

INFORMED SOURCES e-Preview April 2015

This month's column includes a long overdue revival of the quest for speed on the East Coast, some analysis of the rolling stock requirements within the Northern and TPE replacement franchise ITTs and some vignettes of the crisis in signalling. Apropos of which, there's an exclusive report on a new signalling fiasco which broke only three days ago.

East Coast – the need for speed revived
McLoughlin imposes Northern Pacer elimination
Rolling stock upgrades central to Northern Franchise
Signalling in crisis – continued.

For the title of my Gresley Memorial Lecturer I chose the 'East Coast traction – the Gresley heritage'. The aim was to show how Sir Nigel's successors had continued to reduce journey times on the East Coast Main Line since the great man's death.

Sadly, the story ended with electrification and IC225. Even worse, after privatisation headline journey times slipped until Lord Adonis, when he was Transport Secretary, decreed that there should be a four hour Edinburgh-London service. And so, two decades after InterCity introduced a 3h 59min timing, the privatised railway takes one minute longer.

But, during a visit to Stockton-on-Tees on 27 February, Chancellor of the Exchequer George Osborne announced that he had asked the Department for Transport and Network Rail to begin talks to develop a business case for the infrastructure improvements needed 'to make 140mile/h running on the East Coast a reality'. According to Osborne 'new figures today' showed that 140 mile/h trains running between Newcastle and York, combined with HS3, could cut journey times between Manchester and Newcastle by a quarter, 'fully connecting up the whole of the North East to high speed rail'.

Where had all that come from? The answer lay in a study initiated by Network Rail into strategic enhancement to the ECML infrastructure. The initial findings and outline proposals had been presented to Transport Secretary Patrick McLoughlin in October last year.

There's a detailed review of this strategy, which could have appeared in this column anytime over the past 30 years.

The main constraint on the 140mile/h aspiration is the existing Mk 3b OHLE. Despite being much more reliable (he wrote crossing his fingers now that it's being maintained properly, for satisfactory current collections at 140 mile/h a larger diameter, and thus heavier, contact wire would be needed. The tension in the wire would also have to be increased.

Rather like the application of modern finite element analysis to the Mk 3 coach body to check its potential service life, NR's engineers re-ran the design calculations to see what would happen if you replaced the wire cable head-span between the support masts with a lightweight lattice portal to support the registration arms.

And guess what? Not only would the existing masts and foundations, installed in the late 1980s, take the extra weight and wind loads of the portal, the resulting structure could also accommodate the heavier contact wire and increased tension for 140mile/h running.

And proving that I ought to look out of the window more, I missed the trial lightweight portal installed on the ECML south of Potters Bar last year. This verified the concept and replacement of head-spans with portals, initially at locations where the OHLE is particularly vulnerable to de-wirements, begins this year.

A Benefit:Cost Ratio analysis shows that the 140mile/h proposal could be as high as 3.2. This appraisal is based on an estimated cost of around £1.3 billion at GRIP 2, including optimism bias. So, ever the optimist, I reckon it ought to be doable for a billion. With around half spent on the OHLE upgrade

Of course, what a Chancellor thinks is a vote winning idea worth supporting 69 days before a General Election may not survive the opening of the ballot box. But even getting government support for ECML140 is no mean achievement.

Now, the pressure is on to get the scheme into NR's Initial Industry Plan, leading into DfT's High Level Output Specification for Control Period 6 which should be published mid 2017. It will not be easy, but note that the proposal is based on incremental improvement which served passengers on the ECML so well from 1960 to 1990.

Pacers prohibited by political priorities

In the civil service, a Permanent Secretary is the Accounting Officer for his or her department. This means that, in the case of the DfT for example, Philip Rutnam is directly accountable to Parliament for Departmental spending.

With departmental heads accountable in this way, they have to be protected against a minister imposing a policy which does not represent value for money. This is provided by a formal duty on each permanent secretary to ask for a written direction from the secretary of state before implementing a ministerial decision which fails to meet the Treasury criteria of regularity, propriety, value for money, and feasibility.

If the secretary of state then insists, the accounting officer must implement the policy. However the letter of Direction means that minister takes the responsibility.

So when Philip Rutnam was unhappy about the value for money and affordability of making Pacer withdrawal, plus procurement of at least 120 new DMU vehicles, a requirement in the Invitation to Tender for the replacement Northern franchise he asked his boss, Transport Secretary Patrick McLoughlin for a Letter of Direction.

