

INFORMED SOURCES e-Preview]November 2015

Just room for two big stories this month. But I'm also thinking of introducing a page for two or three shorter items covering topics readers really ought to know about, but don't need the full in depth Informed Sources treatment. Not sure what to call the page but might revive the title used for the pre-series column 'Ahead of the news'.

Downing Street decrees immediate electrification un-pause  
Digital Railway – bigger than Network Rail?

Politicians can be deeply sensitive people, their egos easily bruised. No, I'm not joking.

On 12 September Jeremy Corbyn was elected leader of the Labour Party. His policy platform includes renationalisation of the railways which for some reason spooked the Department for Transport and the train operators.

Meanwhile, following the announcement in June that the Trans-Pennine and Midland Main Line electrification schemes would be 'paused' while Network Rail Chairman Sir Peter Hendy worked out which enhancement schemes were affordable and could be delivered in the current Control Period, Labour politicians in the North started teasing Chancellor George Osborne that his much vaunted vision of a Northern Power House had become a Northern Powercut. This was entirely down to Transport Secretary Patrick McLoughlin's mishandling of the 'pause' announcement.

While work on the MML had indeed been paused, even before the Northern Power house was dreamed-up, Northern and Trans-Pennine Express had already told Network Rail and DfT that the Trans-Pennine route needed speed and capacity upgrades to meet the aspirations in the franchise ITTs. Electrification would freeze the current infrastructure in steel and concrete: wouldn't it make sense to plan an old fashioned total route modernisation before putting up the electric knitting?

So TP electrification was already sliding back into Control Period 6, and for a very good reason. Enter the Transport Secretary who says a scheme which is being expanded to serve the Northern Powerhouse is being paused. What an own goal.

Around a week after Mr Corbyn's election, the Northern Powercut jibes finally got to the Chancellor and he demanded that DfT un-pause the TP electrification immediately. And the MML electrification too.

This non-negotiable instruction went down badly with DfT. As for Sir Peter Hendy, he was three months into his enhancements review. This involves juggling a fixed budget for CP5 against still-emerging scheme completion dates and the associated likely costs. The result will determine what can be afforded and delivered and what will have to be put back to CP6 or binned (Informed Sources October).

Sir Peter's revised CP5 enhancements schedule is due to be published in November. To have two expensive projects, one of which has gone back to GRIP 2 (Feasibility), suddenly locked into your multi-dimensional spread sheet with six weeks or so to go is vexing.

Vexed

How vexed is equally clear in the exchange of correspondence between Sir Peter and the hapless intermediary Patrick McLoughlin. I have some fun deconstructing Sir Peter's letter,

For example, he opens by noting that he was asked 'more recently' for his 'advice' on options for NTP and MML electrification, while 'bearing in mind the Government commitments to the Northern Power House but mindful that the rest of my review is not complete'. For 'more recently' read 'last week', for 'advice' read 'rubber stamp' and, un-coded, the final passage points out 'I know you are b\*gg\*r\*ng me about to avoid political embarrassment'.

Trans-Pennine

On Trans-Pennine Sir Peter says that that a full planning exercise should start 'immediately'. This work will be concluded by the end of 2017. Electrification could start at the beginning of 2018 for completion by the end of 2022. This is pretty much the timescale that was emerging following the TOCs' intervention.

On the MML Sir Peter advises that electrification should be staged, with Bedford to Kettering and Corby completed by 2019. Continuation to Derby/Nottingham and Sheffield would follow with completion by 2023

This letter was a classic and the final paragraph headed 'costs' is commended. It reads 'I am continuing work to set out the already evident likely funding shortfall in CP5. I understand the Government acknowledge that un-pausing now will create further significant spending pressure'.

Now the Treasury line is that Network Rail will have to deliver what it can from the £38.5 billion in its CP5 settlement. So the 'significant spending pressure' could mean more schemes being added to the unaffordable list.

But what should we make of the final paragraph of Mr McLoughlin's reply to Sir Peter? 'As you say, it is right that Network Rail are as ambitious as possible in seeking to meet pressures from within existing resources in the first instance, before making a call for additional public funds'.

'Before making a call for additional public funds?' What I hear is that Network Rail's £38.5 billion to cover operations, maintenance, renewals and enhancements in CP5 is all they are going to get.

Digital Railway – more than ETCS and TMS

Calling a project 'Digital Railway' was asking for trouble. Presumably it was meant to sound new, whizzy and high tech, unlike today's railway. Typical year zero thinking.

