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MODERN

NEWS, VIEWS AND ANALYSIS
ON TODAY'S RAILWAY

railways



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COVID-19

COUNTING THE COST

**EXCLUSIVE
ANALYSIS:
WHAT PRICE
EMERGENCY
SUPPORT?**



West of England capacity boost

New three-year GWR deal
Hybrid Turbo trial?



Bombardier targets acceleration

Aventra builds ramp-up
'720' starts main line testing



East Coast ETCS plan

Cambrian line growth

Anglia '90s' bow out

Welsh '230' on test

PLUS

- Freight rises to the challenge
- Operators slash timetables
- Rolling stock goes into store
- Key projects pause construction
- Impact on continental Europe





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BOMBARDIER

Change in unprecedented times

It feels strange to be welcoming you to the first issue of *Modern Railways* under my editorship at probably the most uncertain time this country has faced in this magazine's lifetime.

As we dispatched the last issue in mid-March, the reality of the situation facing the country and the wider world in the wake of the coronavirus pandemic was becoming clear. Between the time this issue goes to press just before the Easter bank holiday and the time you are reading it, things will doubtless have moved on again, and it is impossible to predict how the world will look in just a couple of weeks' time, let alone once the pandemic has passed and life returns to something like normality.

Let me start by echoing the thanks given by James Abbott last month to all who contribute to making *Modern Railways* what it is, and in turn by paying tribute to James for his dedication to the magazine and his support to me in the time I've been with the magazine and particularly during this time of change. And while James is indeed retiring, he remains involved with the magazine and its events programme as Consultant Editor – he will not be disappearing from the pages of the magazine or from the industry

scene and you can expect to see him around for a while yet.

As I write this, distribution of the magazine is continuing as normal with the aim of the printed product being available through the usual channels. However, my colleagues at Key Publishing have rapidly been developing a range of contingency plans in the event this should not become possible, chief among them *Key Modern Railways*, an online library of news, features and other digital content which subscribers can access through www.keymodernrailways.com. We will of course continue to keep you updated via our website, Facebook and Twitter as the situation develops.

Many folk have approached me and asked what I intend to change on taking over as Editor. The current crisis has of course relegated such considerations down the priority list, but the short answer is that my philosophy was always going to be based on evolution rather than revolution.

I can well remember the first issue of *Modern Railways* I bought: it included a supplement about the Jubilee Line extension just after it opened, which gives an idea of how long the magazine has been a part of my now 32-year life! Over time I have seen *Modern Railways* grow and

evolve until in 2014 I was fortunate enough to become part of the team which produces the magazine each month, along with continuing development of the events programme and our digital offering.

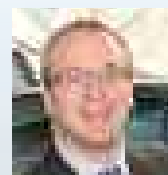
This does not mean I intend for the magazine to stand still, and indeed it has changed considerably in the last 20 years, let alone the nearly 60 years in which it has been called *Modern Railways*. Once the current crisis has passed, we will give proper consideration to what you, the readers, like and dislike about the magazine and what you would like to see within it. I would of course welcome any direct feedback you would like to share with me at your convenience, but we will shortly be launching a readership survey which will provide a more detailed opportunity for us to hear your thoughts – watch this space for more details.

As soon as the timing of the editorial changes was confirmed, I was anxious we should pay appropriate tribute to James's tenure as editor. I am grateful to Roger Ford for his help in compiling the 'Four Decades' feature which you can read on pages 70-73 of this issue, and to those from industry who also contributed to it.

Roger notes a striking feature of each decade of James's editorship is that it began with the railway in something of a state of crisis, from which it proceeded to recover with varying degrees of success. How those crises compare to the situation facing us at the beginning of the 2020s we do not yet know, but it is clear the railway and indeed society as a whole will look very different once this is all over. For us at *Modern Railways* it will as ever be a privilege to chronicle that journey as the industry and wider world recover.

Lastly for this month, a shoutout to all those staff from the railway industry who are still at work keeping the railway running while the rest of us have migrated to working from home. This is not just those working on trains and at stations, but in depots and freight terminals, maintaining infrastructure and running those essential support functions which are helping keep trains moving at this vital time. The railway would be nothing without your efforts and, on behalf of the *Modern Railways* readership, we salute you. 

Philip Sherratt
Editor



East Midlands HST: power car Nos 43083/43050 top and tail the 1B51 13.49
Nottingham to St Pancras service at Radwell on 22 March 2020. Jamie Squibbs





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Publisher: Mark Elliott

MODERN railways
A SUBSCRIPTION TO MODERN RAILWAYS OFFERS GREAT SAVINGS ON THE COVER PRICE.
 See pages 36 and 37 for details.

The enduring 'mother railway'

As privatisation gathered pace, former British Rail manager Peter Rayner coined the term 'the mother railway' to express his concern about the fragmentation to come. It was a term that was immediately understood yet hard to define, since it was not about tracks or trains and did not appear on any organisation charts.

In essence, the mother railway was, and remains, the product of almost two centuries of railway operation, of discipline, of thousands of people, often with no direct supervision, doing their jobs conscientiously and safely, of tradition and ethos, of whole lives spent serving the daily railway.

It is Great Western Railway ensuring retention of Pullman restaurant cars in its new direct award franchise (p9), because that is the Great Western way of treating passengers. It is the South Western depots topping the fleet reliability tables year after year, driven by pride and cussedness.

Today, on Thursday evenings, as we stand at our doors and windows and applaud the NHS, we should also applaud the railway staff, many of whom in the front line are putting themselves in harm's way to maintain the essential vital transport services that get key workers to their places of work and are part of the unsung logistics triumph keeping

the supermarket shelves stocked. Supporting them are Network Rail's Orange Army, dealing with faults, repairing the ravages of the winter storms and maintaining the momentum of vital projects.

Nor should we forget the staff of London Underground and their bus driver colleagues together with the regional metros. These men and women are truly at the sharp end, where high loadings, even with only essential workers travelling, remind us why it is called 'mass transit'. Transport Secretary Grant Shapps and his ministerial colleagues, telling the London Mayor to run more trains when the number of drivers available

was determined by sickness and self-isolation, was a rare miss-step.

Of course, today's emergency lacks the immediate drama of Jellicoe trains pounding northward taking Welsh coal to the Grand Fleet in Scapa Flow or, for a later generation, the special trains run in 1982 taking troops and supplies to the south coast ports before the taskforce sailed for the Falklands. But today's operations are part of that same continuum. The mother railway is delivering.

That said, Peter Rayner was right to be concerned. In the 24 years since the first franchised passenger services ran, the railway has lost some of its agency. It no



longer controls its investment or, more critically, its timetables.

Loss of agency saw the precipitous revival in the late noughties of an electrification programme, based on ministerial whim rather than railway priorities, along with the Intercity Express Programme, which has left the railway with expensive, inflexible rolling stock fleets for the next 25 years.

Another example is Train Service Specification in franchise Invitations to Tender which took no account of infrastructure constraints, with any bidder rash enough to offer a reality check dismissed from the competition. Then there was the Gadarene rush to buy new trains, incentivised by franchising policy, with no thought for a rolling stock plan.

As this new decade dawned the franchising system was collapsing; performance at 13 out of 22 passenger operators was down year-on-year; fares were a perpetual feature of the political agenda; infrastructure enhancements for Control Period 6 (2019-24) were on hold; subsidies were rising.

Launched in 2018, the long-awaited, and much leaked, Williams report, the 31st review of the railways since 2006 by our reckoning, was expected to solve all known ills plaguing the fragmented railway.

INTO CRISIS

And then the coronavirus struck.

With commendable speed the Department for Transport converted franchise agreements and direct award agreements into Emergency Measures Agreements (EMAs), effectively management contracts (p8). During the emergency, DfT is taking all revenue and covering costs. We estimate this is costing Government around £700 million a month ('Informed Sources', p22).

Now the question is what happens when the emergency starts to lift? Since the likely combination of circumstances, including the state of the economy, are unknowable, operators can't plan for traffic levels. But what the emergency has shown is that with less congestion timetables can work, as one train operating company Managing Director put it, 'like clockwork'.

Announcing that his service had achieved 100% Public Performance Measure (PPM) resulted in much scorn and sarcasm on social media for David Horne of LNER. This included a revival of the old joke that the railway could run a perfect service if it wasn't for the blooming passengers getting in the way.

But for the professionals the emergency timetables are showing what 'good' is. On one day Govia Thameslink Railway hit 91% right time from around 2,400 trains. That scourge of recovery, reactionary delay, was lower than primary delay. Generally, it also appears that infrastructure failures and suicides are having less impact on performance.

Timetable policy is likely to be central to the return to whatever the new 'normal service' is. While it is a major challenge, this is the opportunity, as Scotland's Railway MD Alex Hynes has argued, not to put back what was there before but rebuild something better.

GTR, for example, has been revalidating Sectional Running Times. Without commuter trains running with Passengers in Excess of Capacity,

'benchmark' dwell times for new rolling stock can be established.

Transport Secretary Grant Shapps has been asking why trains don't run to time. Now the answer is clear: run fewer, less crowded trains and PPM soars.

PREPARATION KEY

Of course, timetable revisions are not quick and easy, another aspect of the loss of control. It seems certain the May timetable change will not go ahead at its planned date. More likely the new timetable will instead be neatly put away into a box, ready to be unwrapped at the moment it is needed when the current crisis abates. In this issue we analyse what changes are coming when this happens (p60).

Preparation for this is critical. As we recount in our news pages, operators have with commendable speed developed emergency timetables which have been implemented in a staged way to provide the sort of strong performance we have just outlined.

Now they should be developing a plan to restore services at the other side of the crisis, when the restrictions on our lives are eased. With the government wanting employment and the economy to recover rapidly after the emergency, and rail being vital to both, there will be pressure to build up capacity.

Rebuilding a service quickly as commuters are instructed to return to their offices and leisure travellers can again venture beyond their neighbourhood is a great opportunity for the railway to get it right and prove its worth. Conversely, without the right planning now, there is every chance of a repeat of May 2018's timetable chaos, with passengers unable to rely on the service they suddenly find they need once again. Avoiding this means taking the time now, while the reduced timetable is ticking along reliably, to put plans in place which can rapidly be mobilised.

LONG-TERM LESSONS

The lessons from the coronavirus pandemic are profound. As the emergency timetable progressively expands, performance should be measured and analysed at each step-up so the impact of that extra train on performance can be assessed. Should access charges be reframed to reflect this? Should we focus on running fewer but longer trains, where this is practical? December 2020 is too soon for radical change; indeed, the timetable change at the end of the year will more than likely not happen at all.

Planning for May 2021, the next key target for the railway to aim for, should have already begun.

Meanwhile, the December 2021 timetable must be reassessed in the light of this new-found knowledge. To take one example, DfT, the Office of Rail and Road plus the Inter-city East Coast operator and FirstGroup pushed Network Rail into finding paths on the East Coast main line it was not sure it could provide reliably, even if sufficient traction power were available. Castlefield corridor and the resulting congestion at Manchester Piccadilly is another example of service specification Tourette's.

Amid all the uncertainty, focusing on running a more reliable railway is something the railway can do, provided it is collectively prepared to speak truth to Government. For the rest, the future is more uncertain than at any time we can recall in *Modern Railways'* 58 years.

A degree of stability is provided by the EMAs, where the cost to Government will fall as revenue returns. Since franchise owners are unlikely to accept the proffered hand grenade with DfT retaining the pin, we do not see a return to classic franchising, ever.

For Williams, the landscape has changed totally. That said, with next to zero revenue coming in, now might be the opportunity to adopt his much-vaunted new fares structure, while train operators are protected behind the EMA financial firewall.

As for renewals, with DfT likely to be competing for investment with the National Health Service, we should be prepared to write off CP6 (2019-24). But in case funding is available, this is where the railway again needs to regain control of its own destiny and specify what it requires, rather than the amateurs at DfT telling the industry what is good for it.

Decarbonisation has not gone away, and electrification remains part of the solution. If a period of austerity lies ahead the capability needs to be kept in being. Allowing the Midland main line wiring teams to maintain their progress northwards should be towards the top of the list of priority projects.

Fortunately, at this time of crisis, chance has resulted in a group of competent senior managers at the top of the industry with nothing to lose by doing the right thing for the railway and its end users. Hard times ahead, undoubtedly, but the mother railway endures. 

For the Fallen: loco No 91111 heads LNER's 09.30 King's Cross to Edinburgh service at Sunderland Bridge in County Durham on 21 March 2020. Jamie Squibbs

FRANCHISES MOVE TO EMERGENCY MEASURES

DfT reacts as coronavirus prompts plummeting demand

EMERGENCY MEASURES

Agreements are being implemented for rail franchises following a major fall in passenger demand due to the coronavirus crisis. The news comes as operators across the network introduced reduced timetables from 23 March (p10).

The agreements, backdated to 1 March, have been signed by all operators of franchises let by the Department for Transport under the traditional revenue risk model. Govia Thameslink Railway already operated under a management contract in which DfT bears revenue risk. Go-Ahead, the 65% majority shareholder in Govia, reported on 23 March that an emergency arrangement with new terms removes GTR's exposure to ancillary revenue such as car parking and to retail commission. Govia's Southeastern franchise is now operating under a new deal which also comprises a management contract (see story opposite).

The agreements suspend the normal financial mechanisms of franchise agreements, transferring all revenue and cost to the Government. Operators will continue to run services for a pre-determined management fee, which will be set at a maximum of 2% of the cost base of the franchise before the coronavirus pandemic began. The fees are intended to incentivise operators to meet reliability, punctuality and other targets, and Transport Secretary Grant Shapps said the maximum fee attainable 'will be far less than recent profits earned by train operators'. The Operator of Last Resort, which already operates LNER and Northern, was set to step in should operators not take up the emergency arrangements.

TEMPORARY

Mr Shapps said the change is 'not a new model' but a 'temporary solution', despite suggestions the Williams rail review, yet to be published by Government, would recommend a move to concession agreements rather than traditional franchises where operators bear financial risk. The Transport Secretary said the 'temporary suspension' of existing financial mechanisms would be for an initial period of six months, with options for further extension or earlier cancellation as agreed. During



Health warning: during March these posters began to appear on station platforms, this example being on the down platform at Goring-by-Sea station in West Sussex. John Vaughan

that time existing responsibilities and liabilities of franchisees will be frozen, with the situation to be reviewed in six months' time, or sooner if required.

Mr Shapps said the offer provides greater flexibility to operators and the Government to make sure the railway can continue to react quickly to changing circumstances and play its part in serving the national interest'. He said on 23 March there had been a 70% drop in passenger

numbers, with ticket sales down by two-thirds from the equivalent date in 2019; by early April the number of passenger journeys was down by 95% year-on-year and footfall at Network Rail managed stations had fallen by 94%.

Several franchises have reported financial difficulties in recent months and have been operating under onerous contract provisions, including South Western Railway and TransPennine Express. Allowing

operators to enter insolvency would cause significantly more disruption to passengers and higher costs to the taxpayer' Mr Shapps said in a written statement to Parliament.

FirstGroup said in a statement on 23 March that revenue had fallen by up to 90% in recent days as Government advice had changed. It welcomed the emergency arrangements introduced by the Government.

Abellio's Chief Operating Officer Dave Kaye welcomed the Government's actions and praised the DfT's speed in putting in place the emergency measures, telling *Modern Railways* 'The arrangements are fair and well structured and give stability while removing financial risk'. Mr Kaye added that the measures still place entrepreneurial and commercial thinking at the forefront of operators' minds.

OTHER MODELS

Some operations are not let as franchises by the Department for Transport. London Overground and the Crossrail concession are let by Transport for London to Arriva and MTR respectively, both already operating under concession arrangements through which TfL bears revenue risk and sets service levels. Merseyrail is also an operating concession, in this case contracted with Merseytravel.

The ScotRail and Caledonian Sleeper franchises are let by the Scottish Government. Transport Scotland confirmed on 9 April it had agreed temporary variations to both franchises for an initial six-month period in the form of Emergency Measures Agreements. Both franchisees will receive increased payments to cover operating costs as necessary because of reduced revenues, and in addition a small management fee will be paid at the end of the variation period, subject to satisfactory performance.

The Transport for Wales franchise is specified and let by the Welsh Government's TŷF subsidiary. On 31 March Minister for Economy and Transport Ken Skates announced a package of support worth up to £40 million over the next few months for the Welsh franchise, which he said would 'assure the skeleton service we are now operating, and will safeguard the future of rail service operations in Wales and the Borders'. The minister said the Government was working with TŷF and operator TŷF Rail Services on the details of the mechanism, which he expected to evolve further over the coming weeks.

REFUNDS FOR ADVANCE TICKETS

The Government's measures also include allowing passengers to obtain refunds for advance purchase tickets they are unable to use without paying an administration fee. The rail industry's policy had previously been to remove fees for passengers to amend their travel but had stopped short of offering refunds for advance tickets. Season ticket holders are also able to obtain partial refunds determined by the amount of time remaining on their ticket.

West of England improvements in GWR deal

EMU trailers could be inserted into Turbo DMUs

FIRSTGROUP WILL continue operating the Great Western Railway franchise until at least March 2023 under a new direct award agreement with the Department for Transport.

The new arrangement began on 1 April, although initially it runs concurrently with DfT's emergency measures agreements for franchises during the coronavirus pandemic. After that FirstGroup will work to restore services to full operation in a deal running to 31 March 2023, with a possible extension of up to one year at DfT's discretion.

According to industry sources the direct award is ambitious and contains more projects than any previous awards. Whilst full details of the award are unlikely to be released until the coronavirus situation ends, it is understood it will include a recast of regional timetables across the Central and West regions, delivering around 7,000 extra seats a day. It is expected this will see a significant uplift in the Bristol area, supporting the core MetroWest

scheme, additional capacity in the Exeter 'travel to work' area and improvements into Gloucestershire.

TURBO REFRESH AND HYBRID CONVERSION

Entry into service of the 19 Class 769 'Flex' units ordered from Porterbrook will allow 16 three-car Class 165 Turbo units to be transferred from the Thames Valley to the West of England, where additional capacity will also be provided by the retention of 10 Class 150/2 sets that had been due to leave the operator. All GWR's Class 165 and 166 Turbo units (20x2-car and 16x3-car Class 165 and 21x3-car Class 166) will be refreshed internally with improved interiors better suited for long-distance services.

Should the trial fitment of a Chiltern Railways Class 165 with a new 'HyDrive' hybrid power unit be successful, re-tractioning may take place on some or all of the GWR fleet. The additional power available from the new hybrid units would

allow the sets to be lengthened with trailers released from withdrawn Class 365 or 465 EMUs, lengthening the two-car Turbos by one vehicle and the three-car sets to five carriages. The EMU vehicles are 20 metres long, rather than the 23 metres of the DMU design, but it is thought integration into the diesel sets would be relatively simple. The Chiltern trial is a partnership with Angel Trains and electric vehicle specialist Magtec to fit traction batteries, modern control electronics and new, powerful traction motors to a '165', and the converted unit is planned to enter service this year.

Industry sources also indicate DfT has asked GWR to present proposals for the replacement of the Class 150 and 158 sets that operate in the West of England and to develop a proposal for the conversion of additional 2+4 formation HSTs.

The Pullman Dining service offered on long-distance routes will continue under the new award.

SLEEPER PLANNING

Whilst GWR is already developing plans for the short-term future of the 'Night Riviera' sleeper service, including the provision of additional capacity at times of high demand using Mk 3 vehicles withdrawn from the Caledonian Sleeper fleet, it is understood the company has been asked to develop a longer-term plan for the replacement of the current Mk 3 fleet of coaches, constructed between 1981 and 1984, as well as the Class 57/6 locomotives which were rebuilt in 2002-03 from Class 47 locomotives constructed in the early 1960s.

FirstGroup says the new deal provides continuity for customers, employees and other stakeholders as well as 'an appropriate balance of risk and reward between FirstGroup and the Government'. A Forecast Revenue Mechanism (FRM) arrangement will eliminate the majority of revenue risk; a similar FRM has been employed on the new West Coast Partnership franchise which began in December 2019, for which First is the majority shareholder in a joint venture with Trenitalia.

The agreement also makes provision for a revenue rebasing exercise as required, with the FRM applying if revenue variances differ from target in the bid assumptions. Once the emergency measures arrangements end, First says GWR will introduce a new Service Quality Regime and has agreed customary profit share arrangements with DfT. GWR will continue as 'a subsidiary train operating company', says First, reflecting the new fleets of trains and significantly expanded timetable.

GWR has been operated under a series of direct award contracts, during which time the operator has introduced several new fleets of trains and a major recast of its timetable in December 2019.



Set for a refresh: on 28 March the line between Salisbury and Romsey reopened following a landslip near Laverstock on 18 February. The following day, Saturday 29 March, GWR ran the first Great Malvern to Brighton service (and vice versa) for over five weeks, and also the last before a reduced timetable saw the service removed. The last working of train 1098, the 10.50 Great Malvern to Brighton, was formed of Class 166 No 166203, here passing Goring-by-Sea station on the Coastway West line. Turbos were only recently introduced to GWR's Brighton services following a gauging trial in January ('Moving Wheels', March issue). John Vaughan

MANAGEMENT CONTRACT FOR SOUTHEASTERN

GOVIA HAS agreed a new direct award franchise with the Department for Transport to continue operating Southeastern services until at least October 2021.

