gilwern

Section 2: Gilwern to Brynmawr

Section 3: Brynmawr to Tredegar

Section 4: Tredegar to Dowlais Top

Section 5: Dowlais Top to A470 Junction

Section 6: A470 Junction to Baverstock

## Section 7: Baverstock to Hirwaun

Statutory powers are now being sought and the following draft Line Order applies to the complete scheme.

**The Neath to Abergavenny Trunk Road (A465) (Abergavenny to Hirwaun Dualling and Slip Roads) and East of Abercynon to East of Dowlais Trunk Road (A4060), Cardiff to Glan Conwy Trunk Road (A470) (Connecting Roads) Order 199.**

Sections 1 and 4 are being taken forward in detail at this time and are covered by the following draft Orders:

**1. The Neath to Abergavenny Trunk Road (A465) (Abergavenny to Hirwaun Dualling and Slip Roads) and East of Abercynon to East of Dowlais Trunk Road (A4060), Cardiff to Glan Conwy Trunk Road (A470) (Connecting Roads) (Abergavenny to Gilwern Side Roads) Order 199.**

**2. The Neath to Abergavenny Trunk Road (A465) (Abergavenny to Hirwaun Dualling and Slip Roads) and East of Abercynon to East of Dowlais Trunk Road (A4060), Cardiff to Glan Conwy Trunk Road (A470) (Connecting Roads) (Tredgar to Dowlais Top Side Roads) Order 199.**

**3. The Neath to Abergavenny Trunk Road (A465) (Abergavenny to Hirwaun Dualling and Slip Roads) and East of Abercynon to East of Dowlais Trunk Road (A4060), Cardiff to Glan Conwy Trunk Road (A470) (Connecting Roads) (Abergavenny to Gilwern) Compulsory Purchase Order 199.**

**4. The Neath to Abergavenny Trunk Road (A465) (Abergavenny to Hirwaun Dualling and Slip Roads) and East of Abercynon to East of Dowlais Trunk Road (A4060) Cardiff to Glan Conwy Trunk Road (A470) (Connecting Roads) (Tredegar to Dowlais Top) Compulsory Purchase Order 199**

Sections 1 and 4 would be progressed as soon as statutory procedures are satisfactorily completed and funds are available. Other Sections would follow. Construction of the whole scheme is unlikely to take less than 7 years, with a start date unlikely before 2000.

**This document describes the proposed scheme and summarises, in non-technical language, the Environmental Statement which has been prepared to accompany the draft Statutory Orders in accordance with European Council (EC) Directive 85/337/EEC as applied by Section 105A of the Highways Act 1980. The purpose of the Environmental Statement is to describe the effects the proposed scheme is likely to have on the environment and the ways that adverse effects have been avoided or reduced by alterations to the road design or by the introduction of measures to minimise the**

## **adverse impacts.**

The Environmental Statement consists of three parts:

i) **Non-Technical Summary** - this bilingual summary is available as a separate document and is also bound into the front of Volume 1.

ii) **Volume 1** - a comprehensive document which draws together all the relevant information about the scheme, its environmental effects and the measures taken to avoid or reduce adverse environmental impacts. It comprises Volumes 1.1 to 1.8, which describe the environmental effects in the seven separate Sections of the scheme. Volume 1.9 is a separate drawings folder.

iii) **Volume 2** - separately bound specialist reports which provide detailed analysis, by subject area, in support of the statements made in Volume 1.

It is anticipated that additional draft Orders will be published in due course for other Sections of the proposed scheme. At that time supplementary environmental information may also be published. This supplementary information would expand on the details now available in the Environmental Statement to cover the proposals contained within the additional Orders.

Details of where the full Environmental Statement may be inspected are provided under "Further Information".

For a distance of 2 kilometres, the proposed scheme passes through the southern perimeter of Mynydd Llangatwg which has the status of a "Site of Special Scientific Interest" (SSSI). This site has also been notified to the EC as a candidate "Special Area of Conservation" (cSAC) in accordance with EC Directive 92/43/EEC. Under current legislation the opinion of the general public is to be considered before any decision is made giving consent to, or authorising works within, a cSAC. The Ecology section of this Non-Technical Summary provides more information on the cSAC. **Any views on the effects the scheme would have upon the cSAC should be sent in writing to the Secretary of State for Wales at the Welsh Office, as described under "Your Views".**



*Public Consultation Exhibition  
1994*



*Part of Mynydd Llangatwg*

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## The Need for the Scheme

The existing A465 between Abergavenny and Hirwaun is a single three lane carriageway with generally two lanes in the uphill direction and one lane in the downhill direction. Accident concentrations occur on some sections of the existing road and at several junctions. Forecasts of traffic growth, which take into account development along the road, indicate that traffic levels will exceed the capacity of the existing road and require a dual two lane carriageway by 2015. Some of the junctions will also reach capacity in only a few years. If nothing is done traffic congestion and traffic-related problems, including accidents, will increase.

The Welsh Office has an objective to encourage and promote sustainable development and the Government's transport policy seeks to achieve the right balance between personal mobility, economic development and protecting the environment. In developing the scheme proposals, account has been taken of the need for integration with public transport.



*Traffic at Dowlais Top*



*Junction near Hirwaun*



*Tafarnaubach Industrial Estate*



*Converging lanes near Bryn Bach Park*

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## Route Options

A strategy for upgrading the existing road (the Red Route) was put forward at the Public Consultation, together with three local alternative route options, referred to as the Orange, Blue and Purple Routes. These are shown on the Route Options Plan. The Orange Route ran at a higher level through the Clydach Gorge. The Blue Route departed from the existing A465 in the Rassau area to the north of Ebbw Vale, to run to the north of the residential areas through the southern part of Rassau Industrial Estate. The Purple Route ran to the north of Hirwaun.

Following the Public Consultation, the Orange and Purple Routes were discarded. The Orange Route was strongly opposed by the Countryside Council for Wales and the Brecon Beacons National Park Authority. It was discarded because of impacts on landscape, ecology and archaeology. The Purple Route was discarded because of public concern and encroachment into the National Park.

The Blue Route was adopted at Rassau to avoid impact on the residential area bordering the existing A465. Elsewhere the Red Route was adopted but with modifications to take account of some major concerns recorded at the Public Consultation, for example at:

- Llanfoist, where the link to the B4246 will not be pursued;
- Merthyr Tydfil, where a revised arrangement will avoid demolition and improve access to the Prince Charles Hospital; and
- Hirwaun, where the alignment was altered to limit demolition and reduce the environmental effects on residential property.



*Blackrock, Clydach Gorge (orange alternative)*



*A465 at Rassau*

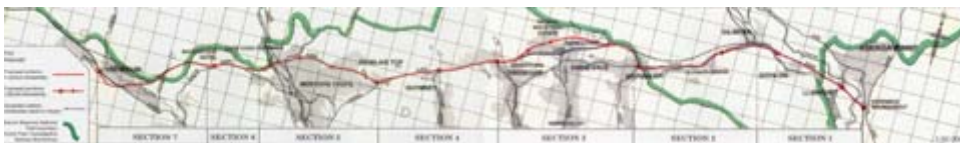


*Northern Hirwaun (purple alternative)*

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## Proposed Scheme



*(Click on the map to see a larger version)*

The proposed scheme consists of a two lane dual carriageway from Hardwick Roundabout near Abergavenny to Rhigos Roundabout with the A4061 at Hirwaun. The road would be built to current standards including continuous central safety barriers.

The road would be widened either by constructing the new carriageway along one side of the existing road ( parallel widening) or by extending both sides of the existing road (symmetrical widening).

