

**Friends of
the Earth
Cymru**

**Cyfeillion
y Ddaear
Cymru**

Road Upgrading

Help or Hindrance to the Peripheral Economies of Wales?

**A report compiled for Friends of the Earth Cymru by:
Jake Griffiths**

May 1998

This report has benefitted from the support and comments received from Gordon James, Neil Crumpton, Dr Max Wallis and Gerald Kells.

Friends of the Cymru is one of Wales's leading environmental groups campaigning for the implementation of sustainable transport policies.

Friends of the Earth Cymru is the coordinating body in Wales for the twenty Friends of the Earth local groups. It is part of Friends of the Earth England, Wales and Northern Ireland which in turn is a member of Friends of the Earth International. Friends of the Earth is represented in 47 countries across every continent and together forms the largest international collection of groups campaigning to protect the environment.

May 1998

Friends of the Earth Cymru
33 The Balcony
Castle Arcade
Cardiff
CF10 1BY
Tel: 029 20229577
Fax: 029 20228775
E mail cymru@foe.co.uk

Contents

Summary

Recommendations

1. Introduction
2. The Labeling of Peripheral Areas
3. Do Roads Bring Prosperity to Peripheral Areas?
4. Road Upgrading and Changes in Economic Process
5. The Economic Impact of Road Building into Peripheral Areas of Wales
 - 5.1 Road Upgrading and Inward Investment
 - 5.2 Job Losses through road building into peripheral Parts of Wales
 - 5.3 Would Further Road Building Reduce Business Transport Cost?
 - 5.4 Road Upgrading and the European Union
 - 5.5 Tourism
 - 5.6 Shopping
6. The Alternative to Building New Roads into Peripheral Areas of Wales
 - 6.1 The Development of Public Transport
 - 6.2 The Benefits of Traffic Reduction
 - 6.3 Modern Telecommunications
 - 6.4 Support for Local Businesses
 - 6.5 Job Creation through Improving Energy Efficiency
7. Conclusions
8. References

Summary

- This study examines what the economic impacts of building roads into peripheral areas of Wales have been and whether further road developments would bring an overall improvement in economic prosperity.
- There is little, if any, empirical evidence to suggest that there has been an overall increase in job opportunities brought about by the building of new roads into these areas. There has been some inward investment, the main reason for which has been the provision of financial incentives (grants) and labour supply.
- The Government's Standing Advisory Committee On Trunk Road Assessment (SACTRA) report has recently stated that reducing national traffic volumes can improve economic efficiency, but improving accessibility may have the opposite effect of aiding regeneration and have a negative economic impact.
- The building of roads into peripheral areas of Wales has removed their protection of lower accessibility and opened these areas to the effects of economic processes at a UK and European level.
- Companies from outside the peripheral areas have expanded their operations without actually setting up factories in them. Local distribution depots have closed with the areas being served from distant centres. These factors have led to job losses.
- Wales already has a highly developed road network, further upgrading of which is unlikely to improve economic development.
- The tourism industry has performed above the national norm in mid Wales compared to that in north or south Wales even though it has a comparatively less developed road network. Further development of the road network may damage the perception of rural Wales as a clean area untainted by over-development and suburbanisation.
- Increasingly easy access to distant shopping centres from peripheral areas has meant people are shopping further afield and not using local shops.
- The building of new roads can induce further traffic growth and road congestion defeating an original reason for the new road.
- County Council transport schemes put before the Welsh Office for funding appraisal in 1999 will have to incorporate road traffic reduction targets.
- Companies in peripheral areas tend to source components from local suppliers leading to a more diverse economy. Manufacturers in peripheral areas tend to make a greater proportional contribution to a product's total value.
- The development of an integrated public transport system when given greater priority over the development of the road network has been shown in Japan to lead to an increase in personal prosperity.
- The development of telecommunications has meant that location has become less important as a consideration for the location of new business.

RECOMMENDATIONS

- Major road upgrading should not be used as one of the main tools to aid economic rejuvenation in the peripheral areas of Wales because of the negative economic impacts which may arise.
- The cost benefit appraisal technique used for assessing road schemes needs to be revised to take into account the negative impacts which road upgrading schemes could have in the peripheral areas of Wales.
- Those schemes which have already been assessed using present cost benefit appraisal techniques need to be reexamined.
- The Road Traffic Reduction Act means that from 1999 Councils will have to put forward road traffic reduction targets. They should start now by putting forward measures to promote traffic reduction rather than road building schemes, such as the Ceredigion Link Road, which are likely to induce traffic growth.
- The highest priority should be given to the development and promotion of local businesses and the undertaking of social / environmental improvements - such as improving home energy efficiency - rather than undertaking further expensive road upgrading schemes.
- Companies should be encouraged to use 'teleworking' to help reduce transport related costs.
- A comprehensive and integrated public transport system should be developed across Wales to aid economic regeneration. It has been estimated that 90,000 extra jobs could be created across the UK through a reduction in road traffic of 10% by 2010 over 1990 levels and a switch to public transport.