The new deal takes the form of a management contract, with DfT taking revenue risk and Govia being paid a management fee equivalent to a maximum of 2% of Southeastern's costs prior to the coronavirus

pandemic. The deal began on 1 April and runs to 16 October 2021, with an option to extend until 31 March 2022.

Southeastern has previously been operated under a standard franchise arrangement in which the operator takes revenue risk. Go-Ahead Group, the 65% majority partner in Govia, notes in its announcement of the new deal that around 90% of its total revenues are now derived from

contracted markets where there is no direct revenue risk from changes in underlying travel demand.

The operator says the immediate focus will be on providing services for key workers during the pandemic. After this the contract will deliver 'a range of customer experience improvements', including exploring options to boost capacity as additional rolling stock becomes

available. Work will also continue with Network Rail to develop a longer-term capacity, rolling stock and punctuality strategy for the network beyond 2022. DfT says Southeastern passengers will see 'space for thousands of extra passengers during the morning and evening peak times'.

Govia has operated Southeastern since 2006, and under direct award arrangements since 2014.

OPERATORS REDUCE TIMETABLES

AROUND HALF OF SERVICES AXED AS DEMAND PLUMMETS

TRAIN OPERATING companies began reducing services from 23 March in the wake of the coronavirus crisis which had caused demand to fall dramatically. Until that point most had been maintaining a full timetable subject to staff availability in line with obligations in their franchises. The Department for Transport agreed with operators that core services should be maintained to enable key workers to travel while also enabling freight services to continue delivering key goods and supplies.

The initial reductions in services were made by most operators from 23 March at the same time as DfT announced operators would be offered the option to transition to emergency measures agreements (p8). For most these reductions were part of a phased approach dependent on staff availability at the time, with operators reporting variable levels of absence due to staff self-isolating. Further phased reductions followed depending on staff availability and demand, with owning groups managing this on a dynamic basis in conjunction with DfT. The emergency agreements did not cover open access operators (see page 12).

FREQUENCIES REDUCED

Great Western Railway's revised timetable featured hourly services on long-distance routes, with four through London to Penzance services and connections to an hourly shuttle west of Plymouth for the rest of the day; Swindon to Gloucester services ran on a two-hourly shuttle.

Hourly services operated in the Thames Valley with reduced branch line services to amended times. Reductions further west included only three trains a day from Westbury to Weymouth and peak-only services on the Severn Beach line. In the West Country the Exmouth to Paignton service and Falmouth and St Ives branches were cut to hourly, with amendments on other branch lines. GWR also withdrew its Night Riviera sleeper service between London and Penzance after 20 March.

South Western Railway's revised timetable featured hourly services on most outer-suburban and long-distance routes. Weymouth was served by a shuttle connecting at Bournemouth with through trains to London, while the Portsmouth line saw one fast and slow train each hour and the West of England line an hourly service to Salisbury connecting to a separate two-hourly service on to Exeter. Closer to London many suburban routes operated half-hourly, with hourly services to Guildford via Cobham and Chessington South and Shepperton served by an hourly shuttle service from Kingston.

Govia Thameslink Railway reduced services from 23 March before implementing further reductions a week later, the latter including the withdrawal of Gatwick Express services. Thameslink services from the Midland main line continued to operate through to Brighton, Sutton and Rainham, but an hourly Cambridge to Brighton service was the only through working from the

East Coast main line. There were generally three departures each hour from King's Cross and four suburban services per hour from Moorgate. South of the river hourly services dominated on routes to the South Coast, with the Uckfield branch cut back to an hourly shuttle from Oxted, and half-hourly services on most routes closer to the capital.

Southeastern's amended timetable from 23 March saw broadly half the usual number of services operate, with additional early morning services introduced on some lines a week later. Frequencies fell as distance from the capital increased, with four trains an hour from London to Tonbridge, to Swanley via Bromley South and to Dartford via both Bexleyheath and Sidcup. Services to the Kent Coast and to Hastings reduced to one train per hour, while the High Speed service from St Pancras operated at three trains per hour.

INTER-CITY SERVICES CUT

Avanti West Coast reduced the number of hourly departures to and from London Euston from nine to just four. These comprised hourly services to Wolverhampton via Birmingham, to Liverpool, to Manchester via Stoke-on-Trent and Macclesfield, and to Glasgow, with peak hour calls at Trent Valley stations. A single daily return service operated between Holyhead and London and a second between Chester and London, with a two-hourly service linking Birmingham with Chester.

LNOR began reducing services from 23 March, and during that week ceased operating trains beyond Edinburgh to Aberdeen, Glasgow or Inverness. From 30 March further reductions saw around 40% of usual weekday services running, with one or two departures from King's Cross most hours. Extensions beyond Leeds to Bradford, Skipton and Harrogate were withdrawn. The daily service to and from Hull was initially withdrawn by LNOR but was reinstated from 31 March after Hull Trains temporarily suspended all its services (p12).

East Midlands Railway's reduced timetable on the Midland main line comprised two departures each hour from St Pancras, one to Sheffield and one to Nottingham, with an hourly shuttle between Kettering and Corby and additional peak services. On regional routes Liverpool to Norwich services did not run west of Sheffield and were only two-hourly east of Nottingham, with an hourly service on the Robin Hood line to Mansfield and Worksop and two-hourly on most other routes, with the working day shortened on routes where legacy signalling operates in co-operation with Network Rail.

CrossCountry's revised timetable implemented on 23 March focused on core routes only, withdrawing services west of Plymouth and north of Edinburgh and not serving Paignton, Bath Spa, Guildford or Doncaster. Hourly services were on four core routes: Manchester to Bournemouth; Edinburgh to Plymouth; Cardiff/Birmingham to

No Azumas north of Edinburgh: LNOR services to Aberdeen and Inverness were a victim of the reduced coronavirus timetable. On 21-22 March the line north of Edinburgh through Fife was closed for engineering work, with Aberdeen services diverted via Stirling and Perth. This is No 800113 rounding the curve on the approach to Gleneagles with the 09.08 Edinburgh to Aberdeen on 22 March. Ian Lothian



Nottingham; and Birmingham to Leicester/Stansted Airport. From 6 April this reduced further with only one train every two hours between Birmingham and Cardiff and between Leicester and Cambridge and no services between Cambridge and Stansted Airport, which were instead covered by Greater Anglia operating a two-hourly service.

Greater Anglia's reduced timetable from 23 March was closer to a Sunday timetable but with extra early morning and late evening services for key workers. Most services operated hourly, including the Norwich to London inter-city route and Stansted Express, with half-hourly services from Hertford East to Stratford and Southend Victoria to London. On rural routes the usual hourly frequencies were maintained, except on the Ipswich to Peterborough route which continued at the normal two-hourly frequency, although Norwich to Stansted services were cut back to Cambridge.

A revised c2c timetable from 23 March cut the number of departures each hour from Fenchurch Street to six, with two each to Shoeburyness via Basildon, Shoeburyness via Ockendon and Tilbury, and Grays via Rainham. From 30 March the latter two routes were further reduced to hourly, supplemented by four additional early morning services.

MIDLANDS SERVICES SPLIT

West Midlands Trains' revised timetable included comprehensive changes on the West Coast main line. By 6 April services were reduced to a half-hourly service between Euston and Northampton connecting to a separate hourly service onward to Birmingham. The Trent Valley was served by an hourly shuttle between Crewe and Rugby, and services on the Bletchley to Bedford and Watford to St Albans branch lines were both withdrawn in lieu of bus replacement from 26 March, the bus replacement on the former being withdrawn from 6 April. North of Birmingham, hourly services ran to Liverpool via Crewe, but services from Birmingham to Crewe via Stoke-on-Trent ceased from 6 April.

From 6 April services on the Birmingham Cross City line were split at New Street, with a half-hourly



Service withdrawn: the Bedford to Bletchley route was one line shorn of train services in the reduced coronavirus timetable. This is No 230004 at Bletchley on 27 April 2019 ready to form the 12.01 departure for Bedford. Philip Sherratt

service north to Lichfield and trains south of the city alternating between Bromsgrove and Redditch. The Snow Hill lines saw two trains per hour, but most other services operated hourly and from 6 April Birmingham to Hereford services were cut back to Worcester; with no GWR services either this meant no services at all running between Worcester and Hereford via Great Malvern, with a bus replacement service introduced.

A reduced Chiltern Railways timetable from 23 March cut the number of departures from Marylebone each hour to four, serving Birmingham, Oxford, Aylesbury via High Wycombe and Aylesbury Vale Parkway via Amersham. Additional peak services ran until 3 April before being withdrawn. Initially the off-peak Aylesbury via Amersham service was curtailed to a shuttle terminating at Aylesbury to connect with London Underground services, but from 13 April through services were reinstated all day, running at 90-minute intervals off-peak and hourly at peak times.

NORTHERN OPERATIONS

A reduced TransPennine Express timetable from 23 March featured an hourly service from Liverpool to York and extending alternately to Scarborough and Newcastle, a two-hourly Hull to Manchester service and an hourly stopping service between Leeds and Manchester, plus limited services

REDUCED TIMETABLES IMPROVE PERFORMANCE

In what some operators have called 'an experiment that could never have been carried out', the significant reduction in passenger services during the coronavirus crisis has seen a marked improvement in service performance as otherwise congested routes has been removed.

After several weeks of near normal punctuality following the disruption caused by extensive flooding across the UK in February, the introduction of the emergency timetables on 23 March saw a steady improvement in punctuality over the first week and a national Public Performance Measure (PPM) score of 100% just a week later (see Table 1 below). Continuing high scores and several further days of 100% appear to prove sectional running times and basic timetable planning across operators have been validated,

with the typically lower levels of punctuality thought likely to be caused by the congested nature of the network, limited margins for recovery and inadequate station dwell times. On days where 100% performance was reported a small number of trains may not have met their PPM target, but this has not been enough to take the average down to the 99% point.

Days which have seen lower levels of performance during recent weeks have generally been linked to infrastructure issues where Network Rail has been working hard, despite the social distancing rules now in place, to maintain its infrastructure, and some instances where operators have struggled to resource crews as self-isolation and the coronavirus itself take their toll on staff available for work. *Tony Miles*

from Newcastle to Edinburgh and to Middlesbrough and Redcar. On the West Coast main line most services operated between Preston and Edinburgh with limited extensions to Manchester and a small number of services to Glasgow, which was served by Avanti West Coast. On the South route a two-hourly Manchester Piccadilly to Cleethorpes service operated.

Northern began cancelling services on a number of routes owing to lack of available staff

before it implemented revised key worker timetables starting from 24 March. Most routes operated either hourly or two-hourly, but with no trains north of Newcastle to Morpeth and Chathill (covered by TransPennine Express) and south of Sheffield to Nottingham (covered by East Midlands Railway) and buses replaced trains between Wigan and Kirkby, Preston and Ormskirk and on the Benthall line between Skipton and Lancaster, with no service at all on the Barton-on-Humber branch.

TABLE 1: PERFORMANCE BEFORE AND DURING THE REDUCED TIMETABLE

%	16 February	19 February	23 February	15 March	23 March	27 March	30 March
Public Performance Measure (PPM)	76.3	84.4	91.5	92.4	88.0	93.9	100
Late	9.5	11.1	5.7	4.8	5.0	2.8	0
Very Late/Cancelled	14.2	4.5	2.8	2.8	7.1	3.3	0



Service suspended: Hull Trains bi-mode No 802303 at Doncaster on 16 March 2020 with a King's Cross to Hull service, two weeks before the operator withdrew its operations due to the coronavirus pandemic, Russell Wykes

OPEN ACCESS OPERATORS SUSPEND SERVICES GRAND CENTRAL DELAYS BLACKPOOL LAUNCH UNTIL EARLY 2021

HULL TRAINS and Grand Central both suspended all their services in the wake of falling demand due to coronavirus. As open access operators the companies were not eligible for the support available to franchisees through emergency arrangements, and both reported the fall in demand led to continued operation becoming unsustainable. Hull Trains withdrew its services from 30 March, while Grand Central axed its operations from close of service on 3 April for an initial two-month period while also delaying the

launch of its new West Coast main line service between Euston and Blackpool until early 2021.

Hull Trains had initially cut its timetable to two return trips on weekdays and a single daily return service at weekends from 20 March. However, the operator said without additional support it needed to suspend services to safeguard the future of the business in light of falling revenue. FirstGroup's Rail MD Steve Montgomery said the operator had sought agreement to be included in the

Government's emergency measures but had not been successful.

From 23 March Grand Central reduced its service to two return trips daily on its London to Bradford and London to Sunderland routes. Just under two weeks later it confirmed it would not continue operating services, and in a statement MD Richard McClean said: '[The] situation is unsustainable and, following several days of discussion with the Department for Transport, Grand Central has decided to suspend all its services,

for an initial two months, from the end of service on Friday 3 April.'

GC had been planning to launch its new service between Blackpool and Euston on 31 May with a full timetable commencing in December, but Mr McClean said this had been paused until early 2021. Also on hold is the launch of additional trains on the Sunderland to King's Cross route.

The other open access service, Heathrow Express, reduced its frequency from quarter-hourly to half-hourly from Paddington to the airport from 22 March.

REDUCED TIMETABLES IN SCOTLAND AND WALES

FRANCHISED OPERATIONS let by devolved authorities joined DfT franchisees in implementing reduced timetables in the wake of the coronavirus outbreak.

ScotRail, whose service is managed by Transport Scotland, introduced a revised timetable from 23 March with a further cut a week later. The operator said this revision focused changes on areas where people needed it most, including access to key hospital locations. Most routes in the areas around Glasgow and Edinburgh were reduced to an hourly service, with some increased to half-hourly at peak periods. This included the flagship Edinburgh to Glasgow via Falkirk route, which usually operates at a 15-minute frequency. On InterCity services, Aberdeen had two-hourly services operating to each of Glasgow and

Edinburgh, while Inverness saw a two-hourly service to Glasgow only plus one late evening working to Edinburgh, although the Aberdeen to Inverness route was running broadly as normal. Rural routes saw further reductions, with only two return trips a day to each of Stranraer, Kyle of Lochalsh and Thurso/Wick and reduced services on the West Highland line and Glasgow to Carlisle route via Dumfries.

Caledonian Sleeper instituted a special timetable from 22 March in co-operation with Transport Scotland. Rather than the usual Lowlander and Highlander services on each night of operation, only one 16-car service ran to and from London Euston, dividing at Edinburgh with portions for Glasgow Central and Inverness, with passengers to and from Edinburgh able to travel in the

Glasgow portion and no services to either Aberdeen or Fort William. Caledonian Sleeper closed its Club Car, with its only catering provision being an in-room breakfast service, and station lounges also closed.

Transport for Wales Rail Services implemented a reduced timetable from Monday 23 March. This broadly introduced a Sunday service throughout the week, but with some additional morning services and a 90-minute frequency shuttle between Coryton and Radyr. Further reductions from 30 March saw Cambrian line services cut to two-hourly, one train a day on the Heart of Wales line, the Cardiff Bay shuttle cut from every 12 minutes to half-hourly, reduced services between Crewe and Chester and the removal of Chester to Liverpool services via the Halton curve, the

two cities being linked by Merseyrail. From 6 April all but a handful of TfW services between Birmingham and Shrewsbury were also withdrawn. The Welsh Government has introduced free travel for NHS workers on TfW services.

Merseyrail, whose concession is managed by Merseytravel, introduced a revised timetable from Thursday 19 March, with services running every 30 minutes on all routes. Subsequent cuts included a plan to run no services after 19.00 but following feedback the operator introduced a small number of evening services until 22.00 to accommodate key workers. On Sundays most services were cut to hourly, but with a 45-minute frequency on the New Brighton and West Kirby lines and a shuttle between Hooton and Ellesmere Port.

NETWORK RAIL RESHAPES EASTER WORKS



Maintaining the network: on 4 April No 66522 leads working 6Y97, a rail delivery train to Lostwithiel, at Respryn, near Bodmin in Cornwall, with No 66532 on the rear. Craig Munday

Also continuing as planned was a closure of the railway through the Severn Tunnel between 11 and 19 April for drainage and electrification energisation, although a bridge replacement in Bristol and works on the Barnstaple branch in Devon and at Dovey Junction viaduct on the Cambrian Coast line in mid-Wales were postponed.

Work going ahead on the West Coast main line included replacement of Euxton Junction in Lancashire, track renewal work in Wolverhampton and preparatory work for removal of the flyover over the WCML at Bletchley in connection with East West Rail; in a change to EWR's original plans it has been decided to replace rather than refurbish the viaduct.

Further east, work on a new underpass beneath the railway at Bessacarr near Doncaster affected the Doncaster to Lincoln line, with the work retimed to take place over a longer period in accordance with social distancing measures. Further work will be needed before the underpass opens for use by pedestrians and cyclists in July. Also continuing was track upgrade work near Bowes Park on the Hertford North loop.

Work on the Midland main line as part of the line's upgrade and electrification also continued over the Easter weekend with the line closed between Bedford and Market Harborough (the closure extending south to Luton on Easter Sunday).

SOCIAL DISTANCING IMPLEMENTED ON KEY PROJECTS

CONTINUING TO operate the railway safely and reliably is Network Rail's priority during the current coronavirus pandemic. However, sickness and the need to implement social distancing measures caused the re-planning of some engineering works due to take place over the Easter bank holiday weekend.

A spokesperson explained the company was taking 'all necessary precautions' to keep colleagues safe and the railway running for the key passengers and freight which still relied on it. This followed Government advice that construction work, including work on the railway, could continue as long as safe procedures were followed.

NR has reviewed its ongoing works to balance the need to operate critical services with the need to keep the workforce safe. It said all planned work was proceeding where Public Health England's social distancing guidelines could be followed, and that where this was not possible only work essential

to maintaining a safe and operational railway would be undertaken.

Among the affected Easter weekend works were the recontrol of signalling in the Hither Green area, which will transfer the last panel at London Bridge Area Signalling Centre to Three Bridges Rail Operating Centre (p20, last month). While the planned four-day blockade in the area went ahead, NR said social distancing requirements meant there was insufficient time

to commission the new signalling and this will be rescheduled; station improvement work and signalling resilience work in the Lewisham area were still due to take place.

A major scheme to upgrade track and signalling in the Guildford area was set to press ahead. A 10-day blockade was due to begin on Good Friday, although services to London Waterloo via Cobham were to resume on 14 April.

CALL FOR STAFF FOR CRITICAL ROLES

Network Rail issued a call for additional staff to fill business-critical roles to enable the railway to continue operating during the coronavirus pandemic.

A letter issued by Clive Berrington, Commercial & Procurement Director in NR's Route Services division, called for former signallers, crossing keepers, roster clerks, Mobile Operations Managers

and electrical control operators to get in touch.

'We are putting plans in place to minimise disruption to rail services and support the movement of key workers and goods around our country at this difficult time' Mr Berrington wrote.

'A crucial element of our business continuity planning is ensuring we can call on enough skilled and

experienced frontline workers to maintain rail infrastructure. The measures put in place to prevent the spread of Covid-19 mean there will be times in the coming months when this will be extremely challenging.'

'We require your support in meeting this challenge head-on by making us aware of any members of your teams who could fill our business-critical roles.'

UK ROLLING STOCK FACTORIES PAUSE PRODUCTION

ALL THREE rolling stock assembly facilities in the UK paused production after social distancing guidance took effect due to the coronavirus pandemic, although Bombardier in Derby was to resume production after the Easter bank holiday weekend using new working processes.

Bombardier announced on 25 March it would suspend

production at its Litchurch Lane factory along with heavy maintenance at its Ilford site and component refurbishment and overhaul at Crewe. However, on 7 April it confirmed operations would restart at Derby and Ilford on 14 April and at Crewe a day later. This followed trials of new processes which comply with social distancing requirements, including greater spacing, split shifts,

additional safety requirements and washing facilities. Its Services activities at depots continued throughout.

While Hitachi's depot operations similarly continued, the company confirmed in late March it had placed the majority of staff in Product Introduction and Test and Validation at its Newton Aycliffe plant in County Durham on controlled 'standby'. It said

a reduced number of safety critical, warehouse, production and security staff continued to work, enabling production to be restarted at short notice when required.

CAF suspended production at its Newport factory in South Wales in line with UK Government advice but confirmed other parts of its business continued to provide essential support to customers.

Row over tube service reductions

THERE WAS disagreement between the Mayor of London and the Government in late March over the level of London Underground services provided during the coronavirus crisis.

On 18 March TfL announced the implementation of reduced services, beginning on Friday 20 March. These included the withdrawal of services on the Waterloo & City Line and of Night Tube and Night Overground services and the closure of up to 40 tube stations. From Monday 23 March frequencies were reduced on most tube lines, with TfL saying it aimed to run tube trains every four minutes within Zone 1. Other TfL services were also reduced, including London Overground, TfL Rail, the DLR and London Trams. In practice, on 23 March TfL was advertising service frequencies of between seven and 15 minutes on tube lines, and the Circle Line had also been suspended.