For most of its length the proposed improvement consists of widening the existing road. Between Garn Lydan and Dukestown, however, the route departs northwards from the existing road for approximately 4.7km to run through land within Rassau Industrial Estate where no demolition would be required. In some other areas the existing road curvature does not adequately cater for the needs of a modern dual carriageway and some realignment is proposed. In these areas the new road would be constructed alongside the existing road corridor. The main areas of realignment are at:

Brynmawr, just south of the existing road for a distance of approximately 1.8km;

Dowlais Top, just south of the existing road for a distance of approximately 2.0km;

Cefn Coed-y-Cymmer, just north of the existing road for a distance of approximately 1.0km;

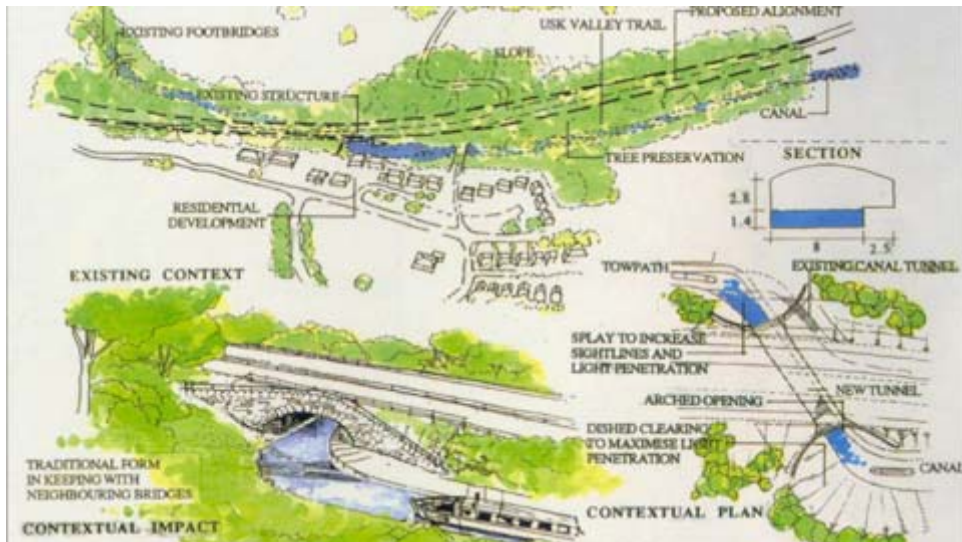
Nant Melyn, just south of the existing road for a distance of approximately 1.4km; and

Hirwaun, south of the existing road for a distance of approximately 1.5km.

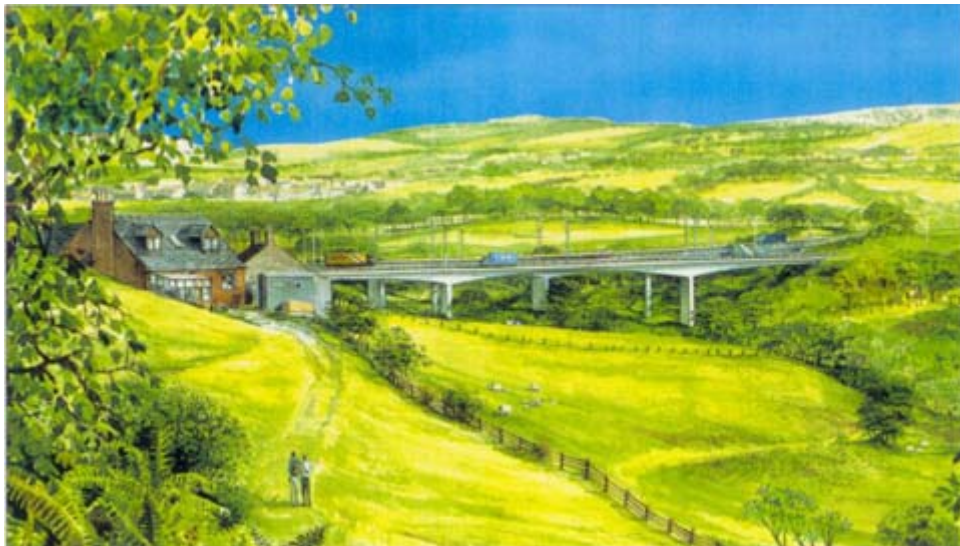
A feature of the scheme is that it would replace the existing roundabout junctions with two-level junctions, except that the junction at Hardwick, Abergavenny would remain in its existing form. These two-level junctions allow free flow of through traffic which would pass over or under the side roads. The number of junctions and accesses would be reduced, through many of those existing either being stopped up or diverted. These measures would improve the safety of the road and improve average journey times.

In order to cater for slow vehicles, extra climbing lanes are proposed up the long steep lengths of the road in the Clydach Gorge and east of the Baverstock Hotel.

The scheme would involve several significant new bridges including a 170m long viaduct across the Ebbw valley and two new 200m and 150m long viaducts at Taf Fawr. The design of these new features has been sensitively treated.



*Canal at Gilwern*



*Artist's impression of proposed bridges, Taf Fawr*

Road lighting exists along most of the existing road. New lighting would be installed at the new junctions and along the improved lengths where lighting already exists. Consideration will be given to the provision of further lighting throughout the route.

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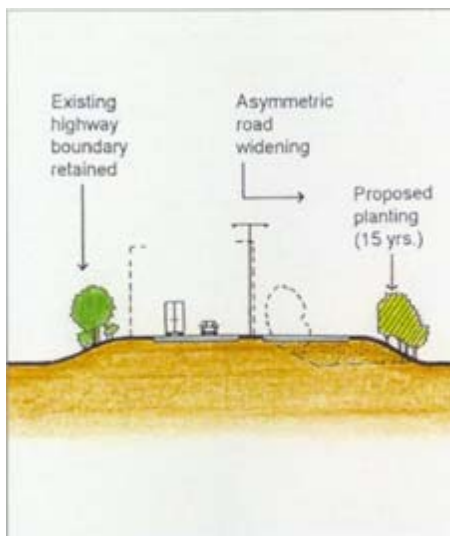
### Measures to Reduce Environmental Effects

The Environmental Statement explains how the environmental implications of the scheme have been fully taken into account.

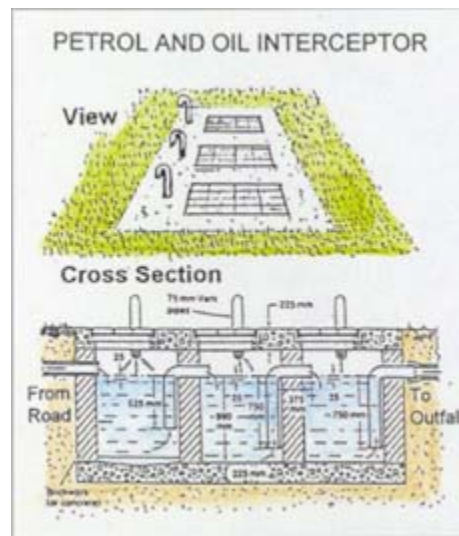
The general east-west direction of the A465 cuts across the varied topography of the area and the general grain of the undulating and hilly landscape. This gives rise to a number of significant cuttings and river crossings. Parts of the scheme already pass through towns and villages where the effect upon people is high. In these areas environmental factors will be considered to improve safety and reduce the impact of noise, severance and visual intrusion.

Approximately one third of the scheme passes through the Brecon Beacons National Park (BBNP). It also crosses three Sites of Special Scientific Interest (SSSI), one of which is also a candidate Special Area of Conservation (cSAC). In developing the proposals in these areas design standards have been modified to reduce the environmental impact of the scheme with, for example, narrower lanes and a 50 mph speed limit within the Clydach Gorge, a compact junction design at Saleyard, and the adoption in a number of locations of steeper gradients than is normal practice on trunk roads.