1. Introduction

Among most economic planning authorities it has become an unquestioned assumption that improving road links to peripheral areas are a precondition for economic growth, inward investment and job creation. Yet, as far back as 1977 the Government's Advisory Committee on Trunk Road Assessment (ACRTA) (1) cautioned against this assertion, and, in February 1998, the Standing Advisory Committee on Trunk Road Assessment again warned that *"the pervasive, often implicit, assumption that the benefit of improved accessibility will always accrue to the target area may often be misplaced: the possibility of the net impact running counter to regeneration objectives cannot be ruled out"* (2).

This report examines whether new roads into the peripheral areas of Wales have brought an overall increase in jobs and regional prosperity. These findings are then used to estimate whether further road upgrading will increase prosperity. Alternatives to road up-gradings are suggested as a means of increasing regional prosperity and job opportunity.

2. The Labeling of Areas as Peripheral

An area's peripherality is often a matter of personal perception and many would object to their area being labeled as such. It can depend on whether it is being looked at from a local, Welsh, UK, European or global level. In the context of this report regions of Wales are perceived to be peripheral because of their inaccessibility to or from the stronger economic centers around Cardiff and in England. An area's peripherality is thought to increase the further it is from these economic centers.

In Wales, a number of major roads have been built or are planned as an attempt to decrease this perceived economic peripherality. The A55 trunk road (Expressway) has been built linking North West Wales and North West England. Road upgrading has been undertaken extending on from the M56/A5 dualling into Mid Wales. In South Wales there have been improvements to the M4/A40, linking West Wales with South Wales and the South East of England. Further improvements have then been made to the feeder roads entering the main transport arteries. Upkeep and improvements to the Welsh road network cost over £300 million in 1995-96 (3).

Proposed road upgrading include the Ceredigion Link road between Aberystwyth and Carmarthen, further dualling of the A40 west towards Fishguard, and dualling of the A465 Heads of the Valleys Road.

3. Do Roads Bring Prosperity to Peripheral Area's ?

The assumption that road developments lead to economic prosperity in peripheral areas has found wide acceptance within Wales with authorities stating, for instance, that

"In Wales 'the infrastructure investment = inward investment' link is demonstrated and vital to the future."(4)

"The County Council believes that an improved road network (i.e. Ceredigion Link Road) is vital to the economic well being of the Ceredigion area.(5)

"The benefits of the improvements (i.e. the A55) will continue to grow over time, as the behavior of individuals, firms, and organisations fully adjusts to this infrastructure change, and the full realisation of access to the motorway network."(6)

"A key element in development is therefore the need to improve road access to and within the area."(7)

However, these statements appear to be more a matter of belief rather than fact. In 1977 the Department of Transport Leitch Committee on Trunk Road Assessment concluded that,

"At the national and regional level therefore all the evidence points to the conclusion that improvement to the trunk road network can have only have a limited effect on industrial location and growth." (8)

In 1994, The Royal Commission on Environmental Pollution asserted that,

"good roads can sometimes speed the decline of less prosperous areas by allowing their needs to be met conveniently from sources outside the area(9)"

European Transport Ministers have agreed that road building is unlikely to attract business to an area through reducing transport costs, stating,

"Location decisions are influenced less by the cost of transport than by other factors such as fixed costs, particularly labour costs. By and large businesses do not consider transport costs to be an important factor." (10)

Earlier this year the Standing Advisory Committee on Trunk Road Assessment (SACTRA) - the first Government-appointed body to assess the economic impacts of road building - issued their interim report which said that

"The available evidence does not support arguments that new transport investment in general has a major impact on economic growth in a country with an already well developed infrastructure." (11)

Perhaps the most damning critique in Wales of the assertion that improving the road network will lead to economic development can be found in the Economic Assessments (12) by consultants WS Atkins and Partners. Their report written in support of the proposed Ceredigion Link Road for Dyfed County Council states:

"There have been a large number of studies to test the hypothesis that, by increasing accessibility, trunk road development in a region will have a significant impact on economic growth and be an important factor in the locational decision of firms. Few however find strong theoretical or empirical evidence to support this hypothesis".

The report continues, citing KM Gwilliam and FJ Judge, stating that

“there is neither theoretical nor empirical reason to suggest that investment in transport infrastructure will cause radical changes in the level and location of activities”.

Research is now indicating that in Wales, the upgrading and building of new faster road links has not brought the desired overall increase in jobs and personal prosperity, and may have actually led to the opposite effect with job losses. The evidence for this will be examined in the following sections.

4. Road Upgrading and Changes in Economic Processes

For an understanding of how road links into peripheral areas have affected local economies it is important first to look at some of the general changes which development of the road infrastructure has had on economic processes (13).

- There has been a move towards greater centralisation of businesses through restructuring with factory numbers decreasing but increasing in size.
- The number of stages of the production process put out to external subcontractors have increased, which in turn leads to an increase in the number of journeys.
- Businesses now supply more distant markets and source more distant raw materials.
- Reductions in warehousing costs through 'just in time' deliveries have been greater than the increased transport costs.
- "Just in time" and "quick response" production and marketing techniques have meant that supplies of the finished products are being delivered in smaller loads increasing the number of lorry journeys.
- Additional road capacity has been provided to allow for growth, thus increasing the range over which a delivery vehicle can operate and reducing costs of road transport.

Road upgrading into peripheral areas has removed the protection afforded by lower accessibility and opened the areas to the effects of economic processes on a UK and European level.

