

# Fresh thinking on high-speed rail

By Graham Nalty

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The campaign for more high-speed rail lines in Britain will receive a boost on 14 November when High Speed 1 opens for business from London St Pancras.

The Continent, and in particular, the cities of Paris and Brussels, will seem so much closer to the Midlands and northern England – and so much more convenient now that the cross-London journey by Tube or taxi can be avoided.

Proposals for building more high speed lines within the UK have failed to produce a clear consensus.

I congratulate London and Continental Railways for naming the line from the Channel Tunnel to London as High Speed 1. It invites the question “Which line will be High Speed 2?”

I very much hope that the next high speed line, whether or not named High Speed 2, can be built in time to avoid disbanding the teams of engineers and technicians who have successfully created High Speed 1.

A line, or two lines, from London to the main cities in the north, could be built primarily to relieve congestion on current inter-city routes from London to Liverpool, Manchester, Nottingham, Sheffield, Leeds and Newcastle.

A fast limited-stop line from London to Scotland via either the east or the west coast routes could be built primarily to enable rail to win almost all the traffic between Scotland and England from the airlines.

Another option is for a Maglev line from the outskirts of London to Scotland that would pass close to major conurbations.

All these options, while they would deliver economic benefits to the UK, are expensive.

Any government that funds a high-speed line would probably wish to see it built in stages with each completed stage bringing a return on its investment to fund the next stage.

A direct line to Scotland that did not relieve overcrowding on the southern half of its route would not get much support from the Government.

A recent study by consultants Atkins suggested that the West Coast main line would become congested before either the Midland or East Coast routes.

There will soon be a real need to build new capacity to relieve the west coast line.

By 2009, there will be 11 trains an hour at peak times out of Euston. To achieve this increase in train capacity, stops at important



1860s STYLE: A Eurostar in the train shed at London St Pancras

Picture: London & Continental Railways

intermediate stations in the southern part of the route are to be omitted. Any further increases in capacity can be achieved only through longer trains.

Pendolinos are capable of running at 140 mph, but for the railway to be competitive with air the track would need to be built for 200 mph even if trains do not reach that speed when the first stage opens.

The greatest capacity limitations are on the lines leading to central London, so the first stage to be built has to include the route out of London.

Studies by the now defunct Strategic Rail Authority have shown that high-speed rail will only gain enough traffic if it serves city centres. Out-of-town parkway stations would not generate enough traffic.

For Birmingham the choice would be between a station near New Street or a new station avoiding the city centre, as proposed in the Heartlands project several years ago.

But there is also the option of a line following roughly the Trent Valley route, possibly using the centre tracks of the Trent Valley lines which are now being quadrupled.

A parkway station could be provided at Polesworth with close road access to the M42 but high-speed trains from London to

Birmingham could leave the high-speed line at somewhere near Rugby or Nuneaton and use the existing lines into Birmingham New Street.

A fourth option would be a line that avoids Birmingham but runs parallel to the West Coast main line with a parkway station north of Polesworth for good access to the M42 motorway.

The best option is to build the high-speed line directly through the centre of Birmingham. Though this could include some high construction costs, in particular for a new station, the cost of other options in terms of lost economic opportunities for the West Midlands and political support for extending the line is much higher.

At the London end, the best terminus choice appears to be Euston, which is due to be expanded to 21 platforms.

If there is any kind of consensus it is that a new high-speed line should follow an existing transport corridor.

There are several between London and the West Midlands. These are the M1 and M40 motorways, the GW line now used by Chiltern, the West Coast main line and the trackbed of the former Great Central.

The former Great Western route into Birmingham from Solihull

is a four-track railway of which only two tracks are currently used. As a second choice the line from Nuneaton via Coleshill could accommodate an extra two tracks into the city centre quite easily. Unfortunately the line from Coventry via Birmingham International does not have capacity for extra tracks.

Options for a route from Birmingham to the north are not so obvious. If the former GW route was used, the high-speed line could follow the former GW line in the Wolverhampton direction as far as the M5 and follow the M5/M6 corridor out beyond the built-up areas.

The longer-distance trains on the high-speed line will need to join the West Coast main line north of Birmingham.

If the first stage to Birmingham is completed successfully, the next stop should be Manchester. While the traffic north of Manchester will not need a new line to relieve capacity, the long-term objective has to be a complete high-speed line from London to Scotland via the west coast giving Glasgow and Edinburgh a two hours 40 minutes journey time from London.

The ideal solution would be to build a high speed line through the centre of Manchester on a south-north axis with a station at Piccadilly. Another valuable option would see the high-speed

line pass under Manchester Airport which could become a much more significant transport hub.

If we agree that a long-term objective of linking all the major cities of over 500,000 population is worth pursuing, then we have to think of the high speed lines going through the centres of the larger cities such as Birmingham and Manchester, as these would become major hubs in a national high-speed network.

The fast journey times possible can be compromised by adding too many stops. As a rule of thumb, high-speed trains should not call at stations more frequently than once every 100 miles.

Construction through major conurbations may not cost as much as might be expected, due to the availability of disused tracks.

