campaigning
by the
Railway Development
Society Limited

Policy, Lobbying & Campaigns Committee

Please Reply to:

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Dear Sirs,

16th April 2012

ALTERNATIVE SOLUTIONS

Railfuture is pleased to submit this consolidated national response to the Alternative Solutions Scoping Document consultation. The Policy, Lobbying and Campaigns Committee have prepared this response with contributions from individual branches.

Railfuture is a national voluntary organisation structured in England as twelve regional branches, and two national branches in Scotland and Wales.

Introduction: Railfuture commends the thoroughness with which the Scoping document has been prepared. Before answering the questions however, there are some general comments we wish to make.

We note the 30-year time frame to be considered but, since the rising price of oil together with advances in battery performance and price will be variable over time, the business case for conversion of heavy rail routes to tram or tram/train operation or to Community Rail status will be in a constant state of flux. We also note there are problems with environmental disposal of Lithium ion batteries which will need to be resolved. Each route considered for conversion will therefore need to be judged on a case-by-case basis having regard to these factors at the time such conversion is proposed.

Although the Scoping document does not go into detail, we note on page 6 that other public transport modes such as bus and guided bus are considered to be possible alternative solutions. Whilst Railfuture strongly supports integration of bus and rail services, we would object to the substitution of rail services with buses and would point out that following the Beeching period closures, a study by Mayer Hillman found that roughly only one third of former rail passengers used the replacement buses, one third bought a car and the rest stayed at home. Most of the replacement bus services were soon withdrawn as uneconomic.

Given that few car owners regard the bus as a suitable alternative to rail travel and car ownership today being very much higher than it was in the 1960`s and 70`s, mode switch to the car would be significant. Consequent increases in road congestion, pollution and accidents would almost certainly outweigh any cost savings by substituting buses for rail services and we would strongly urge that history is not allowed to repeat itself. It should also be noted that experience with the Cambridgeshire Guided Busway shows that such busways can be no less costly than reinstatement of heavy rail routes or conversion to light rail.

The most cost effective way to improve the viability of rail services is to increase patronage, particularly in off peak periods. Unless handled with great care, cost-cutting measures can easily lead to loss of patronage, producing negative returns.

Door to door connectivity is the key to growing the appeal and patronage of public transport and modal switch from the car. Integration of bus and rail services is particularly poor in Britain and falls well short of Swiss standards. Competition Commission rules will need to be reformed if much progress is to be made on this front. Although there has been much expansion of station car parking and cycle spaces recently, this work will need to continue. However, as a general rule stations are poorly signposted and their presence needs to be more widely advertised, especially those with parking facilities. Introduction of Dutch style cycle hire and train-taxi facilities should become widely available and publicised.

We would question the need to conduct a tram train pilot project on the Sheffield-Rotherham route when surely the evidence needed is already available in Germany in the cities of Karlsruhe, Nordhausen and Zwickau.

QUESTION 1: ***Have the appropriate options been considered to address the gaps raised in this document and if not what other or different options to address these gaps would you consider to be appropriate and why?***

General comments:

In the main yes, but investment in improvements to existing heavy rail services could have been given more consideration. Many of these services fail to achieve potential passenger growth because the service on offer is unattractive being operated by unacceptable rolling stock such as the Pacer units that nowadays bear no comparison with the comfort and ambience of modern cars. Poor service frequency and train times are also a handicap (Esk Valley line for example).

Many reopened heavy rail routes and stations have proved to be highly successful, notably the Stirling-Alloa and Ebbw Vale branches for example. Clearly, the business case for conversion of routes to light rail, community rail status or enhanced heavy rail investment be a delicate balance and the scoping document rightly notes that no one solution will be appropriate in all cases.

Comparatively modest investment in heavy rail that facilitates improved service frequency can also dramatically increase patronage as has happened on the Falmouth branch with introduction of a more frequent service following installation of a passing loop at Penryn. No doubt the soon to be installed passing loop at Beccles will provide similar benefits for the East Suffolk line.

Increasing capacity at congested city centre stations: Railfuture fully supports conversion of inner suburban routes to tram train operation to free up capacity for longer distance heavy rail services and where such conversion would enhance connectivity with the city centre and widen the catchment area through street running. However, opportunities to increase city centre station capacity can also be provided by extending some terminating services to turn back facilities at other stations nearby. Such an example has been proposed at Micklefield to take pressure off Leeds City station. There may also be potential for a similar solution to congestion at Birmingham New Street station for example.