Mayor of London Sadiq Khan made a series of statements advising passengers to avoid using the tube where possible, but also criticised the Government for not closing construction sites and being slow in providing support to self-employed



Quiet: a deserted Circle Line train at Bayswater during the Friday evening rush hour on 20 March. The following week tube services were reduced significantly, leading to criticism of overcrowding. Keith Fender

workers, which he believed was causing significant numbers of people still to travel. On 24 March TfL announced it was bringing all its construction sites, including for the Crossrail project, to a 'temporary safe stop' unless they needed to continue for operational safety reasons ('Crossrail Update', p92).

The Government in turn criticised the Mayor and TfL for the level of service reductions on the tube, with ministers suggesting TfL should operate a full service. Transport Secretary Grant Shapps told the House of Commons Transport Committee on 25 March that services on the Underground 'had

been reduced too much compared to the number of people who still needed to work' and the problem was 'not solely construction workers needing to travel'.

In a statement on 25 March, Mr Khan reported tube ridership the previous day was 88% down on the same day last year, but said nearly one-third of TfL's staff were off work either sick or self-isolating, making the operation of additional services impractical. On 7 April Rail Minister Chris Heaton-Harris said tube ridership was down 94% year-on-year. On 8 April the Mayor reported 14 TfL workers had sadly died due to coronavirus, the majority of them bus drivers.

DLR services were generally described as operating at a 10-minute frequency and London Trams every 15 minutes. TfL Rail services west of the capital from Paddington to Reading and Heathrow were operating half-hourly, while the Liverpool Street to Shenfield route on the east side was running every 10 minutes. On London Overground services were withdrawn from Surrey Quays to New Cross and frequencies reduced on most other routes, with many operating at half the usual frequency.

LIGHT RAIL NETWORKS TAKE A HIT

BLACKPOOL TRAMS SUSPENDED AND OTHER SERVICES CUT

LIGHT RAIL and metro operators mirrored heavy rail operators in reducing services following the introduction of social distancing measures as passenger demand fell.

Blackpool Transport temporarily suspended tram services on its Fleetwood to Starr Gate route from 29 March, with bus service 1 operating to a revised timetable to provide a suitable alternative for passengers.

On the Metrolink network in Manchester, revised schedules from 24 March featured a 12-minute frequency throughout the day, with trams starting at 06.00 (07.00 on Sundays) and finishing at 23.00. By early April this had reduced to a 20-minute frequency all day with services finishing at 22.00.

On the Tyne & Wear Metro, initial service reductions from 19 March saw peak hour services cancelled. From 24 March further reductions across the day saw a 24-minute frequency introduced on the two core services (combining to

give a train every 12 minutes between Pelaw and South Gosforth), reducing to a 30-minute frequency in the evenings.

The Supertram network in Sheffield implemented revised timetables from 23 March with a general 20-minute frequency, but from 1 April this was further cut to hourly, with the Yellow and Blue routes operating half-hourly in the morning peak only. The tram-train service linking Sheffield

with Rotherham Parkgate also ran hourly but only until 18.30.

The Nottingham Express Transit network reverted to a Sunday service seven days a week from 24 March, with trams operating every 10 minutes for most of the day and every 15 minutes in the mornings and evenings on the two routes.

The West Midlands Metro's temporary timetable took effect from 30 March, with trams every

12 minutes for most of the day and every 15 minutes before 06.30 and after 20.00 on Mondays to Saturdays, with Sunday services operating as normal. Transport for West Midlands also offered NHS staff free travel on buses and trams.

From 28 March the Glasgow Subway suspended its inner circle service, with trains operating on the outer circle only at an eight-minute frequency and with an earlier finish on Mondays to Saturdays at 20.30.

EDINBURGH TRAM EXTENSION WORK PAUSED

On 25 March Edinburgh Council confirmed it had instructed contractors to stop work on the construction of the extension of the city's tram network to Newhaven.

The council approved the 4.6km extension from the current York Place terminus to Newhaven in March 2019, with opening targeted for February 2023. It instructed contractors Morrisons Utility Services and Sacyr Farrans Neopol

to cease site works following advice from Scotland's First Minister Nicola Sturgeon that all construction sites should close unless the project being delivered was essential. Contractors would remain on site only to carry out necessary safety and security checks in line with social distancing guidance, although design, planning and scheduling work off-site continued along with work on

a remobilisation strategy for when site restrictions are lifted.

A reduced timetable was implemented from 22 March on the existing line between Edinburgh Airport and York Place. The operator said first and last trams would run at their usual times with trams operating around every 15 minutes, although this would be kept under review depending on demand and staff availability.



Waiting for football crowds: the extensive queuing facilities at the Wharfedale stop on the Trafford Centre extension, which is close to the Old Trafford football stadium, seem unlikely to be used for some time. Here a tram bound for intu Trafford Centre calls on the first day of passenger service on the new line, 22 March. Tony Miles

Trafford Park Metrolink line opens

DESPITE THE developing coronavirus situation, the Manchester Metrolink extension to the intu Trafford Centre opened as announced on 22 March.

The 5.5km line opened seven months ahead of schedule. It leaves the existing network at Pomona and serves six new stops at Wharfedale, Imperial War Museum, Village, Parkway, Barton Dock Road and intu Trafford Centre. Transport for Greater Manchester confirmed consideration had been given to deferring the opening, but it was felt the route would help support connectivity across Greater Manchester at a time when other modes would also be reducing their provision.

Announced in 2016, the £350 million line was designed and constructed by the M-Pact Thales consortium comprising

VolkerRail, Laing O'Rourke and Thales, with WSP acting as TfGM's delivery partner. The project was the first to benefit from the region's Devolution Deal, signed by Greater Manchester leaders and central government in November 2014, with a £20 million contribution from Trafford Council.

Discussions about the provision of a light or heavy rail link to the Trafford Centre itself have been a recurring feature. One option examined and dismissed was the conversion of the abandoned heavy rail line to the Barton Dock freight terminal, adjacent to the Trafford Centre. Whilst this would have provided a quick link into the city centre, it would not have served any other locations and would have added yet more services through the congested Castlefield corridor.

KEY DESTINATIONS

The Trafford Park line runs through Europe's largest industrial estate, providing access to thousands of jobs, including global brands such as Kellogg's, Unilever, Missguided, L'Oréal and Adidas. As well as the intu Trafford Centre the new line serves other key leisure destinations, including the Imperial War Museum North and the Old Trafford football ground. The latter is served by the Wharfedale stop, where extensive crowd management and queuing systems have been provided, matching those at the Old Trafford stop on the line to Altrincham. A crossover to the east of the stop will allow additional trams to serve the stop and provide a shuttle service into the city centre if required.

The line also passes the site of ITV's new *Coronation Street* set where it was feared the tight 90-degree turn from Trafford Wharf Road to

Warren Bruce Road could see loud 'flange squeal' which would impact on filming of exterior scenes. In 2015 tests commissioned by ITV suggested noise and vibrations from trams rounding the curve and announcements from the public address at the nearby Imperial War Museum North stop would be disruptive. Initial observations are that solutions put in place during construction have ensured this is not the case.

A 12-minute frequency was planned on the new route prior to cuts in service due to coronavirus. Trams are initially running to and from Cornbrook, where passengers can change onto trams serving all destinations on the Metrolink network. Delivery of the final order of 27 additional M5000 trams, expected to join the existing fleet of 120 sets later this year, will eventually enable services to be extended through the city centre to Crumpsall, where a new turnback platform has been constructed.

Plans remain on the table for a further extension of the Trafford Park line as far as Port Salford, the freight terminal constructed on the banks of the Manchester Ship Canal in Salford which opened in 2016. This extension would also serve Bridgewater Circle, Trafford City (site of the 'Chill Factor' indoor skiing and snowboarding centre), Salford City Stadium (home to Rugby Super League's Salford Red Devils and Aviva Premiership's Sale Sharks) and Port Salford itself. Passive provision for a single-track line is included on the western side of the new lifting bridge over the Manchester Ship Canal on the Salford Western Gateway road. Tony Miles



Shopping centre link: tram No 3092 heads away from the intu Trafford Centre calling at the first stop on the extension, Barton Dock Road, on 22 March. Tony Miles



Northern route: the superbly restored ex-Southern Brentor station on the Tavistock to Okehampton line on 20 June 2012. The former GWR branch line which followed this line to Lydford passed behind the waiting shelter on the right. Antony Christie

BEECHING REVERSAL FUND BIDS

Okehampton to Tavistock and Stratford to Honeybourne among candidate schemes

BIDS HAVE been submitted to Government for a share of the £500 million 'Restoring your railway' fund, launched by the Department for Transport in January. The fund is to be used to support proposals to reinstate axed local services, to accelerate schemes already being considered for restoration and also to promote new and restored stations.

In the West Country, a new Northern Route Working Group has submitted a bid to the fund to develop a Strategic Outline Business Case for reopening the former London and South Western Railway main line between Exeter and Plymouth via Okehampton and Tavistock. The proposal is backed by four local MPs and the working group of industry personnel.

The group says the Tavistock – Okehampton Reopening scheme (TORs) is crucial to resilience of the South West's rail network in view of the vulnerability of the coastal route through Dawlish, which was severed for two months in 2014 following storm damage. However, reopening the Northern Route is not intended to replace the ongoing coastal resilience work being undertaken by NR and is suggested as being complementary to the existing line.

The LSWR route remains operational between Exeter and Okehampton and between Plymouth and Bere Alston, with Devon County Council leading plans to reopen the 5½-mile Bere Alston to Tavistock stretch and restore regular services between Exeter and Okehampton (which currently sees services only on summer Sundays). This leaves a 16¼-mile stretch between Tavistock and Okehampton requiring restoration. The bid highlights that much of the route is intact and all significant route structures survive, although some of the trackbed has been sold off.

As well as increasing resilience, the task force points out that with the Exeter to Newton Abbot stretch identified in Network Rail's long-term planning as needing additional capacity, the reopening would provide some relief, while also noting that interventions to secure resilience of the existing coastal line may require significant closures of the Dawlish route.

The case suggests regular services could operate as an extension of the SWR Waterloo to Exeter service, or potentially as an extension of CrossCountry services beyond Exeter. During periods when the coastal line is

closed, additional services could use the TORs route, potentially running non-stop. It proposes journey times could be as little as six minutes longer than via the existing route between Exeter and Plymouth and that there could be opportunities for freight trains to avoid the steep gradients over the Devon banks between Newton Abbot and Plymouth. Provision of electrification for TORs as part of a wider programme for main lines in the region is also advocated.

STRATFORD TO HONEYBOURNE

A bid has also been submitted for £75,000 to carry out an Economic Impact Assessment regarding reopening of the Stratford-upon-Avon to Honeybourne route.

The bid has been submitted by the Shakespeare Line Promotion Group, together with the Cotswold Line Promotion Group and also the Leamington Spa and Solihull Rail Users Association, supported by Mid Worcestershire MP Nigel Huddleston and backed by local councils.

The route was closed in 1976 following a derailment at Winchcombe. The Honeybourne to Long Marston section remains in

use as a single line branch from the Cotswold line connecting to the rail facility at Long Marston, while the Stratford to Long Marston section has been preserved in Local Plans 'for the purpose of potential reopening'. The estimated cost of reinstating the line is £110 million, and the assessment would enable potential benefits to be quantified.

Meanwhile, Rossendale Council has submitted an application to the fund seeking to progress reinstatement of passenger services on the Rawtenstall line, now part of the East Lancashire Railway.

A study published in 2018 determined that reinstating services using the ELR and then joining the Manchester to Rochdale line near Castleton would be feasible (p68, February 2019 issue). The council highlights that Rossendale is the only local authority in Lancashire without a rail link, with 60% of residents leaving the borough each day to access employment, mainly in Greater Manchester. The application has been supported by Lancashire County Council and two local MPs.

In addition to those mentioned it is likely other bids will have been submitted to the fund.

RAIL NEEDS ASSESSMENT FOR MIDLANDS AND NORTH

THE NATIONAL Infrastructure Commission has launched a call for evidence on how to transform rail across the Midlands and the North. After the call for evidence closes on 29 May the Commission will publish an independent assessment of how Phase 2b of HS2 can best be integrated with wider transport plans in the North and the Midlands, in line with the Government's High Speed North ambitions set out when it gave the green signal to HS2.

In its announcement, the Government backed the construction of Phases One and 2a of HS2, linking London to Birmingham and Crewe. However, it said Phase 2b (Crewe to Manchester and Birmingham to Leeds) would be placed on hold until an integrated rail plan for the Midlands and North was identified. This is planned to include more effective phasing of and integration with Northern Powerhouse Rail, the Midlands Rail Hub and

other proposed investments, and the NIC's assessment will also examine how best to deliver rail connectivity to Scotland.

The NIC says it has identified two key areas of analysis – connectivity and capacity, with a focus on faster journeys and the potential for more trains to run, especially on crowded commuter routes. The 11 questions it is posing as part of the call for evidence seek views about the investments which should feature, how these would work together

and which should have the highest priority as well as any supporting policies needed to deliver them. It also seeks evidence about the impact of the investments, including environmental, and how costs and benefits would be distributed.

The assessment will not examine issues relating to Phases One and 2a of HS2, as these are set to go ahead as currently planned, although the Infrastructure and Projects Authority is to undertake a separate review on lessons learned from cost overruns.

Masterplan for Victoria area

A PARTNERSHIP led by Westminster City Council is to develop a masterplan for the area surrounding London's Victoria station.

The council is working with Victoria Business Improvement District (BID), Network Rail, the Greater London Authority, Transport for London, landowners and the local community to develop 'Future Victoria', covering the area around and behind the station. An architect-led team has been commissioned to look at the area and set a framework to guide future change, which is led by

Allies and Morrison and includes Weston Williamson + Partners, Mott MacDonald, Snapdragon at PLMR and Avison Young.

Among the aims of the project are making the station and interchange easier to use and improving the quality of the streets and spaces around the station. The plan will also consider safeguarding of sites for the proposed Crossrail 2 project and the future of Victoria coach station. The council's City Plan identifies Victoria as an opportunity area which could deliver at least 1,000 new homes and 4,000 new jobs by 2040.

BROMSGROVE COLLISION

A PASSENGER train collided with a derailed freight loco in an incident near Bromsgrove on the evening of 23 March 2020.

The three-car Class 170 was working CrossCountry's 21.05 Cardiff to Birmingham service and collided with the Class 66 as it approached Bromsgrove station. The '66' had just travelled from Bescot to act as a banking loco to assist heavy freight trains with the ascent of the 1 in 37 Lickey incline to the north of the station. It derailed as it ran through the

buffers at the end of the siding adjacent to the main line and stopped with its front left corner fouling the northbound track.

The '170' suffered significant damage along the side of all three vehicles, although it remained on the track and did not derail. Four passengers and two crew were on board and none were injured. The loco suffered damage to the corner of the leading cab but again the driver was not injured.

The Rail Accident Investigation Branch is to investigate the sequence of events leading to the accident.

CVL TRANSFER TO WELSH GOVERNMENT

THE CORE Valley Lines (CVL) transferred from Network Rail to the Welsh Government on 28 March, unlocking the door for Transport for Wales and Amey Keolis Infrastructure Ltd to implement a £738 million modernisation programme which includes electrification, infrastructure for increased frequencies, and a new tram-train depot and control centre in Taff's Well (see also feature, p72, last month).

EU grant aid covers £159 million of the programme's cost, providing the Class 398 Stadler Citylink tram-trains commence operation by the end of 2022 on services from Cardiff to Pontypridd and beyond. The programme is delayed because the assets were transferred six months later than planned. The coronavirus pandemic could cause further difficulties.

A Stadler spokesperson said it was impossible to predict how the Covid-19 emergency could affect delivery of the CVL fleets. 'The Citylinks are made in Spain, where the impact of



Set for replacement: new fleets for the Core Valley Lines will initially operate alongside Class 150 units, three of which are seen here at Llanishen on 19 February 2020. Rhodri Clark

the pandemic on our suppliers, together with the Spanish Government's recent decision to lockdown non-essential economic activity, is affecting Stadler more than in other markets.'

Stadler will also supply 24 tri-mode (electric/battery/diesel) Class 756 Flirt units for Rhymney Valley and Coryton services from 2023. 'The Flirt trains are manufactured in Switzerland

where the factory is operational, in compliance with Swiss Government regulations,' said the spokesperson. The Flirts' final design review had commenced as planned in early April.

A TfW spokesman said the intent on all sides was to mitigate any short-term delays to rolling stock with overtime working when normality returns.

Introduction of tram-trains will be phased, an option not available where heavy rail lines are converted to tram operation. 'Because of the magnitude of the change, it is expected to phase in all the new fleets gradually, meaning they will be operating alongside the existing diesel fleets during the transition period,' said a spokesman. 'It is very likely that the introduction of the Class 398 fleets will be a route at a time. However, this will still be a gradual process, a diagram at a time, as the new fleet becomes available.' Until the full fleet is available, tram-trains will operate at Class 150 speeds and current timetable patterns will be maintained. Rhodri Clark

Freight rallies to support key movements

THE RAIL freight industry is doing all it can to ensure the continuation of supply of goods during the coronavirus crisis, according to the Rail Freight Group.

As restrictions began to be imposed, RFG issued a statement on 19 March setting out its key priorities for the sector. This included calling for rail freight staff to be classed as key workers, for rail network operations to be prioritised for movement of key freight trains and for support to private sector businesses to keep trains running and increase volumes where required.

RFG also called for temporary changes to the Mode Shift Revenue Support scheme to ensure viability of services, particularly where these are not fully loaded, and for suspension of track access charges to enable freight operators to quickly respond to customer priorities and support critical services. It suggested planned infrastructure work should continue where possible, as it supports the construction logistics sector.

KEY FLOWS

Network Rail said 188,000 tonnes of critical supplies were being moved every day within its North West and Central Region by rail, much of it along the West Coast main line. Freight companies have looked at how to reconfigure trains by adding more containers to meet demand. As well as Anglo-Scottish intermodal flows carrying consumer goods from the terminal at Daventry, other key flows included biomass trains from Liverpool docks to Drax power station, petroleum from Scotland to Dalston



Key freight flow: the reverse curves of the West Coast main line near Dordon are evident as Freightliner Class 66 No 66557 heads south with a Trafford Park to Felixstowe working on 23 March 2020. Graham Nuttall

in Cumbria and from Humberside to Kingsbury oil terminal in the West Midlands. Royal Mail trains continued to take parcels and post between Wembley and Shieldmuir, Glasgow.

On 27 March, Network Rail's Wales and Western Region highlighted that in just one week it had supported the movement of more than 370,000 tonnes of freight across its area. This included movements of food and medicine, of tinplate from Llanelli to create food cans and of petroleum products from south Wales, as well as removal of household waste from major cities including London. NR said the amount of food being moved on the railway within the region had increased by 20%.

Within Network Rail's Southern Region the company said

381 freight trains ran in the last full week of March carrying over 260,000 tonnes of vital supplies, with key freight routes prioritised including Southampton to Reading and Lewisham to Clapham Junction, which links to the West London line.

For Anglia Network Rail reported there were up to 72 trains in and out of Felixstowe and up to 20 to and from London Gateway each week, carrying up to half a million tonnes of products, as well as movements of silica sand from Middleton Towers quarry near Kings Lynn and gas condensate from North Walsham to Harwich. Arriving in the region was a daily Tesco train from Daventry to Barking and Purfleet.

Within Yorkshire over 400,000 tonnes of freight was being transported per week, including

around 100,000 tonnes of key supplies as well as fuel, materials, and finished product for the steel industry, most of which was being moved to Scunthorpe. Other flows included letters and parcels along the East Coast main line, movements of sand, gravel and stone and waste transporting trains.

OPERATORS RESPOND

In a statement on 25 March, GB Railfreight Managing Director John Smith said: 'Our services are playing a vital role in ensuring the continuation of supplies. We are running services from ports such as London Gateway, Southampton, Felixstowe and Teesport to distribution centres across the country. These flows are ensuring that warehouses remain stocked, and supermarkets and other essential retailers remain supplied.'

'GB Railfreight's services are also ensuring that the UK can keep the lights on. We are delivering vital supplies of biomass which are transported across the country by rail to Drax power station in Yorkshire, which supplies 6% of the UK's electricity needs.'

Freightliner owner Genesee and Wyoming highlighted the flexibility and resilience of its operations and the presence of business continuity procedures to cover a variety of situations, as well as action to prevent the spread of infection across its workforce and supply chain.

Direct Rail Services said it was continuing to run its services and had well-rehearsed emergency business continuity plans to ensure its sites and facilities could operate safely and securely.



Keeping the lights on: since closure in 2012 most of the tracks and sidings at Healey Mills marshalling yard have remained in situ and trees are now maturing through the once busy tracks. Passing the scene on 12 March 2020 was train 6E09, the 08.10 Tuebrook on Merseyside to Drax power station loaded biomass bogie wagons. The motive power was former Colas and now GB Railfreight Class 60 No 60085, which presently retains its Colas livery. John Vaughan

'JUMBO' STONE AT TYTHERINGTON

LOADS OF 4,000 tonnes have been moved from the South Gloucestershire quarry at Tytherington to Appleford, the operation having commenced by the end of February.

