Cynulliad Cenedlaethol Cymru	National Assembly for Wales
Y Pwyllgor Menter a Busnes	Enterprise and Business Committee
Ymchwiliad i'r Blaenoriaethau ar gyfer dyfodol Seilwaith y Rheilffyrdd yng Nghymru	Inquiry into the Priorities for the future of Welsh Rail Infrastructure
WRI 05	WRI 05
Greengauge 21	Greengauge 21

1. Introduction

Greengauge 21 welcomes this opportunity to present a submission to the Enterprise and Business Committee. Initially engaged by Taith, and subsequently by the North Wales Economic Ambition Board, Greengauge 21 has been examining the wider social and economic benefits of investment in rail in North Wales. Welsh Government and Network Rail agreed at the outset that regional authorities were best places to carry out this work.

Greengauge 21 is a not-for-profit organisation, established in 2006 to research and develop the concept of a high-speed rail network as a national economic priority. Greengauge 21 wants to see a fully integrated national high-speed rail network and the existing rail network improved and extended to meet the strongly growing demand. We research and promote the benefits of sustainable transport through a better rail network.

I have been engaged on studies of rail development in South, Mid and North Wales. I am a Chartered Engineer, Director of the consultancy Steer Davies Gleave, past President of the Chartered Institute of Logistics and Transport, and was a member of the Executive of the Strategic Rail Authority, responsible for strategic planning.

2. Recent Greengauge 21 work on wider benefits in North Wales

While the appraisals used by DfT, Network Rail and others provide benefit cost ratios for investments, there is no standard method to examine wider social and economic benefits. Work by Greengauge 21 in 2014 investigated the scale of Business-2-Business and labour market benefits of a number of packages of electrification and/or service enhancements. These benefits range from around £100m to £500m PV measured over a 60 year period and are additive to conventionally measured benefits subject to minor technical caveats.

In Greengauge 21's current work, we have made a comparison between the distribution of conventional transport and economic benefits from rail investment and the distribution of deprivation in North Wales.

A significant number of communities along the North Wales coast and in North East Wales rank within the 20% most deprived across Wales. In particular, there is a contiguous pocket of intense deprivation around Rhyl. Part of Rhyl West ward is the 2nd most deprived in Wales and parts of three other wards in Rhyl are within the top 20 most deprived in Wales.

In Wrexham, part of Queensway ward ranks as the 3rd most deprived in Wales. In Flintshire, part of the Shotton Higher ward falls within the 5% most deprived. Other investment *e.g.* in

skills and training will continue to be important to address sources of deprivation directly, but the crucial question is whether better rail services would make any difference.

The distribution of projected wider economic benefits of major rail investment in North Wales aligns spatially very well with priorities to address the worst areas of deprivation within Wales, such as parts of Rhyl, Wrexham and Shotton. These benefits would enhance job prospects, have the potential to raise wages in line with productivity and in due course address social issues such as housing quality. But while improvements in connectivity (or indeed fare reductions) can play a role in increasing labour supply participation, the economic value of these marginal impacts is relatively small.

In practice, we believe better connectivity will stimulate demand – and strengthen the local housing market for instance. It may discourage people from moving away from the area and attract newcomers. It can make business activities – including for small traders or those working from home – more efficient, and strengthen local economies.

Elsewhere, with much larger-scale investments, for instance HS2, there has been a recognition that realisation of the full economic potential of connectivity benefits relies on complementary measures taken locally to foster regeneration. The scale may be different but the same applies in the North Wales case, and includes focussing spatial planning and physical regeneration to maximise the potential of investment in the rail network and enhanced services.

3. Investment in the railways of North Wales

Our understanding is that work by Network Rail on business cases shows that there is a very good case for investment in the North Wales main line to increase line speeds as signalling along the route is renewed. Journey time savings of 7 minutes can be achieved.

On the other hand, the business case for electrification Crewe – Holyhead is seen as poor – not unsurprising given the length of route (105 miles) and modest service levels. At enhanced service levels, there is a better case, but the BCR remains below 1. In contrast, the business case for electrification between Crewe/Warrington and Chester is good.

Our work for the Economic Ambition Board shows that if these two routes in England to Chester are electrified and if all services are (as would be expected) converted to electrified operation, then there would be a sharp increase in the need for passengers to interchange at Chester and this would have a significantly adverse impact on the North Wales economy.