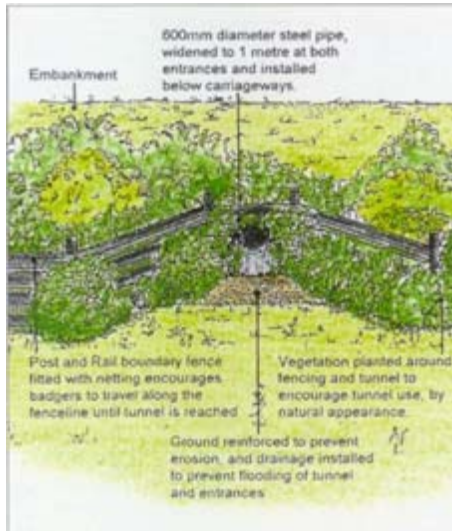
The scheme has been designed to avoid, as far as possible, damage to the environment whilst also recognising that the construction of a large project in an area of environmental sensitivity would have some damaging effects. The proposals for reducing particular effects together with the environmental benefits that the scheme would bring are summarised in the following paragraphs.



*Typical Section near Abergavenny*



*Measures would be undertaken to reduce pollution risks*



*Badger tunnels would be provided*

*Wild flowers would be sown in particular areas*

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## Summary of Key Issues

This Non-Technical Summary (NTS) forms part of the Environment Statement (ES) which describes how the environmental implications of the road scheme have been fully taken into account.

The proposed scheme consists of approximately 40km (25 miles) of two lane dual carriageway to be constructed for most of its length along the existing route.

A 4.7km length between Garn Lydan and Dukeston would bypass the existing road.

Approximately one third of the route passes through the Brecon Beacons National Park (BBNP). It also crosses three Sites of Special Scientific Interest (SSSI), one of which is a candidate Special Area of Conservation (cSAC) and one a possible SAC (pSAC).

The scheme has been divided into seven Sections. Abergavenny to Gilwern and Tredegar to Dowlais Top would be progressed first.

The existing A465 and the proposed scheme pass through towns and villages where the effect upon people is already high. In these areas measures would be considered to improve safety and to reduce the effects of noise, severance and visual intrusion.

It is anticipated that 31 residential and 14 commercial and other properties would be demolished. 73 would lose land. Owners of these properties would be entitled to financial compensation in line with statutory provisions.

The proposals would enable a segregated cycle route to be provided by others between Merthyr Tydfil and Baverstock.

The overall effect of the proposed scheme on agriculture is not great.

The improvement would have a neutral effect on local air quality and would generally meet Government air quality objectives.

Small increases in traffic noise are predicted for properties as a result of the proposed scheme. Some properties would benefit from reduced noise.

The existing road and proposed scheme both cross a number of high quality watercourses, where a risk of pollution exists. Protection measures would be included to minimise the risks both during construction and after opening.

Some areas of contaminated land have been identified along the scheme, mainly connected with the industrial past. Further areas of contamination are likely to be found during construction. Measures

would be taken to prevent the spread of contamination and in some cases the material may be removed to a licensed tip.

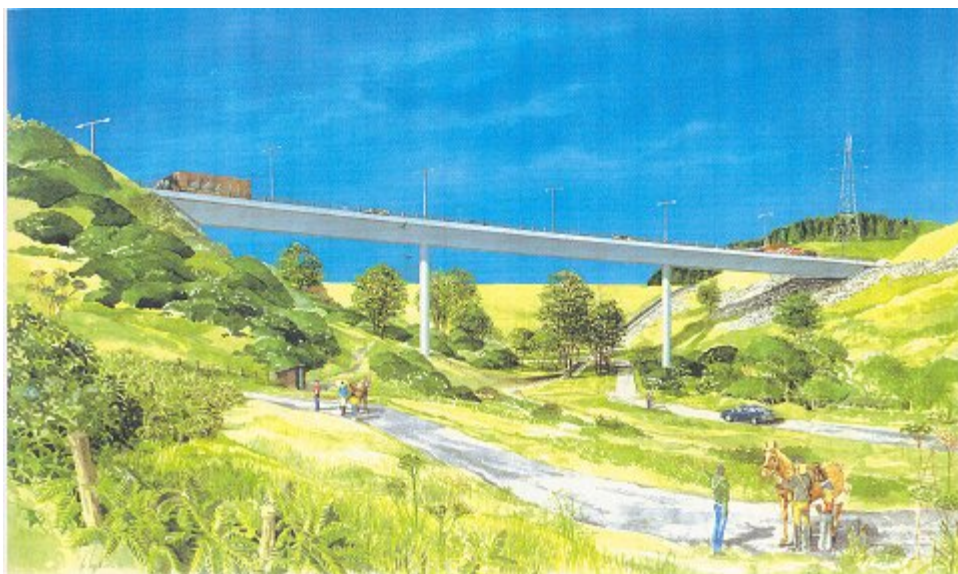
**The high nature conservation interest of parts of the route corridor has been confirmed by extensive surveys. The Clydach Gorge is the area of highest value where bats (a protected species) are of major interest. Concerns about potential impacts have been taken into account in the design of the proposed scheme.**

**The landscape along parts of the proposed scheme is of high quality. The main landscape effects of the proposed scheme would be the removal of established trees and shrubs adjacent to the road, and the introduction of new features into the landscape; including new earthworks, retaining walls and structures. The changes would have some adverse impact and a range of mitigation measures would be implemented to reduce these effects, including planting and mounding.**

**The cultural heritage interest of parts of the route corridor is high, particularly within the Clydach Gorge. Direct effects upon most sites are generally avoided. Excavation, survey and recording are proposed where sites would be affected.**

**During construction there are likely to be adverse effects on the travelling public and local residents, such as noise, vibration, dust, visual impacts and traffic delays, all of which would be controlled.**

**Excavated material would be used adjacent to the road to mitigate and contain the effects of the scheme.**



***Artist's Impression of Cwm Carno bridge***

## Environmental Factors - Pedestrians, Cyclists, Equestrians and Community Facilities

The existing road is crossed by many rights of way. Some of the major routes occur in the Usk Valley and at Saleyard, Cheltenham, Blackrock, Nant-y-Croft, Dukestown, Tafarnaubach, Merthyr Tydfil and Hirwaun. These crossings are generally served by subways or bridges and in most cases this arrangement would continue. Where subways and bridges are not present the A465 can be a hindrance to pedestrians, cyclists and horse riders wishing to cross the road.

Community facilities which are situated close to the existing road include schools, post offices, churches, cemeteries, public open space and recreation facilities, a hospital and health centres.

The proposals would have many effects, both adverse and beneficial. A major effect of the proposed scheme is the diversion of pedestrian, cyclist and equestrian paths, which may lead to an increase in trip length. However, the provision of new subways and bridges and the elimination of the majority of pedestrian, equestrian and cyclist surface crossings would result in improved safety for users.



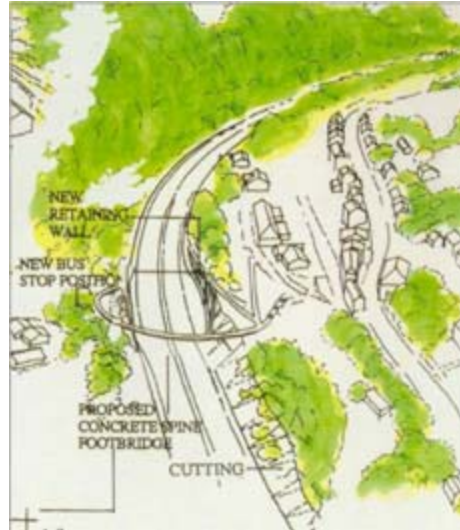
*School and playing fields at Gurnos*



*Cemetery at Cheltenham*



*Taff Trail Trefechan*



*Proposed replacement footbridge at Cheltenham*

During construction a number of temporary closures and diversions are likely to be required which could cause some short term inconvenience to local people. In the longer term, users of rights of way which cross the road or are close to it, or users of facilities adjacent to the road, are likely to suffer some reduction in their enjoyment or appreciation of the facility because of the increases in visual and noise impact of the new larger and busier road.

