

INFORMED SOURCES e-Preview May 2017

No prizes for guessing the lead item in this month's column. But the replacement of new rolling stock, yet to enter service with South West Trains, by cheaper newer trains got the national media puzzled by our industry – again!

South Western – a second mass extinction event
Manufacturers face reliability battle
Crunch time nearing for MML Thameslink timetable
Electrification – Carne joins the duckweed fraternity

It's not every day you see £345 million of rolling stock investment returned to the market at the stroke of a pen. Of course, it won't happen overnight, but that was the case when the Department for Transport announced on 27 March that the replacement South Western franchise had been awarded to the FirstGroup-MTR consortium.

Mind you, last year I was warning that the falling cost of EMUs combined with cheap finance could see the Class 455s go. And so it has turned out. But not just the 455s, and their two car Class 456 running mates.

First-MTR value an homogenous fleet for what we must get used to calling the London & South Western Railway's inner suburban services. So getting rid of the highly non-standard Class 458/5 Alston Juniper EMUs also made sense. Meanwhile, the lease rentals on the Class 707s were widely recognised as expensive .

Add in the franchise requirement for interior configurations to minimise dwell times and a total clear-out ticked all DfT's boxes. Of course, in a rational world where the railway is strapped for cash it is bonkers. But in the arcane world of franchise bid evaluation mass extinctions make for a sexy set of numbers. In the column I show why this is.

Quoted cost for the Class 707s, funded by Angel Trains, is £240 million. To this should be added £65 million from Porterbrook Leasing for the Class 458 programme which created 36 five car Class 458/5 electric multiple units out of 30 four car Class 458 sets by cannibalising the similar Class 460 Gatwick Express trains. Also funded by Porterbrook is the current retractioning of the Class 455 fleet That's another £40 million.

With Waterloo suburban capacity increased in Control Period 5, SWT was proposing some equally ambitious upgrades to provide extra capacity on the South West Main Line starting in CP 6. However, with CP6 enhancements cancelled due to lack of funds, First-MTR's real surprise comes into play.

In contrast to the new EMU fleet for inner suburban services, the trains that refused to die are making another come-back. The Class 442 EMUs built by British Rail for the Bournemouth-Poole-Weymouth electrification in 1988, are to be upgraded, including replacement traction equipment. For an unashamed Plastic Pig fan this can only be seen as a positive development

Manufacturers face reliability battle

I have drawn attention before to the likely impact on punctuality of the mass of new trains scheduled to enter service by December 2020. The 750 new vehicles under the South Western replacement franchise takes the total to over 6000 vehicles to be delivered in the next 44 months

Almost all of these are new designs, some from manufacturers with no experience of the UK market. And they will be replacing some very reliable rolling stock.

As a foretaste of what to expect, in the column I instance Siemens' Class 700 fleet for Thameslink where initial reliability has been poor. The Class 700 is probably the most software-dependent train yet to enter service in the UK. There were two major software upgrades in February, in response to train failures, with further upgrades to come.

But compared with the manufacturers of the 11 other new fleets to be in service by the end of 2018, Siemens is in clover. As of 5 April 55 units out of 115 had been delivered to Gvia Thameslink Railway. Of these 42 had been accepted by GTR and 30 were in service.

Siemens is delivering one Class 700 a week, and that applies whether the unit is 12 or eight cars. Bearing in mind that the 30 five car Class 707s for SWT are being delivered in parallel that is seriously impressive.

Why is Siemens better off than its fellow train builders in the 'Class Of 2018'? Simply that having so many units in regular passenger services so early means more chances for things to go wrong. For commissioning engineers is a good thing, because with a small fleet in its early days you can't be sure whether a failure is endemic or a rare one off.

And for Siemens strength in numbers is working. Over the last four months total Class 700 delay minutes have fallen despite a 60% increase in train miles and a near doubling of the units' available.

Meanwhile Bombardier has the first Crossrail units out on the main line. Hitachi has seven 800 Series IEP trains running tests , plus Class 385 EMUs in Scotland. But for both firms the ordeal by real world awaits. Meanwhile, CAF has the first of its vehicles in the metal.