Both the inward and outward workings are routed via Bath and Filton, but the first empty working on 19 February with loco Nos 66571/66610 arrived in Bristol via Hullavington and required a loco runround at Avonmouth as no loops in the Stoke Gifford/Bristol Parkway area were long enough to accommodate the train. A Class 66/5 and 66/6 have been used in multiple on all workings, which are loaded overnight by mechanical road grabs, the overhead rail loading conveyor belt being out of use, although it is expected to be



Ready for jumbo trains: an early March view of the relaid and regraded headshunt at Tytherington quarry. Richard Giles

refurbished at a later date. Further track replacement work is also taking place in the quarry loading area,

and the headshunt has been relaid, regraded and brought back into use for these workings. *Richard Giles*

Rotterdam capacity boost

P&O FERRIES has doubled rail capacity at its Europoort at the Port of Rotterdam in the Netherlands with the launch of a second line. The 650-metre-long track complements P&O's existing rail line and means up to four trains of either 36 trailers or 42x45-foot containers can be handled daily, comprising eight services to and from locations across Europe. The company provides three sailings a week to Teesport and seven a week to Hull from Europoort.

Rail Freight Group

COVID-19 HIGHLIGHTS THE VITAL NECESSITY OF FREIGHT

In years to come, A level students will write essays on 'What happens when you switch off the economy?'. They will of course be able to look at the current crisis with the benefit of hindsight and recommend what might have been done differently. Yet for now we are all part of the experiment, and it can be hard to find the way forward. What are the best actions to ensure that, once the health emergency is resolved as well as it can be, businesses can prosper again, and individuals return to their jobs?

Businesses in the transport sector are as adversely affected as any by the restrictions on movement, and the challenges for airlines and passenger railways are well documented. Passenger travel is almost entirely suppressed, and services limited to those necessary for essential travel, where they exist at all. As painful as this is, there is at least now some sense of stability around which companies can plan. For freight, it is rather more challenging.

The impact on rail freight started ahead of the wider UK restrictions, as the lockdown in Wuhan in China led to a huge reduction in container shipping. From the start of March volumes of intermodal

traffic plummeted. Operators and customers were forced to stand down services and others which did run were less well-loaded than is necessary to be economic. Some weeks have seen well over 300 trains cancelled from the major deep sea ports. As restrictions have lifted in China, shipping services are starting to resume, but with the UK market suppressed it is unlikely all trains will be fully operational again soon.

The construction market is also feeling its share of trouble. Building sites were not formally required to close down at the start of lockdown, but many did, and some regional administrations imposed more stringent requirements on sites under their control. This has led to a drop-off in aggregate and cement volumes across the country. Other flows such as automotive and finished cars have ceased entirely.

This has put the most tremendous strain on freight operators and others in the sector. In some cases, businesses have suspended all operations, furloughed staff and stood down equipment. However, in many cases this has not been possible, because there are also many essential services that have to keep running. Here, companies are looking to minimise cost, to

implement measures to manage cash flow and work with suppliers and customers to deliver financial stability to the greatest extent.

Of those essential services the most high profile are those trains which are continuing to run on behalf of the retail sector. With increased demand for supermarket products the trains have been running at record length and fill levels. This includes services operated by Russell Logistics for Sainsbury's and others which recently ran to Scotland with 1,500 tonnes and 800 metres behind a single Class 88, whilst the Tesco Express on the same route has also increased its length. Other vital services include the biomass trains for electricity generation and services for industries such as steel making, where production continues. It is also likely rail freight operators will be asked to run some additional trains if the sickness rates rise in road haulage or if Government needs essential supplies conveying across the country.

It has been particularly encouraging therefore to see both Government and Network Rail focus on the use of the rail network for freight movements. Network Rail's plans ensure priority for essential freight, both

in terms of network paths and regulation and in the planning of maintenance. In the event some parts of the network are restricted if staff sickness levels increase, the most important freight routes are identified and will be operated as key routes wherever possible.

Coupled with this, we have been very pleased to see the level of public support and positive narrative for rail freight. Network Rail's own press releases have been keen to show how it is supporting essential deliveries, and there are comments all over social media showing a new respect for our trains. It will be interesting to see how long this lasts once passenger services resume a full timetable, but we hope it will have led to a new appreciation of what we do.

There is of course a long way ahead until that point. For now, a relentless focus on financial stability for all parts of the supply chain remains a priority, including Government support for essential businesses. Ensuring the sector is fit to adapt to the longer-term economic impacts will be a longer-term challenge.

An opinion column of the Rail Freight Group, www.rfg.org.uk

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Transport hub: visual of the redevelopment planned at Motherwell.

Motherwell job for Balfour Beatty

BALFOUR BEATTY has been awarded a contract to build a regional transport integration hub at Motherwell station.

The £14.5 million project will see the station undergo redevelopment work, as well as an overhaul of the

public realm outside the station building, improving links between bus and train services. Benefits will include an enhanced station forecourt and building with glazed roof and brighter, larger concourse, along with expansion of a bus

facility on Muir Street and new facilities for taxis and car drop-offs.

Work on the station redevelopment is due to start in the summer, Covid permitting, and the transport integration works are due to follow next year.

CORBY PROGRESS

TESTING HAS begun of the overhead electrification system on the Midland main line north of Bedford. Rail Operations Group began running diesel-hauled test trains for the overhead wiring in April, with the catenary due to be powered up in early summer. Once the wires are live ROG will be operating electric test trains to Corby using Class 91s made redundant by the arrival of Azumas on the East Coast main line, prior to the inauguration of Class 360-operated trains to Corby, which is planned for the December 2020 timetable, although the coronavirus outbreak may cause this milestone to slip.



Contract tied up: a Network Rail mobile maintenance train passes through Bottesford, Leicestershire on a Rugby to Wakefield Kirkgate move on 24 September 2019. Paul Clark

Portsmouth Direct renewals



Bound for the worksite: No 70806 weaves across Woking Junction whilst working the 6C04 07.30 Eastleigh Yard to Shalford Junction engineer's train on 21 March 2020. Several weekend blockades have seen track renewal works undertaken around Haslemere and Petersfield and the work was set to culminate in a major programme at Guildford over the Easter weekend. The track on the right serves the Day aggregates terminal situated in Woking down yard, which is served from the Mendips and Angerstein Wharf railhead. Steve Stubbs

HARSCO CONTRACT

NETWORK RAIL has awarded Harsco Corporation's Rail division a £20 million, three-year contract to operate and maintain NR's fleet of eight mobile maintenance trains. The contract has an optional two-year

extension. Mobile maintenance trains are based at Darlington, Wakefield, Retford, Derby, Horsham, Paddock Wood and Romford; the eighth vehicle is used to cover for overhaul and maintenance works.

Queen Street nears completion



Going for gold: the redevelopment of Glasgow Queen Street station was nearing completion when the coronavirus pandemic hit. This view from 14 March shows the concourse with a lift shaft being completed on the far right. The Office of Rail and Road granted authorisation for the new infrastructure on 24 March, excluding platforms 6 and 7. The redevelopment is the culmination of the Edinburgh Glasgow Improvement Programme (EGIP). Ann Glen

East Grinstead line reopens

Reopening helps key workers: the railway between East Grinstead and Lingfield reopened on 20 March 2020 after having been closed since 12 February when an embankment near Cookspond viaduct, Dormansland began to slide. Five sites suffered landslips on the route and Bam Nuttall worked with Network Rail to repair the line. Here Nos 66775 and 66704 take an engineering train through Lingfield on 22 February 2020. Chris Livings



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COVID-19

EMERGENCY SUPPORT UP TO £900m A MONTH

EMA outs Zombie franchises on back burner

On 23 March Transport Secretary Grant Shapps announced his Department was providing franchise operators with 'the opportunity' to temporarily transition onto Emergency Measures Agreements (EMA). Under an EMA, all revenue and cost risk has transferred to DfT.

Operators are continuing to run day-to-day services for a small, pre-determined management fee. DfT will take all revenue and meet all costs. This is similar to the management agreement which already applied to the Govia Thameslink Railway franchise.

Financial commitments, including contingent capital risk, in existing franchise agreements or direct awards will be suspended for an initial period of six months. The

deal includes options for further extensions or earlier cancellations of the emergency measures.

When the new arrangement was announced, passenger ridership had already fallen by 70%, with ticket sales down by two-thirds year-on-year. Not surprisingly it didn't take long for the franchise owners to do the sums and sign up en-masse.

DfT had placed the Operator of Last Resort on standby in case any franchise owners didn't want to take the Queen's shilling. With OLR already on quick reaction alert in case terms could not be agreed with Southeastern and Great Western before the previous direct awards terminated on 31 March, taking any more crippled ducks would have been 'difficult'.

Open access operators, as private companies, are reliant on the support being provided by the Chancellor, such as covering 80% of staff wages.

HOT TAKES

Naturally, the announcement was jumped on by the 'bring back BR' brigade as 'nationalisation'. This is what is known as a 'hot take' in social media, where campaigners use any event to support their cause, however tenuous. Thus the EMAs were also seen as the portending end for HS2.

DfT did its best to promote the new arrangement as just a 'temporary solution'. Nothing to see here, move along please.

Perish the thought that it is a 'new model': its aim is to ensure

current events have 'as little impact as possible on the railway in the longer term'. Allowing operators to enter insolvency would have caused 'significantly more disruption to passengers and higher costs to the taxpayer'. And the decision did save DfT from some embarrassment, taking the immediate pressure off the Zombie franchises ('Informed Sources', March issue).

With revenue down by up to 95%, the usual approach of incentivising commercial performance by linking the management fee to revenue was not available. Instead, it will be set at a maximum of 2% of the cost base of the franchise before the Covid-19 pandemic began. The precise percentage will vary according to the individual profile of the franchise.



Where are the passengers? The concourse at Paddington on 20 March, before the so-called lockdown measures were implemented three days later. Keith Fender

Even at an unprecedented time of national crisis, the civil servants still managed to insult the railway managers struggling to hold services together. DfT has found it necessary to structure the management fee 'to incentivise operators to meet reliability, punctuality and other targets'. Who do they think we are?

According to the statement, the maximum fee attainable will be 'far less than recent profits earned by train operators'. I'm sure that brought a wry smile to more than a few owning groups.

MANAGEMENT FEE

A couple of months back I published a detailed analysis of the change in the cost to the taxpayer of supporting the franchised railway (March issue). That is now irrelevant. So this month I have tried to evaluate the cost of DfT's new model based on Office of Rail and Road data for 2018-19.

Let's get the fees out of the way first. In 2018-19 nine train operating companies (TOCs) paid dividends totalling £218 million. Of course, other franchises cost their owners significant sums.

Excluding Variable Track Access Charges (VTAC) and fixed track access charges paid to Network Rail, I calculate the maximum



Will leisure passengers return? Lichfield Trent Valley on Sunday 22 March, with the station car park completely empty. In the background No 323210 forms the 10.01 Cross City line service for Redditch. John Whitehouse

collective management fee for the franchised TOCs at £123 million.

EMA COST

In its annual data ORR lists franchise expenditure under:

- staff costs;
- fuel costs;
- rolling stock charges;
- franchise payments to government;
- corporation tax;
- other, including Network Rail charges.

In a concurrent piece of work I have found some anomalies in the rolling stock charges category which ORR is currently seeking to clarify. However, for a quick and dirty analysis the first three categories represent the bulk of costs the DfT is now meeting. Franchise payments to Government are no longer relevant for the duration: payments to Network Rail I will come to later.

Under the EMA DfT will be paying franchised train operators the difference between revenue and costs. I have calculated this difference for each TOC on the assumption of a 95% fall in revenue.

Each month the EMA is in force will cost DfT £470 million. However, this excludes the Fixed and Variable Track Access Charges each TOC pays to Network Rail. In 2018-19 these payments were collectively equivalent to a further £446 million/month.

VTAC are supposed to be a surrogate for the wear and tear on the infrastructure caused by running trains. They are charged on the basis of pence per vehicle mile.

This should provide some mitigation of the cost. VTAC represents around 85% of total of TOC access charge payments to Network Rail. As the temporary services are running considerably less mileage than the usual timetable, VTAC should be less, perhaps by as much as 50%.

ACCESS

Nothing has been said about how Track Access Charges will be handled under the EMA. Since Network Rail is a government body, the sensible approach would be for DfT to add TAC to Network Rail's Direct Grant to maintain the infrastructure operator's income requirements.

With TAC, in round numbers, adding a further £450 million a month to the EMA bill, the maximum monthly cost increases to £900 million. This compares with a net subsidy of just under £30 million a month in 2018-19.

If I am correct on the impact on VTAC of reduced train mileage, halving VTAC could cut the cost to £700 million a month. Even should this optimistic view be correct, over six months EMA payments would equal DfT's total support for rail in 2018-19 ('Informed Sources', last month).

RECOVERY

What will happen to ridership as the restrictions on movement are relaxed is impossible to predict. Passengers will return, but how quickly and in what numbers?

To judge by the announcement of the new direct award for Great Western (p9), the Department for Transport thinks it has some idea. In its press release announcing the award FirstGroup said: 'At the conclusion of the EMA period, GWR will operate services as a franchise with revenue risk shared with the DfT through a Forecast Revenue Mechanism ('FRM') governed by today's agreement, which also makes provision for a revenue rebasing exercise as required. The FRM will apply if revenue variances differ from target in the bid assumptions, outside of a nil rate band, and is available from the start of the agreement. Payments or receipts occur when actual revenue is 1.5% higher or lower than the expected FRM revenue, at 90% of the revenue difference.'

That comes under the category of 'super-heroic'. Presumably, given the time taken to agree a deal, the





Warning signs: a coronavirus health notice at Hull station on 19 March. Ian Lyall

forecast revenue profile is based on pre-Covid-19 and the 'revenue rebasing exercise' will adjust the starting point, and subsequent profile, to match emerging real life rail travel market conditions when the emergency ends.

Presumably EMA payments will reduce in step with increasing farebox revenue. But when the EMA period is over is likely to vary between franchises. And then there are the Zombie franchises, like South Western Railway and TransPennine, for which the ending of EMA will herald the arrival of that nice man from the Operator of Last Resort.

SURVIVORS

But for the viable survivors, there are precedents for recovery from setbacks. The recession in the early 1990s saw passenger ridership plummet from 33.7 billion passenger kilometres a year to 28.8 billion in 1994. It then took three years to recover the lost traffic.

In October 2000, the Hatfield derailment almost shut down the railway as Railtrack famously suffered a 'nervous breakdown' over gauge corner cracking. Worst affected were the long-distance operators. Figure 1 shows the effect on revenue.

In the case of Inter-city East Coast, the worst affected and then operating as Great North Eastern Railway, full recovery took around three years.

Finally, while the world financial crisis of 2008 helped finish off National Express East Coast, in ridership terms growth simply paused for a year. There was a slight decline, but the fall was no more than a rounding error.

In all these cases, ridership and revenue fell and rebounded. Today we have an effective shutdown. And during that shutdown much will have changed, not least the economic situation. How much it has changed will determine the future financial implications for train operators.

IMPACT

Historically, regional service revenues have shown the highest hysteresis in the face of adverse external economic forces. In other words, they react less to both triumph and disaster. They represent roughly £1.5 billion in income and much of that could return relatively quickly as normal services are restored.

London commuting is a work in progress, with the old verities fast disappearing. This has been highlighted by DfT's Central London Employment (CLE) revenue share/support mechanism for TOCs inverting.

As Greater Anglia and South Western Railway have found to their cost, when employment has gone up revenue has gone the other way. CLE has meant paying DfT revenue share when less than forecast revenue has been coming in.

This is assumed to be the result of the increasing number of people commuting two or three days a week and working remotely the rest of the time. By the time travel restrictions

are lifted firms will have had several months of people working from home, will have set up the systems to support this and the number of part-time commuters could increase.

In addition, after months of social isolation and keeping two metres away from the nearest person, it could take time for people to readapt to getting up close and personal in a full and standing commuter train.

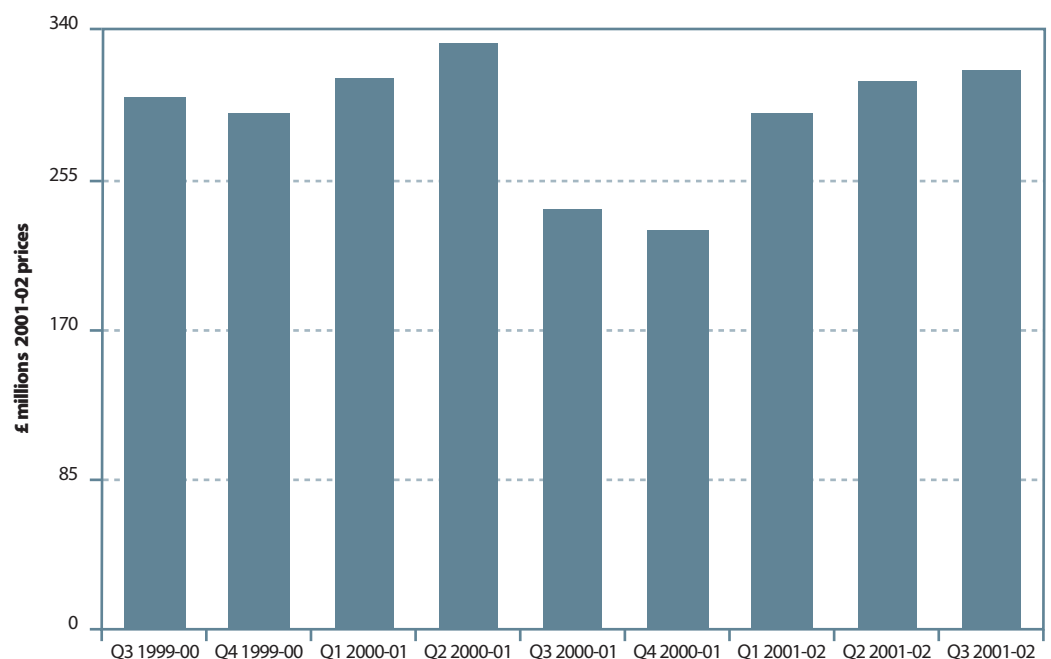
In 2018-19, London commuter TOCs represented around £3.8 billion of revenue. Collectively they generated a net premium of over £500 million. How much of that will return is the big unknown.

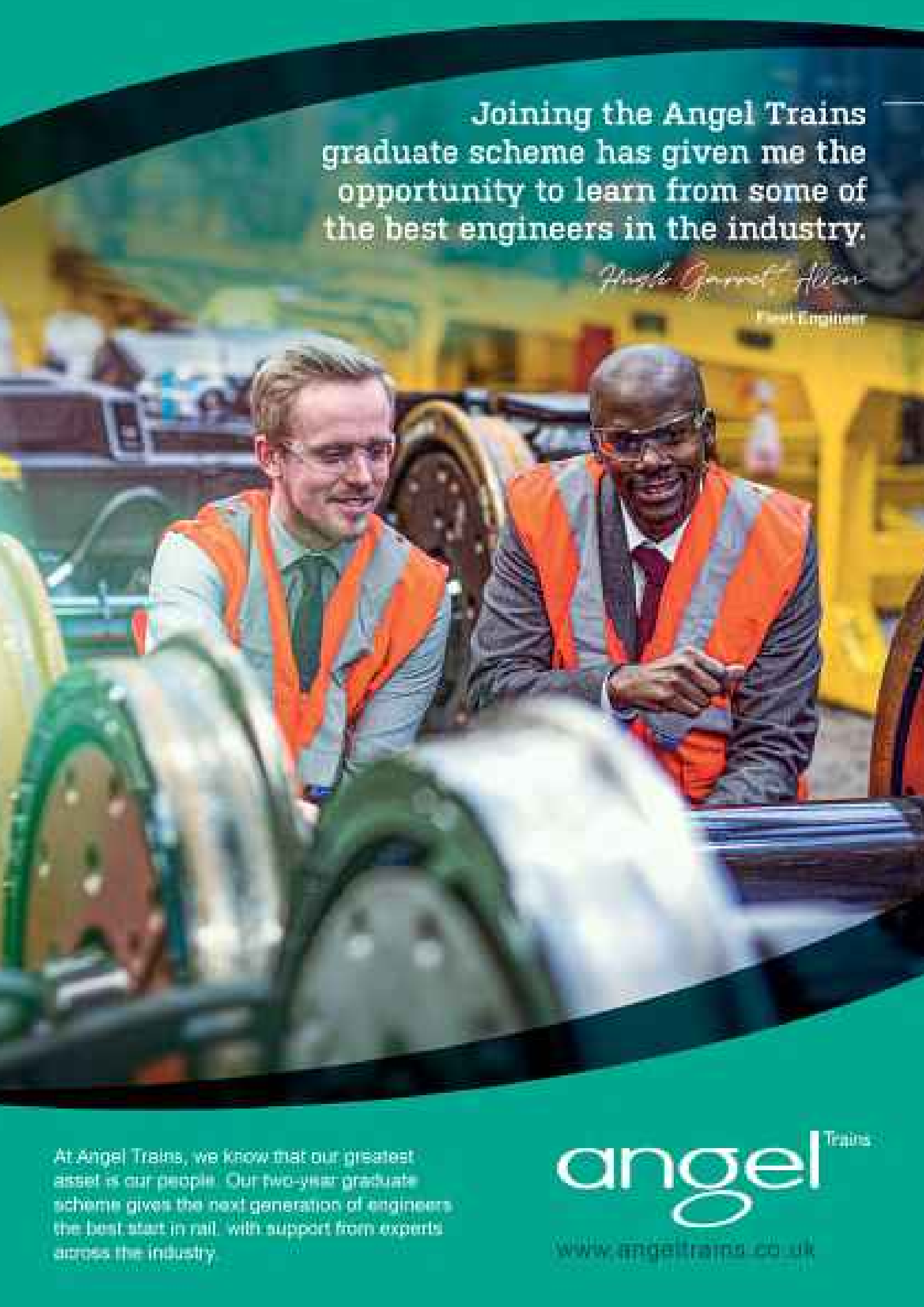
Finally, the long-distance operators took in revenue of just under £4 billion and paid a net premium of £250 million in 2018-19. Informed sources suggest two post-EMA scenarios. Business travel will be slow to return and not all of it will come back, with industry likely to be fighting a recession.