- There has been a concentrating of specific types of employment in particular areas.
- Faster road links have also encouraged the growth in freight movements, and distance traveled have increased at a much higher rate than the volume of goods produced.

5. The Economic Impact of Road Building into Peripheral Areas of Wales

According to the Government's influential Standing Advisory Committee on Trunk Road Assessment (SACTRA)(14) there is little evidence to link road building to economic regeneration. The interim report states that reducing national traffic volumes can improve economic efficiency, but improving accessibility may have the opposite effect of aiding regeneration by having a negative economic impact.

The Committee's main findings to date are:

- Transport investment may have economic impacts which are additional to those measured in conventional cost benefit appraisal (CBA). For example, traffic pollution is estimated to cost Britain £11bn a year in ill health, a cost which is not currently included in cost benefit appraisal techniques for transport schemes (15).
- Reduction in traffic volumes will improve economic efficiency.
- Depending on local circumstances, transport schemes may have a positive or negative economic impact.
- The benefits of improved accessibility may not always accrue to the target area and the net impact may run counter to regeneration objectives.
- The report is critical of the present cost/benefit analysis methods used by economic planners in Wales to support transport schemes because they rarely acknowledge the "two-way nature" of the impacts that improved accessibility brings. Improvements to roads linking one region to another reduce the costs of exports from that region **but** also reduce the costs of imports. The report also noted that CBA often double-counted certain benefits and that little attempt was made to "value the economic impacts in monetary terms".

The Committee poses a number of general questions which should be asked of proposed road upgrading schemes which are relevant to Wales:

- Which are the mechanisms which influence economic activity that the scheme is expected to activate?
- What effect on economic activity and employment is forecast to result from the scheme?
- What proportion of the above is displacement from elsewhere, and what proportion is additional?
- What are the negative effects on economic activity and employment due to increased competition from outside?
- Is there any national or regional advantage in redistributing economic activity to

the locations which are forecast to benefit?

- How has the case for wider economic benefits been compared with the transport appraisal to establish the extent to which there is double-counting?

Many of the SACTRA interim report's findings are borne out by the impacts of road upgrading into the peripheral areas of Wales and will be discussed further within this document.

Following the release of the SACTRA interim report, the criteria used for judging the economic impacts of a particular road scheme need to be changed to reflect the report's concerns. Those schemes which have already been assessed, such as the Ceredigion Link Road and the Heads of Valleys dualling, need to be re-examined using updated appraisal techniques.

5.1 Road Upgrading and Inward investment

In Wales some inward investment has occurred, but it has been heavily skewed with most being located towards the Eastern ends of the Welsh sections of the M4 and A55, and in close proximity to the roads themselves. Figures drawn up by The Western Mail newspaper show that over £5.5 billion of inward investment was secured between April 1 1993 and March 31 1998 (16). The area to the East of Bridgend - that is to say South East Wales - received £4 billion worth. A large part of the remaining investment went to North East Wales.

Areas with seemingly identical road links have fared differently in their economic development. This has been highlighted by a study in West Glamorgan. The study found that two areas - Swansea and Neath/Port Talbot - with very similar accessibility along the M4 had fared very differently in job creation terms. Neath/Port Talbot had shown a significant growth in job opportunity (+39), whereas Swansea had suffered significant decline (-37%). This difference of economic performance of 76% has been attributed to a 'grants effect' with Neath/Port Talbot benefitting from grant income due to having development area status. Swansea meanwhile received 'erratic payments' of much smaller sums due to its intermediate area status (17).

Recently, Pembrokeshire and Ireland were the two front runners in a multi million pound investment project by one of the worlds largest personal computer manufactures - the US Dell Corporation. The development promised 2 000 jobs. At the last moment Dell chose to locate its business in the Irish republic because it offers inward investors a 10 year freeze on paying corporation tax. Those involved in trying to attract Dell to West Wales noted that the company's interest showed that the county could compete with any region in Europe for such a major investment. Danny Fellows, the TGWU regional organizer is quoted as saying, "*It was a photo-finish and Pembrokeshire beat the rest of Europe. The only reason we lost out was the tax issue which we could not do anything about. (18)*" In other words, the present road transport infrastructure was not seen as a disadvantage when trying to attract Dell to Pembrokeshire.

An £11.5 million business park in Vale of Clwyd on the A55 Expressway presently

stands nearly empty (19). The park, even though it is situated on the A55, is still in a fairly isolated location with no public transport links and distant from a labour supply. Facilities like banks and shops are not within walking distance and St Asaph is over a mile away. The fast road links have not been enough of an attraction to bring in outside investment.

There is little, if any, empirical evidence to suggest that there has been an overall increase in job opportunities brought about by the building of new roads into the peripheral areas. The two most important factors for attracting inward investment have been found to be regional investment grants, as noted above, and the availability of an abundant labour supply (20). It has been found that road building is no more important as a reason for a company to locate in a particular area than public transport, parking, housing, education and property.

Inward Investment Grants

The giving of inward investment grants to aid in job creation raises a number of questions which this report will not try to answer. It is worth pointing them out because of the ongoing debate as to their effectiveness in aiding regional development.

