All Party Parliamentary Group For High Speed Rail

Memorandum of Evidence from David Thrower

Current Capacity On The Rail Network

1. The availability of rail capacity, on a network that was not originally centrally planned and which was almost entirely constructed well over a century ago, must of course be considered in the context of passenger and freight demand.
2. In the 1960s and until the 1980s, despite an overall steep increase in total all-mode UK travel demand, trunk rail capacity on the main line network, particularly on its north-south axis was paradoxically severely cut back. A number of through interconnecting routes that would have been extremely valuable today (such as the Great Central or the Southampton-Didcot routes) were reduced to single tracks or closed. In the past 15-20 years, these serious transport planning errors in terms of lost capacity and services have been belatedly realised.
3. Rail passenger use is now steadily growing. Between 2002-03 and 2010-11, passenger journeys increased on InterCity services by 53%, on London and South East services by 35% and on Regional services (including Scotland/Wales non-InterCity) by 45%. Passenger-kilometres travelled increased by 44%, 26% and 51% respectively (source: Office of Rail Regulation).
4. Latest published annualised passenger journey growth on InterCity (to 30th September 2011) has been 5.4%, with 8.9% for London & South East and 4.6% for Regional (including non-InterCity services in Scotland/Wales). Latest annualised passenger kilometres travelled has increased by 2.5%, 6.0% and 4.2% respectively. These growth rates are despite a severe economic downturn across Europe and beyond.
5. Some of the UK's key rail routes, including the WCML, are now forecast to be completely full in peak hours in the next 20 years. Long distance passenger travel (all modes) in the UK is forecast to increase by a further 46% by 2033 (source: Department for Transport). Key drivers are incomes, costs of movement by each mode, closer regional and international interdependence, employment patterns, land-use trends, population increases, lifestyle choices and carbon reduction needs.
6. Although total freight moved on the UK rail system fell at the start of the recession, even during the recession several major sectors of rail freight have steadily increased. For example, between 2002-03 and 2010-11, construction sector rail freight rose 27%, oil and petroleum sector freight rose 15% and domestic intermodal sector freight rose 68% (all measured in billion net tonne kilometres, source: Office of Rail Regulation).
7. Attempting to squeeze more and more services conveying different types of traffics of significantly varying speeds and stopping patterns onto an already very busy railway will now progressively act against present and likely future Government policies, unless additional rail capacity is planned and provided.

Future Rail Capacity Requirements

8. The need for greater and more reliable rail passenger and freight capacity is therefore already apparent, and deferral will only result in the problems of future rail congestion having to be re-addressed at a later date, at greater ultimate expense.

The prospects without further capacity investment are for increased overcrowding and a gradual worsening of all services, including freight.

9. The solution of significantly boosting capacity providing wholly new high-speed rail routes is now very well established in many other countries. The need for high speed rail in the UK has already been grasped with High Speed 1. The future requirements for passenger capacity have been widely discussed recently as part of the debate prior to HS2's recent and very welcome authorisation.
10. Those who took a critical view of HS2 (consultants funded by local protestors, or protest groups themselves) took the stance that ample additional capacity for (in this instance) the West Coast corridor could be provided by adding coaches, demoting existing first class coaches to standard class, and altering the fare structure, together with significant investment in infrastructure on the classic network. All these measures would have provided some degree of early relief, but would have only bought time. They incidentally would have done very little for freight. The Government fortunately took the long view, that HS2 would ultimately be essential to increase capacity in the quantity (and to the quality) needed by the second quarter of the century.
11. On corridors other than the WCML, similar arguments will eventually arise. There is already strong capacity pressure on the Great Western Main Line (particularly east of Reading), the Brighton line (which includes Gatwick), the East Coast Main Line and some Trans-Pennine routes, particularly Manchester-Leeds but to an extent Manchester-Sheffield, as well as numerous other sections of interurban route.
12. Overlaid onto the future passenger demand map will be the future needs of freight. There are already capacity strains from freight to/from the Haven Ports, freight (including Channel Tunnel freight) crossing London, and maritime freight from Southampton, particularly the busy Southampton-Basingstoke-Reading-Oxford-Banbury corridor. Freight is also a problem where there are complex passenger services, such as around Manchester.
13. Subject to economic recovery, UK rail freight (including domestic traffic, linked to new distribution warehousing) is forecast to increase from 23.5 billion tonne kilometres (btk) in 2006 to 31.0btk in 2015 and to 50.4btk in 2030 (source: Rail Freight Group/FTA, MDS Transmodal study 2009). Increased rail-connection to ports and warehousing, and forecast transfer by the logistics sector of non-bulk commodities to rail for reasons of cost/reliability, is predicted to expand domestic non-bulk traffic from 1.0btk in 2006 to 14.8btk by 2030. Port-based non-bulk traffic is forecast to increase from 4.9btk in 2006 to 19.9btk by 2030, with lesser increases in construction, automotive and petrochecmicals sectors. Percentages of tonne-kilometres (rail as % of all modes) could increase from 12.6% in 2006 to as much as 20.7% in 2030.
14. A specific example of a future source of freight growth is cross-Channel railfreight traffic, currently running at a very poor annual rate of only 1.2m tonnes (was 3.1m tonnes in 1998). The cross-Channel market for unitised goods (all land-based modes) is an estimated 90m tonnes per annum (source: Eurotunnel). Eurotunnel estimates that of this,15m tonnes is suitable for rail-throughout movement. The annual market for cross-Channel rail freight space sold to forwarders is estimated at 1.8m tonnes, and cross-Channel containers destined for the UK but unloaded from ships at European ports is a further 1.2m tonnes (source: RAIL, 4/11). At present, most Channel Tunnel freight growth is on HGVs (numbers increased 30% in the first quarter of 2011 compared with 2010). These HGVs add to both UK motorway traffic levels and emission levels.
15. An understated key part of High Speed Rail's value is (by releasing classic-network capacity) reducing the carbon impact of heavy lorries. Transport is the fastest-