Some of the major effects, and the proposed measures for reducing adverse effects, include:

Demolition of the footbridge at the Lion Hotel, Gilwern. The diversion through a vehicular underpass would increase journey times for some users.

Loss of a disused burial ground at Gilwern and partial loss of one at Cheltenham. Appropriate procedures would be followed and remains would be relocated locally.

Relocation of an agricultural underpass at Waun Rydd to the site of an existing surface footpath crossing. Some journeys would be longer but pedestrian safety would be improved.

Demolition of footbridges at Tafarnaubach and Princetown which provide access to Bryn Bach Country Park. Alternative routes are available but would be longer.

Diversion of a public footpath and bridleway at Hirgan. The diverted route would be longer.

Demolition of a subway at Nant-y-Bwch which provides a link between residents to either side of the road. The new route would be shorter for most journeys but people would need to cross slip roads as part of

their journey.

Demolition of stables at Dowlais Top. Owners would be entitled to financial compensation in line with statutory provisions.

Loss of some land at Dukestown and at Cefn Coed-y-Cymmer Cemeteries. Replacement land would be provided, as appropriate.

The scheme would enable the creation, by others, of a segregated cycle route between Merthyr Tydfil and Baverstock. A segregated route would then be available throughout the length of the scheme.

Replacement of a pedestrian subway at Trewaun with a bridge at ground level. The route would be more open and shorter.

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## Environmental Factors - Land Use and Agriculture

Agriculture is one of the main land uses along the scheme. However, there is also a significant element of residential and industrial land use.

The largest settlements along the route comprise Abergavenny, Brynmawr, Ebbw Vale, Tredegar, Rhymney, Merthyr Tydfil and Hirwaun. In these areas, although the road is usually on the outskirts of the main settlement, it does affect outlying communities. These include Garn Lydan, Rassau, Nant- y- Bwch, Tafarnaubach, Princetown, Llechryd and the northern areas of Merthyr Tydfil. Small village communities also already affected by the route are Llanfoist, Govilon, Glanbaiden and Gilwern in the Usk Valley and Saleyard, Cheltenham and Blackrock in the Clydach Gorge.

There are many individual scattered houses and farmsteads throughout the rural areas.

Some residential properties would be directly affected by the proposed scheme, either by demolition or by losing land from their gardens. Thirty-one residential properties would be demolished and 44 would lose land. Owners would be entitled to financial compensation in line with statutory provisions.



*Meadows near Abergavenny*

Industrial estates (which contain both light industry and commercial concerns) occur adjacent to the road at Rassau, Dukestown, Tafarnaubach, Dowlais Top and Merthyr Tydfil. Some individual businesses are also situated close to the existing road, such as Coopers Filters and Evesham Gardens at Llanfoist, and Anacomp Magnetics at Brynmawr. There are other businesses which provide goods and services both to users of the road and local residents, for example, fast-food restaurants, car sales businesses and petrol filling stations.

Some businesses would be affected. Like residential properties, this would be both by demolition and by land take. Fourteen business and other properties would be demolished and 29 would lose land. However, a major issue for businesses would also be through changes to their existing access points. In most cases, where accesses are to be closed, alternatives would be provided. Owners of businesses where land is required for the scheme would be entitled to financial compensation for their losses in line with statutory provisions.



*Lion Hotel and Terrace at Gilwern would be demolished*

Other land uses include community and recreational facilities associated with settlements, and the local roads and footpaths which serve these areas. There is also a certain amount of land which is not in use at present. Most of this land has been connected with mining in some way; for example, some land has been used to dump waste from underground mining undertaken in the last century. The rest of the land which is not in use is mainly small fields or parcels of land adjacent to the existing road.

Overall, agriculture in the area is based on extensive and traditional farming practices. The mix of enterprises includes traditional beef and sheep units and a large number of small paddocks.

The impact of the scheme upon agriculture in the overall area is not great. Most of the units affected are not considered to be economically viable full-time units. Only a small number of viable business units and some part-time units would be severely affected by land take and in

some cases by severance. In all of these cases owners and tenants would be entitled to financial compensation in line with statutory provisions.

Common land makes up a large proportion of the agricultural land between Brynmawr and Merthyr Tydfil. Some areas of common land are required for construction of the scheme and equivalent exchange land would be offered as a replacement. Suitable areas of such land have been identified in the draft Orders for Section 4.



*Tafarnaubach Industrial Estate*

Mitigation proposals, where appropriate, would include alternative access arrangements, regrading of land for return to agriculture and precautions to provide for access during construction.

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## Environmental Factors - Air Quality

Estimates have been made of local pollution concentrations at a representative selection of 65 locations near to both the existing A465 and the proposed scheme. Concentrations of carbon monoxide, benzene, nitrogen dioxide and airborne particles have been calculated both for the existing situation (1996) and for possible future situations in 2002 and 2017. Monitoring of nitrogen dioxide and airborne particles has also been undertaken to establish existing conditions.

The predicted levels at all locations, for both 2002 and 2017, would be within the Government's recommended air quality standards apart from particulates. This situation is largely a result of the restriction of the allowable emissions from individual vehicles, with the introduction of stricter European standards (in 1996, 2000 and 2005), and has little to do with the new road.

The Department of the Environment published a National Air Quality Strategy in March 1997 which in the case of airborne particles has recommended the tightening of the air quality objectives. Particle monitoring conducted along the existing route indicates that the present day levels are already high, but typical, and forecasts indicate that these would be little affected by the improvements to the road.

At all properties in proximity to the existing road, pollution levels are predicted to decrease between 1996 and 2017. The predicted effect of the proposed scheme at individual locations varies. In some cases, where the realignment of the road would bring it closer to a property, estimated concentrations are higher than they would be with the existing road in 2017. Where the road would be moved away from specific properties, the estimated concentrations are lower. However, in general, the road improvements would have a neutral effect on local air quality and, with the exception of particles, concentrations would meet air quality objectives.



*Housing close to existing route at Rassau*



*Steep gradients with slow-moving heavy goods traffic are typical*

An assessment has also been made of the effects of the scheme on the wider area. Advances in engine technology and the tightening of allowable emissions indicates that all pollutants other than carbon dioxide and particles will reduce between 1996 and 2017, regardless of

the scheme. Since carbon dioxide emissions are proportional to fuel consumption, these will increase as traffic flows grow.

In 2017, there would be little difference in the quantity of carbon monoxide and hydrocarbon emissions between the existing and proposed roads. The total emissions of nitrogen oxides, particles and carbon dioxide from the proposed scheme in 2017 would be about 25 percent higher than those from the existing road in the same year. This still represents a general improvement on present day levels of pollution.



*The existing A465 at Nant-y-Bwch*



*Traffic flow at Dowlais Top*

## Environmental Factors - Traffic Noise and Vibration

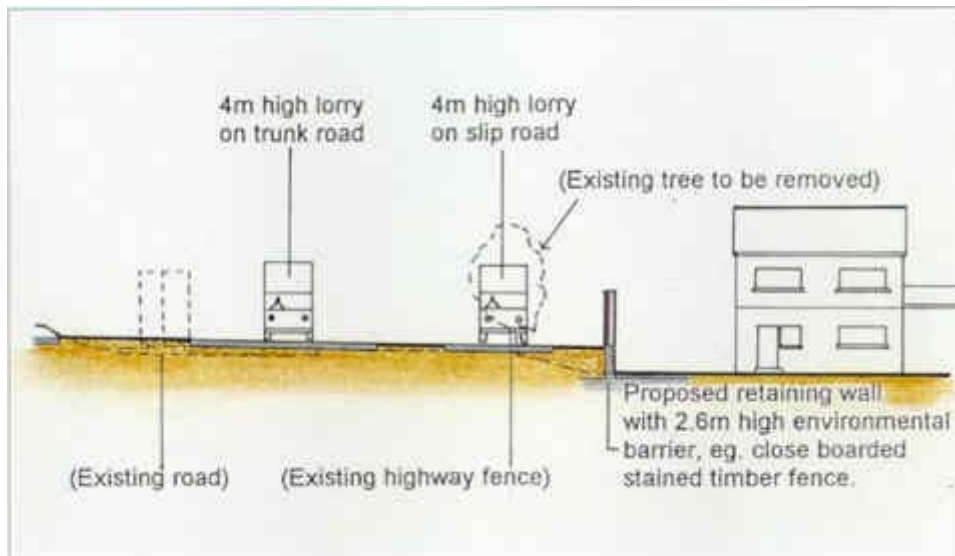
Levels of traffic noise and vibration depend upon the volume of traffic, its speed, the proportion of heavy goods vehicles and the road gradient. The effects of the noise or vibration on people and properties is related to the proximity of the person or property to the road and the position of any screening.