On the other hand, after months of shutdown, people will want to get out and about and, subject to them having the disposable income, leisure travel could boom. That assumes of course the availability of the fares offers needed to attract people who have been on reduced wages for months.

Overall, the railway is likely to face an investment squeeze as the economy rebuilds. It looks as though Network Rail Chief Executive Andrew Haines' new structure, devolving responsibility for renewals and enhancements to the Regions, could make it easier to generate affordable business cases. 

FIGURE 1: IMPACT OF HATFIELD DERAILMENT ON LONG-DISTANCE OPERATORS' REVENUE



A photograph of two men, a white man on the left and a Black man on the right, both wearing safety glasses and orange high-visibility vests over business attire. They are smiling and looking at a large, complex mechanical part of a train engine. The background is a blurred industrial setting with yellow machinery.

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EAST COAST ETCS IS GO

Network Change consultation initiates decade-long project

On 6 March Network Rail wrote to all the organisations affected by the East Coast Digital Programme (ECDP) explaining how the associated Network Change Process is being handled. The ECDP is responsible for resignalling the East Coast main line (ECML) south of Stoke Tunnel (ECML (South)). This also includes the Hertford loop and the Moorgate Northern City line (NCL) branch.

Network Rail's letter initiated Section G5 of Part G of the

Network Code which covers the procedure for implementing Network Change (see box). Attached to the letter was a draft copy of the G5 'Notice of Intended Scope' which forms the basis of consultation on the proposal.

Consultation on the preliminary proposal closed on 6 April. Network Rail was due to issue the formal notice of intended scope on 8 April, with any queries resolved by 8 May. Preparatory Works Notices to operators should start in June.

ECML (South) resignalling has adopted a 'partnership delivery model' based on industry integration and change management. Partners in the programme include the affected train operators, open access, freight and charter operators using the route, as well as the Government and the Network Rail East Coast Route.

Partners are contributing resources to an integrated management team and are represented, at an executive

level, on a Route Industry Steering Board that oversees the programme. The partners have already endorsed the programme's preferred option outlined in the Notice of Intended Scope.

WHY ECML (SOUTH)?

According to ECDP, ECML (South) 'is the only single digital deployment able to deliver sufficient benefits to bear a significant part of the upfront, one-off costs required to progressively rollout digital signalling



NETWORK CODE PART G

Part G of the Network Code covers the procedures which Network Rail and train operators must go through when certain types of change to the network are proposed. The definition of Network Change is broad.

Essentially, changes likely to have a material effect on the operation of the network or of trains operated on the network count as 'Network Changes'. These can range from the introduction of a speed restriction on a section of track to enhancements which will increase capacity. Line closures do not fall within the definition. Part G applies equally to changes proposed by train operators, such as the introduction of new rolling stock.

Before any infrastructure change can be implemented, it must be formally proposed under Part G of the Code and be accepted by those train operators whom it will affect. Any dispute over the change must be resolved, either by agreement or through Access Dispute Resolution Rules.

There is a general obligation on Network Rail to facilitate Network Change. This includes a number of specific obligations to provide information to train operators.

Conditions G1 and G2 are concerned with proposals made by Network Rail. Conditions G3 and G4 are concerned with proposals made by train operators. Conditions G5 to G7 inclusive are

concerned with proposals made by Network Rail using the 'Complex Projects Procedure'.

Condition G8 is concerned with the expiry and reversal process of a short-term Network Change. G9 applies to mandatory changes, resulting from a change of law or a direction of a competent authority. Condition G10 covers the processes that may be adopted for establishing and implementing Network Changes. Finally, Condition G11 covers dispute resolution in connection with Network Change proposals.

ECML resignalling is being processed under the Complex Projects Procedure. Before giving formal notice of a proposal for a Network Change under this

procedure, Network Rail must advise all affected train operators of its intentions. The information provided must include details of the proposed change, the reasons for it being progressed, a draft plan setting out the intended stages and timetable plus a draft scope of the proposal.

This is followed by consultation on the proposals during which train operators are required to provide any information requested by Network Rail. Where Network Rail disagrees with the views of any train operator, it must provide a written explanatory response.

Once consultation has been completed, the final stage is to issue a notice of intended scope to each affected train operator.

ETCS fitted from new: a Class 717 working the 13.30 Moorgate to Welwyn Garden City service passes a Class 700 forming the 12.54 Peterborough to Horsham at Ganwick, between Hadley Wood and Potters Bar, on 6 November 2019. Ken Brunt



across the wider network'. ECDP argues that without this scheme the national rollout of ETCS cannot make a business case and will not start. In addition, the investment in ETCS fitment to existing rolling stock will have been wasted.

Failure to install ETCS would also leave the problem of the 'unaffordable, undeliverable and disruptive' bow-wave of replacing the conventional signalling unresolved.

TERMINOLOGY

A minor but irritating feature of the letter is the reference to the ECML's current equipment as 1970s 'electro-mechanical signalling'. In conventional signalling parlance, 'electro-mechanical' is taken to refer to installations with power operated points and colour light (or motor operated semaphore) signals worked from a traditional mechanical lever frame. The term was also applied to installations with miniature lever frames.

However, most of the 1970s signalling on ECML (South) uses GEC-General Signal geographical relay interlockings, which are clearly not 'electro-mechanical'. Yes, I know

this can be seen as angels on the head of a pin pedantry, but in our industry terminology matters.

Anyway, the newest of the 15 GEC-GS installations out of the 24 interlockings on this section of the ECML was commissioned in 1977. According to my signalling guru, the GEC-GS geographical relay interlockings appear to suffer far more from degradation and silver migration than their Westinghouse equivalents and are likely to be well past their 'best by' dates.

According to ECDP, replacement of this life-expired kit is due between now and the end of Control Period 7 in 2029. Replacement of the more-modern existing signalling through to Edinburgh would then follow over the next two Control Periods.

Apart from conventional resignalling using Computer Based Interlockings controlling multiple aspect colour light signals being unaffordable, ECDP argues the engineering access needed would cause 'significant and increasing disruption to passengers and other rail users'.

ECDP ROUTE INDUSTRY STEERING BOARD MEMBERSHIP

- Train Operators: LNER, Govia Thameslink Railway, Grand Central Railway, Hull Trains
- Freight Operators: nominated senior representative for Freight Stakeholder Group
- Network Rail: Eastern Region (East Coast Route Director)
- Department for Transport: Digital Services, Network Services and Passenger Services
- Rail Delivery Group
- East Coast Digital Programme (Programme Director, Industry Change Manager, Industry Programme Manager and Industry Programme Sponsor)
- Digital Railway Programme
- Office of Rail & Road (observer)



Northern City line: this section will be the first to transition to ETCS. No 717014 arrives at Highbury & Islington on 16 August 2019 with the 09.25 Moorgate to Hertford North service. Philip Sherratt



SCOPE

So it is a case of ETCS or patch and mend. Fortunately, Government has accepted the business case, hence the implementation of Part G.

South of Peterborough station, ETCS Level 2 with no lineside signals (known as 'signals away') will be installed. Through Peterborough station and to Stoke Tunnel, the planned implementation will be ETCS Level 2 plus lineside signals. This will allow non-ETCS fitted trains to run conventionally.

Implementation of the programme is planned in five 'tranches'. Tranche 1 covers the conversion of the NCL between Moorgate and Drayton Park. The transition to ETCS Level 2, signals away is expected in 2022.

Apart from the condition of the existing signalling requiring early replacement, this section also provides the ideal first deployment. The only rolling stock on the route is the ETCS-fitted Class 717 fleet. The similar Class 700 units have already been running under ETCS through the Thameslink central core. ECDP describes NCL as the 'pathfinder project' for its new 'delivery model'.

Tranche 2 covers completion of the remaining ETCS train fitment, including software upgrades for fitted trains, with the TOCs achieving operational readiness to

what is called an 'ETCS compliant digital operations model'. Most passenger rolling stock used on the ECML (South) area was supplied fitted with ETCS equipment.

Two exceptions are the Class 365 and Class 387 trains in use by GTR. Both fleets have first-in-class fitment projects already underway. Grand Central's fleet of 10 Class 180 trains has also gone through a fitment programme.

Pre-fitted stock, including the GTR Class 700 and 717 electric multiple-units and the Class 800 series operated by LNER and Hull Trains, and also on order for FirstGroup's open access venture, will require a software upgrade to the latest standard.

In parallel, Tranche 2 will equip a dedicated section of ECML (South) with ETCS Level 2. This will allow the start of dynamic integration testing of all rolling stock and infrastructure,

followed by large-scale practical driver training. Testing and driver training will also help build reliability for the overall ETCS implementation. The trial section is due to be ready for signals-away operation by December 2024.

Tranche 3, the implementation of an Integrated Traffic Management (TM) system at York Rail Operating Centre (ROC), is at an early stage of development ('Informed Sources', last month). The implementation date has yet to be determined.

One issue at York ROC is that it is a 'mixed economy' with a combination of Westcad and IECC Scalable. The IECC workstations migrated from York IECC over Christmas and the New Year in 2018. The IECC controlled the ECML from Doncaster to Northallerton via York, the trans-Pennine route from York to Morley and Pudsey via Leeds plus the north Bradford lines to Skipton/Ilkley.

Assuming Tranche 2 is successful, Tranche 4 will see the progressive rollout of ETCS along the remainder of ECML (South). Operations will cutover to signals away as sections are commissioned, allowing the benefits of ETCS to be exploited as the phased implementation progresses.

Human factors issues already identified include the need to limit the number of times drivers are required to change between colour light signalling and ETCS during a journey. This is likely to determine the phased implementation working outward from the trial section. ECML (South) is projected to be ETCS Level 2 throughout by the end of 2029.

Tranche 5 will ensure that the full benefits from the ECDP will be obtained, drawing on experience with the use of ETCS in everyday operations. This is likely to include changes to timetable planning rules and the optimisation of railway operations. 

TABLE 1: ECML (SOUTH) ETCS PROGRAMME
ALL DATES INDICATIVE ONLY

	Activity	Start	Completion
Tranche 1	NCL fitment	2020	October 2022
Tranche 2	Train fitment/software upgrade	February 2021	December 2024
Tranche 2	Installation of ETCS trial section	2020	December 2023
Tranche 3	York ROC Traffic Management	2020	December 2022
Tranche 4	Signals away phased introduction	January 2024	December 2029
Tranche 5	Benefit optimisation	January 2027	December 2029

MODERN railways

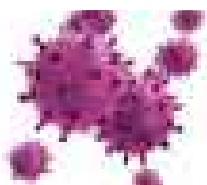
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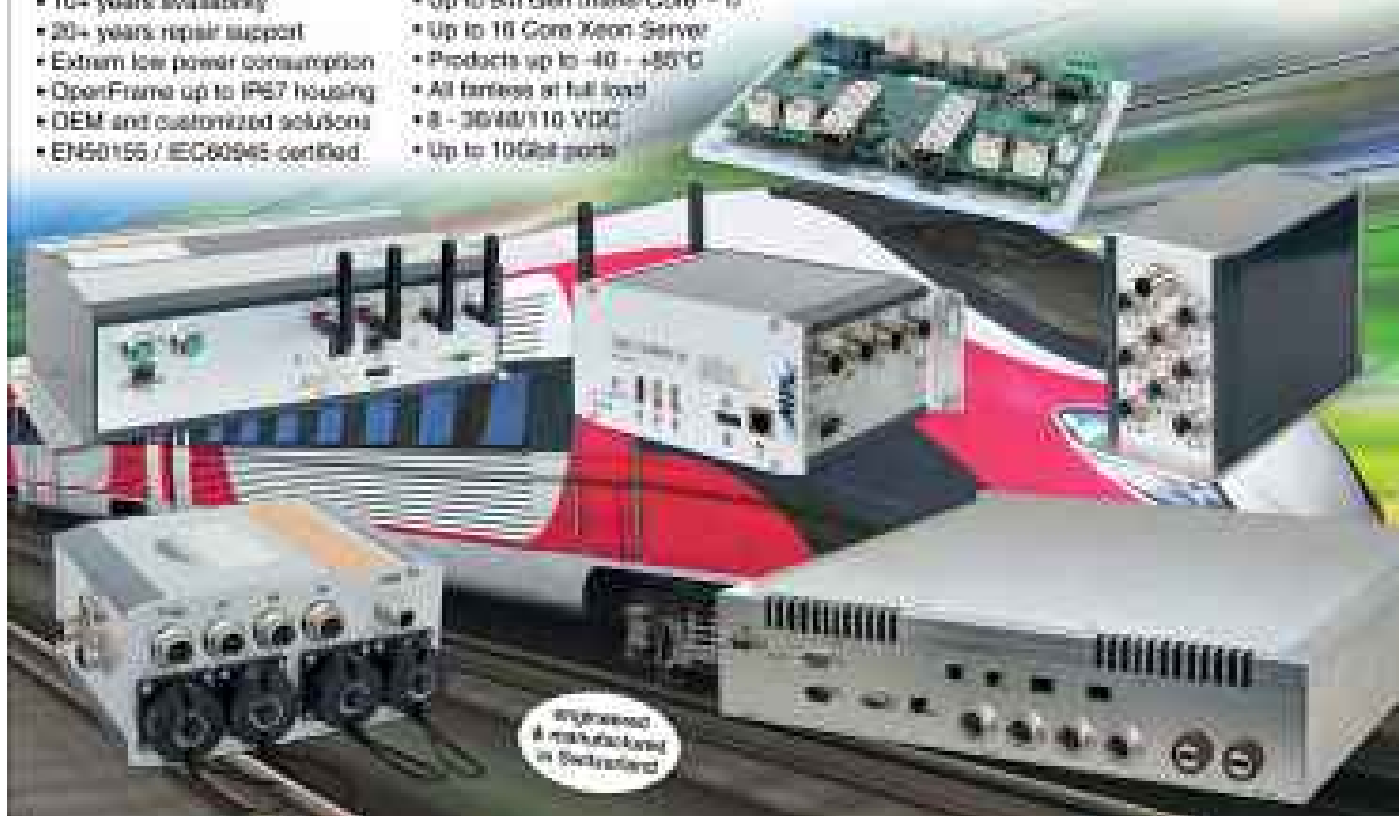
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TRANSPORT DECARBONISATION CONSULTATION STARTS

DfT's institutional antipathy to electrification unabated

There is an interesting variation on Dr Johnson's aphorism that patriotism is the last refuge of a scoundrel, which recurs repeatedly in the Department for Transport's paper 'Decarbonising transport – setting the challenge', published in March. It is claimed by Government that Britain is, or aims to become, the world leader in this, that or the other.

I give three examples of such Hubristic Self Delusion (HSD) in the box. The 'Informed Sources' legal department is currently codifying a new Law along the lines that if you have to tell people you are a world leader, you probably aren't.

Anyway, DfT is developing a Transport Decarbonisation Plan and 2020 'will be the year we set out the policies and plans needed to tackle transport emissions'. The paper marks the start of this process.

Its charts showing projections of future transport emissions are indexed, which makes them useless for serious analysis. Where actual emissions figures are quoted, the basis of the statistics is unclear, or is suspect.

FUDGED

Take for example the bar chart showing 'the greenhouse gas (GHG) emissions quoted for a passenger travelling from Edinburgh to

London'. These are given at 144kg for plane and 29kg for train.

No mention is made of load factor for either mode and the train emissions are based 'on an average for diesel and electric trains'. A footnote explains that 'if a route is fully electrified, emissions would be lower than those presented'. Obviously, the news that the East Coast main line has been electrified for two decades has yet to reach New Minster House!

Out of interest I checked these figures with Professor Roger Kemp's 2007 study for the Rail Safety & Standard's Board (RSSB) on 'Traction energy metrics'. Prof Kemp calculated the CO₂ per passenger kilometre for a London to Edinburgh flight and also for a Class 91.

Using these data and a nominal 650km journey gave me 136kg for the airline passenger against 26kg for the IC225. But thanks to the rapid growth of electricity generation from renewables, the grams of CO₂ per kWh for mains electricity is now much lower than it was in 2007, when Prof Kemp's analysis assumed 455gCO₂/kWh.

By 2018 the average had fallen to 283gCO₂/kWh. As I am typing this at midday on a sunny, windy 31 March 2020, the actual figure is a remarkable 213gCO₂/kWh. But on the basis of the 2018 average

the IC225 passenger is down to around 16g of CO₂.

And the Class 91 doesn't have regenerative braking, which would knock off another 15%. So you wonder where the data, which seriously understates rail's advantage, came from.

FORBIDDEN BOOKS

Apropos Roger Kemp's report, although I have a copy in my database, a reader asked where it was available. I thought I would give him the URL for the RSSB webpage but found it had vanished from RSSB's online catalogue.

I did ask about this disappearance, but never got an answer. A reader's experience suggested copies might be available on request.

If that is the case, there must be something in the report which is so sensitive that it is kept in

the equivalent of those rooms where libraries in the 1950s kept books like Burroughs' *The Naked Lunch* and sex manuals.

This has the makings of a Monty Python sketch.

Furtive looking researcher enters foyer of RSSB offices. 'Excuse me' he asks the receptionist, 'but how can I download a copy of (whispers) "Traction energy metrics" by Roger Kemp?' Receptionist looks shocked and presses red button on intercom. 'It's another of those electrification recidivists wanting you know what'.

GRAYLING

References to rail and electrification in the report still reflect former Transport Secretary Chris Grayling's zero-electrification mode, as evinced by East West Rail. Here's an example.

'We recognise that electrifying more of the railway is likely to be

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Decarbonising Transport – Setting the Challenge, DfT, March 2020

Obvious next route for electrification: the Midland main line. Power car No 43083 leads an EMR HST on a Nottingham to St Pancras service at Hathern in Leicestershire on 23 March 2020. Mat Yardley



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necessary to deliver decarbonisation. We have delivered over 1,000 single track miles of electrification since 2010. Most passenger journeys are made on electric trains. We continue to expand the electrified rail network, delivering projects on the Great Western main line and Midland main line that will lead to further environmental and passenger benefits.

Likely? It will be blooming essential. But, Grayling alert, 'take up of new technology will be important in decarbonising the railway and we are investing accordingly. We have recently funded, through Innovate UK and RSSB, competitions that provided over £4 million for projects to drive decarbonisation across passenger and freight. With our support the industry is developing hydrogen and battery solutions for use in rail that will play an important role in future decarbonisation.'

A valuable role, perhaps, but the leading role can only be played by electrification.

STRATEGY

Network Rail is currently preparing a cross-industry Traction Decarbonisation Network Strategy (TDNS). You can argue whether Network Rail, for whom electrification is a pain in the overhead, is the right home for this report. I can remember a former Chief Executive arguing electrification was a bad thing because it introduced more assets to maintain and the potential for unreliability.

Anyway, according to DfT the TDNS will consider 'where overhead electrification, battery or hydrogen trains might be most

effectively deployed'. Note the conditional 'might' be usefully deployed. Based on the TDNS, DfT will develop a decarbonisation programme for the rail network which will inform the deployment of electrification and new technologies over the next 30 years.

DfT will also explore the scope to maximise efficiency from the railway, 'through methods like increased use of regenerative braking or the use of solar power'. Ah, solar power.

RAY OF SUNSHINE

Not surprisingly the 'Riding Sunbeams: First Light' demonstrator project gets a box of its own, since it is funded through the DfT and Innovate UK 'First of a Kind' competition (p15, August 2019 issue). The project is described as 'a world-first initiative to directly power trains using solar energy'.

This again typifies DfT's fondness for 'boffin-based' solutions. A square metre of solar panel produces 150 to 200 Watts in good sunlight. An English Electric 507 traction motor has a rating of 185kW.

So to 'directly power' just one traction motor would require a thousand square metres of solar panels. As my colleague Ian Walmsley remarked when we were discussing Riding Sunbeams, it may be a world first initiative because only the Brits have got the decimal point in the wrong place.

