

INFORMED SOURCES e- Preview September 2015

Boiling frogs invade Great Western.
Open access hotting up
Keen price for new West of England trains
SSL resignalling to cost £760m
Hitachi to supply Thameslink core TMS

I've just spent some time in the archives researching British Rail's electrification of the East Coast Main Line. The aim was to put the current late-running, over-budget Great Western Main Line electrification into some sort of historical context. The result is worrying.

About 10 years ago I ran a similar exercise with signalling and other infrastructure investment and discovered that since privatisation costs had risen by around three times compared with British Rail. Modest as always, I dubbed this ratio the 'Ford Factor'.

But the authorities were unconcerned by these soaring costs. I likened their attitude to a frog in a saucepan of water being heated up slowly. Being cold blooded the frog adapts to the ambient temperature and the theory is that it sits there until it boils to death. 'Boiling frogs' has since become railway industry shorthand for rising project costs.

Ever since the GWML electrification was authorised in 2009, the cost has been going up and I should have run this analysis earlier. Now we have electrification schemes 'paused' and Network Rail's excuse for the cost increase is that, not having carried out large and complex electrification schemes for 20 years, it lacks the 'large quantities of benchmarking data necessary to help produce more informed early cost estimates'.

Clearly a nasty case of Corporate Amnesia, because I had no trouble digging out a wealth of information on the ECML scheme. In some respects it was harder to get similar details on the GWML electrification.

A table in the column compares the basic parameters for the two projects, such as timescale, number of masts, single track km electrified and costs.

When it was authorised in 2009, the cost per single track km for GWML was around 40% more than the ECML, both inflated to today's prices. That seemed reasonable, given the usual mitigating factors - more restrictive installation practices, limited possessions, a busier railway and Schedule 4 compensation for disruption to services.

But just over five years later NR's latest official cost, released just before Christmas, makes the GWML 3.8 times more expensive per single track km than the ECML project.

Construction

After this cost revelation, I get into the practical stuff where there are also significant differences between the two schemes, both in installation techniques and organisation.

For example, where ECML eventually used piled foundations for around 10% of the OHLE support masts, for GWML the ratio is 90%. As for speed of installation. On the ECML project the first mast went in at Peterborough in February 1985. In October 1986 I was at Grantham to watch Transport Secretary John Moore plant the 10,000th mast.

On GWML I make it something like 15,000 piles remaining to be driven. According to a recent Parliamentary written answer the average number of piles per shift achieved by NR's HOPS from April to June this year 2015 was 6.8.

There are two charts in the column. Transport Secretary Patrick McLoughlin has said that his decision to 'pause' the current electrification schemes was to avoid a replay of the WCRM which 'started as a £2 billion upgrade and ended up as a £9 billion upgrade'.

To illustrate his point I republish my cost per mile chart of WCML upgrades going back to the 1966 electrification. Alongside it is the new chart of cost per single track km for the GWML electrification. Any resemblance is, of course, entirely coincidental.

ECML open access getting contentious

'Fractious' is not a word commonly found in the column, but it describes exactly the mood of the Office of Rail & Road's hearing on 12 June of track access applications for long distance high speed (LDHS) paths in the East Coast Main Line (ECML) timetable from 2018. Along with franchisee Virgin Trains East Coast (VTEC), open access operators Alliance Rail and FirstGroup are also seeking paths for London-Edinburgh services.

Embarrassingly for ORR, its report from C2HM Hill assessing the applications was found to contain multiple errors, including an absolute howler, and was hastily withdrawn on the eve of the hearing. Not that the applicants were impressed by the quality of the related performance modelling either.

There was also one of those wonderful 'collapse of stout party' moments. ORR had given FirstGroup a copy of VTEC's proposed timetable to. Alliance claimed that this gave First 'a significant commercial advantage'.

Trying to smooth things over, ORR claimed that VTEC had agreed to an exchange of timetables to help First get up to speed following a last minute application. VTEC took umbrage: 'We were told it (the timetable) was going to be shared with FirstGroup whether we liked it or not. So it was a swap, but it was with one arm tied behind our backs'. Naughty!