Throughout the length of the existing A465 many properties are close to the existing road and already experience significant levels of noise and vibration. It is expected that traffic flows will grow regardless of any road improvements and this growth would result in small increases in both noise and vibration. For the majority of properties along the route, the proposals to widen the existing road would result in further small increases in traffic noise as vehicle speeds and flows increase.

Where the new road deviates from the existing A465, principally at Rassau and Hirwaun, traffic using the existing road would be significantly reduced. Properties along the existing road in these areas would therefore benefit from a reduction in noise. Properties close to the new A465 would experience increases in noise, but in general these levels would be lower than the levels currently experienced at properties alongside the existing route.

Wherever appropriate along the route, various measures are being incorporated into the design to reduce noise nuisance. These include lowering the level of the road, the use of earth mounding and the erection of noise barriers. In due course, properties would be assessed for eligibility for noise insulation in accordance with the noise insulation regulations and, where they are found eligible, insulation would normally be offered before construction commences. In addition, the Welsh Office has discretionary powers to offer insulation against severe construction noise.

The new road is not expected to generate any new vibration problems.



*Environmental barriers will be considered where properties are close to road*

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### Environmental Factors - Water Quality.

The existing A465 ( and the proposed scheme) crosses a number of high quality rivers, some of which support populations of salmon, brown trout and otters. These rivers are particularly sensitive to pollution. There are also wells and abstraction points for water supply which would be vulnerable to pollution.

The eight main rivers considered to be of good quality are:

The River Usk and tributaries. The Usk is also a Site of Special Scientific Interest and a possible Special Area of Conservation designated for fish and otters as well as other plant and animal communities;

The River Clydach and tributaries, where otters are known to occur;

The River Ebbw;

The River Sirhowy;

The River Rhymney;



*River Usk. A high quality river.*

Taf Fechan and tributaries. Taf Fechan is part of a Site of Special Scientific Interest;

Taf Fawr; and

The River Cynon.

There is potential for the new road to cause pollution both during its construction and after it is built. Areas of contaminated land have been identified close to the road and these have the potential to cause pollution during the construction of earthworks. Sensitive watercourses would be protected during construction by methods such as the use of perimeter drains and siltation lagoons to prevent material from site operations from reaching the rivers. Long-term measures to reduce pollution of the high quality rivers and other sensitive watercourses are likely to include oil interceptors and ditches.

The Environment Agency (the statutory body responsible for maintaining the quality of rivers) have been closely consulted throughout the environmental assessment process and their recommendations taken into account within the scheme design.

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## **Environmental Factors - Geology, Soils and Contaminated Land**

The geology encountered along the scheme is complex, varying from soft clay deposits through to very hard sandstone and limestone bedrock. There are also areas of potentially unstable ground (as a result of abandoned mine workings), underground natural cave systems, restored opencast coal sites, landfill sites, Sites of Special Scientific Interest (SSSI) and sites containing contaminated ground.

One of the most sensitive locations is in the Clydach Gorge where the extensive cave system is protected as a SSSI and a candidate Special Area of Conservation. The widening of the road in this area would be designed to avoid the caves and the areas around the cave entrances.

There is also an exposure of rock at Brynmawr, very close to the road, which is protected as a geological SSSI. This exposure is the best of its type in South Wales. The widening of the road would require the cliff sections to be cut back to expose a new fresh rock face. The Countryside Council for Wales, who notify and regulate SSSIs, have been consulted about this approach.

Several areas of contaminated ground have been identified along the scheme. These include spoil tips, containing work from mining and ironstone workings, former landfill sites and certain industrial and commercial sites. Where excavation of contaminated material is required then measures would be taken to prevent the spread of contaminants into previously unaffected areas. In some cases the contaminated ground would require complete removal to a licensed tip.



*Geological SSSI at Brynmawr*



*Old spoil heaps at Blaencarno*

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## **Environmental Factors - Ecology and Nature Conservation**

There is a wide range of habitats adjacent to the existing road. Open farmland pre-dominates in the east while marshland areas are better developed in the west because of the slightly wetter and cooler climate. The major valleys tend to be well wooded. Associated with the river margins are a rich variety of mosses, liverworts and invertebrates, such as flies and spiders some of which are nationally rare or scarce.

Extensive surveys have been carried out over a number of years to determine the importance of the area for a range of different plant and animal species. Concerns about nature conservation and proposals to reduce environmental effects have been taken into account from the earliest stages in the design of the new road. The areas of highest nature conservation value, which may be affected by the scheme, are described below together with the particular measures that are proposed to reduce the level of impact.

Mynydd Llangatwg Site of Special Scientific Interest (SSSI) encompasses part of the Clydach Gorge and the upland plateau, which extends north of the A465. The cave system, which extends beneath the Mynydd Llangatwg plateau, is one of the five most important hibernation sites in the UK for lesser horseshoe bats, which is a species threatened in Europe. The main concentration of bats is some miles away but some bats use the Gorge for feeding and the caves beneath the existing road support the bats throughout the year for roosting and hibernation. The SSSI has been notified to the EC as a candidate Special Area of Conservation (cSAC).

Caves currently used by bats would be protected as far as possible by incorporating protection measures into the design of the road.

During the summer, Horgan Fields, near the Rassau Industrial Estate, support a population of lapwing, important within Wales. Further work is being undertaken to determine appropriate mitigation for the lapwing habitat.

A breeding colony of marsh fritillary butterflies has been found close to the proposed route at Dderi-Hir. This butterfly is rapidly declining in numbers in Europe.

It is proposed to move the marsh fritillary colony at Dderi-Hir to a suitable site nearby.

Various sites along the route where protected and other animal species have been found.

Animal underpasses would be provided and operations such as demolishing buildings and trees would be timed to avoid sensitive times of the year for bats and birds. Bat boxes, bird boxes and new ponds would be provided to reduce the effects of habitat loss.

The loss of rare mosses, liverworts and invertebrates associated with several river margins. Areas occupied by the rarer mosses, liverworts and invertebrates would be protected from damage during construction works, for example, by using fences.

The loss of scrub, calcareous grassland, rock face and river habitat (0.4% of total) within Mynydd Llangatwg SSSI. Opportunities would be taken at appropriate locations to create ecologically valuable communities on the roadside cuttings.

The potential deterioration of water quality during construction in rivers important for salmon and trout. Strict pollution control measures would be enforced during the works.

Other impacts which are likely to be less significant include the loss of semi-natural habitats of more local importance.

New woodland, scrub and hedgerows would be planted.

Monitoring would be carried out during construction to judge the effectiveness of the measures that have been implemented.