Thameslink's MML timetable challenge

Newsfront reported last month, that Network Rail Director Chris Gibb, is leading an Industry Readiness Board (IRB) belatedly trying to resolve the problem that Thameslink, apparently, forgot. From December 2018 Thameslink is going to run a total of 24 trains/h over the southern ends of the already capacity constrained Midland and East Coast main lines.

The 'first cut' Thameslink timetable, released for consultation in December last year, was self-contained. It was left to the long distance operators to work out the implications for their services.

For East Midlands Trains, the implications are considerable. Thameslink is due to open in two phases, with an initial service of 20 train/h from May 2018 followed by the full 24 train/h in December. However, the May timetable will introduce the full 16 train/h service on the MML in one go.

GTR will make its formal application to Network Rail for these 2018 timetable paths in August. According to Informed Sources resolving the conflicts between Thameslink and the MML and East Coast main line operators is not 'impossible'. However, whether an acceptable compromise can be achieved in the limited time available is another matter. And that includes politically acceptable.

Which, in passing, raises the question, how can a multi-billion project, which was once known as Thameslink 2000 be a year away from service entry with a Timetable that doesn't work in network terms?

Critical junctions

While the MML appears to be a simple network, it includes key junctions for cross country passenger and freight services which make the timetable vulnerable to knock on effects. Under the draft timetable, sharing the fast lines out to Bedford with more 100 mile/h Thameslink EMUs means that EMTs 125mile/h diesel trains will lose time.

But this delay is compounded the fact that trains then go on miss paths at the busy Leicester junction. This would add 9 min in total to the London-Nottingham journey time.

For the Sheffield service the delay at Leicester, results in further missed paths at Derby. Hence the 12 min on London-Sheffield journey times quoted last month.

Complicating the issue is the fact that Thameslink is also a highly political project with the need for Government to justify all the pain during the London Bridge works. But equally political are the Government's regional strategies. MML serves the Midlands Engine and the Northern Powerhouse. Extended journey times for Sheffield at the expense of the cosseted southerners would not go down well.

Franchise future

But these timetable issues are of secondary importance when you consider the immediate future of the East Midlands Franchise. Three bidders have been shortlisted for the replacement franchise.

Meanwhile, the franchise is due to gain two paths an hour in the December 2019 timetable when electrification between Bedford and Kettering/Corby is commissioned. These will be allocated to EMT's new outer-suburban EMU service.

In line with its current policy DfT has been expecting the successful bidder to specify and procure new rolling stock for EMT. But while that was feasible when franchise procurement was re-booted in 2013, it has become increasingly untenable with the passing years.

According to the December 2016 Franchising Schedule, the East Midlands Invitation to Tender was due to be issued this month (May) with the new franchisee taking over in July 2018. That the current direct Award has now been extended to November 2018 makes it hard to conceive a credible rolling stock strategy within this timescale. And that's before the infrastructure constraints.

Between St Pancras and Bedford the 25kV overhead line electrification (OHLE) was designed for 100 mile/h running. Funding for an upgrade to 125mile/h is unlikely. Between Bedford and Kettering the new OHLE will be 125mile/h capable.

North of Kettering, the Hendy Date for completion of the MML electrification was 2023. Currently there is no date and Network Rail is winding back electrification as fast as it can (see below).

How does this affect rolling stock? The assumption has been that the Kettering service would be served by cascaded ex BR EMUs. But which? If cheap money and cheap EMUs are still available a new fleet might be affordable, but these would need to be 125 mile/h capable, which might not be so cheap.

But it is long distance which causes the real problem. After Thameslink opens, EMT will need trains with strong acceleration to mix it with the Class 700s. With 750hp under each vehicle the Class 222 Meridians are ideal.

However, the IC125 is not a fast starter. In any case, the IC125s will need to be replaced, or expensively upgraded, before the January 1 2020 accessibility deadline.

With no prospect of electrification north of Kettering, EMT is going to need 125mile/h diesel traction just to maintain journey times to Derby, Nottingham and Sheffield, let alone exploit the proposed line speed improvements touted as recently as March by DfT.