When it comes to decarbonising the railway, we have to apply Occam's Razor to the solution. This states 'entities should not be multiplied without necessity'. Simple electrification will solve the bulk of the problem, yet DfT

BIONIC DUCKWEED LIVES

'Take up of new technology will be important in decarbonising the railway and we are investing accordingly. We have recently funded, through Innovate UK and RSSB, competitions that provided over £4 million for projects to drive decarbonisation across passenger and freight.'

Decarbonising Transport – Setting the Challenge, DfT, March 2020

is obsessed with multiplying entities to avoid facing this truth.

ELEPHANT

Meanwhile, when it comes to the elephant in the room, or rather on the motorway, DfT is completely stumped by the challenge of decarbonising road haulage.

Emission standards regulations for heavy goods vehicles came into effect in July 2019. The new regulation sets binding CO₂ emission reduction targets for HGV manufacturers of 15% by 2025 and 30% by 2030. Manufacturers face fines for non-compliance.

But that is reducing emissions, not decarbonisation. So what is DfT doing?

Well it is 'taking forward a research project to identify and assess zero emission technologies suitable for HGV traffic on the UK road network', developing with industry an ultra-low emission standard for trucks and sponsoring a £20 million Low Emission Freight and Logistics Trial which will support industry-led trials of a range of low-emission technologies for freight.

Oh yes, and conducting an operational trial of longer semi-trailers, which is authorising longer articulated goods vehicles to run on UK roads. This is mitigation not decarbonisation

and environmentalists have been rebuffing attempts to run longer trailers for years.

On top of this, the Government is working to understand the potential for demonstrator projects to overcome some of the hurdles associated with the implementation of novel freight decarbonisation technologies with partners including the Connected Places Catapult.

In other words, more funding for the innovation industry. And as Elvis Presley nearly said, 'a little less demonstration, a little more action please'. Mr Presley was, of course, a noted proponent of a rolling programme of electrification.

STRAIGHT TALKING

Of course, there must be something positive about rail somewhere in the paper. Predictably, it comes in the section on rail freight where Rail Freight Group Director Maggie Simpson takes no prisoners at the committee meetings which feed into papers like this.

Here we get two boffin-waffle-free hard truths. 'The main way to achieve rail freight decarbonisation is to stop using diesel traction, through direct government intervention to roll out further electrification'. And 'current alternatives to overhead electrification, such as hydrogen and battery, do not have sufficient power to pull heavy freight trains'. 

Freight decarbonisation challenge: loco No 60044 passes Gatcombe skirting the river Severn working the 6B13 Robeston to Westerleigh loaded Murco tanks on 21 March 2020. Peter Squibbs





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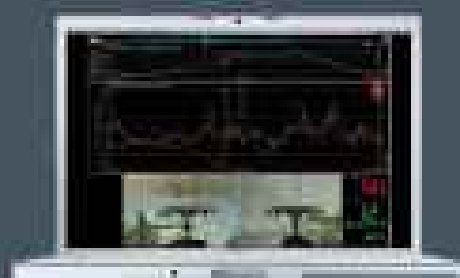
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Bathtub curve descent slow

TIN-watch demonstrates that new fleet reliability improvements are taking their time

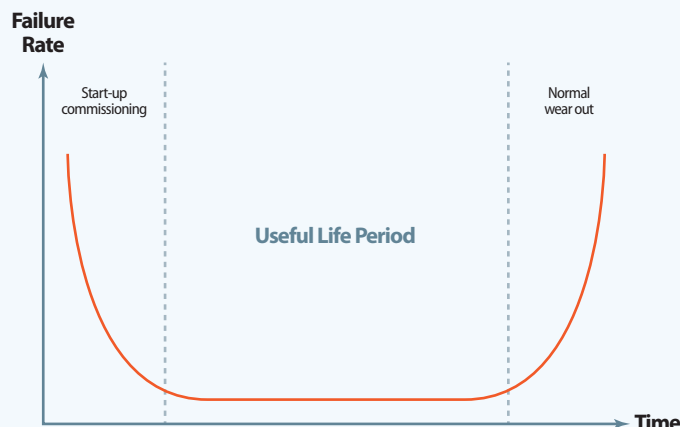
No new entries this month, so I thought it might be time to see how the longer-established fleets are progressing down the reliability 'bathtub curve'. Hence the additional columns in this month's table.

Just to recap, if you plot the number of failures for a new product against time on a graph, you start with high numbers, which should, in theory, fall steeply as infant mortalities and inherent weaknesses are eliminated. When reliability stabilises, the graph flattens out and resembles the end of a bath (Figure 2).

There is no acknowledged yardstick for the time we should expect new train fleet reliability to slide down the end of the bath and level out. But if we compare the Period 12 Miles per Technical Incident Moving Annual Average (MTIN MAA) with the results from Period 6 in this month's table, it looks as though we are going to have to wait a long time.

Why have I not shown the percentage improvement? Well, 100%

FIGURE 2: BATHTUB CURVE



of not much is still not much. For example, the Greater Anglia Stadler Class 755/4 bi-modes have improved by a massive 103%, but 2,662 MTIN MAA is not exactly the full Toblerone.

At the top of the table, percentages do give a limited guide to improvement. ScotRail and Hitachi continue to shine with a 77% improvement for the Class 385 fleet

over six Periods, showing, dare I say it, a touch of the Wimbledons.

Similarly, the 8% gain for the Govia Thameslink Railway Siemens Class 700 fleet suggests some reliability issues are proving recalcitrant. The 27% gain for the Great Western Hitachi Class 800 bi-modes gives an indication of the benefits of extended operation

under electric traction. And the 49% improvement for the GWR Castle Class short formation IC125s is also encouraging.

But, otherwise, there is not much comfort to be found in this comparison.

ASPIRATIONS REVISITED

Back in 2015 we were all diverted by the Office of Rail and Road access hearings over applications for paths on the East Coast main line. Looking back at those innocent times, I found this passage in a letter from then franchise operator Virgin Trains East Coast particularly apposite to this month's table.

'High levels of fleet performance will support our May 2020 timetable. Given our core fleet in the May 2020 timetable will be IEP, we are extremely confident that we will deliver the reliability levels required to deliver the step change in reliability that we are contracted to deliver. The reliability levels for IEPs are 27,000 MTIN for Class 800 bi-mode and 54,000 for

Availability challenge: LNER Azuma No 801209 passes Arksey on 23 March 2020 with the 11.00 Edinburgh to King's Cross service. Ian Lyall



Class 801 electric trains. This level of reliability is underpinned by a (TARA) with Hitachi. A TARA is the Train Availability & Reliability Agreement in the IEP paperwork.

Factors supporting this confidence included the reliability of Southeastern's Hitachi Class 395 units, and a 'robust' availability level of 83% (averaged across the whole IEP fleet) which would ensure adequate time spent on train maintenance in depots, with defined 'generous overnight downtime requirements'.

Now, here we are in 2020 and the table of truth tells a different story. But, to give it credit, Hitachi is the top manufacturer when it comes to new train reliability, holding four of the first five spots.

LNER FLEET PLANS

Last month TIN-Watch referred briefly to the availability issues caused by LNER's mix of nine-car and five-car electric and bi-mode trains under DfT's Intercity Express Programme (IEP). I followed this up with the ever-helpful LNER

media team, which provided this fleet-by-fleet rundown on what happens next. A caveat: the reduced timetable due to coronavirus has disrupted these plans, with LNER opting to store most of the five-car Azumas and focus on using nine-car sets and a small number of IC225s.

NINE-CAR CLASS 800 (BI-MODE)

When the final set is accepted there will be 13 trains. Contractually, the maximum number of sets to be available is 10 (77% availability). This is currently reduced to nine pending repairs to No 800109 which was damaged in the depot collision with an HST at Neville Hill in November (p98, January issue).

Between May 2020 and the start of the new timetable in December 2021 the target will remain at nine diagrams to accommodate a modification programme. From December 2021 the contractual 10 diagrams will be required.

FIVE-CAR CLASS 800 (BI-MODE)

Contractual maximum sets available is eight from 10 (80%

availability). Currently the 10 sets are covering seven passenger and one driver trainer diagram.

From the May 2020 timetable change target availability will be reduced to six diagrams to make spare sets available for the modification programme. Availability will return to eight passenger diagrams from December 2021.

FIVE-CAR CLASS 801/1 (ELECTRIC)

Contractual maximum sets available is 10 from 12 (83% availability). From the May 2020 timetable the 10 passenger diagrams will be reduced to a target of seven, also to provide cover for the modification programme. All 10 diagrams will be required from December 2021.

NINE-CAR CLASS 801/2 (ELECTRIC)

These trains, the direct replacement for the IC225 fleet, are still being delivered, with 30 sets on order. Under the contract a maximum of 26 will be required in service (87%

availability). From May 2020 the number of passenger diagrams will be ramped up, starting at 22 and rising to 25 diagrams covered by 'late summer'. As with the other sub-fleets, the 'spare' diagram will allow for one set out of service for modification. As with the rest of the fleet the contractual number available will be required for December 2021.

2+9 IC225 (LOCO-HAULED ELECTRIC)

From May LNER is expecting the legacy IC225s to be covering seven diagrams including a 'hot spare'. As nine-car Class 801/2 deliveries continue, from 'late summer' 2020 the number of IC225 diagrams will reduce to four, again including a hot spare, and then remain at that level until December 2021.

Meanwhile, during 2021 LNER is planning another programme of overhauls and enhancements for the IC225 fleet in preparation for December 2021 when the new timetable will require nine diagrams including a hot spare. 

TABLE 2: NEW TRAIN RELIABILITY, PERIOD 12 2019-20

TOC	Class	Traction	Maker	Number of units/trainsets	Number of Technical Incidents (TINs)	Unit miles	Miles per Technical Incident (MTIN)	MTIN Moving Annual Average	P6 MTIN Moving Annual Average	Change P6-P12 miles
Hull Trains ⁽¹⁾	802	Bi-mode	Hitachi	2	1	54,544	54,544	39,420		
ScotRail	385	EMU	Hitachi	70	17	764,248	44,956	27,058	15,316	11,741
LNER	801	EMU	Hitachi	24	17	438,754	25,809	16,707		
GTR	700	EMU	Siemens	115	66	1,306,056	19,789	14,429	13,384	1,045
GWR	800	Bi-mode	Hitachi	57	70	890,816	12,726	12,311	9,686	2,625
TPE	Nova 3 train set	Diesel	CAF	5	8	65,387	8,173	10,689		
GWR	PRM HST set	Diesel	BREL/Wabtec	10	10	252,097	25,210	10,683	7,172	3,511
GTR	717	EMU	Siemens	25	13	167,925	12,917	10,642	9,567	1,074
LNER	800	Bi-mode	Hitachi	22	47	347,801	7,400	9,940	9,372	568
GWR	802	Bi-mode	Hitachi	36	45	573,058	12,735	9,389	8,394	995
TfL Rail (Crossrail)	345 RLU	EMU	Bombardier	31	14	193,266	13,805	7,637	6,411	1,227
ScotRail	HST set*	Diesel	BREL/Wabtec	19	19	165,613	8,716	6,874	6,285	589
Greater Anglia	745/0	EMU	Stadler	6	5	30,482	6,096	6,438		
TPE	802	Bi-mode	Hitachi	19	58	262,326	4,523	5,998		
Northern	195/0	DMU	CAF	16	28	174,481	6,231	3,981	2,169	1,812
Arriva Rail London	710	EMU	Bombardier	15	26	82,370	3,168	3,804	1,950	1,854
Northern	195/1	DMU	CAF	27	44	253,480	5,761	3,787	3,769	18
Northern	331/0	EMU	CAF	19	48	171,032	3,563	3,512		
TPE	397	EMU	CAF	5	8	56,405	7,051	3,454		
Greater Anglia	755/4	Bi-mode	Stadler	19	62	194,206	3,132	2,662	1,311	1,352
Northern	331/1	EMU	CAF	12	32	84,819	2,651	2,450	2,555	-105
Greater Anglia	755/3	Bi-mode	Stadler	13	38	109,504	2,882	2,308	1,311	998
TfL Rail (Crossrail)	345 FLU	EMU	Bombardier	18	5	5,839	1,168	956	2,146	-1,190
WMT	230	DMU	Vivarail	3	8	13,699	1,172	823	518	305

(1) Data for Period 12 not available; *Mixed fleet of Classic and PRM-TSI modified trains.

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Cross Northern Country

The Superannuated Anoraks go coast to coast in the land which forgot timekeeping

On our last outing, Cross Southern Country (December 2019 issue), our plan was disrupted with the first train, the 07.40 to Plymouth, delayed 'by a disturbance on the train'. I commented that it was a bit early for that, but evidently not as today the same train gets the same recorded announcement. The London train is delayed 'due to the driver being taken ill' which, this being the start of the coronavirus, sets everyone wondering. I'm wondering if there is a default list of messages set on 'excuse wizard', but

not to worry, we are heading North. Our train to Leeds is 10 minutes late, just enough to keep us on edge for our connection, which we just about caught, to Huddersfield.

The '185' leaves a bit late, but we have allowed plenty of time to join the loco-hauled TransPennine train, the 10.01 to Scarborough. Huddersfield, like last time I was here, is rain-lashed and grey. I imagine railway photographer Colin Gifford would be up the hill opposite photographing a barely visible train on the viaduct. Me, I stayed under cover to admire a waiting Pacer.

A Nova 1 set goes the other way, looking strangely out-of-place in this post-industrial landscape, then our Nova 3 rolls in, six minutes late after picking its way through the crowded tracks of Manchester.

PROPER TRAIN, CHEAP RIDE

On boarding the First Class Mk 5A coach, the first impression is great. The cream and blue trim looks smart, big windows, decent seats, and even lights in the windows which I'm sure encourage upgrading. There is luggage space between the seat backs, the window blinds

don't rattle but stay in one place, in fact the ambience is a bit European, reminiscent of an ICE3 in places. Also European is the air conditioning inlet under the window, which I like as it is quiet, not too cold, and you can avoid it if you wish.

No engine noise from under the floor is a rare treat these days and the comfortable environment is a particular treat as the rain lashes the windows outside. But it isn't long before the key weakness of the vehicle shows, which is the ride. Having just got off a '185' this is particularly noticeable, that

Cat by the coast: No 68026 Enterprise heads a Nova 3 set at Scarborough. Steve Morris



'nervous' twitchy ride so typical of this type of bogie starts shaking us about over about 50mph.

Even if seven experienced railwaymen were imagining this, we now have a 'seismometer' app on our phones and the extra-wiggly line tells the story. Further proof required? The trolley attendant comments that pouring drinks on the new trains takes a bit of getting used to, then on a later train (a '350' with the proper bogies) a 'normal' (non-railway enthusiast) comments that this train is much smoother than the new ones. 'Sometimes I have to put my laptop away as I keep hitting the wrong keys' he says.

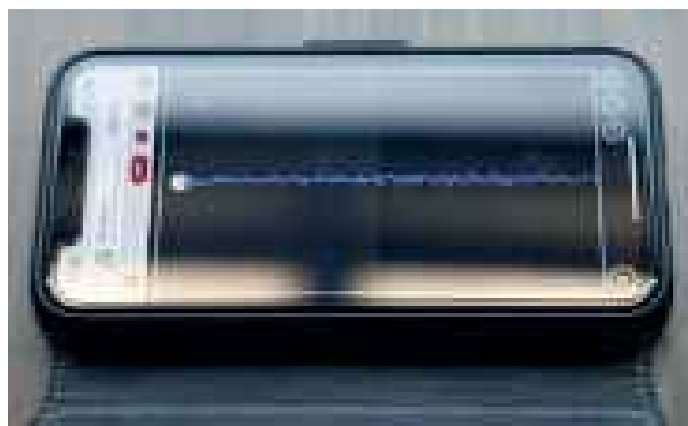
How come these smart looking new trains ride so badly? It's very simple; because nobody asked for them to ride well. The science of ride is well understood, but specifying a good ride is not easy, because



Rain-lashed Huddersfield: a Class 185 prepares to depart.



Smart: First Class on the TransPennine Express Nova 3.



How well does it ride? Wiggly line on the seismometer app.

you have to specify the track conditions as well. But it is easy to specify weight saving and seek the lowest cost, so bid teams (always in a hurry) and the Department for Transport just ask the manufacturer what they can provide. Presumably nobody bothered checking if this was anywhere near as good as British Rail provided 40 years ago, or, more likely, nobody cared.

FIRST CLASS SERVICE

TransPennine Express seems to take First Class seriously, with the smart trim and at-seat catering (I recommend the toffee muffins), and it seems to pay off. All the trains we travelled on had well-loaded First Class, although the York – Scarborough section was a bit quiet. The upgrade costs £25.00 from Liverpool to Scarborough,



No more room in here: commuters crowd the 16.21 Northern service to Southport at Manchester Oxford Road.

and bearing in mind the journey length a bit of luxury makes a big difference. You couldn't fault the staff either, everyone was friendly, despite the way

they have been stitched up by misguided management policies.

I know this is out of character, given the fact I regard the dispute over the 'safety' of driver only operation

utterly ridiculous and I am an ex-BR manager who has addressed messroom shop committee meetings on quite a few occasions. But the system is collapsing about their

ears due to a cack-handed train procurement policy, the Castlefield corridor fiasco and management being afraid to take any risks, however small, to make the situation workable. More on this rant later.

Brighter skies greet our arrival in Scarborough, and the train looks impressive, especially compared with what used to be here (apart from Class 40s on seaside specials of course). For some reason the station is full of Police Officers, at least six greeting our arrival. I pulled out my most impressive lens in the hope of being apprehended and thus making this article more interesting (*we can but hope* – Ed). But no, railplod just joined the group picture. 'Mind how you go, lads' they might have said. By the time we got back from panic buying sausage rolls they had gone.

MIND THE DOORS

After a ScotRail-like wait on the platform the bleepers go and we are admitted; just as well we are taking the first train back as the next one is cancelled due to a rolling stock issue. After wondering why a ham salad roll



is much less attractive after a sausage roll, someone notices we should have left but we haven't. No cause for alarm, we have yet to have a train on time. Every now and again the loco powers up, only to power down again.

Sure enough, an announcement confirms there is a problem, no door interlock. Now you might wonder what the team does next. We have a procurement manager, an accountant and five engineers, one of whom is me and I'm bored with the ham salad, so I thought I'd give it a go.

I walk down the train with various expectant faces looking up at me and reach the offending door. By now there are a couple of guys on the platform and calls have gone in to control for advice. There are therefore four blokes and the train manager here who all think you just have to isolate the door. The header panel is down and needless to say the train manager already isolated the door about 20 minutes ago, but it didn't work. The only other tool in my toolbox is to kick seven bells out of it with my walking boots, however it was decided this may have



Watch your backs: a Freightliner '66' leads an intermodal through Oxford Road.

warranty implications, so we opted to turn it off and then on again.

I returned to the team, who had worked out our options, which, to cut a long story short, involved

Mind how you go: a British Transport Police officer poses with the anoraks at Scarborough.



being very late. The train manager battled on (muttering something uncomplimentary about new trains) and eventually an attempt to take power succeeded and off we went at 13.16 instead of 12.34. The next stop is Malton and yes, it happened again, so we will all be changing at York to pick up a Newcastle – Liverpool. The train slips into a bay platform next to a Pacer showing 'not in service'. Missing you already.

So, a loco-hauled trip is rescued by a Class 802/2 (Nova 1), which rather scuppers my normal narrative. However, the loco is fine, it is the coaches which aren't – so who do you blame? CAF for building them or the bid team for buying unproven kit? I would like to report this was just a one-off, but it isn't as these sets are failing all over the place. Only one set survived the day and that had two fitters on it to nurse it through.

OXFORD CIRCUS

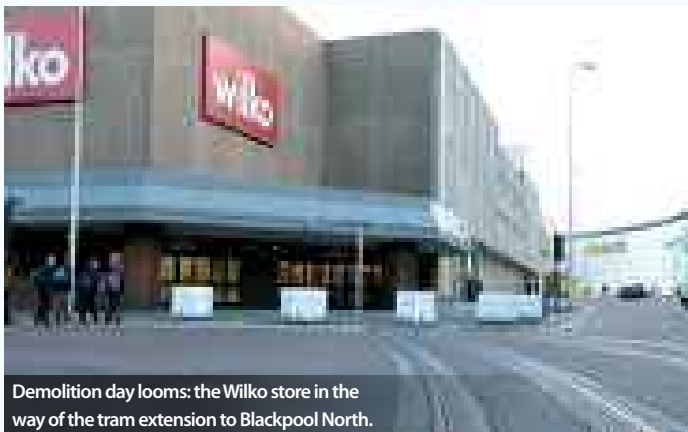
The '802' leaves York six minutes late and jiggles its way uneventfully westwards. Normals would never know it is a different train, the interior looks very similar, as is the ride, unfortunately. As is the way with this trip, timetable optioneering is in progress as our planned connection to Salford Crescent is cancelled. We can go into the thick of it and change at Oxford Road to pick up a Class 397 (Nova 2) to Preston – we'll make it if we have a good run. Fat chance of that, of course we don't have a good run, but neither does anything else so no problem.