*Lesser Horseshoe Bat*



*Clydach Gorge is an area of high nature conservation interest*



*'Marsh Fritillary' Butterfly*



*Lapwing*

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## **Environmental Factors - Landscape**

The landscape reflects the varied geology of the area, from the broad agricultural Usk valley around Abergavenny in the east, to the high bleak mountains around Merthyr Tydfil and the areas of past industrial activity. From Llanfoist to Brynmawr the A465 runs through the Brecon Beacons National Park which contains some of the most dramatic scenery along the route. There are Special Landscape Areas around Abergavenny, Cwm Carno, the Upper Sirhowy Valley, the Pen March moorland and the northern side of the Cynon Valley. Urban

development occurs around the heads of the valleys at Ebbw Vale, Tredegar, Rhymney, Merthyr Tydfil and Hirwaun.

Ten landscape character areas have been identified along the length of the proposed scheme. These are areas of broadly common character which show similarities of landform (the physical form of slopes, rivers, geology and soils), land cover (main vegetation and land use characteristics) and landscape elements (buildings, trees, hedges, fences and other features). Great variations in landscape character occur along the proposed scheme: the broad Usk valley; the steep rocky sides of the Clydach Gorge; the open moorland areas of Baverstock Ridge; and the urban valley heads of Ebbw Vale, Tredegar and Merthyr Tydfil.

The significance of change of visual impact and effects on landscape character has been assessed. Changes may be adverse or beneficial.

The main landscape and visual effects of the proposed scheme would be:

to remove extensive areas of vegetation along the existing road. This would have the effect of removing an important element in the landscape, and would also open out views of the previously screened road to residents in the area and those using public footpaths or recreational areas. This would be particularly important on the lengths of road between Abergavenny and the beginning of the Clydach Gorge, and between Nant Hir and Hirwaun.

to introduce new and different elements into the landscape, such as embankments or retaining walls. This would effect a change in landscape character and may also have visual impacts. Examples of such changes include the high embankments of Glanbaiden Junction, the new arrangements at Brynmawr, and the deep cutting by the Baverstock Hotel.

to introduce a wider road into the landscape along the line of the existing

road, and a new road (i.e. the off-line length) at Rassau. There would also be a slight difference in the lighting arrangements, the most noticeable of which would be the lighting of the new two-level junctions.

The proposed scheme would provide an opportunity, where possible, for improving the local landscape with new or additional planting, improving areas where existing measures are inadequate, and by re-shaping some of the less natural-looking land adjacent to or near the existing road. The measures that would be taken to reduce landscape and visual impact include new or replacement planting, mounding, the grading of slopes, visual screens, and the use of appropriate textures and finishes on retaining walls and bridges. Some examples of how these methods would be used to reduce the main landscape and visual effects are described below:

Removal of existing established trees and bushes near Govilon and Glanbaiden with the construction of Glanbaiden Junction, and at Gilwern with the diversion of the Monmouthshire and Brecon Canal. Long-term effects are likely to be slightly adverse but with a slight benefit in the area of the canal diversion because of the effect of new planting.

Substantial quantities of new trees and bushes would be planted. These would be designed to reflect the character of local planting.

At Saleyard a new junction would require the diversion of the River Clydach and the removal of significant areas of existing vegetation, and would initially cause a substantial adverse landscape impact.

Substantial quantities of new trees and bushes would be planted. These would be designed to reflect the character of local planting.

New cuttings and retaining walls would be required between Cheltenham and Brynmawr. These would initially cause substantial adverse landscape impact. Most properties with views of the road would experience slight adverse effects in the long term, with a few closer to the scheme likely to be moderately adversely affected.

Local stone or brick would be used for facing to improve the appearance of many retaining walls. Where new rock cuttings are proposed, the new slopes would be designed to include ledges and sills where vegetation can gradually become established. Environmental barriers to reduce visual and noise impacts would be provided in some areas such as at Cheltenham.

Where the scheme would diverge from

the line of the existing road at Garn Lydan, a large viaduct across Cwm Carno would have visual impact on the adjacent residential areas, ranging from moderately to substantially adverse, depending on the location of the property.

The impact of the off-line length would be mitigated by the construction of new mounds and bunds where noise and visual impact is likely to be significant. Planting would also be carried out to reflect local character.

At Hirgan Fields the route would cross an open hillside, causing substantially adverse impact on the landscape and on properties in Hirgan Fields.

New mounds and bunds would be constructed to mitigate the impact and planting would also be carried out to reflect local character. The central reserve would be widened and landscaped to soften and blend the road into its surroundings.

The new junction at Nant-y-Bwch would require property demolition and remove prominent vegetation. The majority of visual impacts would be slightly adverse. Those properties close to the junction would experience a moderately adverse change to views

The new road would be constructed in deep cutting well below the level of the existing junction. Environmental barriers would be integrated with new mounds and bunds where noise and visual impact is likely to be significant. For many properties, new planting would, in time, produce slightly beneficial effects.

The new junction with the A469 at Llechryd, in its prominent position at the head of the Rhymney valley, would have substantial landscape impact with property demolition, the removal of

trees, and construction of embankments and cuttings in adjacent areas. The changes would also cause moderately significant adverse visual impact on most adjacent properties.

The design of embankments and cuttings would allow for the grading of slopes to fit in with the slopes on adjacent land. New trees and bushes would be planted on embankments and landscape mounds to reflect the character of local planting, for example agricultural-style hedges north of the junction.

Removal of the existing highway trees, the creation of new cuttings and embankments and a new junction at Gurnos would cause substantially adverse visual impact on parts of the residential areas of Gurnos and Trefechan.

The design of embankments and cuttings would allow for the grading of slopes to fit in with the slopes on adjacent land. New mounds and bunds incorporating environmental barriers would be constructed where noise and visual impact is likely to be significant. Planting would also be carried out to reflect local character.

At Taf Fawr two new bridges are proposed and, within the National Park, a large new cutting in the hillside would be created, removing existing vegetation and causing a substantial adverse landscape impact on the area. Properties on the western side of Cefn Coed-y-Cymmer would also experience substantially adverse visual impact from the changes.

The hillside cutting would be graded to fit in with the slopes of the adjacent land. At Cefn Coed-y-Cymmer environmental barriers to reduce visual and noise impacts would be designed to

reflect the character of particular areas. Planting would also be carried out to reflect local character.

A major new cutting up to some 25m deep would be required through the ridge at Baverstock, which together with the new Baverstock Junction would cause slightly adverse impact on the landscape in the longer term.

The cutting would be graded to blend with the slopes on the adjacent land. Massed new planting would be carried out to reflect the particular character of the local area.

The proposed scheme in the Cynon valley would require new cuttings and embankments and would involve the removal of areas of woodland at Nant Melyn ( within the National Park) causing a long-term moderately adverse effect on the landscape.

Substantial quantities of new trees and bushes would be planted, particularly where there would be removal of existing established trees and bushes.

Approaching Hirwaun, the widening of the existing route would lead to loss of highway trees near Trewaun Roundabout, and lead to a moderately adverse visual impact on some properties, while others here would benefit slightly from improved screening of the road.

It is proposed to light the improved road at junctions and along those lengths where the existing route is lit. Consideration would also be given to lighting the remainder of the entire route. Where the new road is at a higher level than the existing, for example at Glanbaiden, the lighting would be intrusive and visible over a wide area, particularly at night. The new off-line length would also add new lighting to

areas which are currently unlit at night.