Modelling,

Another disputed is whether detailed modelling is needed to determine the impact of extra paths on performance and capacity. This requires an equally detailed timetable and there are multiple combinations of access rights which could be eventually approved. Producing the necessary detailed timetables for every combination could be a very lengthy and expensive process.

VTEC and DfT wanted performance modelling before access rights were granted. The two open access operators wanted rights granted and the timetable then agreed through the standard industry process.

Since the column was written ORR has decided against modelling, but has also asked NR to consider the costs and effectiveness of VTEC's counter suggestion that a generic timetable based on VTEC's proposed service could be modelled for 7, 7.5 and 8 trains/h.

During the hearing operators and DfT challenged the relationship between infrastructure enhancements, capacity and the specific access applications. On 12 August ORR gave NR seven weeks to identify the works involved

ORR is demanding a daunting level of information while knowing full well that it also is currently considering another licence breach over NR's 'systemic failings' in the development and delivery of enhancements. A cynical interpretation is that if NR can't provide the information in time then ORR's most controversial open access decision so far slips to the right.

Negative consequences

Having come off on the losing side at the hearing, Transport Secretary Patrick McLoughlin decided to get heavy with ORR and wrote to Chair Anna Walker. The letter included DfT's familiar rant about open access operators not paying their fair whack thus putting pressure on the funds available for other spending on the railways.

Also in his letter Mr McLoughlin argued that the government has committed to a 'substantial investment' in new Class 800/801 trains for the ECML, plus 'enhancements to the infrastructure, to allow faster and more frequent services'. Part of these costs would be offset by higher passenger revenue, 'reducing the net cost to Government'.

This is, of course, utter tosh. DfT has not invested in IEP. It has signed up to a ludicrously expensive train service provision deal where private investment funds the trains and the taxpayer pays a per diagram charge for the next 27.5 years

DfT also claimed that the IEP business case would be affected should VTEC not obtain its additional paths. But after a battering by the open access operators, DfT had to concede that the IEP fleet would be fully committed covering just six paths an hour. So another fib.

Before Ms Walker had time to reply, Alliance Managing Director Ian Yeowart wrote to ORR with a critique of the Transport Secretary's minatory letter. It was cracking stuff.

'There is not a shred of evidence' to support the claim that 'open access services can have considerable negative consequences for the taxpayer and railway investment', Ian declared. On the ECML, for example, the Intercity franchise has faced growing open access competition, but despite this each successive replacement franchise has increased the premium paid to Government.

As for open access operators paying fixed track access charges, Ian had to remind the Transport Secretary that in 2006 the High Court ruled that would be illegal. Anyway, also according to the High Court, fixed access charges are an 'artificial construct'.

Rollicking stuff. But it seems to me that with the recent award of paths on the WCML to Alliance subsidiary Great North Western Railway, the open access genie is out of the bottle. As I hope to explain next month, ORR reckons that GNWR passes its Not Primarily Abstractive (NPA) test, but only with a following breeze. What will this supportive approach mean for ECML?

New West of England trains ordered

DfT's approval of First Great Western's replacement of IC125s on West of England services with a fleet of Hitachi AT300 bi-mode multiple units provides an indication of Hitachi's prices. Valued at £361million, the fleet of 22 five-car and seven nine-car units will be funded by Eversholt.

This is equivalent to an average cost of £2.08million per vehicle. With recent electric multiple unit orders costing around £1.5 million per vehicle, that is a pretty keen price for what is effectively a DEMU with 26m long vehicles plus transformers and pantographs. In a written answer in 2011 DfT gave the assumed capital rental used for the, then recent, IEP review. That equated to just under £4.5 million for a bi-mode vehicle.

A back-of-the-fag packet calculation suggests that the AT300 cost of ownership (lease rental plus maintenance) will be around 50% of the monthly payment for an equivalent vehicle under DfT's IEP train service provision deal.