In the platform at Oxford Road is a two-car Class 150 on the 16.21 to Southport, expected 16.24 and already packed on arrival. A few more

determined passengers force entry but the rest do their best, perhaps encouraged by the information system displaying 'welcome aboard'. The doors close at 16.27, many don't make it, which doesn't matter too much on the Victoria Line but matters a lot when the next train is one hour later. This is such a shambles, yet it goes on day in, day out.

The team is obviously unimpressed, looking at an empty platform 1 and, right next to us, platform 3 equally vacant. Alex refers to Zurich airport where either side of an island platform is used, trains zipping in alternate sides every few minutes. Just then a Class 66 on a lengthy intermodal rumbles through No 3, so probably just as well they didn't put one down there. With this number of people on the platform this is a bit alarming – nobody is watching that side, there is no yellow line on the platform and passengers are on their phones telling their families they will be late home again.

Our train to Preston is showing 80 minutes late, then suddenly it is only 10 late – it has been terminated short of the Airport (as is common practice), and is now heading back to Edinburgh, calling at this very special station which has three platforms for this direction which are really only one for signalling reasons. Despite the maelstrom on the platform there is no indication which end the First Class is and these '397s' have no markings that we can work out. Not to worry, nobody else seems bothered about dwell times. We find a few odd seats left in First and a glance at standard reminds you why First is popular. After a crawl through urban Manchester



Demolition day looms: the Wilko store in the way of the tram extension to Blackpool North.

we are off down the West Coast to Preston, change here for Blackpool.

WELCOME TO THE PLEASURE BEACH

I normally take the view that a train in the platform is worth 10 on the indicator, but our hotel is near the Pleasure Beach and the train in the platform is a '319' for Blackpool North, full and standing. We opt for the novelty of heading for Blackpool South, and in rolls a '156' – woo-hoo! The first train we have been on today which is on time.

Delight is tempered by the fact that it is dark, dirty and smells like an overnight basher's socks. Barely working fluorescent tubes flicker

light across stained grey walls and dusty blue seats, a massive contrast to TransPennine, and when it gets going the noise is terrific (one window won't close). You forget how rough these things are – but of course the ride is better than the new trains we have spent the day on.

This line is always the poor relation, although it passes through more populated areas than the North line, including a new estate being built at Squires Gate. We go to the end of the line at Blackpool South just for the fun of it, but to be honest there isn't much of that left after a long day of connection anxiety. Near the Pleasure Beach station is our hotel for the night, the Boulevard. This

is great, top class and immaculate, if somewhat dearer than the £25.00 per night B&B opposite.

BLACKPOOL MORNING

Over dinner we went around the table discussing the greatest mistakes of our careers, but if you think I'm writing that up you will be disappointed. More reportable might be the fact that being right in predicting problems is absolutely no help once the trains are built, nobody loves a smart Alec.

After an excellent served breakfast we cross the road to the tram stop for Blackpool North. The tram is on time and carrying no fewer than three conductors when they don't even have to operate the doors. North Pier is the nearest we can get, pending completion of a new tram branch to serve the station. Before it can be built, a branch of Wilkos

in the path of the route has to be knocked down and there are closure notices in the windows when we visit. Some will no doubt say it is a shame to knock it down; I'm surprised Christian Wolmar and Lord Berkeley aren't chaining themselves to the checkout tills. The new tram stop and surrounding development looks great – get this knocked down.

Blackpool North has always been an unwelcoming station, and electrification hasn't changed this. A felt-tip drawn paper directs you to the Avanti timetables while a gang of four slightly menacing staff watch over the barriers guarding the waiting hall. Platforms remain locked and taped off until passengers are grudgingly admitted a few minutes before departure.

Our '319' leaves on time for Preston, quick, smooth and quiet despite its

Blackpool promenade: tram on the sea front with the Pleasure Beach and Boulevard Hotel in the background. Steve Morris



age and arriving early. Needless to say that won't happen again today. At Preston we planned to pick up a '397' from Edinburgh, although thanks to the door incident we had already been on one yesterday. As it rolls in, we find it is a Class 350 in that awful West Midlands green 'dazzle ship' livery, but it has a First Class area where we had the last few seats and again the service is good.

The seismometer 'flatlined' out of Preston as the ride is excellent on these units, so the '397' failure turned out for the best. The train was six minutes late, then settled in behind a Southport stopper to be well out of diagram before the Deansgate – Piccadilly section.

RAMPING UP

Spending any time on platforms 13 and 14 at Manchester Piccadilly is just so depressing for anyone who remembers how railways used to run. Despite the extra staff and the full knowledge that this couple of miles of track is sabotaging services all over the North (and has been for months), very little effort goes into cutting dwell times. If operations south of the Thames were run like this, they would have to cut the train service by 10%. The Network Rail report suggests cutting the train



Unwelcoming station: '319s' at Blackpool North.

service here by 10% as a solution; how's that for value for money for the £100 million Ordsall chord?

Sorry, my rant on this will follow shortly – here's a different one. Way back in the 1990s when I was battling with the disability regulations a wheelchair slipped off a ramp which wasn't located far enough into the vehicle. So it was decided that wheelchair ramps must have raised edges and locating pins which would drop into holes in the vehicle door floor. Sounds fine doesn't it?

Being first in the build programme with Porterbrook's Class 168s, the ramps were made to suit Turbostars, and since Portaramp made the ramps I spoke to that company to set a standard. Unfortunately, my bid to standardise ramps did as well as my attempt to standardise couplers, condemned as 'anti-competitive' by Angel's representative.

So, although the wheelchairs are a defined maximum width, the ramps aren't, and virtually every train has different pin locations. Portaramp merrily sold six times more ramps, all of bespoke design and now stations with different types of trains all need a range of ramps.

Here at Piccadilly there is a rack of six, all locked in place. If, as in our case today, a different type of train is substituted, there has to be a ramp swap – that's a bit more delay. The staff tell me loading a wheelchair means there is no chance of meeting the dwell time, but that is not all, because safety dictates that the catering trolley, which often changes at Piccadilly, also needs a ramp.

The same story applies to various systems. Passenger information is another one, where the Class 156s which have come to East Midlands



Plea for standardisation: six ramps to suit different train types at Manchester Piccadilly.

from Anglia are not compatible with the original resident fleet, now becoming a sub-class of '156/9s'. This arose because train operators wanted to fit their favoured system (usually because of a particularly good or entertaining salesperson). ROSCOs just thought 'fine, we will charge them to fit a new one if we move the units', because when this was going on there was no real competition. Thanks to the dash for new trains this no longer applies, and it would have been a real competitive advantage to offer free compatibility. Oh well, at least I won on Turbostar to '15x' coupling compatibility.

STOP BUMPING

We are taken away from all this by No 175103, heading along the North Wales coast for Llandudno Junction. We thought these units were looking tired in September 2016 (West Wales wandering) and they certainly are now. Worn out trim, scratched panels and punctured double glazing makes them look like they have been

rescued from Barry, but rather than doing a C6 repair the policy is renewal, although in the interim a refresh is underway at Alstom's Widnes plant.

In a final irony these units were the only ones to get seat policy right, which was to specify the seat first, then make sure the manufacturer uses it. Their replacements had the hopeless specification 'comfortable' seats, so Transport for Wales had to spend a lot of money to replace the ironing boards with the IEP seat (p84, February issue), which is only marginally better than the base spec, but it is a bit. So, lots of money for a less comfortable train, and we haven't sampled the ride yet. To be fair, Wales is only following England's race to the bottom.

Class 175 ride is good compared to modern standards, although it was an early sufferer of kinetic envelope restrictions. As briefly as I can manage, one way to tackle Network Rail gauge restrictions is to restrict the sway of the vehicle with 'active' bump stops (ie ones it is OK to hit, normally the suspension controls sway without



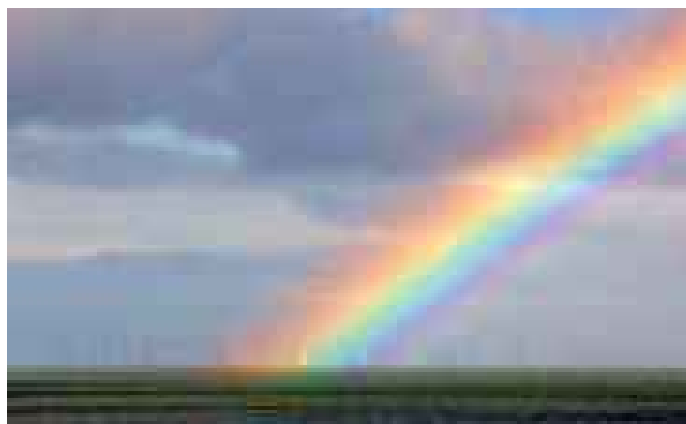
Loco-hauled survivor: No 67001 on the rear of a TfW service at Manchester Piccadilly.

impact). Restricting sway is part of the reason for the lack of free movement and harsh ride on the recent rattlers. I will never understand why we can't just say to Network Rail 'It's C3 gauge – now go and shift anything you have put in the way'. The second train is always clear of course.

LAND OF MY WIFE'S

A sunny trip along the North Wales coast line is always a pleasure, as this line actually is a 'coast' line, unlike the 'West Coast' – I wonder who first came up with that? A rainbow over the sea frames the huge North Hoyle wind farm, which might actually be approaching its 60MW capacity today.

At Prestatyn the daffodils bob in the breeze and the sun shines over the hills to the south; 'a walker friendly town' the sign says, and it looks inviting. The station was once a junction for a branch line into the hills built to carry limestone and later tourists visiting the waterfalls. The branch platform was unusual as it didn't have a run-round loop; this was because it was so steeply graded (1 in 45) the loco was always at the Prestatyn end. This is all long gone of course, although the branch is now a footpath. The station is a Beeching survivor, now a listed building but dominated by an enormous wheelchair-friendly footbridge. My family spent a lot of time here since my in-laws moved here in the 1990s, and I always meant to photograph the line when we



North Wales coast: rainbow framing North Hoyle wind farm.

visited but never got around to it. My in-laws are no longer with us, so I guess I did the right thing, even if I missed recording the semaphore signals and the Pendolino drags.

Rhyl is where I said goodbye to my PT Cruiser, sold to the only bidder on Auto Trader who dropped me at the station. I saw it cruising the sea front some time later, a fitting retirement. Rhyl is another one-time junction, this one to Denbigh, indeed the whole area once boomed with tourism and boat trains for Holyhead. Almost the whole line to Llandudno Junction was quadruple track, dating back to the days when railway companies, faced with a growing business, invested in new infrastructure to carry it. How very 1890s.

Llandudno Junction, this train terminates here – and there is a pub opposite, convenient to await

a loco-hauled return to Manchester. Time to spend the savings from the Trainline's auto-divert to the split-ticket website which split our virtual journey at Warrington and took the fare from £40.60 to £32.40. In the bar the budget is on TV with the Chancellor dishing out what seemed like a lot of money at the time, but by the time I write this up it is almost nothing as Covid-19 destroys the economy.

LOCO-HAULED AGAIN

In rolls No 67001 propelling our train back to Manchester, and while it is all standard class it is far better than most modern First Class. We can all sit together around proper tables, big windows offer a clear view and no engine under the floor. You wouldn't think this was too much to ask, especially as it used to be standard

practice, yet this is now a rare treat. These trains were planned to change to Mk 4 operation to eliminate the slam doors, but that hasn't proved so easy and we are not complaining. As it turns out this is one of the last runs of this train as it is now a corona casualty; I'm not attempting to predict the future other than to say nothing will ever be the same again.

The guard is a very keen young chap, even making a decent go at the Welsh announcements, and he stops for a chat when we enter the queue at the Castlefield corridor. He says the real problem is Oxford Road, the same conclusion we have come to, as discussed in the next section.

We briefly discuss careers and Steve Dentith mentions being project engineer for some projects which never happened, like the Class 157. 'It was going to be a "158" without air conditioning' he says. 'Oh, so a normal "158" then', the guard replies. Cracker.

The group splits up at Piccadilly, the Derby contingent taking a '185' to Sheffield and a filthy, oil splattered Meridian back to Derby. This looks like being our last trip for a long time, but at least the enjoyment that comes from a proper train on a nice route with your friends along too is a memory to treasure. 

Thanks to Steve Dentith, David Rayner, Peter Riisnaes, Nigel Tilly, Steve Morris and Alex Wood for their company and contributions.

TRUST THE DRIVER

Solutions to the Castlefield corridor are there for the taking, right now

The fiasco of the Castlefield corridor will be well known to regular readers, but in brief we spent £100 million building the Ordsall chord to allow trains from lines into Manchester Victoria to reach Manchester Airport. The short section of track between Deansgate and Piccadilly is now choked with trains, almost all of which are delayed, causing reactionary delays all over the North. Network Rail's report recommends taking out some trains, yet we are only talking about a total of 15 trains per hour, which in normal circumstances would be easy. Thameslink was designed around 24.

FLAT JUNCTIONS

There are five flat junctions in the corridor, which could be remodelled but at great cost and probably taking years to complete. One thing we can do now is to occupy them for as short a time as possible.

The same goes for platforms and indeed signal section overlaps. One train cautiously easing up on a red signal will slow down others behind it and others waiting to cross flat junctions. Much of the track is either 15 or 20mph, and the Network Rail report into the problems (Castlefield Corridor Congested Infrastructure Report capacity analysis, referred to below as 'the report' – see 'Railtalk', November 2019 issue) correctly says increasing linespeeds won't make much difference. But it would help if teamed up with the following proposals.

STEP 3 TO HEAVEN

Going back to the 1980s 'defensive driving' came into being in an effort to reduce the number of signals passed at danger. Drivers were taught to brake well ahead of signals and to work only on brake steps 1 and 2. Step 3 (the maximum brake effort) was only to be used in an emergency, indeed in brake effort terms it is the

same as emergency. This means the approach to stations and signals is a slow process and takes much longer than it does in (what I would call) more enlightened countries.

The roots of this driving technique lie in a railway where Train Protection and Warning System (TPWS) had not been implemented, wheelslip systems were primitive or non-existent, and there was no Rail Head Treatment Train (RHTT). The real problem is during leaf fall, and a quick look at the section in question tells you there are few trees and just a few bushes which could be easily cleared. Leaf mulch can be rolled in from other areas, but there are very few trees in the three miles leading up to the section, and if there is still a concern just run the RHTT through every night.

The report's assertion that increasing the linespeeds would make little difference assumes the trains are going slowly anyway. I say that for this section only they

shouldn't be. Like some busy roads have a 'red route' with no stopping, I am suggesting the Castlefield corridor becomes a designated 'red rail route', perhaps paint the mileposts red as a reminder.

A colleague in the Railway Technical Centre once said 'we don't pay peanuts and get monkeys – these people are well paid and we should be able to trust them'. While I understand the risk of a general relaxation of standards, I don't think it is unreasonable to expect a well-trained, well-paid staff member to pay particular attention for a few minutes of their working day. Trust the driver.

DWELL TIME REDUCTION

The report considers the 90-second allowed dwell time unreasonable and says it should be extended to two minutes. Bear in mind that London Underground allows 40 seconds and often achieves 20, as do the local trams.

Castlefield corridor: a TransPennine Express Class 802 approaches Manchester Piccadilly on 15 January 2020.



Knock it down and start again:
Oxford Road station.

Now I know the trains here are non-standard and have slower doors, but one problem is guards are operating them, and they are

trained to get out first, check the platform is still there, then open the passenger doors. Particularly at Piccadilly the platform is very

long, and the chances of missing it remote. Guards may even be stuck in a crowded train trying to collect fares and then have to fight their way to

a release panel. Surely we could trust the driver, just for this red route, to stop in the right place and open the doors the second the wheels stop.

Although the platform at Piccadilly is crawling with extra (and rather bored) staff, they do not seem to make any difference to boarding. No whistles, no guiding of passengers, basically they are just policing the yellow line. I spoke to some who told me the 1½-minute target can't be met if a wheelchair comes along but admitted that is rare.

More importantly, I never saw one look at their watch when a train stopped, and so many trains come in early that it is not a case of one in, one out all the time. I suggest countdown timers are installed similar to the ones on London pedestrian crossings, so everyone can see the time counting down. The countdown goes yellow at one minute, red at 1½ minutes and the staff would have an incentive scheme (and a whistle) to hit the target. The staff I spoke to really liked that idea, although obviously the safety authorities won't. For just a bit of expenditure, LED signs



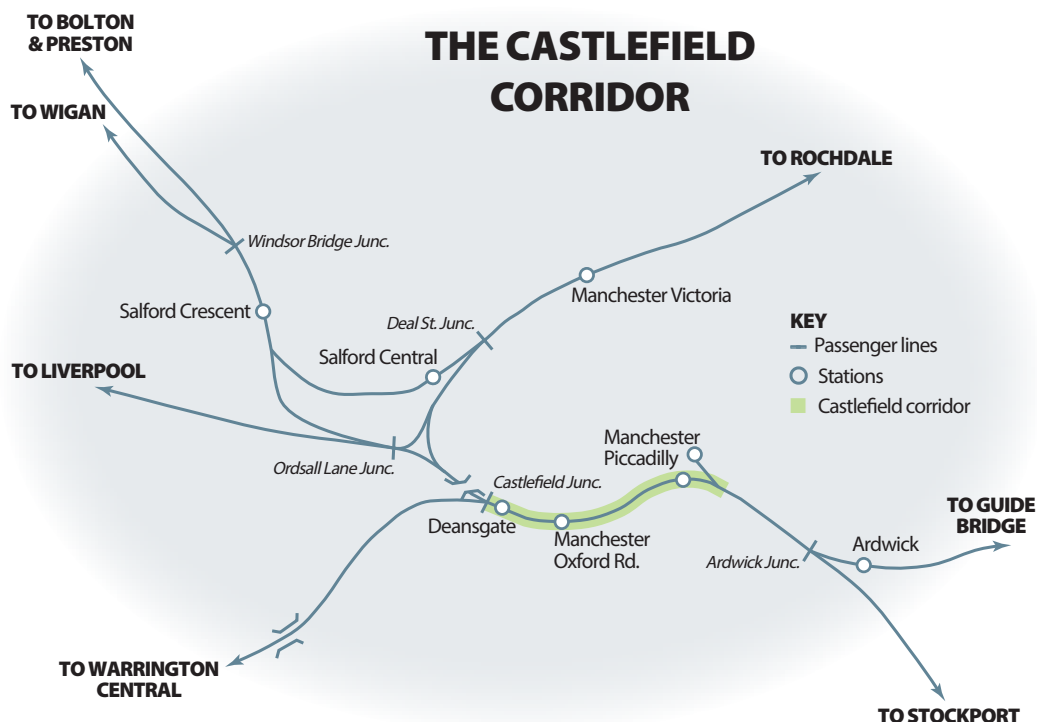
What incentive to reduce dwell times? Passengers board an East Midlands Railway service for Liverpool Lime Street at Piccadilly's platform 14.

inside the canopy screen could indicate to passengers where doors will be. This is not a difficult job; the panels are being worked on now (and have been for years).

CALLING ON

Calling-on signals, once common, are frowned upon these days. But, again referring to this red route, wouldn't it make sense to have the next train ready to come into the platform as soon as it is clear? At the moment the next train is not even in sight, and especially if it happens to be an intermodal it will take a good couple of minutes to show up. In fact, the assumed reoccupation time is two minutes. A calling-on signal would allow the next train to approach (at a TPWS-regulated 5mph) so it was ready to immediately enter the platform and, as stated above, immediately start loading.

Again, we must trust the driver to pay attention for this couple of miles and not drive into the back of the other train. By way of mitigation, trains now have proper bright tail lamps, not little paraffin burners and they would be stopped in illuminated



stations (not that a bit more lighting wouldn't go amiss either).

These two measures would reduce the two-minute dwell plus two-minute reoccupation to 1.5+1 minutes, add in the suspension of defensive driving and we have saved about two minutes per train, or 30 minutes over 15 trains. That is resilience, and if you can't work five flat junctions with that you need to try harder.

OXFORD ROAD DE-LIST

Oxford Road is much worse than Piccadilly, it is a complete mess. In its day it was an architectural wonder, with sweeping curves of wood cladding echoing the Sydney Opera House, and it became a listed building. It also has primitive signalling which effectively only allows one platform to be used at a time, the sections are too short.

The station needs rebuilding, and to do that properly it needs its listed status to be rescinded, which can be done if the minister is convinced it is no longer of special historic interest. It has a congested entrance, a grim frosted glass footbridge, short, overcrowded platforms and is mainly made of rotting wood which lets the rain in.

Think about a comparable station in Berlin on the main run through the city; it would have escalators at each end to street level, long, straight platforms, a proper roof, lifts and lots of information panels. Fixing this is not quick, I admit, but the process needs to be kicked off now, as this station has potential to take some load off Piccadilly and provide a much-needed

overtaking point for the many trains which arrive early and block the corridor for others running on time. Currently platform 1 doesn't even have a lift so it is no use at all.

If they have a few minutes to spare passengers may go east to Piccadilly to improve their chance of getting on their westbound train. I know this because I used to do it myself when I was at university, and obviously it just makes things worse at Piccadilly.