Until we have a government that values the economic benefits that good transport links can generate through increased economic activity, we can only continue to campaign.

A Maglev line may sound exciting, but the recent French rail speed record was so close to the Maglev speed record, the Maglev choice looks less attractive.

There are still many safety questions about Maglev.

To compete with air, it has traditionally been accepted that rail will win an equal share when the rail journey time is reduced to about three hours. However there are indications that rail journeys of four hours are competitive with air when time taken for airport boarding procedures are taken into account.

In practical terms most air journeys to European destinations take the best part of half a day when travel to and from the airport is taken into account.

A point that worries some transport campaigners is that high-speed rail uses more energy than classic trains.

But without high-speed rail, there will be more short-haul air travel.

Within Railfuture we need to debate the real merits of high-speed in meeting our goals for expansion of the railway, but we must avoid the damage that could be done by failing to support the rail industry in developing high-speed rail.

High-speed rail will attract people from air and road but will require additional conventional rail feeder services.

# World-class symbol in Oz

This is the new Southern Cross station in Melbourne, Australia, which was built to replace Spencer Street station when it became clear demand for rail services was growing fast.

The new station also provides a bus and tram interchange and allows people to walk into the city's central business district and developing docklands area.

The aim was to create a world-class symbol for the city of Melbourne.

Spencer Street station was the only one of the five stations on Melbourne's city loop to serve both regional and interstate rail.

The transformed station includes the capacity for a fast rail link to Sydney and the airport train to Melbourne international airport.

The dune-like roof is described as the design focus of the station which is a cool, shaded gateway to the city.

The undulating roof was developed in response to the hot external climate and the internal need for diesel extraction. The hot air and fumes are drawn through the roof, via louvres, by the prevail-



2007: Melbourne's new Southern Cross station designed by British architect Nicholas Grimshaw Picture: Shannon McGrath

ing winds. The design “is a contextual reinterpretation of the historic shed roofs of nineteenth century Europe”. It is hoped that the vibrant concourses, separated

from the pavements only by a partial glass facade, will enliven the major streets – Spencer, Bourke and Collins Street – that bound the station.

# The Tories new line on rail

By Nick Lewis

Belatedly, the Conservative party has acknowledged the mistakes made when they privatised British Rail. However, they propose the wrong solutions.

The Tories say the split between track and train was wrong and they pledge to reverse this. But their biggest mistake was in fact to make Railtrack a public limited company whose first duty was to maximise shareholder value.

They compounded this by placing Railtrack's engineering functions in the hands of maintenance contractors but also renewals contractors on short-term contracts.

This encouraged a short-term approach to maintenance and renewals, and also meant Railtrack had no effective control over its infrastructure.

The subsequent collapse of Railtrack and its replacement by not-for-profit Network Rail has generally been beneficial. With no shareholders NR can reinvest any profits and take a longer term view of maintenance and renewal.

But NR is not as responsive to train operators as it could be, and it has been slow to implement infrastructure enhancements.

None of this is a compelling argument for vertical integration. Where several operators use the same tracks, vertical integration actually complicates operation, results in less efficient use of

network capacity, and makes it harder for other operators to obtain running rights.

Chris Grayling's proposed solution is drastically to reduce the number of operators by creating five very large vertically integrated franchises based on the territories of the former BR regions.

These franchises, which would be let for 20 years, would lease the infrastructure from NR and operate, maintain, renew and enhance it as they saw fit for the duration of their franchise.

At first glance this appears to be a sensible solution, but it is actually simplistic and flawed.

Such franchises could easily become too remote from passengers at the periphery of their networks and be biased towards London.

The current extensive network of frequent and well-used cross country services would be at risk of fragmentation or withdrawal.

The same problems could arise with railfreight services, few of which fit neatly into these franchise areas.

A more serious flaw in Tory spokesman Chris Grayling's proposals is that once again control of the infrastructure would be entrusted to companies whose first duty is to maximise shareholder value, reducing NR to the role of landlord but with even less control over its estate than Railtrack.

As the collapse of Railtrack demonstrated, such an organisational structure is unsustainable.

The bigger franchises will have a strong temptation to “sweat the assets” and defer non-essential maintenance.

The Tory proposals would recreate all of the problems of contracted out infrastructure maintenance.

Having five different franchises could lead to a proliferation of different technical standards and specifications just as NR is trying to cut costs and improve efficiency through standardisation.

Railfuture agrees that the massive cost to the taxpayer of operating and maintaining the current network is unsustainable in the long term, and leaves precious little funding for enhancements.

The rail industry's present structure also seriously hampers the long term planning and investment vital to its future.

Chris Grayling has initiated a welcome debate about reforming the rail industry's structure.

Politicians risk making matters worse not better, but it is heartening to hear Tory leader David Cameron say the party would put rail at the heart of Britain's transport system as part of his green agenda.

He said: “Trains are the most environmentally effective way of getting around.”

Mr Grayling has also called for a moratorium on land sales to protect disused rail lines, albeit for only two years. He has also said he would scrap Labour plans for national road charging.