

**CYNULLIAD CENEDLAETHOL CYMRU  
NATIONAL ASSEMBLY FOR WALES**

**Pwyllgor y Canol De Cymru  
South Wales Central Regional Committee**

**COMMUTER TRAIN SERVICES IN THE SOUTH WALES CENTRAL  
REGION**

**Briefing Paper to the Committee**

**by**

**Professor Stuart Cole  
Director  
Wales Transport Research Centre**

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**Yr Athro Stuart Cole  
Cyfarwyddwr  
Canolfan Ymchwil  
Trafnidiaeth Cymru**

**1 RAIL SERVICES UNDER DISCUSSION**

This paper sets out to explain the funding aspects of the rail network providing commuter services in Cardiff. It presents these in the context of

- (a) priorities for investment within the whole of the Wales and Borders franchise
- (b) an integrated transport policy

The area is primarily served by the Cardiff Metro (the Valley Lines). This is a system which has Cardiff Central as its primary hub with services to/from

Treherbert	Maesteg
Aberdare	Bridgend
Merthyr	Cardiff International Airport
Rhymney	Barry
Coryton	Penarth

There are also through services on the South Wales Main Line which provide commuter routes into the capital. They operate to/from

Llanelli/Swansea/Neath/Port Talbot/Bridgend  
Newport/Severn Tunnel/Bristol  
Cwmbran/Abergavenny/Hereford  
Chepstow/Gloucester

Thus while these are not solely within the South Wales Central Committee area they form an important aspect of commuting into Cardiff.

The companies providing the services are

- Arriva Trains Wales (on all routes)
- First Great Western on the South Wales Main Line including most destinations west to/from Swansea and services eastwards to/from Newport, Bristol and Gloucester. FGW have recently taken over all Wessex Train services as part of the Greater Western Franchise.

**Table 1: Passenger Flows (m. passenger journeys) Cardiff and Valleys 2004-05**

Destination (to)	Location of Ticket Purchase (from)			Total Cardiff/Valleys as % of total for Wales/England
	Cardiff	Valleys	Total	
Cardiff	3.0	2.2	5.2	
Valleys	2.2	1.3	3.5	
Total			8.7	
Wales	-	-	13.2	65.9
Wales and England	-	-	16.5	52.7

**Source:** Extract from Wales Rail Planning Assessment, Baseline Analysis, Wales Transport Research Centre/Halcrow 2006  
Office of Rail Regulation 2006

**Table 2: Passenger Flows (m passenger journeys) by ticket type 2004-05**

Travel from	Ticket Type			
	Reduced fare (mainly leisure)	Full fare (mainly business/ commuter)	Season Ticket (Commuter)	Total
Cardiff	3.7	1.8	1.7	7.2
Valleys	1.8	0.8	0.7	3.3
Annual Total (m)	5.5	2.6	2.4	10.5
Indicative Daily Total (000's)	25.0 (2)	11.8 (1)	10.9 (1)	47.7
% of Cardiff/Valle ys total	52.4	24.8	22.9	100.0

**Source:** Extract from Wales Rail Planning Assessment, Baseline Analysis/Wales Transport Research Centre 2006 Office of Rail Regulation 2006

### Indicative daily averages

- (1) Assumes 220 working days per annum (5 days per week less holidays)
- (2) Assumes 313 leisure travel days (excludes Sundays)

INDICATIVE

## 2 INTEGRATED TRANSPORT POLICY - THE NEW TRANSPORT POLICY FRAMEWORK

Further transport responsibilities, powers and functions have been transferred to the National Assembly for Wales (NAfW) during 2005/6, following the Transport (Wales) Act 2006 and the Railways Act 2005. Table 1 summarises the changes in respect of railways in Wales.