Coasting, Discontinuous & Discreet electrification: Coasting is already used successfully and should be used to extend electrification to routes where structures with limited clearance exist and where this technique is practicable.

Other Solutions: We note that discontinuous electrification is also used to enable light rail vehicles to traverse architecturally sensitive city centres where it is felt overhead wiring systems would be unacceptable. In such cases on board energy storage technology can be appropriate where the distance is short. However, other solutions are available including switchable third rail power supply as used in Bordeaux and the Bombardier inductive power system, requiring no physical contact with the power supply which remains concealed below the road surface and which would not be restricted to short sections.

Although charging facilities provided at short intermediate station stops could extend the range on long unelectrified sections, it is unlikely that discreet electrification would ever be viable given that battery technology could never match the energy stored in the equivalent volume and weight of a tank full of diesel fuel. The extra cost and added weight and space needed to accommodate batteries capable of providing a range of up to 75 miles would increase vehicle energy consumption, reduce passenger space and introduce additional maintenance costs. An extra complication would be the need to automatically raise and lower the pantograph at appropriate points and provide sufficient energy to power air conditioning and heating systems from the batteries.

Discontinuous and Discreet electrification could not be used on routes where freight traffic is likely to be carried (unless it continues to be diesel hauled).

In remote areas, opportunities to generate power locally from renewable sources will exist but do not appear to have been considered. Given continued problems with the price and availability of oil, the economics of electrification of rural routes on the trolley wire principal could thus become attractive.

Ultra Light Rail: Solutions such as the Parry People Mover (PPM) are suitable only for very short distances and would need significantly enlarging and provided with much improved ride quality and higher performance to make them suitable for longer distance journeys.

Biofuels: The price and availability of oil will become a major driving force for railway electrification generally and the recently announced raft of electrification projects is to be applauded but the need for a rolling programme for electrification beyond completion of these projects is compelling and planning should start as soon as possible.

However, there will always remain lightly used routes that would be uneconomic to electrify even on the trolley wired system using light rail vehicles. Given the foregoing, it is possible that the most cost effective solution will be a new generation of lightweight diesel powered trains using bio fuel rather than on board battery storage. We note that the aviation industry sees its future allied to bio fuels once our existing oil wells have been exhausted, assuming we could ever produce enough to satisfy this energy hungry transport mode.

Hydrogen: We consider the Scoping study is right to exclude hydrogen as a practicable alternative source of energy on a large enough scale.

Local authorities should be encouraged to engage in partnerships with locally managed rail routes on the German model. Network Rail`s newly devolved route Directors could make such partnerships easier to set up.

QUESTION 2: Has the analysis of the options considered the appropriate factors? If there are further factors that should be considered please provide evidence where possible.

On the whole yes, but we would expand on some of the issues and examples mentioned:

Conversion to Tram Train operation: The Esk Valley line: The principal weakness of this service is the poor frequency and the failure to cater for latent demand for commuter traffic into Middlesbrough. This is because the current service is determined by the need to transport large numbers of children to school and the inability of the infrastructure to accommodate a more frequent service.

This would seem to be an ideal candidate for conversion to tram train operation, as tracks will need to be shared with heavy rail services at each end of the route. Automated passing loops could be installed at minimal cost, as there would be no need for expensive signalling connections. Service frequency could thus be dramatically increased from the present four trains per day in each direction. Potential for charter traffic and freight to Whitby would of course need to be considered before conversion was authorised as this would influence the design of the passing loops.

There are many rivers and streams in the area through which this route passes which would be suitable for local power generation using river turbines and wind turbines (assuming planning permission could

be obtained for these in this sensitive area). Generating power from local renewable sources would significantly reduce rail`s carbon footprint and improve the environmental case for conversion. Trackside energy storage, which would not be constrained by space or weight considerations, could store energy generated overnight from these sources for use during the day. So-called Flow batteries could fulfil this function. At the time of writing they are about 80% efficient but are improving with time. Trackside energy storage will always be preferable to on board storage as this would reduce vehicle weight and improve efficiency.

We would mention a simplified trolley wire system developed by Tram Power Ltd that could keep electrification and conversion costs to a minimum.

By way of comparison, a recent Railfuture study visit to the Karlsruhe-Heilbronn line, which is a similar length as the Whitby branch and which had been converted to tram train operation, found it to be well used even thought it passes through a largely rural area. Prior to conversion DB had proposed closure of the route, which had been served by just four trains per day in each direction.