This suggests to us the following:

1. Long overdue investment in line speed improvements on the N Wales coast line, requires minimal government funding and should be strongly supported

2. Wales Government should press for rail industry commitment to a long term vision for Crewe Holyhead electrification. In practice, the investment is likely to proceed in stages and lines east of Chester could be electrified as part of the CP6 programme.
3. There are implications for rolling stock strategy from a staged electrification approach. The risk to the Wales economy that arises from a need for passengers to transfer between trains at Chester in the interim could be mitigated if North Wales through services could be operated with dual mode (electric and diesel) traction and significant investment is made in passenger facilities at Chester station
4. Subject to the additivity caveat mentioned earlier, the estimated wider social and economic benefits could mean there is a positive electrification business case for Wales – albeit one that DfT/Network Rail may not recognise. Welsh Government will need to consider whether it is prepared to make a funding contribution. There could be benefits that justify EU TENS funding too, with improved journey times (less need to interchange) and enhanced structure gauge that could help develop railfreight.

Developments of services, in the meantime, such as from N Wales to Liverpool and to Manchester Airport should continue to be supported. Besides their direct benefits, growth in use of these services will strengthen the investment case for electrification.

The development at Wylfa Newydd on Anglesey is expected to involve 1,000 site workers commuting from the mainland. With limited parking available, a shuttle bus system from a suitable railhead is being considered and some augmentation of the rail service may prove needed. Horizon has indicated that their aspiration would be for direct services from Manchester Airport, given a significant number of business/work visits from overseas.

4. Comment on rail infrastructure planning

The Initial Industry Plan is formulated mainly by Network Rail and is then subject to a process led by ORR and with the involvement of stakeholders. In the case of Network Rail's 2015 Wales Route Plan, these options have helpfully been put forward in draft for consideration by funders.

There is a risk from the perspective of stakeholders that this well-established planning arrangement can emphasise inputs, such as electrification and line-speeds, rather than outcomes in terms of better connectivity and wider economic benefits. It is also possible to underplay the relevance of the commercial and/or subsidy implications of different train service patterns. In the recently awarded TPE franchise, for instance, a number of new longer-distance services (Liverpool – Scotland, for instance) were put forward by the winning bidder and accepted by DfT, even though they were not part of the franchise requirement. But they add commercial value – and bring wider connectivity benefits.

In the Wales context, some new long-distance services to/from Cardiff – for instance to Leicester, Sheffield and Leeds – have been identified by Network Rail as possible conditional

outputs. Others such as connecting up a new Cardiff - Abergavenny service with the existing Hereford - Birmingham service to create better connectivity for South East Wales have not been. In practice such opportunities are most likely to arise through franchise re-tendering processes. There is scope for the National Assembly of Wales to have a direct impact on all of the rail services specified in the next Wales and Borders franchise.

It is the provision of rail services that matters most; in some cases existing infrastructure can support their expansion and improvement, in others not.

Topic 1: What should be the high level infrastructure development priorities – to provide the capacity and connectivity necessary to support the social and economic well-being of Wales?

The key strategic priorities should be (in this order):

1. Upgrading the route between Severn Tunnel Junction and Cardiff, as well as Newport and Cardiff stations
2. Progressively upgrading and electrifying the North Wales Coast Main Line as a whole
3. Given its role in providing north-south connectivity, improving the Marches Line (which is forecast to have 141% more passenger demand by 2043).

Topic 2: Do the Welsh Government's rail infrastructure priorities meet the needs of Wales?

Yes. Welsh Government no doubt recognises the many demands on resources in the rail sector – so issues such as level crossing upgrades/replacement (mainly a safety measure but also affecting journey times); expenditure on addressing areas of flood risk; and measures to improve access and connectivity to/from stations must be considered alongside investments to address capacity or capability improvements. Some schemes – such as the completion of re-doubling the route between Wrexham and Chester may seem modest (although still costly), but will be critical to the expansion of rail services in north east Wales in the years ahead.

On North Wales, in addition to the overall conclusions in the first part of this paper, we would highlight one of the conclusions in the report of the Ministerial Task Force on North Wales in respect of developing transport hubs.