The problem of offering inward investment grants to attract companies to a particular region is that regions may start to compete with each other in trying to offer the highest 'sweetener'. It is debatable whether an overall benefit is to be gained when different peripheral regions of Britain (or Europe) offer ever increasing levels of grants all originating from the same central source. The main beneficiary would seem to be the inward investment company. Kevin Morgan, Professor of European Regional Development at Cardiff University stated that central government had an important role to play to *"ensure that regions do not engage in a race to the bottom by outbidding each other in subsidising potential inward investors."* (21)

It has also been argued by, among others, the economist Jeffrey Payne (22), that the particular type of inward investment attracted by regional investment grants do not produce a climate for 'self-sustaining growth' in the Welsh economy. They come primarily because of the availability of financial incentives and low labour costs. The new factories are for assembly purposes only and externally owned, with the incentive grants frequently being used for technology development in the country of origin. There tends to be little diversification in the local economy.

It should also be noted that, notwithstanding a small number of high profile inward investment projects, 92% of jobs in Wales are found in the indigenous sector - only 8% of employment is accounted for by the foreign-owned sector (23).

5.2 Job Loses Through Road Building into Peripheral Parts of Wales

The increasing ease of access has enabled larger companies from the central stronger economic areas to expand their operations into peripheral areas by utilising the fast road networks. Depots are centralised with no distribution points being developed in the peripheral areas. The lower transport costs compared to other production costs

have enabled outside suppliers to undercut local businesses without actually setting up local facilities. The new road links have taken away previous protection afforded to local businesses through lower accessibility.

Companies which have had distribution depots in Wales have closed them down, relocating to more centralised locations. Recently it has been announced that the post office sorting depots at Bangor, Colwyn Bay, Rhyl and Wrexham are to close with the loss of 50 jobs. Sorting will now be undertaken down the A55 in new facilities to be built in Cheshire (24). Other factories that have closed include that of Northern Foods centralising production in Warrington, and British Gas centralising their services in Chester with the closure of a North Wales depot (25). South West Wales has seen the closure of two local dairies, the Whitland dairy closing with the loss of 156 jobs and much of the milk now being shipped by road to England for processing (the Felin Fach dairy has reopened on a smaller scale and there are plans for expansion).

Indirect savings through rationalisation are used as an argument for the construction of new roads to aid businesses. However small businesses, typical of those found in the peripheral parts of Wales, are rarely in a position to rationalise their operations.

Companies from outside the peripheral areas have expanded their operations without actually setting up factories in them. Local distribution depots have closed with the areas being served from distant centers. These factors have led to job losses.

5.3 Would Further Road Building Reduce Business Transport Cost?

The costs of traffic congestion in the United Kingdom has been estimated variously at between £15 billion and £20 billion per year (26). The department of the Environment, Transport and the Regions new National Road Traffic Forecasts show a growth in traffic of approximately 50% over the next 25 years if present trends continue (27). Recent government studies have shown that the building of new roads can induce traffic growth (28), increasing transport costs due to traffic congestion and thus defeating the original reason for the new road links.

It has been found that having a peripheral location may not prove a significant burden to manufacturers, and that any time savings that do occur through faster transport links may not actually benefit the regional economy. Accessibility of the regional economy to other areas through shorter journey times may encourage more external sourcing. For example, Norfrost based at Wick in the far North of Scotland, 1000 kilometers from London, holds 90% of the British chest freezer market, over 50% of the German market, and exports to over 60 countries. It achieves this by keeping most of the production process in Wick, thus reducing the amount of components coming in and out from elsewhere. Scottish firms spend roughly the same proportion as English firms on transport, despite having large markets in Europe mainly serviced via the Southern channel ports (29).

Companies in peripheral areas tend to source components from local suppliers leading to a more diverse economy. Manufacturers in peripheral areas also make a greater proportional contribution to a product's total value.

Savings to local companies from the construction of new sections of roads are minimal, with transport costs being approximately 5% of company operating costs (30). The transport component of the final product price is approximately 8% and since the transport costs are only a few percent of the overall company costs any reduction in the delivered product price brought about by further upgrading are likely to be only a fraction of 1% (31).

In a recent report by the Welsh Economy Research Unit (32) on Road Improvements and Economic Developments in Merthyr Tydfil it was stated that

“It is now unlikely to be the road infrastructure that will hinder medium term prospects in Merthyr: The town's ability to compete with other areas in the longer term is connected to its being able to develop associated physical and labour training infrastructure to support the work that has already been done on communications”.

The recently released SACTRA interim report states that *“the available evidence does not support arguments that new transport investment in general has a major impact on economic growth in a country with an already well developed infrastructure.”*

Wales already has well-developed road network, further upgrading of which is unlikely to improve economic development (33).

The assertion - noted in point 3 - that because of the present road infrastructure companies are reluctant/unable to expand or locate in the peripheral parts of Wales belies the multitude of successful businesses that already operate from these areas. Saint Davids Assemblies and Organic Farm Foods Wales are just two of the many companies which are operating successfully from peripheral parts of Wales.