**Table 1: Devolution of railway functions to Wales**

Rail investment (DfT/Network Rail)	Investment powers to be retained in general by DfT/NR but new powers now available to the NAfW
Rail passenger service levels and contractual arrangements with train operating companies (SRA)	Policy and direction of the Wales and Borders franchise and advice on other inter-city franchised services to/from Wales, to be transferred to NAfW
Rail regulation (Rail Regulator)	<i>Unchanged</i>
User group representation (RPC-Cymru Wales)	Passenger Transport Users Committee for Wales to be established
Integration of road/rail freight operations (Network Rail/DfT/NAfW)	No change

**Sources:** (Cole 1994, WTAG, 1999a, 1999b, HoC 2002, 2004a, 2004b, 2004cd, 2005, 2006).

This would form part of an integrated passenger transport system the elements of which are:

- Road investment;
- Rail investment (infrastructure and rolling stock);
- Bus investment (terminals and vehicles);
- Public transport interchanges;
- Investment in facilities for pedestrian and cyclists;
- Traffic management measures (physical and fiscal);
- Public transport fares levels (and consequent contractual payments);
- Public transport service levels (and consequent contractual payments).

### **Rationale for an Integrated Transport Policy**

The key objective of integrated transport is to provide for accessible and affordable modes of travel which are both sustainable and become the preferred modes of travel in Wales. However, it must be acknowledged that improvements are required in the public transport system before car users can be persuaded to change, and non-car owners are able to make reasonably timed and priced journeys. The

The Assembly could make a decision on investment options but there are wider financial implications, such as issues in relation to funding sources (e.g. block grant; payments to local authorities; payments to the train operating companies; rail investment funding provided by the Department for Transport) and decisions on railway fares, frequencies and other investment which would need to be considered. The Network Rail infrastructure investment programme has also to be considered in terms of the funding split between the UK Government and the National Assembly.

Reports produced by the House of Commons Select Committee on Transport, by the NAFW and other sources, point to the value of an integrated transport approach - using public transport investment (including, of course railways) to influence modal split – while continuing to make Wales economically competitive through improvements to the core rail and trunk road network. To meet demand in economic and social terms, a set of detailed criteria (covering accessibility, safety, environment, economy and integration) are currently used to prioritize schemes. Any consideration of rail expenditure should be seen as part of the challenge for the statutory Wales Transport Strategy this would be a better co-ordinated and sustainable transport system, improved public and community transport, better accessibility for non-car owners, attracting people away from car travel, and developing the full potential of major ports and airports – while recognising the need for some road-based improvements.

### **3 SETTING PRIORITIES FOR INVESTMENT/SERVICE IMPROVEMENT**

Capacity on rail services in Wales is currently being overtaken by demand which on some services is growing by 8% each year. This has been seen as resulting from the SRA directing its priorities at 'services which carry large numbers of passengers or operate over long distances' (Newton ,2002) – all in England and all emanating from London. It has also been suggested that the National Assembly's new rail responsibilities will provide for priority being given to Wales' equivalent services, albeit on a smaller scale than those referred to in England:

- south Wales main line
- north Wales main line
- Marches line (Newport to Chester)
- Shrewsbury to Aberystwyth

The extent of Assembly influence over inter-city services in south and in north Wales is a remaining issue. On the south Wales main line, over 60% of peak capacity is provided by First Great Western. The Railways Act 2005 includes the principle of advice and guidance on such services (HOC 2005) and so limits the requirements to consultation.

## Criteria For Setting Priorities

The criteria used in this paper are from three sources

- the National Assembly for Wales/Welsh Assembly Government guidance to local authorities (NAfW 2001c) applying for transport grant as capital schemes based generally on the UK Department for Transport new approach to transport appraisal (NATA). This is soon to be replaced by the Welsh Transport Appraisal Guidance (Wel TAG)
- the evaluation of passenger services upgrade (from Cole S, Applied Transport Economics 3<sup>rd</sup> Edition 2005 with a derivation from SRA schemes).

## Integrated Approach To Priority Evaluation

The evaluation technique used by governments to prioritise transport schemes will reflect their policies and the developments they would wish to see in the rail and road network and the public transport system, within an integrated transport policy.

The explanation of the “passenger service upgrade options” analytical framework is intended to assist members in determining a priority list of schemes they would wish to see. It can be applied to the list of schemes provided by WAG, Arriva and Sewta.

There are two primary characteristics within the overall evaluation process.