In his reply Mr McLoughlin explains why he is insisting on Pacer withdrawal and the wider issues involved, including the emerging need for new DMUs. I've reproduced both letters because they are rarely published.

The Northern and TPE Franchise ITTs are the first signs of Franchise Director Peter Wilkinson's adoption of a long-overdue plan for the management of the UK's limited pool of rolling stock. It's needed because you can't actually run an efficient franchise replacement programme on a rolling stock free-for-all, with market forces let rip. Hence the rolling stock procurement and cascade plan gradually spreading across Mr Wilkinson's office wall.

Note that this is not a re-run of the incomprehensible master Rolling Stock Plan introduced by DfT in 2008 to support the mythical 1300 new vehicles. The new rolling Plan extends only so far ahead as is necessary for the franchises currently being let or in development.

As the detail in two ITTs shows, even juggling the rolling stock requirements of two inter-related franchises is hard enough. And as for the flexibility beloved of the current government, strict rules of engagement have had to be established for bidders seeking to acquire rolling stock currently on lease to other TOCs.

DMU shortage

But, with the procurement of at least 120 new vehicles mandated in the Northern franchise ITT, we leave pork barrel politics for a grown-up rolling stock policy. In his Letter of Direction Mr McLoughlin argues that the railways need a long-term solution 'to secure the continued provision of services on lines that are never likely to be electrified'.

He also notes that the 'latest forecasts' predict a shortfall of DMUs 'in the coming decades. This is a reference to the latest annual update of the Rolling Stock Strategy Steering Group's (RSSSG) report 'Long term passenger rolling stock strategy for the rail industry'.

I admit to being a bit sniffy about the earlier reports. However this one includes some timely and relevant stuff.

When the current rolling programme of electrification was announced the expectation was that it would release, progressively, sufficient DMUs to meet future requirements. But in last year's report, RSSSG suggested that small orders might, after all, be required. A year on, with electrification slipping, and the latest detailed analysis indicates a potential total requirement for 350 to 500 additional DMU vehicles by 2020.

Northern Franchise – rolling stock the key

In the ITTs for both the Northern and TPE replacement franchises, DfT goes into minute detail about which Classes of DMU and EMU can or cannot be included in bids. No Class 442s for Northern but they can be proposed for TPE.

And there are strict rules on proposing transfers from existing operators, with all sorts of provisos which the column outlines. But, the question on everyone's lips is 'where do the VivaRail D78 Underground stock DEMU conversions fit in?'.

Well, according to Transport Ministers, they don't. 'Not on my watch' Claire Perry told my colleague Tony Miles.

My initial assumption was that the 120 (minimum) new vehicles were for Pacer replacement, but the ITT reveals that this is clearly not the case. These must be newly-built, 'not re-using components from existing vehicles' and, unless intended for loco haulage, 'must be capable of operating under their own power for significant distances on non-electrified routes'.

I deduce that the new units are for what DfT calls 'Northern Regional Services' – longer-distance fast or semi-fast service groups within the franchise. This seems like a similar concept to the new ScotRail services linking the nation's seven cities.

Metro

Now the original British Rail Research Railbus was intended as a low cost replacement for the first generation DMUs on lightly used lines. Perversely, some of its ancestors have ended up running peak commuter services into the Northern conurbations.

In a broad hint, the ITT suggests that bidders for Northern 'may propose' the use of higher density 'metro-style' rolling stock based on 0.25m² per standing passenger, rather than the 0.45 m² generally assumed, for short distance commuting services.

This would require an interior layout designed for high-density standing and 1/3-2/3 door configurations, but with sufficient seats for off-peak services. DfT says that such trains could be either new-build, or created as part of a 'transformational refurbishment', provided that passenger satisfaction is comparable to that of a new, or nearly new fleet.

Stock with end doors will not be suitable for Metro operations which rules out a cascade of Class 155 and 156 DMUs to supplement Northern's Class 150 DMUs which do have the required 1/3-2/3 door spacings. The list of permitted rolling stock in the ITT does not include Class 16X Networker Turbos.

So what about a 'transformational refurbishment'? Well what Vivarail is doing to some hapless D78 stock at this very moment is certainly transformational. And proprietor Adrian Shooter points out that the multiple doors and high rate of acceleration of the converted D-trains would be ideal for Metro services.