- **Saint Davids Assemblies** - an associate company of the Otter group - is located in the most Westerly town in Wales. The company manufactures thermostats and circuit breakers for the domestic appliance market, exporting 80% of its output world wide. Recently, it expanded into new larger premises built by the Welsh Development Agency creating 50 new jobs and taking the total work force to 160 (34).
- **Organic Farm Food Wales** was established in Lampeter 24 years ago and has gradually expanded into a medium sized company and employing 160 people in Lampeter and 300 across the UK. The company, which markets organic farm produce, has found that the two main inhibiting factors to further growth at its Lampeter site are firstly, a shortage of local skilled/semi-skilled workers, and secondly, a lack of government support and investment over the last 15 years for organic farming (35).

5.4 Road Upgrading and the European Union

Improved road links, it is often argued, will ease access to the wider European market but small and medium sized businesses find marketing and development over such a wide and diverse area very difficult with the limited capital available to them.

Further road upgrading, through schemes such as the Trans European Road Network (TERN), will be of more benefit to the larger multinational firms who will be able to take advantage of the single market across Europe. The development of the TERN network will facilitate greater centralisation of production at the European level. The electronics company, Sony, have said that they could take advantage of the Channel Tunnel and the extensive European road network to have one European distribution depot for the whole of Europe situated near Calais (36).

With a sufficiently developed road network in Wales, each additional link of new road and motorway will lead to the potential for increasing centralization of production at a UK and European level with its consequential detrimental effects on local communities.

5.5 Tourism

The tourism industry in Wales through its central body the Wales Tourist board (WTB) has been an enthusiastic supporter of improving and developing roads links in Wales. One of the expressed aims of the WTB is the promotion of car based tourism and, in particular, the promotion of day trips into Wales and car trails around Wales. It feels that mid-Wales is particularly poorly served by links with England and sees upgrading road links as a means of encouraging tourism to the area (37).

However, there are a number of problems associated with the policy of promoting road upgrading to facilitate short term holidays. For many parts of Wales one of the main attractions to visitors, possibly the most important one, is its perceived wildness and clean rural environment untainted by development - it is clearly a different place from where the tourists have come from. Evidence for this may be found in the fact that, according to the Mid Wales Tourism Action Group, the Mid-Wales area has

"been performing above the national norm and a continuation of this trend could be anticipated in the future"(38),

even though North and South Wales have faster road links to England. This suggests that the WTB's support for further development of the road network to prepare for and encourage the growth in short/day trip holidays should be reconsidered (39). There has been continual upgrading of road-links over recent years, but short term holidays have not been seen to increase(40).

Further road upgrading, when seen alongside the extensive network which already exists, could seriously damage the perception of 'Wild Wales' which is so important in attracting tourists. This has been acknowledged as a problem in England by the Countryside Commission who have raised concern over the continuing spread of

suburbanisation and ensuing loss of the countryside's feeling and character (41).

Wales has continued to be a popular destination for longer term holidays and it could be argued that these should be the greater priority for development because of the larger amounts of moneys spent by longer term visitors compared to those on shorter visits. It has been found that day visitors to the Snowdonia National Park spend nearly £7 per day, whereas those holidaying in serviced accommodation spend over £25 per day (42). Rory Francis, the director of the Snowdonia National Park Society, has stated that,

"the increasing trend towards day visits to Snowdonia following the completion of the A55, is threatening to do real damage to the economy of North-West Wales (43)."

Towns that have been bypassed have suffered due to tourists going straight past and on to their final destination without spending any money in their locality. Some towns in North Wales which have been bypassed by the A55 have seen a significant decrease in tourist spending (44).

The tourism industry has performed above the national norm in Mid-Wales compared to that in North or South Wales even though it has a comparatively less developed road network. Further development of the road network may damage the perception of rural Wales as a clean area untainted by over development and suburbanisation.

5.6 Shopping

It has been noted that the speed with which the major shopping centres of Chester and Liverpool/Manchester can now be reached from North Wales has led to an increase of usage of these centres rather than of the local shopping centres in North Wales for the buying of major consumer goods giving the

"opposite of a trickle down effect, as expenditure leaches from the area (45)."

In South Wales, faster road links have helped fuel a shopping boom in Cardiff and a corresponding decline in the fortunes of surrounding town shopping centres, particularly in the South Wales Valleys. The growth of many 'out of town' supermarkets has recently been noted around Wales, as elsewhere in Britain, with a corresponding decrease in the number of small village shops. The improved road links into peripheral areas, while not being the sole reason for their development, have facilitated their growth allowing 'just in time' delivery processes.

The easing of access in peripheral areas to distant shopping centres has meant that people are shopping further afield taking away business from local shops.