Fortunately, the route was converted to tram train instead and a frequent regular interval tram service was provided which we were told had dramatically increased patronage to about 20,000 passengers per day, proving the value of investment in better services. Contrary to the scoping document claim, we noted the tram trains used on this route did carry a toilet but it was not disability compliant. The seating in these vehicles was also configured for longer distance journeys. A further benefit of conversion to tram or tram train operation is avoidance of the need to restrict the service to a single signal control working shift as happens on many rural routes.

Conversion to Tram operation; The Watford-St Albans branch: This route is already under consideration for conversion to tram operation as noted in the scoping document. The current heavy rail service is at an inconvenient 45-minute interval. Like the Esk Valley line, installation of a passing loop to increase frequency is impractical due to the need for costly signalling. Conversion to tram train would not be necessary as the route would be self-contained.

However, the true potential of this route could be realised with extensions at each end. At Watford, the route could be extended southwards to pass under the viaduct carrying the West Coast main line and terminate at the Harlequin centre. The line could run alongside the A4008 and Beechen Grove for most of the distance, minimising the need for street running.

In St Albans, the primary objective would be an extension to link the Abbey station with St Albans City main line station. This could be achieved by using the alignment of the disused branch line to Hatfield, much of which is still available. Some new housing has been built over it just west of the A1081 London Road in St Albans, requiring a deviation through or around it. The route would then pass under the A1081 and the Midland main line a little to the south of City station before picking up the Hatfield branch alignment once again and proceeding on to Hatfield. Some street running through Hatfield would be required to reach the East Coast main line station but we would mention a cost effective tram track system developed by Tram Power Ltd known as LR55.

This system largely eliminates the need to move and protect utilities, significantly reducing construction timescales and costs. A section of it has given satisfactory service on the Sheffield Supertram system since 1996. We should mention that Railfuture has no connection with Tram Power Ltd.

We mention this for illustrative purposes to show that by broadening the catchment area and connectivity to the towns of Watford, St Albans and Hatfield together with orbital links to the West Coast main line, Midland main line and East Coast main line, the value of this route and its conversion to tram operation would be very significantly enhanced. There is a paucity of orbital rail links connecting main rail routes that mostly radiate from city centres and opportunities for linking them with light rail routes in this manner should be explored.

Similarly, prior to its conversion to light rail operation the Wimbledon-Croydon heavy rail branch was poorly used. The writer recalls a journey on it when he thinks he was the only passenger in the two car emu, which ran every 45 minutes. Following conversion to tram operation with a 7 to 8 minute frequency

on this section and with extensions beyond Croydon, patronage has exploded and the route now carries over 28 million passengers a year and standing room only is common.

Low floor or High floor: Another alternative to lowering platforms or low platform extensions to existing platforms on converted heavy rail routes not mentioned in the Scoping document is raising the track to suit low floor trams which are preferable as they make on street stops more accessible and cheaper to construct.

Community Rail Partnerships have a proven success rate. On average, for every £1 invested £4 of benefits are provided. Perhaps the next logical development lies with the formation of locally managed rural routes in partnership with local authorities or LEPs on the German principal. Much of the costs of heavy rail services are due to processes, procedures and approval formalities. Simplification of procedures and risk management of tram train projects and Community Rail Partnerships should be implemented.

Meanwhile, we note that a high proportion of small towns and villages have lost their post offices and banks. Disused station buildings could be let rent free (rather than leave them unused) to LEP sponsored shops offering postal and banking facilities and information centres also equipped to sell rail tickets and other services. This would help to make local stations a focal point in the community.

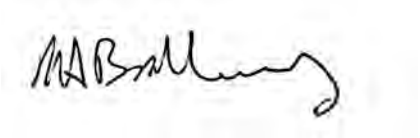
Railfuture supports the availability of carnet tickets, as has been successfully trialled by some CRPs. We also suggest regular door-to-door distribution of pocket timetables. Carnets and Rover tickets could be made available from hotel reception desks and libraries as well as shops etc. The validation of carnet tickets could be carried out using the system now commonplace in European cities where tickets can be validated in machines located on station platforms and on board vehicles. This makes the sale of tickets from shops etc. much simpler as they are only dated at the start of a journey.

It is disappointing however, that CRPs have not made progress on reducing infrastructure maintenance and operating costs but this could now change with the appointment of Network Rail`s devolved route Directors.

QUESTION 3: ***Do you agree with the emerging conclusions that have been reached on the basis of the analysis of the options?***

Basically yes but with the reservations outlined in our introduction and answers to Questions 1 and 2 above.

Yours faithfully,



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