Meanwhile, in a written answer on 21 July Rail Minister Claire Perry confirmed reports that Hitachi has provided an initial estimate for delivering the 21 nine car Class 801 electric multiple units in the FGW IEP fleet as bi-modes. Assuming electrification is 18-24 month's late an all bi-mode fleet would be a prudent move.

SSL resignalling contract signed

Transport for London announced on 3 August that it had finally signed the contract with Thales for the modernisation of the signalling and train control system for the Circle, District, Metropolitan and Hammersmith & City lines. Valued at £760m, work is expected to begin later this year with what TfL terms 'the main benefits' delivered by 2022 and completion the following year.

Apart from the price, the detail is pretty much as described in the May 2015 column. I have also included what is hopefully the final version of my table tracing the costs and expenditure on this ill-fated upgrade since 2003.

Hitachi wins Thameslink core TMS contract

On 24 July Network Rail and Hitachi Rail Europe signed the contract for the Traffic Management System (TMS) for the Thameslink Central Core. Worth £24m the contract includes separate costed options covering sections of the York Route Operating Centre (ROC) area and the Brighton Main Line. However, with Network Rail rethinking the Digital Railway I wouldn't put money on them going ahead.

A 'plan/re-plan' facility will allow controllers to revise timetables in response to service perturbation and advise signallers in real-time on routing strategies to minimise disruption. Readers will also know that I am not convinced that this 'isolated TM' approach will be much use in the busy signal boxes on either side of the central core.

Meanwhile, the three TMS framework contracts awarded to Hitachi, Signalling Solutions Ltd (Alstom) and Thales at a cost of up to £50 million have now expired. When it comes to TMS NR is now an open market, I am assured.

Roger's Blog

Last month the printers excelled themselves and some subscribers got Modern Railways in the post the same day as e-Preview arrived in their in-box. So not much of a preview!

There was some confusion over the meeting I mentioned last month to be brought up to speed by Network Rail on the Digital Railway. Well, I was confused.

First of all, when I was invited to Hitachi's offices for the formal signing of the contract for the Thameslink TMS, I assumed it was linked to the Digital Railway meeting. But no, that was a Thameslink PR function and when I asked NR HQ what was going on they explained that the Digital Railway briefing was something much more comprehensive.

That came the following week. It was a genuine tour d'horizon which will provide background material for future articles. I'm not sure about NR's aspiration for Digital Railway to embrace smart ticketing though – DfT are making a big enough hash of that on their own and it's hard to see what an organisation with zero experience of the issues would contribute.

Last week I drove to the Quinton Rail Technology Centre at Long Marston to poke around the Viva Rail D78 stock conversion plus a couple of gentle laps the test track. It was a fascinating visit and the only disappointment was that I couldn't see inside one of the diesel engine power packs which, judging by a photo Adrian Shooter showed me on his mobile, is a clever piece of packaging.

As you might expect, given those involved, the engineering is impressive and on the brief trip the little engines purred away sounding like a proper traction diesel even though the control software is still under development. Obviously we could only bumble around the test track, reaching what we were told was 35 mile/h.

Adrian was coy over the location for service trials, no doubt hoping I hadn't seen the First Great Western Direct Award Franchise agreement. One requirement is to evaluate the Class 230 as it is known and my bet is that this will be on the Gunnislake branch.

Looking ahead, next week it's off to the North East for the formal opening of the Hitachi assembly plant at Newton Aycliffe. The week after that it is the launch party for my old friend Murray Hughes' new book 'The second age of rail' – the history of high speed trains. Murray has reported, as it happened, where it happened, pretty well since the start of the high speed era and has known the engineers and operators responsible. I've just got an advance copy and this authority, plus Murray's lively writing style lifts the book well above research-based histories. Combined with very high production values it's a must have.

In the middle of September it is the IRSE's biennial ASPECT technical conference where I shall try to sit in on at least the ERTMS papers, pressure of writing permitted. But, as ever, no doubt other interesting things will pop up.

Now for a spot of holiday.

Roger