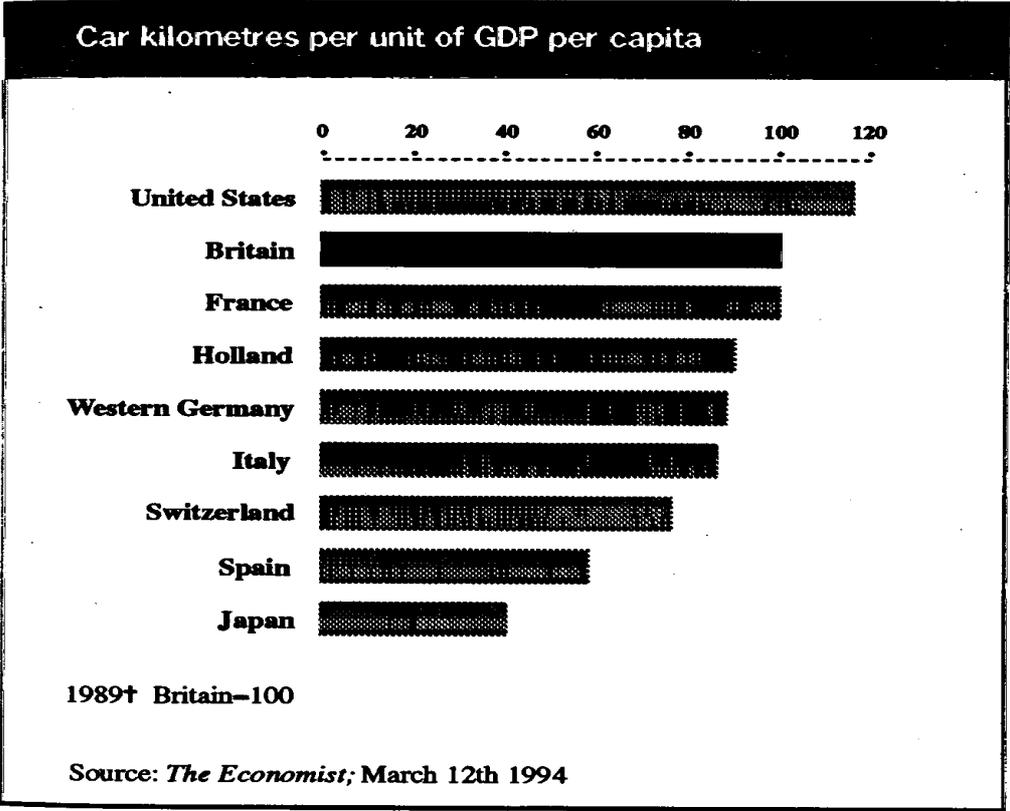
6.0 The Alternative to Building New Roads into Peripheral Areas

6.1 The Development of Public Transport

The assumption that economic prosperity is dependent on continuing road development has not been universally accepted by all governments. Since the last war Japan has had the fastest economic growth of any Organisations of Economic Cooperation and Development (OECD) country, but of all OECD Countries has been least dependent on the private car and most dependent on rail, metro, cycling and walking (Figure 1). Owning and driving a car has been made prohibitively expensive. This utilisation of public transport, cycling and walking has been supported and encouraged by central government and led until recently, to low levels of road congestion, liberating space for freight transport. This has had the follow on effect that people have saved money instead of buying a car, and benefitted the local economy by having much lower community expenditure on road development (46).

The development of an integrated public transport system, when given greater priority over the development of the road network, has been shown in Japan to lead to an increase in personal prosperity.

Figure 1. Wealth and Road Transport in different countries (Taken from 'Working Futures' (47))



6.2 The Benefits of Traffic Reduction

In a recent report, Professor John Whitelegg (48) highlights the benefits that both urban and rural areas gain from a decrease in car dependency and a move to lower levels of car use and a switch to alternatives, such as walking, cycling and public transport:

- it brings economic gains to town and city centres retailing
- it brings national economic benefits
- it re-invigorates neighbourhoods and communities
- it improves health
- it reduces the total amount of public expenditure devoted to new infrastructure and reduces the cost of dealing with the health effects of transport
- it helps us to achieve reductions in greenhouse gases
- it is inclusive: it helps the young, the disabled and the elderly and it helps the poor

Policy tools he suggests to achieve these aims include road pricing, taxing car parking spaces and developing green commuter plans in urban areas. These can be combined to give the necessary cut in traffic even if traffic in rural areas is not reduced. The report shows that a traffic reduction of 10% can be achieved using tried and tested policies, without an increase in fuel duties and without damaging the interests of those who live in rural areas. A reduction in traffic levels of one third could be achieved in urban areas - in which 80% of the population live - if the measures he suggests were to be implemented on a large scale.

In recognition of the problems associated with traffic growth and congestion and the benefits of traffic reduction, the Road Traffic Reduction Act was passed in 1997. The recently published Road Traffic Reduction Act 1997: Draft Guidance for Local Authorities (49) states that *“given that any traffic reduction targets set will become one of the cornerstones of a local authority’s transport strategy, they will want to ensure that their bids for capital funding take full account of such targets, and the measures required to achieve them”*. In other words, County Council transport schemes put before the Welsh Office for funding appraisal in 1999 will have to incorporate road traffic reduction targets. Councils should start thinking about these reduction targets now by putting forward measures to promote traffic reduction rather than supporting road building schemes - such as the Ceredigion Link Road, Head of the Valleys Road, Cardiff-Barry Airport Road and Haverfordwest to St Clears A40 Dualling - which are likely to induce traffic growth.

It has been estimated that a reduction in road traffic through a switch to public transport in Britain would lead to an increase in job opportunities. Reducing traffic levels by 10% over 1990 levels (16.8 % reduction on 1996 levels) by 2010

and increasing trains, buses and cycling would lead to a net gain of 90,000 jobs across the UK (50).