- establishing the policy and sustainability of individual projects.
- ranking the projects within a priority list

## Evaluation Context

Any schemes put forward to a government for funding will have to meet its evaluation criteria. The Department for Transport New Approach to Transport Appraisal (1999) has elements which “*will enable the application of scarce resources to be most effective and enable investment discussions to be consistent with policy objectives*”.

## Passenger service upgrade options –assessment criteria

Consider a major commuter service with peak period overcrowding, where there are limited modal options and where journeys are dictated by working hours. This would be a case where fares might be used to move demand into the “shoulder” or “off-peak” periods but from a journey purpose viewpoint that would be unacceptable. Conversely it might also be prevented by fares policy.

The range of options could include:

- optimised use of existing capacity
- larger trains
- modifying the layout of carriages and crowding standards
- changes to fare level and structure
- increased capacity

Capacity can initially be increased through larger trains but in the longer term the best value solution might be a higher service frequency.

Solutions may be appraised individually or together but the best value solution could be a combination of:

- infrastructure upgrade, allowing an increase in service frequency
- improving one large interchange station
- refurbished 'cascaded' rolling stock to replace existing poor quality or unsuitable rolling stock; or to increase frequency

The important aspects of the appraised process are:

- cost estimates refined through a clearer knowledge of design and extent of the work to be done
- detailed risk analysis covering costs and revenue streams. The split of risk between private and public sectors is important as private funding requires a higher rate of return
- estimating the life of the assets e.g. track infrastructure 20 years; station buildings and platforms, 50 years.
- calculating disruption costs
- rolling stock costs (usually leasing)
- operating costs
- train operator margin and overhead recovery
- unpriced user benefits
  - o time related savings
  - o crowding relief
  - o reliability and punctuality improvements
  - o improvements in station and rolling stock quality
- non user benefits
  - o external cost of road congestion
  - o environmental impacts
- accidents

## **General Criteria**

There are other more general criteria for determining priorities.

- the dove tailing of infrastructure investment works planned by Network Rail, the Assembly Government or franchise operator (eg Arriva) where value for money is optimized or track possession/passenger inconvenience is minimized.
- peak demand requirements should be seen in the context of overall cost provision. Transport is a real time non-storable service. Thus supply has to meet demand. The question is to be asked in relation to

rail investment might then be – if peak trains are ‘overcrowded’ what level is acceptable and for what period of time? The opportunity cost of minimizing the overcrowding might be an alternative investment costing a similar amount and providing greater benefits

- light rail (tram) systems might be the solution in the south east (Cardiff/Newport) areas. They have high initial capital cost but have been seen elsewhere to have lower operating costs compared with “heavy” rail and generate significant traffic (eg Manchester, Sheffield, Bordeaux).
- a sample guideline for priority setting might be based on traffic flows, congestion and environmental pollution levels
- expected growth rates of passenger traffic or frequent traffic

These could be pre-analysis criteria applied in advance of the more detailed evaluation described above.

They are all set within the context of a democratically elected Assembly or local authority and it is there that the final priority setting must be made by politicians, ministers, cabinet members and/or Consortia boards.

The next section makes suggestions on route priorities based on the transport evaluation criteria.

#### **4 ROUTES/SCHEMES – SUGGESTED PRIORITIES**

Two of the railway companies in Wales, Arriva Trains Wales and Network Rail have set out their plans in their written submission and Sewta have provided their programme of works preferences. These cover the majority of schemes which would provide a significant change in performance. There are two schemes which might be added here in relation to the passenger interface, the track itself or new/additional rolling stock. The Guide for Franchise Bidders (NAfW, 2000) provide also suggests a programme of rail improvements as the basis for a smartened-up railway.

These have not been repeated here as those recommendations would be similar to the outcome based on the criteria set out in section 3. Rather, an overview of expenditure with some indicative references has been set below.

- 1 Increased line speeds as the Manchester and South Wales Main Line to at least 90mph (matching the NWML) or 100mph throughout. Cost estimates of between £20m and £50m have been suggested in the part by the railway industry. These are relatively small sums in relation to railway total investment and may be amortised over 50 years. The journey time between Cardiff and Bangor via Wrexham and Shrewsbury (2 track reinstated between Chester and Wrexham) could fall to under 3hr 30m including stops at 8 stations. The present journey time is 4hr 15m with 14 station stops.