So why bother with the electric traction? While it is clearly bonkers, what is needed is the modern equivalent of a Meridian in terms of performance. So perhaps it is time to revive the original HST2? Not forgetting that this diesel Supertrain has to be available by 2020.

Electrification - Carne queries electrification

On 27 July, those of us who believe in the modern railway will mark the 10th anniversary of the publication of that infamous document, the Department for Transport's White Paper 'Delivering a sustainable railway'. This declared that the advent of alternative traction power sources, such as hydrogen, meant that electrification could become obsolete in 10-15 years.

Of course, having drowned our sorrows, on 23 October we will raise a glass to Iain Coucher and Adrian Shooter, celebrating their letter to the Department for Transport which began the reversal of that luddite policy. But there will be a tear in many an eye as it seems that it was a false dawn.

Last month I reported that DfT was arguing that if you have bi-modes they can provide the passenger benefits claimed for electrification. And now, Network Rail Chief Executive Mark Carne has joined the electrification nay-sayers.

In an interview with The Times on 25 March, Mr Carne argued that the growing availability of hybrid trains favoured a policy of partial electrification. 'The idea that you need to electrify an entire route is no longer necessarily the case', he explained.

Echoing that 2007 White Paper he added 'I also think that battery train technology is changing very fast, just as it is in cars, and the opportunity . . . is something that we will see in the very near future. Hydrogen-powered trains are another option. Liquefied natural gas powered trains have been considered in the US. So there's a whole range of different powered solutions'.

All of which is not to say that there won't be niche applications for trains powered by genetically modified hamsters in giant wheels driving generators and other innovative forms of traction. Indeed I rode in one only the other day.

As I saw during a trip to their Long Marston base Vivarail have acquired the batteries from the IPEMU programme and fitted them in one of its D78 stock driving vehicles as a proof-of-concept battery train.

Having been round the circular test track at Long Marston in the repaired Class 230, we transferred to the battery car. Conditioned by the gentle progress of the diesel, which was running on half power, I surprised when we took off like a metro car.

Vivarail quotes Slough-Windsor is as the classic niche application. A full specification including performance characteristics and cost is promised for later this year. Perhaps we could run a 21st Century Rainhill Trials in a head-to-head with the Parry People mover?

Roger's Blog

As previewed in last month's Blog the railway press assembled for the latest in the series of Virgin Trains' media dinners. These informal functions have now become established as a valuable forum for a, sometimes challenging, exchange of news and views in a relaxed atmosphere. This time the focus was on the spectacular improvement in performance of Virgin's West Coast services and the contribution of Network Rail, including the absence of TSRs between Euston and Preston – the condition when Ivor Warburton handed the route over to Railtrack in 1994.

The following week the trip to Long Marston gave me another opportunity to try out Chiltern. And this time on arrival at Marylebone one of the loco-hauled Mk3 rakes was waiting to take me to Warwick Parkway.

Gliding through the Chilterns on a sunny spring day in a coach with comfortable standard class seats aligned with the windows was a reminder of just how good these 40 year old vehicles are. Coming back it was a fully loaded Clubman. But even with four at the table I had enough space to finish the short article I started on the outward journey.

April began with a busy week, press day for Informed Sources having been brought forward because of Easter. Fortunately it was half term, so I was able to join my Editor for a meeting with my old chum Vernon Barker, recently appointed Managing Director Rail Systems at Siemens Mobility. Naturally, progress with the Thameslink fleet was among the topics discussed.

Next day, there was a briefing for the railway and construction press over lunch at Network Rail with Chief Executive Mark Carne. For me the most interesting topic discussed was the likely content of DfT's High Level Output Specification for Control Period 6. More on that in next month's column, but the omens are not encouraging.

Looking ahead, the next excitement is Railtex when I hope to be there on the opening day. As ever, if our paths cross tramping the aisles do stop for a chat. I must remember to wear my new fitness thingy to see how many steps I rack up. Could be a new record.

Roger