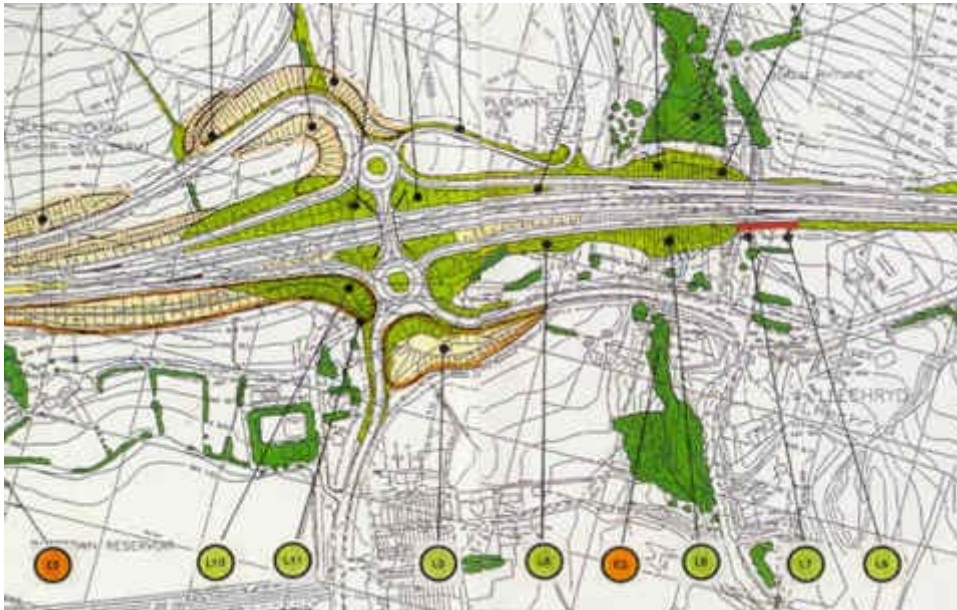
The impact of lighting would be minimised by the use of modern designs which focus the light onto the road avoiding the spillage of light into adjacent areas.



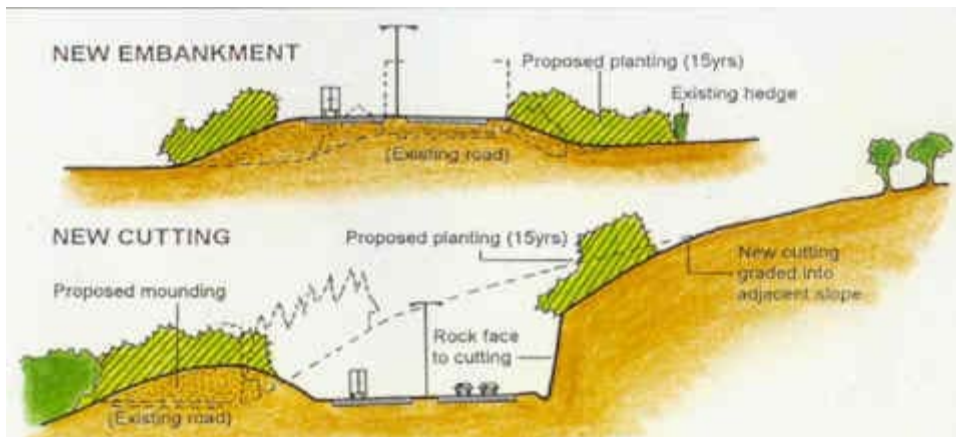
*Timber noise fence*



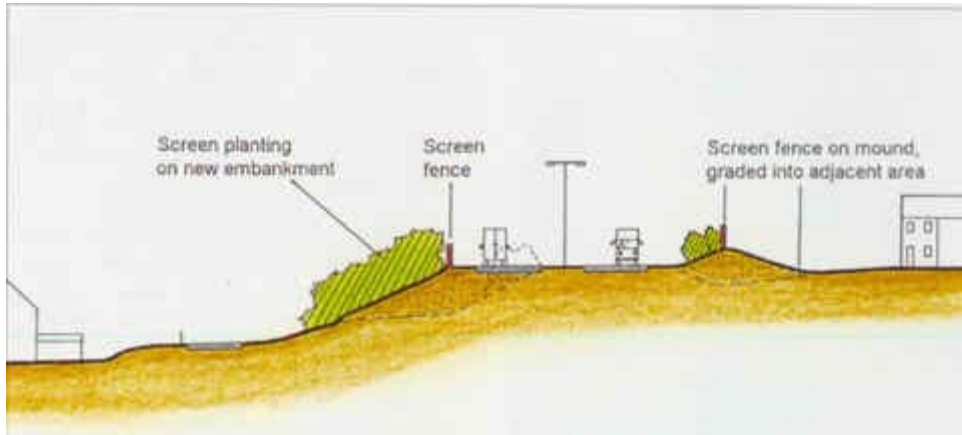
*Mounding and planting on recently constructed road*



*Example of environmental proposals for Rhymney Junction*



*Typical landscape treatments*



*Example of possible screening proposals at Pant*

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## Environmental Factors - Cultural Heritage

The cultural heritage interest of the study area ranges from Neolithic remains to industrial remains of the 18th, 19th and 20th centuries. Much of the interest adjacent to the route relates to past industrial activity including disused railways and ironworks. The area also contains the Merthyr Tydfil Historic Landscape and Neolithic remains in the area between Merthyr Tydfil and Hirwaun. The highest concentration of sites of interest is within the Clydach Gorge area, with two Scheduled Ancient Monuments (SAMs) related to iron working close to the existing road, together with other archaeological and historic sites recognised by the National Park. The Abergavenny area is also of note for its heritage interest. The Monmouthshire and Brecon Canal is designated a historic site by the National Park and passes beneath and runs alongside the A465 at Gilwern.

An archaeological survey of the route corridor has been undertaken to identify archaeological and cultural heritage features and to assess both their extent and importance and the impact of the scheme on them. The survey progressed in a series of stages and included the limited excavation of 43 sites.

282 sites were recorded within a corridor 50m wide either side of the proposed road. The nationally important sites include three SAMs, Llanelly Furnace (1684), Smarts Bridge (1824) and Clydach Ironworks (1797), and Gurnos Tramroad and Leat (1792), and one Listed Building, Clydach House (c.1693). These are located in areas of intensive early industrial activity and would suffer no direct impact.



*Clydach Ironworks*



*Aberbaiden Lodge*



*Smarts Bridge*



*Bute Town*

The design of the road has been developed to minimise the impact upon sites of cultural heritage, but some 91 sites (of the 282 recorded) would be unavoidably affected to varying degrees. Where this is the case a range of different types of excavation, survey and recording are proposed. These include the partial excavation at some sites such as a post-medieval settlement at Baverstock, whereas at other sites of less importance a watching brief would be all that is required.



*Railway Viaduct near Nant-y-Bwch*



*Preliminary archaeological excavation near Brynmawr*



*Capel Tabor Cefn, Coed-y-Cwmmmer*



*Excavation of post-medieval field boundary, Baverstock*

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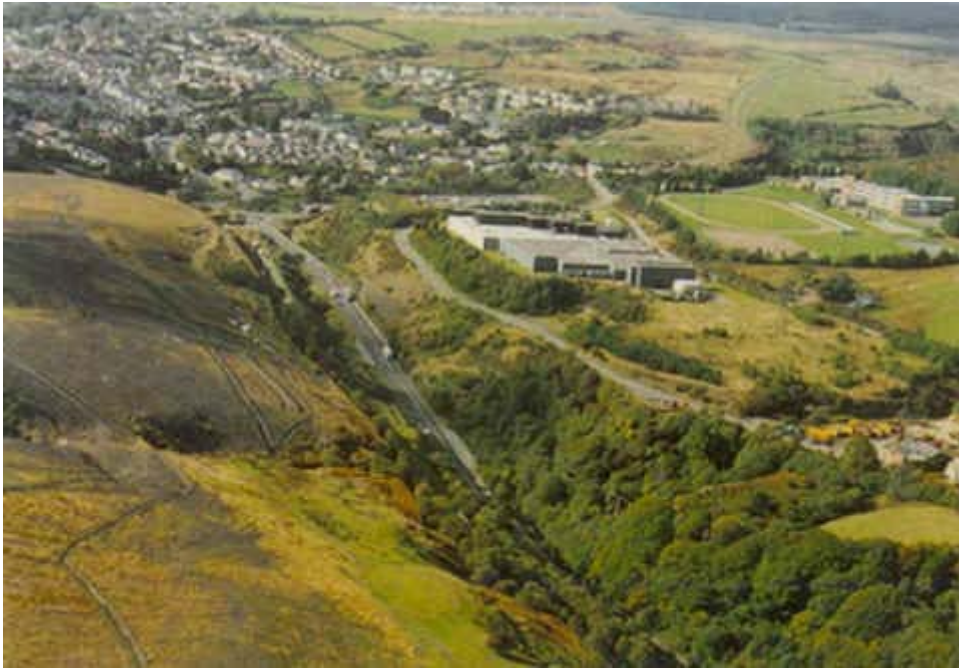
## **Environmental Factors - Policies and Plans**

The proposed scheme passes through areas administered by six different planning authorities. These include five Unitary Authorities, which came into existence on 1 April 1996, replacing the former County and Borough/District Councils in this area. In addition parts of the route pass through land administered (for planning purposes) by the Brecon Beacons National Park Authority.

