# Fast or frequent?

***Should rail services be fast or frequent? Ideally they should be both but how can we achieve the balance required between service frequency and train speed to get the best out of Britain's passenger rail network? Nick Lewis and Chris Burden examine the arguments.***

Rail must offer competitive total journey times, including the journey to the station and the wait there.

This most easily comes through increased service frequencies at higher average speeds. Higher maximum line speeds also produce benefits but potentially at the cost of reduced service frequency and so overall passenger benefits.

For inner-suburban and metropolitan services, high service frequencies are decisive in terms of both passenger benefits and operating costs. By adding semi-fast services to this pattern, certain stations receive an even higher frequency but the trains must have good acceleration to minimise fleet costs.

On journeys which involve at least one change of train, more frequent services would mean either shorter waits for connections or shorter delays when things go wrong. With the complex UK timetable this would be effective in improving connections with services where no increase in frequency is possible.

The present policy of not holding connections for late trains causes outrage among passengers. More frequent services would improve matters by reducing the need to hold connections or by giving flexibility to hold connections for infrequent / essential services.

The revamped, faster and more frequent Virgin Cross Country and West Coast main line services were planned to cut journey times and waiting at stations. They were also designed to open up new journey opportunities, with better connections to non-Virgin services.

It was clear that any such plans could have a detrimental effect on other operators' services using the lines between Euston and Rugby.

This shows that on sections of the network with limited capacity, timetable improvements desired by one operator are not always practical as other operators must be able to maintain an acceptable level of punctuality and reliability.

Consider the Virgin plan to run a 15-minute service between Euston and Birmingham. Reducing the frequency to one every 20 minutes would release significant capacity for other operators while hardly affecting Virgin customers.

Ultimately, we are interested in total journey times where the maximum train journey time (maximum wait plus time of on-board train travel) is the major factor.

Presently (pre-Virgin West Coast main line upgrade), this is 130 minutes. With a 15-minute service it is 95 minutes but with a 20-minute service, maximum train journey time increases to only 100 minutes.

Also, while the benefits to Virgin customers of running at 140mph, instead of 125mph, are limited, the network capacity absorbed seems disproportionate.

With the right balance between speed and service frequency, a robust timetable, and adequate resources significant service improvements would be possible using the existing network.

Similarly, small infrastructure enhancements, such as the Railfuture "40 Quick Wins", would bring about valuable service improvements.

Parts of the network, in particular certain branch lines and secondary routes, are grossly underused. It would be straightforward and inexpensive dramatically to improve services on these. This calls into question assertions that service improvements are always either too expensive or that reliability and punctuality must be bought at the cost of reduced services. While there is some validity in both these claims, running fewer trains would reduce the attractions of train travel and lead to a rapid spiral of decline.

Reduced services would also be more prone to overcrowding reducing the appeal of rail travel as well as increasing dwell times at stations and affecting punctuality.

Maintaining capacity with fewer services while avoiding overcrowding means running longer trains.

In areas like London, where trains already mostly occupy the full length of platforms, this is not possible.

The last resort in dealing with overcrowding is to adopt the British Rail practice of raising fares until enough people have been put-off using rail services. This is of no benefit either to individuals or to society. People drive instead, increasing the problems of road congestion and air pollution.

A timetable set in stone since 1994, not a general lack of physical capacity, is the reason the railways have had difficulty coping with extra traffic since privatisation.

Traffic was allowed to grow during the first eight years without the oversight of strategic planning or direction. Railway operation has therefore been fragile, and vulnerable to disruption from any number of sources. The Strategic Rail Authority capacity utilisation strategy is welcome, offering timetables designed to ensure robust operation.

Such a "ground up" review provides a chance to implement a Swiss-style regular interval timetable with the essential elements of more frequent services, an easy-to-remember clockface timetable, and better connections at key stations.

Even the best timetable is at risk of failure from a variety of sources. These include insufficient or overworked rolling stock and staff shortages. Also, more insidiously, a serious risk is presented by poor management leading to tight rolling stock and crew diagrams, lack of operating discipline, poor traffic regulation, and poor contingency planning for when things go wrong.

There should also be a review of equal priority, given to services since privatisation, so long-distance services don't get caught behind local stoppers, for example. With good management, a robust timetable, adequate resources, disciplined operation, and high quality equipment, a busy railway can be reliable.

The test of a well-run railway is not how it performs on a good day but how quickly it recovers on a bad one.

More information is provided in a four-page leaflet entitled *Fast or Frequent?* If you would like one, send an SAE to Railfuture, Room 206, The Colourworks, Dalston, London E8 3DP


***The international train maker Bombardier, which has a factory at Derby, has re-launched its locomotive range under the new name Traxx. It aims to use as many common components as possible as one way to improve reliability and reduce costs. The range includes electric and diesel locomotives. More information at http://www.bombardier.com/***

## Electric way forward

***Electric trains provide both fast and frequent services. But vested interests and "dog in the manger" attitudes have prevented Britain making full use of their advantages.***
***Noisy, smelly diesels are still operating on too many parts of the network.***
***The Midland and Great Western main lines are prime candidates for electrification but there is now little prospect of it happening..***