6.3 Modern Telecommunications

Modern telecommunications have made it possible to conduct business rapidly over vast distances allowing so called 'teleworking'. At a recent business festival in Fishguard (West Wales) the former chairman of ICI, Sir Harvey Jones, said that in this day and age of modern telecommunications poor infrastructure in West Wales did not preclude firms from setting up and aiming for large markets (51).

Project and marketing manager for Pembrokeshire in Business, Pam Hayes, said that rural areas have been opened up by new technology and "video conferencing enables businesses to talk face to face, avoiding the need to travel from your own work base, saving time and money." (52)

The Environmental Agency in Wales recently installed video conferencing equipment at its three main offices in Cardiff, Bangor and Haverfordwest allowing meetings to go on ahead without having to drive long distances or waste time travelling. As an example of the savings made, a 2 hour meeting involving the three offices is the price of two phone calls (approx. £50 per hour when using the video conferencing equipment) instead of the equivalent of four staff-days visiting each office, a round trip journey of at least 600 miles, as well as overnight stays (53).

The development of telecommunications has meant that location has become less of a consideration for the location of new business. Emphasis should be placed on trying to develop and attract those businesses in peripheral areas that do not require being at the centre of the road network. Local businesses should be encouraged to utilise the telecommunications network.

6.4 Support for Local Businesses

The development of the A55 cost in total approximately £750 million. Analysis undertaken a year after the completion of the road found that there had been little new manufacturing investment in Gwynedd (54). Some of the money earmarked for future road upgrading would have been better spent on the development of small business which are numerous in Wales and supporting employment training. Recently, over a two month period, 32 jobs were created as a result of financial support from Gwynedd County Council which invested £121,700 in local firms under its business development grant. In other words, it cost £4000 to create one job by local firms in Gwynedd compared to the £50,000 it costs to create one job in the construction industry through road building schemes.

The LG company's new factory in Newport (South East Wales) will create 6 200 jobs, but £220 million was needed in financial investment grants to attract the company to South Wales. This equates to £35 000 for every job created compared to £4000 per job created that Gwynedd CC spent on investing on local companies in North West Wales. The old country of Dyfed has one of the highest concentrations of small locally owned

businesses in Britain, the promotion and development of which are more likely to lead to job creation than trying to attract large outside firms.

A report by the University of Glamorgan Business School concluded that local authorities in Wales were failing to support and encourage the vital small business sector (55). The report said that small firms often took second place in council economic development units to inward investment.

Financial resources would be better spent developing and promoting local businesses rather than on further expensive road schemes or trying to attract large multinational companies. Such an approach would be more likely to bring an increase in job opportunity to the peripheral areas of Wales.

6.5 Job Creation Through Improving Energy Efficiency.

It has been estimated that if the A40 was to be upgraded from St Clears to Fishguard (dualling to Haverfordwest and then selective upgrading on to Fishguard) as Pembrokeshire CC (56) are recommending it would cost in the region of £80 million. If a part of this proposed funding, approximately £32 million, was to be spent on energy efficiency improvements, 20,000 homes in Pembrokeshire could improve their energy efficiency by around 30%. Employment created would be 1280 job years direct, or in other words 256 jobs over 5 years. One job created through the improvement of home energy efficiency costs approximately £25,000 compared to £50,000 for road building (57). So in direct terms, for any amount spent on road construction, half the amount spent on improving energy efficiency would create the same number of jobs. Further job creation would then occur through the “respond” by households of money saved due to lower fuel bills.

Improving home energy efficiency not only saves energy, provides social benefit to the less well off in society and reduces pollution, but it is also a more cost effective way of job creation than building more roads.

Conclusions

There is a lack of empirical evidence to show that upgrading road links into peripheral areas of Wales would actually bring an overall increase in job opportunity. In fact, there is a growing body of evidence to suggest that the opposite could occur, with further road upgrading leading to job losses.

The findings of this document are consistent with the recently published interim report of the Government’s influential SACTRA committee which stated that, reducing national traffic volumes can improve economic efficiency, and improving accessibility may have negative economic impacts.

Wales already has a sufficiently developed road network. The government and local authorities must reconsider their support for further major road building schemes into these areas. There should be a decrease in car dependency and a move to lower levels of car use with a switch to alternatives, such as public

transport, walking and cycling. Companies should be encouraged to utilise the telecommunications highway.

Investment should switch from road building projects to the support and promotion of local businesses and initiatives which stimulate local economies, such as improving energy conservation measures and development of an integrated public transport system.