In dismissing the D-train Claire pointed to DMUs being cascaded from ScotRail. Abellio's current plan for ScotRail sees 21 out of 55 Class 170 units being released, so that's a start. I wonder if Bombardier could retro-fit a Class 378 interior into a 170 – that would be transformational too!

Signalling crisis stumbles on

Last month's 'Signalling in crisis', feature struck a chord with several readers who provided more examples of the long-running cock-ups which delay benefits, waste money and, above all, squander precious signalling engineers' time on re-scoping and reworking.

Exhibit A this month are the apparently simple project to extend the up-slow line at Eastleigh station, so that container trains changing crews in the Up platform at Eastleigh wouldn't block the Up main. Extension of the Up Slow back to Southampton Airport Parkway station has involved under a mile of new track, two new signals, two new sets of points and two new flashing signals, one with a new junction indicator.

It was commissioned at the end of last year but for reasons explained in the column the new Up slow remains nominally out of use. Drivers can be talked past the relevant signal onto the new line, but trains are only routed onto degraded lines in an emergency. As a result after two years work, container trains continue to block the Up-main while changing crews in Eastleigh station. And don't mention the budget over run.

Exhibit B has been anonymised to protect the innocent while exposing the guilty. It concerns a scheme to raise the line speed on 20 miles of 75 mile/h track, which includes four level crossings, to 90 mile/h.

After around 18 months of re-scoping and re-design the commissioning dates were agreed. Only for the civil engineers to decide that the track in its current state was not, after all, suitable for 90 mile/h running. So hours of design work will now sit in a data file somewhere until

the track is upgraded.

Meanwhile here's proof that the Curse of Captain Deltic is as powerful as ever.

In last month's 'Signalling in crisis' feature I went into some detail on NR's procurement of Train Management covering the 11 Route Operating Centres. Hitachi, Signalling Solutions Ltd and Thales were bidding for three contract packages, although it was only to supply Plan/Re-Plan, just one of the five features of the National Operating Strategy (NOS) that TM is supposed to provide.

Well, last Friday the three bidders were told that procurement had been halted. Full details in next month's column, but I thought e-Preview subscribers should be the first to know. Meanwhile, it would be interesting to know the Japanese and French is for 'Eeh, I am vexed'.

Correction

In last month's item on the bidding for the East Coast Main Line ETCS Phase 1 I said that Infracore – the Carillion Bombardier Joint venture – was not bidding. In fact the company is bidding, but only for package 1b (Wood Green to Peterborough).

Apologies to Infracore for this error. This was down to me conflating the company's decision not to bid for Phase 1a (King's Cross/Moorgate-Wood Green) with the whole scheme.

Package 1a involves the conventional resignalling of the Kings Cross area, with an ETCS overlay. This would require Network Rail approval for Bombardier's Ebilock interlocking and the associated safety case and type approval work would clearly not be justified for such a small scheme.

Roger's Blog

March began with the launch of Virgin Trains East Coast at Kings Cross and later that week I gave the second Gresley Memorial Lecture. It was standing room only and the audience included sundry chums – one even going back to my days at Finsbury Park.

Another, remembered taking me through the, then, new Networker simulator at Waterloo in Network SouthEast days. All the press had one go, and I judged my station stop to perfection – unlike some fellow journalists. I say 'judged' because when the rest of the party left I stayed on for some more practice and every stop was yards too short or long. Never was 'more by luck than judgement' more appropriate.

My paper was about the three generations of traction that followed Sir Nigel's A4 Pacifics – the Deltics, IC125 and Class 91 and the engineers responsible. Work and family commitments mean that I no longer give talks, but this was one I could not refuse. And putting the illustrations together made a change from slogging through regulatory documents.

This week it's the Modern Railways Fourth Friday Club and the guest speaker is Christian Roth Chief Engineer of the South West Trains/Network Rail alliance. He will be talking about increasing capacity on the South Western. Recommended.

With Easter approaching, April is, currently, fairly quiet. I'm hoping to wangle a visit to Marylebone to see the first application of DeltaRail's flexible signalling control desk which I saw demonstrated at their Derby offices and wrote about in an earlier column. And there are one or two meetings to arrange.

Meanwhile I have two stonkingly controversial stories to research and write for the next column, in addition to the TM development, mentioned above. And, as always, who knows what may arrive in the proverbial brown paper envelope.

Roger