National and regional guidance stresses the need for transport proposals which are compatible with the principle of sustainable development. It also recognises the need to strike a balance between servicing economic development and protecting the environment. Whilst the proposed scheme may have an adverse impact in relation to some environmental factors, it may assist the economic regeneration of this area.

The proposed dualling of the A465 is listed within the Local Plans of all six planning authorities and most refer to the benefits of the scheme. The Preferred Route corridor is safeguarded from development within these plans.

The proposed scheme would have an adverse impact upon a number of planning proposals and designations within all six planning areas. These include the protection of important landscapes and archaeological and ecological sites, land identified for housing or employment and land used for recreational purposes.



*View to Brynmawr and Anacomp Magnetics*



*Rassau Industrial Estate*



*Residential areas - Waundeg and Bryn Rhosyn*

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## **Environmental Factors - Vehicle Travellers**

Upgrading of the A465 from the existing three lane road to a dual carriageway with a central reserve and safety barriers would assist in reducing driver stress, thereby assisting in lowering the potential for accidents. Delays caused at junctions and where overtaking is restricted would be relieved by the scheme. Two-level junctions would be provided to a high standard where the A465 traffic would flow freely over or under the local roads with slip roads connecting the local roads to the trunk road.

Careful detailing of planting, earth shaping, structural finishes and boundary features would provide visual variety along the route, increasing the interest and quality of the journey.

Vehicle travellers moving between local communities would benefit from reduced traffic congestion at junctions. The existing trunk road at both Rassau and Hirwaun would remain available as local link roads relieved of trunk road traffic, again reducing the potential for accidents.

All existing minor road connections and direct accesses onto the trunk road would be closed and diverted, usually to the nearest junction. Side roads crossing the route would be maintained or diverted, allowing current overall patterns of travel to continue.



*Artist's impression of replacement widened bridge at Taf Fechan*



*Road works at Hirwaun*

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## **Disruption Due To Construction**

Construction of the overall scheme is unlikely to take less than 7 years. During this time it is likely that construction would be on-going in up to two Sections at any one time. For example, it is expected that the Sections between Abergavenny and Gilwern and between Tredegar and Dowlais Top would be constructed concurrently, with further sections following once these are complete. Construction of the first two Sections would take place over a period of approximately 2 years.

Throughout much of the scheme the route follows the existing A465 and traffic flows would be disrupted. In many areas the width of the existing road would be restricted during construction and in some cases extensive single lane working controlled by traffic signals would be required. Where existing roads cross the trunk road temporary diversions would be necessary and some journeys may be lengthened.

The existing road would be the main route for construction materials and labour. There would be controlled points for access to the construction site where congestion and delay would be likely to occur. Restrictions on the use of minor roads by construction traffic would be included in the construction contract.

Construction would take place alongside passing traffic with temporary barriers and safety zones maintaining separation. Temporary speed limits of 50mph or in places 30mph are likely to be required in these areas during construction.



*Construction of new A470 at Cefn Coed-y-Cwmmer*



*Traffic management at Taf Fechan*

Some public rights of way would have temporary diversions and, together with a number of private accesses, there would be disruption until the final provisions are in place.

At terminations between adjacent Sections of the road, construction would cause inconvenience and temporary diversions for longer periods as one Section is completed before the adjacent works commence.

Areas adjacent to the works could be affected by construction noise, blasting, vibration, mud and dust as construction proceeds. Rock blasting would be required in a number of areas along the scheme. Blast clearance zones would be set which are likely to preclude any blasting in urban areas.

In most areas the new road would be constructed in excavations below the existing general ground level. A large proportion of the soil and rock excavated would not be required for construction and would require disposal. Throughout the scheme, areas have been identified generally adjacent to the route where material could be placed in landscaped mounds and regraded areas. These would either contain the road or mitigate the overall impact. The areas would, wherever possible, be offered back to the original landowner once the works are complete. These measures would assist in reducing the amount of heavy construction vehicles using the existing roads and reduce the need to find alternative sites for disposal which could bring about further environmental impact.

Restrictions on the levels of construction noise permitted during periods of the day and night would be agreed with the local Environmental Health Officer, as would working hours. Similarly restrictions would be applied and appropriate measures undertaken to avoid disturbance to water-courses, flora, fauna, and archaeological and landscape features. These would be agreed with the Countryside Council for Wales, the Environment Agency, Planning Authorities and local representative bodies.

Visual impacts would result due to the physical construction of the works. This would include the impact of the site compound and the presence of materials, machinery and the traffic management measures extending along the route.



*Construction in progress at Llanfoist*

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### **Further Information**

Copies of the Environmental Statement may be inspected free of charge during normal office hours at the following locations:

- Abergavenny Library
- Gilwern Post Office
- Blaenau Gwent County Borough Council
- Municipal Offices, Ebbw Vale
- Brynmawr Library
- Tredeggar Library
- Rhymney Library
- Central Library, Merthyr Tydfil
- Hirwaun Library

Complete copies of the Environmental Statement can be bought on CD-ROM for a price of £50

Printed copies can also be bought from the Welsh Office for the following prices:

Volume 1	£600
Volume 2 (total)	£150
or individually	
Volume 1.0 (Introduction)	£25
Volume 1.1 (Section 1)	£25
Volume 1.2 (Section 2)	£25
Volume 1.3 (Section 3)	£25
Volume 1.4 (Section 4)	£25
Volume 1.5 (Section 5)	£25
Volume 1.6 (Section 6)	£25
Volume 1.7 (Section 7)	£25
Volume 1.8 (Overall Assessment)	£25
Volume 1.9 (Drawings)	£450
Volume 2.1 (Air Quality)	£25
Volume 2.2 (Cultural Heritage)	£40
Volume 2.3 (Ecology)	£60
Volume 2.4 (Landscape)	£40
Volume 2.5 (Noise)	£30

Requests for copies should be made to the Welsh Office.

Further copies of this Non-Technical Summary may be obtained free of charge from the Welsh Office.

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## Public Exhibition

Public exhibitions of the proposals will be held locally.

Plans and general details of the proposals, together with proposed measures to reduce environmental impacts, will be on display. Representatives of the Welsh Office and their consultants will be available to explain the proposals and answer questions.

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## Your Views

If you wish to support, comment on, or object to the draft Orders or on the proposals to carry out work in the candidate Special Area of Conservation (cSAC), or if you wish to put forward alternative proposals or comment on the Environmental Statement you should write before the latest date for objections given in the Public Notice to:

Welsh Office  
Highways Directorate  
Roads Administration Division  
Cathays Park  
Cardiff CF1 3NQ

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## What Happens Next

Depending on the nature and number of objections to the draft Orders received, a Public Inquiry may be held before an independent Inspector nominated by the Lord Chancellor. If a Public Inquiry is to be held, all those who have responded will be notified individually at least six weeks beforehand and notices will appear in the local press. All comments received will be made available to the Inspector who may decide to make them public. Publicity will be given to any alternative proposals received.

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