- 2 Personal security at stations and on board trains. Action has already been taken in this area through the use of eg CCTV. A study is currently being undertaken by the Wales Transport Research Centre for Arriva Trains Wales on the introduction of police community support officers. Perceptions often deter rail travel and demand may increase following such action.
- 3 Non public facing facilities such as new stabling depots (eg Machynlleth, Chester) and improvements (eg at Canton (Cardiff) Depot) can provide more efficient operation and lead to frequency and route coverage improvements or extensions.

A suggestion for prioritising rail routes based on the criteria suggested above would be.

Priority	Route	Actual or Potential Traffic Volumes
1	Metro (Cardiff/Newport)	High
2	SWML	High
3	NWML	High
4	North-South service	Med
5	Carmarthen-Manchester	Med (in Wales)
6	Cambrian	Low
7	Pembrokeshire/Conway	Low
8	Heart of Wales	Low

Rates of passenger growth per annum (%)

Cardiff Valleys	10
Cambrian/other rural	7

## 5 FUNDING AND COST IMPLICATIONS

### Co-Franchisor

The National Assembly for Wales and the UK Department for Transport will share responsibility for the Wales and Borders franchise currently operated by Arriva Trains Wales.

In practise the Assembly Government will receive the subsidy payments set out in the SRA agreement, and presumably included in the 'transfer of resources' referred in the DfT evidence to the rail inquiry committee (CRIIPS 2006). The nature of the franchise is such that most services are in Wales but a proportion run into or through England. Clearly the DfT felt it required a

shared control of the franchise (the 'Wem' question) to ensure service levels in England were maintained.

It is also apparent that no further service funding over and above the SRA subsidy will come from the UK government.

The National Assembly may however increase the level of payment to Arriva Trains Wales for any additional services to be provided. The figure for 2006/07 will be £140m an increase of £22m over the £118m in the original agreement. This brings the figure to one which approaches that by the author as needed to provide a "smartened up" railway. The National Assembly has already invested in two schemes.

- Vale of Glamorgan (Cardiff-Bridgend): capital expenditure
- Ebbw Valley (Cardiff-Glyn Ebbw): capital expenditure and operating subsidy

It has more recently committed spending on station upgrades in the south and the north of Wales including waiting and information facilities, platform extensions and additional leased trains. The opportunity was lost to acquire new train sets through no fault of the Assembly Government for use on the Cardiff metro service Valley Lines. In their place a lease has been placed on cascaded sets for a similar capital amount (£50m).

Any further funding is likely to have to be found by the National Assembly.

### **Infrastructure Investment**

Infrastructure costs continue to be funded through Network Rail and paid for through access charge and UK government direct grants to the company.

The scale of investment required is small. For a cost estimated at £50m (HOC 2002, 2004a), a 90 mph continuous speed limit is possible on the north Wales main line, the south Wales main line and the Marches line. For relatively small increases double track operation could be restored between Chester and Wreccsam and at Llchwyr on the SWML. Thus while £10bn is spent on the West Coast Main Line an investment figure of under £100m is required to achieve a north-south (Bangor-Cardiff) rail journey time of 3½ hours with further time reductions in north Wales to London and south Wales to Manchester and London services.

### **"Thoroughly modern railway"**

While the figures in Table 2 and 3 will smarten up Wales' railways the "thoroughly modern (to paraphrase Sir Wilfred Newton, erstwhile London Transport Chairman) railway" will cost more.

**Table 2 Alternative expenditure levels**

	Thoroughly Modern European Railway (Reflection of the Vision)	Smartened-up Railway (SRA proposal)
<b>New Investment</b>	<b>£m</b>	<b>£m</b>
South Wales ML	<b>400</b>	} <b>200</b>
Valley Lines	<b>250</b>	
North Wales ML	<b>150</b>	
Other (inc. Wrexham, Manchester, Cambrian)	<b>400</b>	
<b>TOTAL COST</b>	<b>1,200</b>	<b>200</b>

Sources: Agenda, Summer 1999; Swift; RNMS 2000; SRA, 2002; various rail studies (1996-2001)