growing source of carbon, with road transport accounting for 26% of all-sources UK emissions. HGVs are estimated to account for 23% of carbon emissions from domestic transport. Rail is very significantly more energy-efficient than road haulage, which per tonne carried consumes between four and seven times more energy. Released capacity on the classic network will further reduce freight carbon emissions.

16. Based on the above, future growth in rail freight (both international and national) within the UK, including deep-sea, bulk and intermodal traffic will require very considerable additional capacity on the UK's north-south axis, if efficient transits are to be offered by rail freight operators.
17. Switching freight to rail has near-universal public support, but continued growth in passenger traffic, both long-distance and regional and commuter flows, will be in direct conflict with this freight growth unless passenger capacity is expanded by for example building HS2 and progressively enhancing or relieving other routes.

Providing Capacity And Future-Proofing The Rail System

18. A very significant proportion of population and economic activity is obviously centred upon the major English (and Scottish and Welsh) urban areas, and it is this which is threatened by serious and growing inter-urban (and urban) highway congestion and the new and growing phenomena of rail congestion.
19. High Speed Rail will give much of the national rail network the capacity it needs to accommodate additional passengers and freight. High Speed Rail fits in extremely well with other programmes. It will greatly improve UK inter-urban connectivity, essential to the efficient functioning of the UK economy. Investment in High Speed Rail will significantly reduce the need for massive and expensive capacity investment in some of the classic network's trunk line sections, enabling other essential but less costly rail schemes to be brought forward more quickly.
20. The extremely long lifespan of High Speed Rail investment (effectively infinite) also gives considerable comfort in terms of the long term business case for other smaller rail capacity projects. And modal shift may even ultimately exceed predictions due to aspects such as travellers more actively disliking congestion, or showing greater-then-hitherto concern for the environment.
21. Where there is investment in High Speed Rail, there will be some lost passenger revenue on the classic routes, but this will be very significantly offset by operational and maintenance savings and the development of a significantly greater classic-network market through the additional passenger and freight links. The redevelopment of "classic" WCML semi-fast and commuter services and freight services post HS2 is a major opportunity for the UK transport system.
22. It is often alleged that High Speed Rail is a costly solution to transport capacity problems, But the alternative of investing in the classic network instead of High Speed Rail is also costly. Reading remodelling is £850m, Airdrie-Bathgate upgrade/re-opening £300m, the single-track ECML Hitchin flyover scheme £62m, Southampton-Birmingham gauge clearance £71m, Swindon-Kemble re-doubling £45m, and the short Ordsall Chord £85m). The respective costs and benefits of each approach must therefore be carefully weighed on a case by case basis. Obviously it will be helpful if heavy engineering costs can be reduced post-McNulty.
23. High Speed Rail's trump cards are that it will make the trunk part of longer-distance journeys effortless and delay-free, will offer immense capacity for lower-carbon passenger trips and freight movement, and will offer many new journey opportunities.
24. But High Speed Rail will not always be either appropriate or affordable. Some additional capacity could, and should, be provided on the classic rail network through

additional running lines, passing loops and grade separation. Network Rail has a number of schemes in early stages of preparation.

Risks Of Failing To Provide Capacity

25. The risks of failing to provide, or even (in financially constrained times) to plan for, additional rail capacity for the future will already be very familiar to the All Party Parliamentary Group:
    - A gradual and progressively-increasing congestion of the network, and increasing difficulty in timetabling
    - A progressive loss of reliability, due to minor delays
    - Slowing of the fastest services, because there is no longer sufficient “white space” in the timetable to offer long fast runs
    - Elimination or reduction of stops at smaller stations, due to the effect stopping trains have on overall capacity
    - Inability to construct new stations (where justified), due to their adverse effects on overall route capacity
    - Turning away of proposals for additional fast intercity passenger, cross-country passenger and local commuter trains
    - Turning away additional heavy freight trains, including vital maritime and international Channel Tunnel traffics
    - Impairing the ability of the rail network to assist future reductions in carbon emissions
    - Impairing rail’s contribution to containing and reducing future congestion, noise and accidents on the highway network
    - Consequential serious effects upon travel and distributional efficiency and upon economic growth

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