References

1. Leitch. G. (1997) Report of the Advisory Committee on Trunk Road Assessment Department of transport, HMSO, London.
2. The Standing Advisory Committee on Trunk Road Assessment (SACTRA) Transport, Investment, Transport Intensity and Economic Growth: Interim Report, 1998.
3. Welsh Transport Statistics (1997), Welsh Office, HMSO.
4. Highways Committee, Director of Transportation and Technical Services (25 September 1997). Pembrokeshire C.C.
5. Ceredigion Link Roads (1991). A Report by Dyfed County Council.
6. Delivering the Goods - The Economic Impact of A55 Expressway Improvements (1996). Welsh Economy Research Unit, Cardiff Business School. For the British Road Federation.
7. North Carmarthenshire and Ceredigion Link Road Strategy (1997).
8. Standing Advisory Committee on Trunk Road Assessment, Leitch Committee, Department of Transport, 1997.
9. Royal Commission on Environmental Pollution (1994). Chairman: Sir John Houghton CBE FRS. Eighteenth Report Transport and the Environment.
10. European Conference of Ministers of Transport, 1991. Transport and the Spatial Distribution of Activities - Roundtable 85, Paris, OECD.
11. The Standing Advisory Committee on Trunk Road Assessment (SACTRA). Transport Investment, Transport Intensity and Economic Growth: Interim report.
12. Economic Assessments, North-South Link from Ceredigion to Carmarthen, WS Atkins and Partners (Wales), Dyfed County Council, Highways and Transportation Dept, March 1987.
13. Bray, J (1996). Roads and the Economy: A Synopsis of Academic Papers. Transport 2000. Unpublished.
14. Standing Advisory Committee on Trunk Road Assessment (SACTRA) 1998. Ibid.
15. Transport and Pollution - the Health Costs, The British Lung Foundation 1998.
16. "Job triumphs widen the east-west rift", The Western Mail, 17.4.1998.
17. Whitelegg. J (1994). Roads, jobs and the Economy. Eco-Logica Ltd. Greenpeace Report.

18. "Wales narrowly loses out on 2 000 jobs", Western Mail, 22.11.1997.
19. "WDA's £11.5m 'disappointment'", Western Mail, 21.2.1998.
20. Bray. J (1996). Ibid.
21. Morgan. K Professor of European Regional Development, Cardiff University, Tackling the New Regional Development, Wales 2000, Western Mail, May 1998.
22. Jeffrey Payne. 1997, Jeffrey Payne Organisation , Western Mail, 19. December, 1997.
23. Morgan. K, May, 1998. Ibid.
24. Personal correspondence and article in Western Mail 14/10/97. "New road will lead to 50 mail job losses, says Friends of the Earth".
25. Parrot, N (1997). Road Building and Economic Development in Peripheral Areas. Working Paper No. 8. Welsh Institute of Rural Studies. The University of Wales Aberystwyth.
26. Unlocking the Gridlock - The key to a new transport policy (1997), Friends of the Earth, 1997.
27. National Road Forecasts (1997), DETR.
28. Trunk Roads and the Generation of Traffic (1994), The Standing Advisory Committee on Trunk Road Assessment.
29. Mckinnon, Alan C (1992), Herriot Watt Business School, Manufacturing in a Peripheral Location: An Assessment of the Logistical Penalties, International Journal of Logistics Management.
30. Parrot, N (1997). Ibid.
31. Bray, J (1996). Ibid.
32. Turning the Corner? Road Improvements and Economic Developments in Merthyr (1997). Welsh Economy Research Unit, Cardiff Business School (for the British Road Federation).
33. Standing Advisory Committee on Trunk Road Assessment (SACTRA) 1998. Ibid.
34. "Major job boost for city as new factory opens", Western Telegraph, 10.12 1997.
35. Personal correspondence with Organic Farm Foods Wales, April 1998.

36. Bray, J (1996). Ibid.
37. Tourism 2000 - A Strategy for Wales (1994). Wales Tourist Board.
38. Mid Wales Tourism action Group (1994). Sustainable Tourism Development Strategy for Mid Wales. Prof. T. Stevens. Cobham Resource Consultants.
39. Tourism 2000 - A Strategy for Wales (1996), A Progress Report.
40. Wales Tourist Board 1994 - 1996 (1996), A Progress Report.
41. Rural Traffic - Getting it Right, Countryside Commission, 1997.
42. Eryri Local Plan 1997, Snowdonia National Park.
43. Francis. Rory, Director of the Snowdonia National Park Society, Western Mail, 4th October 1997.
44. Parrot. N (1997). Ibid.
45. Day. G and Jones. D (1993), Development at what Price? Economic and Spatial Peripherality in North West Wales, University of Wales, Bangor, Wales.
46. Bray, J (1996). Ibid.
47. Working Futures? Jobs and the Environment, Friends of the Earth, Discussion Paper 1994.
48. Whitelegg. John (1998), A Guide to Achieving Traffic Reduction Targets in England and Wales, Friends of the Earth.
49. Road Traffic Reduction Act 1997: Draft Guidance to Welsh Authorities, February 1998, The Welsh Office, Cathays Park, Cardiff.
50. Whitelegg. John (1998). Ibid.
51. Sir John Harvey Jones. 30 September 1997. Speaking at the 'Women in Enterprise' business festival in Fishguard , Pembrokeshire.
52. Hayes. Pam, 27th February 1998, Pembrokeshire in Business, Cash in on the Irish Connection, Western Mail.
53. Environmental Agency, "Video Conferencing is Miles Better", News Release, 30th January 1998, Rivers House, St Mellons Business Park, St Mellons, Cardiff CF3 OLT.
54. Unlocking the Gridlock. Ibid.

55. Jones-Evans. Dylan, May 1998, Local Government Policies and Enterprise Development in Wales, University of Glamorgan Business School.

56. Highways Committee. Director of Transportation and Technical Services (25th September 1997), Pembrokeshire C.C. Ibid.

57. Figures taken from article by Richard Tapper in New Ground 52 - Autumn 1997 and unpublished work by Friends of the Earth Cymru.