British Rail first went digital with a signalling data transmission system in 1968 and since then we have seen digital with everything - interlockings (SSI), control centres (IECC), ticketing (APTIS/PORTIS) and numerous traction control systems. As a form of cab-signalling digital RETB pre-dated ETCS by several decades.

Digital Railway (DR) had its genesis in NR's National Operating Strategy (NOS) which will concentrate control of the network in 11 Rail Operating Centres (ROC), reducing signalling operating costs. At the same time, improved Traffic Management Systems (TMS) will improve regulation, speed recovery from perturbations and generally solve all known operating ills.

Combining all this with the European Train Control System (ETCS) Level 2 (cab signalling) would further reduce costs by eliminating lineside signals. Upgrading to Level 3 (moving block) would increase capacity - one day

As reported in past columns, ETCS is getting there slowly. In Control Period 5 signalling renewals will still predominantly use conventional equipment.

Initially, the DR programme was built around ETCS and TMS. It has now taken on a separate life of its own with a greatly expanded remit which embraces all things digital across the whole industry.

For example DR now aspires to take over responsibility for pulling together an integrated national smart ticketing system. I suspect that this particular herd of cats was let out of the bag too long ago to be rounded up, as the failure of the Department of Transport's South East Flexible Ticketing (SEFT) scheme shows. The cost of SEFT has nearly doubled from £45 million to £80 million while schemes have slipped.

Other aspects of DR's total railway approach extend to introducing new delay attribution rules compatible with ETCS. An on-board ETCS failure could change the delay attribution from infrastructure (NR) to train (TOC).

So instead of being focused on new technology, DR sees itself as primarily a business change programme. Hence the need to change delay attribution. Similarly, with timetabling. A new, and different, model for agreeing paths will be needed. 'Current practices will have to change' is the message.

One reason for the pause in TMS procurement and the current lack of urgency of ETCS, other than for Thameslink and Great Western, is that DR is based on an economic model where ETCS is renewals led. Under DR, ETCS and TMS would be rolled out on a ROC-by-ROC basis.

To make the business case for such a radical change a new programme is required. This should be available by June-July next year and will feed into the Industry Strategic Business Plan (ISBP) for Control Period 6 which kicks off the ORR's Periodic Review process.

Meanwhile DR has three central objectives. In lay language these are more trains (capacity), better connections and greater convenience.

Of these, the most controversial is more trains where people will keep claiming a 40% increase in capacity with ETCS. There's a relevant letter in the latest Modern Railways.

'Better connections' translates as more-flexible timetabling. Back in the 1970s I researched an article on the production of the Great Western timetable. I recall that preparation for next year's timetable was starting as the current year's was implemented. There were hopes that computerisation would shorten the production time.

Now, here we are in the second decade of the 21st Century and it takes, typically, two years to prepare a new timetable.

DR envisions the current 'bespoke' fixed timetable replaced with 'agile' timetabling which will optimise 'supply and demand', taking into account the mix of passenger and freight services. With new technology replacing the brains of Mk 1 human timetablers, the DR aspiration is to be able to plan a timetable in 'two to three months'.

Ultimately, there could be 'dynamic' timetabling to respond to special events at short notice. But as with so much of the DR concept this sort of facility is already available with modern signalling control systems which can create, test and store contingency timetables to be implemented at times of disruption, or on the day of a special event.

Finally, DR's third benefit is greater passenger convenience, also referred to as 'open data'. This includes smart ticketing and the perennial issue of information, always the railway's weakness, particularly at times of disruption.

## Regroup

While ETCS and TMS procurement is struggling, from the point of view of DR, the current pause is not necessarily a bad thing. Before spending on what is claimed will be a 'paradigm shift' in technical capability, it is a good idea to ask the engineers, operators and passenger and freight companies 'what do you want this railway to do, how do you want it to be used and how do you want it to evolve'?

At the same time you must organise the rest of system to support the new paradigm. Another reason to proceed at a more measured pace is because digitisation of the railway is incomplete. Diagrams, manuals, even people's knowledge is still analogue.

## Challenge

Having gone into DR and its aspirations in some detail for the first time, one thing is clear. An integrated modern railway with experienced and innovative engineers and operators, backed by a powerful research organisation could have made a good fist of creating a digital railway.