The Task Force report discusses the concept of 'pulse hubs', where trains (and buses) are timed to connect with each other on a regular hourly (or more/less frequent) pattern. This approach has been developed furthest in Switzerland ('Taktfahrplan'). It would be particularly helpful at locations such as Shrewsbury and Chester where the key Welsh east-west routes meet a set of services onwards through England, as well as multi-modal hubs in Wales such as Bangor. A regular pattern of 4 trains /hour operating at 15 minutes intervals

would be possible on the North Wales coast and could bring benefits, including accelerating the prospects of electrification.

The infrastructure implications at hub stations can be significant – requiring parallel working of train services – and, while partially at least identified as a possible development at both Chester and Shrewsbury, connectional (or pulse) hubs have not been identified in Network Rail's set of Conditional Outputs on the Wales Route Plan. The important point is that connectional timetables can require additional investment (to allow services to arrive and depart in parallel).

The idea of investing in better arrangements at Shotton (high and low level stations) in the Route Plan is good (current facilities are poor for interchange), but for this to be effective there will need to be service frequency increases at both stations.

The Task Force report separately identifies the significance of the plans for HS2 (especially given the subsequent decision to advance the project to Crewe by 2027). We believe this should include noting that North Wales Coast electrification would allow though North Wales/Chester – London services to use HS2 (subject to path availability on HS2).

Topic 3: How does the development and use of rail infrastructure in England affect Wales and vice versa?

Hugely – and direct rail services from stations in Wales to airports located in England serve as a useful example. Service plans largely developed by Centro – and in future, by the West Midlands or Midlands Connect transport authorities – will determine whether Wales retains its direct rail connection with Birmingham Airport. Since in railway network terms at least, the Welsh component is on the periphery, the English at the centre, it is inevitable with a busy (and in much of England, congested) network that decisions taken at English locations can have a significant impact on Wales' rail services. Priorities for direct links to Manchester Airport are another important example – there are more than 120,000 annual business trips between Wales and the Airport.

A further specific infrastructure example is the planned Western Rail Access to Heathrow (WRAtH) scheme, which is being planned to provide connections only with the 'slow' lines on the GW Main Line. This risks repeating the need for a subsequent upgrade as has happened with Airport Junction on the current Heathrow Express route. The net effect is that the opportunity to provide direct South Wales – Heathrow trains services is currently being lost.

Topic 4: How do plans for English devolution and for high-speed rail, electrification etc affect Wales?

Very significantly indeed. But much of this can be regarded as an opportunity rather than a threat. Plans for devolved bodies (such as Transport for the North) create an opportunity for

Wales to build on the success of cross border partnerships (such as the Mersey Dee Alliance and the collaborative arrangements between Cardiff and Bristol city councils) to foster relationships with similarly-placed non-Westminster sub-national bodies to mutual advantage.

Topic 5: How can the Welsh Government best engage to influence the development of infrastructure and rail services in England and cross-border?

See answer to Topic 4. The new responsibility for the Wales & Borders franchise will shift the balance of influence on development decisions.

Topic 6: Does the periodic review process meet the needs of Wales and how should it be developed?

The periodic review process – the Initial Industry Plan (IIP), the high level output statement (HLOS) and the statement of funds available (SOFA) – worked well in general until it became clear during 2014/5 that the scale and speed of upgrade investment was undeliverable.

For Wales, there is the added involvement and complication of being a (minority) funder and with allocation of responsibilities not always clear between Westminster and Cardiff (*e.g.* initially over Cardiff – Swansea electrification funding). Absolute clarity on this area is an essential requirement.

The process works on a quinquennial basis, and while Network Rail has usefully looked ahead to 2033 and 2043 in its forecasting work, it does not provide for a more-than-five-year timescale: it should do, and this should become a mandatory (regulated) requirement.

Topic 7: Is the Network Rail Wales route effective?

We are not in a position to comment on this with regard to operational matters. But we note that its geography usefully includes the Marches line through England (but not into Chester either from the Wrexham or Prestatyn directions).

Topic 8: What are the pros and cons of devolution of funding of Welsh rail infrastructure?

A great deal can be learned from considering the Scottish example, although the Secretary of State for Transport has made clear that this isn't a live issue – at least until the Shaw Review is complete.