**Table 3 10-year investment programme (£bn)**

	<u>Vision</u>	<u>Expected</u>
<b>New investment</b>	<b>1.2</b>	<b>0.2</b>
Renewals and maintenance	<b>0.8</b>	<b>1.0</b>
Contractual payments (subsidy)	<b>1.0</b>	
<b>TOTAL COST</b>	<b>3.0</b>	<b>1.2</b>

Notes on Table 3

Public and private expenditure on the railway system is in two parts:-

- new investment - enhancement of the service (through new/upgraded track, signals, stations and trains)
- revenue support/contractual payments and renewal of the existing infrastructure

The operation of some railway services in Wales is however dependent on four key locations in England

- Crewe (north of Wales)
- Birmingham New Street (canolbarth and south of Wales)
- Bristol Parkway (south of Wales)

- Reading (First Great Western operations to/from London)

The National Assembly is unlikely to be involved in such investment directly. It would be the province of the Department for Transport and Network Rail.

The Memorandum of Understanding between the National Assembly and the DfT referred to in the Transport (Wales) Act 2006 is intended to deal with such detailed arrangements and responsibilities

This leads to a second fiscal issue. How much of this should be funded by the National Assembly and how much, since Wales is a part of the UK, should be funded by the Whitehall Treasury. The current position leans towards the former. Evidence to the House of Commons indicates a UK Government preference for selective use of the Barnett formula or other needs based calculation and that railways are not in that category. On such a basis however the 5% population based allocation from £60bn of rail investment set out in the original Transport White Paper 1998 would equate to £3bn – the sum calculated for a thoroughly modern railway in Wales.

### **Implications for rail freight**

Increasing train speeds requires longer stopping distances and therefore longer signal ‘blocks’. The increased number of passenger trains will also take up capacity. The consequence of this is to reduce the number of paths available for freight trains. This in turn will reduce the degree to which Government aspirations for freight transfer from road to rail can be adhered.

## **6 CONCLUSIONS**

The National Assembly for Wales is now able to include rail services in its integrated transport policy. There will now be one budgetary and co-ordinating authority at the national and regional consortia (or joint transport authority) levels for all modes. However, the full rail network is not covered - the Greater Western franchise (recently awarded to First Group) and the West Coast Main Line franchise (Virgin Trains) part of which extends onto the North Wales Main Line are only the subject of consultation with the National Assembly. This needs to be addressed and can be achieved through a minor change in the definition of ‘Welsh’ and ‘Wales only’ services contained in the (Railways Act 2005).

The biggest traffic flows in Wales are along the north and south coasts; it would be appropriate for joint franchisor status to be provided for the National Assembly on these lengths of both franchises. At present only some services (Wales and Borders) are within a “single authority” responsibility.

Station closure decisions remain with the Department for Transport while the replacement for the Rail Passengers Committee – Cymru by a Passenger Transport Users Committee responsible to the National Assembly has yet to be established under the Transport (Wales) Act, 2006.

The Assembly responsibility for developing the national coach network will also provide for an integrated coach/rail network.

### **Funding Levels**

These remain insufficient to create a modern railway. The Assembly Government has indicated its desire to invest in the railway network and given the lack of tax varying powers (as in Scotland) the block grant would need to increase or investments funds from elsewhere would need to be transferred if the Assembly was to have increased railway expenditure options.

### **Focus on Wales' Railways**

The Strategic Rail Authority, and now the Department for Transport has a wide Great Britain brief. Its priorities were made clear (Newton, 2002) – long distance, high flows indicated the east and west coast main lines and the south east of England. The National Assembly is able to focus on local services in Wales. These are important flows in the Welsh context but a small proportion of British rail operations. The opportunity has now been provided, subject to adequate funding, to move ahead with improvements in service, rolling stock and track quality in Wales.

**Mae'r Athro Stuart Cole, yn Athro mewn Thrafnidiaeth ym Mrifysgol Morgannwg ac yn Cyfarwyddwr, Canolfan Ymchwil Trafnidiaeth Cymru, Prifysgol Morgannwg**  
**Professor Stuart Cole is Professor of Transport at the University of Glamorgan and Director, Wales Transport Research Centre, University of Glamorgan**

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