In today's fragmented industry where persuade and consent has replaced command and control, it seems unlikely that NR could impose DR's paradigm shift on what are, still notionally, its customers, or even its quasi-autonomous Routes. From this stems that thought that perhaps DR needs to be independent of NR.

But even with a separate DR responsible for the business change programme, NR, the TOCs, FOCs and ROSCOs would still have to implement the hardware, software and data and training.

Short reports

This is the new section mentioned above covering items that don't justify a full page.

Parapet heights

In last month's piece, in my role as Boiling Frog Finder General, I highlighted the European Ruling that requires bridge parapets over 25kV ac OHLE electrified lines to be 1.8m high instead of the current 1.5m. I noted that, apparently, Network Rail failed to seek a derogation. Chapter and verse on what should have happened courtesy a chum in Euroland.

Wrong type of 'some people'

Over-reacting to the Labour Party's commitment to renationalisation, the Rail Delivery Group started e-mailing a statistical 'thought for the day' expounding the glories of today's railway.

One caught my eye. It started 'Some people highlight that government support for the railway was lower in the final year of British Rail than it is now. However, this ignores the huge increase in passenger numbers which is generating extra revenue, allowing government support to be focussed on building a bigger, better railway to meet increased demand.'

Who are these 'some people', I wondered? Who would choose 1993-94 as a comparator? Ridership was still falling in the recession, subsidy was coming down after peaking the previous year, investment was tailing off, except for Channel Tunnel, and management was increasingly distracted by privatisation.

That sounds to me like a straw man if ever I saw one. So just for fun I have done the sums when BR was operating in an economic climate similar to that of today. Ridership increasing, freight tonne miles growing, investment in signalling, rolling stock, electrification, route modernisation.

Can there be a year for BR which matches these criteria? Indeed, it was 1988-89. And how much support did BR need? Well, after paying back £175 million, total subsidy was £446 million or £870 million at 2013-14 prices.

That equates to a subsidy of £1.14 per passenger journey. This compares with RDG's claim that 'Government funding per passenger journey is £2.27 - a third lower than when franchising was introduced'. Definitely a straw man.

Meanwhile, you have to question RDG's passionate advocacy of privatisation when its membership includes state owned and state subsidised Network Rail which paid a membership subscription of £1.3 million in 2014-15. Shadow Transport Secretary Lilian Greenwood has put that question.

Roger's Blog

Well the highlight of October was seeing the Vulcan on its southern farewell tour. The published route showed it crossing the A505 roughly midway between Baldock and Royston, so we drove up and parked in a layby in roughly the right place. It was due over just after 13.05 but still hadn't arrived after 13.15 when it was due at the next waypoint - North Weald.

So we decided to wait until 13.30 before going home, assuming we had parked too far off-track. Then suddenly there was XH558 powering straight towards us at not much over 1000ft and went right over the layby: it took me a good half hour to calm down.

Anyway in the day job, it's been quite busy. Last Tuesday I went to the IMechE seminar on ETCS. It included a thought provoking paper on the human factors associated with the change to ETCS based on studies with drivers on the Cambrian Line. I think this will be a significant issue with Thameslink, Crossrail and, most of all, with Great Western.

At the end of last week I had a catch-up meeting with SWT MD Tim Shoveller on life after the Deep Alliance. More of the benefits have survived the 're-shaping' than I expected.

This Wednesday the Parliamentary Public Accounts Committee has an evidence session on Network Rail's CP5 investment programme with DfT, NR and ORR in the black chairs. Could be interesting, if premature.

Next week I may get to see IEP in the metal at Old Oak Common and I'm hoping that this won't interfere with joining my fellow vice-presidents on the judging panel for the Rail Future annual awards. This is always an enjoyable meeting and provides an insight into the grass roots railway.

November in the diary is quiet for the moment, which is not a bad thing because on the 27th it's the Annual Golden Spanners Awards for train fleet reliability. Guest speaker is my old chum Prof Andrew McNaughton, Technical Director of HS2.

Time go down to my local friendly motor factors, buy the spanners for the trophies and get spraying. Add in the analysis to determine the winners, plus the promised publication of Sir Peter Hendy's review and I'm not complaining about November looking quiet.

Meanwhile I have to write my contributions for our annual directory. I'm still pondering the title for the introductory over-view.

Thanks for the suggestions following last month's call for suggestions. I rather liked '2016 - Year of re...' since its 're' with everything at the moment - re-shaping, re-scheduling and re-viewing'.

Roger

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