Oxford Road used to have two bay platforms, now reduced to one, but reinstating the other doesn't really help as reversing trains there means blocking both sides when they come out again. Providing turnback facilities would be a lot easier if the buildings were located where the bay is and the whole thing rebuilt. I wouldn't want to cause planning blight though, so for the moment can we just sort the signals out? Please?

THUNDERBIRD PACER

Removal of the Pacers was really a political initiative, and still hasn't been fully achieved. Removing Pacers is not a bad thing if you have enough trains left to carry the available business, but that is clearly not the case. I watched a two-car Class 150 sit in the platform for four minutes while passengers battled to board it. Had a spare Pacer been attached, it would have loaded in a minute and nobody would have been left behind.

It is almost too late now, but some Pacers should have been kept for peak lopping, on the understanding they would not be used alone and thus avoid the problem of disability compliance.

Pacers are virtually free to lease, have a wealth of available spares and are really cheap to maintain. Yes, they need to go eventually, but are four-minute dwell times and people being an hour late home an acceptable price to pay? I say not.

TRUST THE DRIVER

The Network Rail report is a fine example of the 'can't do' attitude of railway management today. I come from a time when management pushed to do more with less, and staff often resisted. We have now come to the point where the staff are the people who suffer from the management's can't do attitude.

All I am saying here is we trust drivers to do what they are paid for and offer some incentive to platform staff to make an effort in shepherding people quickly on and off trains. Just for this couple of miles; we can continue to be as wasteful and lethargic as we like anywhere else.

We have got away with using more powerful trains to cover up inefficiency everywhere else and settled into a risk-averse world which assumes drivers are inattentive and can't be trusted. It needs a risk analysis, of course, but bear in mind the other side of the equation, which is the daily destruction of services right across the North. Highly paid drivers should be capable of managing risk, and you would hope the investment of £100 million in the Ordsall chord would mean they are obliged to get some benefit out of it, not just give up and ask for more cash to support inefficiency. Pan down. 

ALTON FOOTBRIDGE APPEAL

A CROWDFUNDING appeal has been launched to save, restore and reinstate the 1892 timber footbridge at Alton station in Hampshire. The structure dates from 1892, and gained a roof in 1894 and windows in 1896.

Having outlived all the other timber footbridges of its era, an accessible footbridge with lifts was provided along the platform in 2013. However, locals felt the old footbridge was of historical significance and was an integral part of the station ambience for those visiting the Watercress Line preserved railway on platform 3.

The Friends of Alton Station group was set up in 2014 to lobby Network Rail, and despite best efforts could not obtain listed status for the bridge. After some delay the bridge was removed on 7 March and moved to a field a mile away for storage after being salvaged from NR.

The group is looking to raise £10,000 to restore and reinstall the footbridge. While the original



Historic structure: the timber footbridge at Alton station in Hampshire on 16 January 2020, prior to its recent removal. Ken Brunt

intention was to put the bridge back in its current position, the cost of doing that is likely to be prohibitive. The deciding factor was a £50,000 grant from the Railway Heritage Trust to cover the cost of carefully removing the bridge, on the condition it be relocated away from the working railway. The aim now is

to move it a short distance so that it crosses the Mid Hants Railway tracks.

More information about the campaign can be found at <https://www.justgiving.com/crowdfunding/alton-station-footbridge-campaign>, and the Friends group also has a Facebook page at fb.com/friendsofaltonstation.

PLATFORM PALAVER

PLATFORM NUMBERING – a straightforward business, surely, especially at a twin-platform terminus in the Scottish Highlands?

Apparently not. Reader John Nicholson got in touch to query the entry in last month's 'Trackwatch' column stating the official platform numbers at Oban have been updated to be 3 and 4, pointing out that this is what they have been known as on the ground for some years.

As our 'Trackwatch' correspondent Martyn Brailsford explains, the latest update appears to be trying to add some consistency in a long-running saga. 'The platform numbering at Oban has been somewhat confused

over the last 20 to 30 years, with official documentation not agreeing with what was on the ground' writes Martyn. 'Officially the platforms were numbered 1 and 2 even though the platform signs said 3 and 4 (1 was 4 and 2 was 3).

'In addition, just to confuse matters the National Rail website (see screenshot below) still believes the situation to be that each platform has two numbers (and even has 1 and 2 the opposite way round to the Sectional Appendix)! And some sites such as Realtime Trains still believe the platforms to be numbered 1 & 2.'

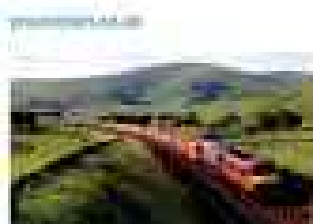
As John commented: 'What a bizarre administrative mess for such an operationally minor location, splendid as it is!'

What third rail?

DB Cargo UK recently tweeted:

The electrified third rail is designed to send power to the train. It looks like a regular rail, but it carries 750V DC. And if you touch it, you will 'stick' to it until the power is turned off.

Photo from @MagpieMayDay, @Railman



We can't quibble with the concept of a tweet with a reminder of this safety message tweeted out by DB Cargo recently. But it might be more effective if the train in the picture was running on the third rail network, rather than at the north end of the West Coast main line.

No April fool

FELINES FREQUENTLY become railway celebrities, and that is certainly the case with Felix, the Huddersfield station cat, whose fame has even extended to having her own book.

Felix, now known as Senior Pest Controller, was joined in 2018 by

WHAT SAVING?

'THE SCOTTISH Government has invested £57 million on major projects on the Highland main line over the last five years to improve services and performance along the length of the route. This investment has also delivered a 10-minute journey time saving between Inverness and the Central Belt.'

So said Scottish Cabinet Secretary for Transport, Infrastructure and Connectivity Michael Matheson in a reply to a written question from Rhoda Grant, Labour MSP for Highlands and Islands, on 5 March.

However, says Inverness resident Richard Arden, no such journey time saving has been delivered. 'A 10-minute journey time reduction was meant to happen by 2019 but has not done so' he reports, explaining the Scottish High Level Output Specification required such a saving to be achieved by the end of Control Period 5 in March 2019. As Richard explains, by the December 2019 timetable journey times from Inverness to both Glasgow and Edinburgh were in fact up to six minutes slower than in December 2011.

'It is the introduction of the full fleet of High Speed Trains, now expected for the December 2020 timetable change, which may eventually have some of the desired effect' Richard continues. 'The latest draft timetable suggests it should shorten journey times southward but have no effect northbound. But it is totally inaccurate to state that a 10-minute journey time saving has been delivered.'

Richard says the investment in the Highland main line is very welcome, but the railway is facing an uphill battle: the parallel A9 road is being progressively dualled while the railway remains largely single track. 'It should be obvious to all that substantial extra capacity provided by a mix of double tracking, dynamic loops and [maybe] some extra static loops is urgently required' he adds.

a junior apprentice, Bolt. There was thus widespread dismay when Bolt went missing in the early hours of Saturday 28 March, and the station staff soon put out an appeal through the pair's dedicated Twitter feed @FelixhuddsCat.

Thankfully, on the morning of April fool's day, Bolt wandered back of his own accord.



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ENTRIES ARE INVITED FOR THE MODERN RAILWAYS RAILWAY INDUSTRY INNOVATION AWARDS 2020

The Railway Industry Innovation Awards, organised by *Modern Railways* and run in conjunction with the Fourth Friday Club, are the longest-standing award scheme in the industry. Winning an award can generate great kudos for the winner and does wonders for company morale.

Entries should be submitted online; the form can be found here: www.4thfriday.co.uk/riia-form/

AWARD CATEGORIES

Outstanding examples of innovation are sought in the following award categories:

- | | |
|------------------------------|------------------------------|
| ■ Engineering and Safety | ■ Passenger Experience |
| ■ Environment | ■ Operations and Performance |
| ■ Cross-Industry Partnership | ■ Major Project |
| ■ Small Scale Project | |

AWARDS LUNCHEON

The awards will be presented after a Fourth Friday Club luncheon on Friday 23 October 2020. Companies interested in taking tables at the lunch should contact Chris Shilling on 01778 421550, e-mail: chris@shillingmedia.co.uk

AFTER-LUNCH SPEAKER: HELEN WATERS



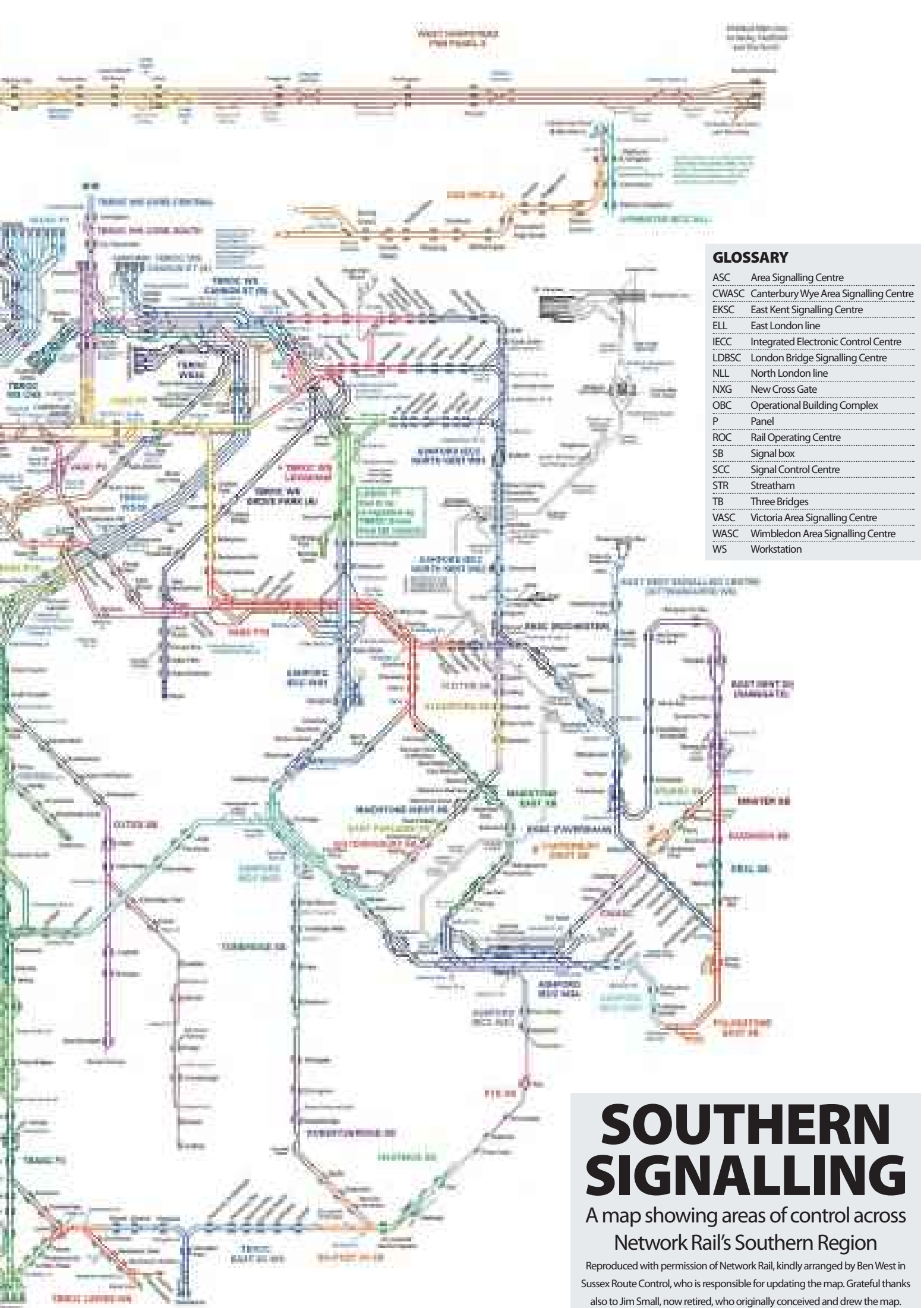
Guest of honour at this year's Railway Industry Innovation Awards luncheon at the Hilton Canary Wharf on Friday 23 October 2020 will be Helen Waters, Associate Director with Steer Group. Since 1992, Helen has worked in a wide range of consultancy, TOC and owning group roles. She has experience of all aspects of rail operations, along with rolling stock and infrastructure specification and delivery. She is passionate about the benefits that innovation can unlock and seeks to overcome institutional barriers to application of new ideas.

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GLOSSARY

ASC	Area Signalling Centre
CWASC	Canterbury Wye Area Signalling Centre
EKSC	East Kent Signalling Centre
ELL	East London line
IECC	Integrated Electronic Control Centre
LDBSC	London Bridge Signalling Centre
NLL	North London line
NXG	New Cross Gate
OBC	Operational Building Complex
P	Panel
ROC	Rail Operating Centre
SB	Signal box
SCC	Signal Control Centre
STR	Streatham
TB	Three Bridges
VASC	Victoria Area Signalling Centre
WASC	Wimbledon Area Signalling Centre
WS	Workstation

SOUTHERN SIGNALLING

A map showing areas of control across
Network Rail's Southern Region

Reproduced with permission of Network Rail, kindly arranged by Ben West in
Sussex Route Control, who is responsible for updating the map. Grateful thanks
also to Jim Small, now retired, who originally conceived and drew the map.

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The Prize:

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154/20

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Please supply your postal address, even if writing by e-mail. Please note that we may edit letters for publication. Views expressed in this letters feature are not necessarily those of the editors or publishers.

EVERY SECOND COUNTS

Your operations-themed March issue was, as ever, a great read. However, an important performance issue was notable by its absence. Observant users of the rail network cannot fail to notice the way Train Protection and Warning System (TPWS) and professional driving training have led to much more cautious driving approaching stations.

Good, one might say, job done! However, I often witness approach train speeds which are painfully slow, greatly extending junction occupation times on congested routes, with a significant knock-on impact on overall punctuality. As David Horne and Nigel G. Harris correctly demonstrate (p58), every second counts and there are powerful multiplier effects.

TPWS has been a great and overdue step forward in railway safety. Drivers are highly competent and know what they must do to keep below TPWS trip speeds. However, excessive caution by drivers and TPWS speed settings which are unduly restrictive consume capacity and frustrate punctual operation. Given the severe capacity and performance issues the industry faces, isn't a more sophisticated approach now necessary? Careful, expert easing of TPWS speed settings at key locations could make a major contribution to improving punctuality, without sacrificing the huge safety benefits the system has delivered. If the key

stakeholders collaborated on such a project, it could deliver tangible benefits years in advance of the rollout of digital signalling.

PETER HEUBECK

York

I believe that to some extent Northern is the author of one its own problems, namely timekeeping. In the article by David Horne and Nigel G. Harris (p58, March issue), the authors state that once a train arrives at a station it takes just three seconds to open the doors. I agree that should be the case (it is abroad). If only that were so always in the UK!

I recently travelled from Doncaster to Leeds on a new Class 331 electric unit working in the same timings that the old ex-BR Class 321s worked. The lady conductor did everything she was supposed to do in the interests of passenger safety. On arrival at each of the many stations on the route she released her own door, got out to check that the driver had stopped the train in a safe place, got back in again and released the passenger doors, then got out again to check that all alighting and joining passenger movements were completed, then got back in again to close the doors, then got out again to check that no-one was trapped in the doors, got back in yet again to signal to the driver, and closed her own door. All that effort added at least 30 seconds to each station stop.

The train had left Doncaster two minutes late because a late-running CrossCountry Voyager had to cross

its path. The station stops routine added another six minutes to this lateness. As a result of all this, we missed our path approaching Leeds so were held at signals. The train was 11 minutes late arriving at Leeds. Nine of those minutes were due to Northern's approach to station stops procedure and its consequence, and just two minutes were down to external factors.

If ever there was an argument for letting the drivers open the doors, this surely is it!

COLIN BOOCOCK

Derby

The LNER/Railway Consultancy exercise looking at the minutiae of delay causes contained a welcome focus on an area long ignored – the navigational adventure of finding one's way onto the train, then through the luggage jam to a seat. However, picking off individual issues like how many luggage stacks there are won't generate the wide-ranging study that's needed.

All the snags and irritations mentioned need to be addressed as one big exercise. Non-commuter vehicles haven't changed in layout for a century, dating from a time when stations had porters and trains had luggage vans. Station platforms open to the elements are surely bound to see lengthened boarding times in bad weather. And should a seat reservation come with a guaranteed allocation of space for personal effects? Physical, operational and commercial issues need to be addressed together. I fear that making Key Train Requirements mandatory ('Pan Up', February issue) will only enshrine the best of the current bad job.

Some real innovation is called for. The IEP chance has been missed. HS2 is supposed to be looking at the fundamentals of a railway. But where are the sections of the HS2

Train Technical Specification dealing with passengers? Down at the end, after all the techy stuff, of course.

RICHARD BOURNE

Haxby, York

Reading your March issue, I was struck by David Horne's article on station operations in which the possibility of a bus shelter on the platform to keep freight drivers dry was discussed. A decade ago I was working on major line upgrades for a London Underground Public Private Partnership contractor and provision of a similar edifice at the end of the platform at Stratford on the Jubilee Line would allow us to assume the benefits of 'stepping back' of train crews in the contractual calculation of terminus capacity. It was quite some time before I realised my counterparts at LU habitually referred to this facility as 'The Mighty Booth'. Come to think of it, Noel Fielding would have lapped up the surreal nature of PPP.

MARK RUSHTON

By e-mail

SAFETY CRITICAL COMMUNICATIONS

I was very interested to read the article 'Culture still dogs Safety Critical Communications' ('Informed Sources', March issue). Having recently retired from working in a very busy rural signal box where 95% of the workload was telephone work (all connected to voice recorders, of course), I have some experience in this area.

From time to time staff within Network Rail, not only signallers, would be sent on communication courses invariably run by outside agencies, sometimes small private training companies run by ex-airline or military personnel who told us their initial impressions of the railway industry was that it was very much like their own.

However, the railway industry is a unique body and what might

Doncaster line-up: LNER Azuma No 800105 pauses on 16 March 2020 with the 09.33 King's Cross to Harrogate service alongside Northern units of Classes 170, 321 and 144. Russell Wykes



suit airlines or the army might not automatically suit the railway, which needs to have appropriate standards of its own. It is also vitally important to take the workforce with you and engage with them. Too often in my experience are (some) managers ready to use a downloaded voice recording tape conversation which might have deviated from the strict letter of the rule book as an excuse to call staff into the office in order to rebuke them. Such an approach is hardly likely to endear the subject of safety critical communications to an already sceptical workforce.

We were provided with some model conversations in the rule book on subjects such as token exchanges, but in life conversations between people seldom follow a precise script, and often a signaller would be thrown into confusion when a driver did not give the exact reply they were supposed to in the rule book, leading either to a struggle to return to the script or the conversation degenerating into a more informal tone. Some staff, both signallers and track workers etc, could become nervous, knowing full well that all conversations are recorded and that they could be criticised for any perceived failings, and this led to conversations peppered with 'errs' and 'ums'.

Another drawback is the one size fits all approach. A major signal box where a large number of staff are based, controlling large amounts of multiple tracks in a big city environment and

dealing with contract rail workers from infrastructure companies they do not know, and may only speak to once, is a very different world from a single-track branch line or freight-only line in a rural area, where the signallers and track workers know each other intimately, speak to each other on a regular basis and it becomes very difficult to speak as though it is the first time you have met the person.

There is also the problem of an inconsistent approach to the rules across the country. Due to either local agreements or a more relaxed attitude by a Local Operations Manager (LOM), standards can vary between one area and another within a Network Rail Route, never mind between one Route and another. There are examples of signallers being 'A' graded on their comms by a LOM in one area, then in a company reorganisation transferred to another LOM's area and subsequently being told their comms are so poor as to be a sackable offence, despite having never changed their style of communication or wording!

The rule book repeatedly uses the phrase that two persons engaged in a phone or radio conversation should reach a 'clear understanding' on what is required. Might this be the way forward – to give some discretion as to how to word individual conversations depending on the circumstances, rather than sticking rigidly to a pre-prepared script which may not be appropriate,

so long as both parties involved are entirely clear and certain as to exactly what is required.

Unless and until all railway companies adopt a consistent approach across the whole country, I fear the subject of railway voice communications will continue to be a grey area which will satisfy no-one.

NAME AND ADDRESS SUPPLIED

MML JUST THE STARTING POINT

You are right to identify the reinstatement of the electrification of the Midland main line as a priority ('Railtalk', last month). Not only is it shovel ready, it would also bring much-needed benefits to a region that has consistently had less government funding on railways than other regions: in 2016-17 the East Midlands received just £70 per head of population and the West Midlands £149, with the national average being £249.

Electrification of the Midland main line also brings real infill opportunities. Electrify an additional 30 miles of railway from Sheffield to Doncaster and Fitzwilliam (on the line from Doncaster to Leeds) and you get electric trains running from Derby to Edinburgh via the East Coast main line, a distance of 293 miles. Head south with electrification from Derby to Birmingham, 41 miles, and you not only get electric trains from Nottingham to Birmingham but trains can also run in electric mode from Bromsgrove to Edinburgh, a distance of 352 miles.

There are east-west options as well. Electrify from Dore & Totley to Stockport, just another 32 miles, and you have electric trains running from both Doncaster (94 miles) and Nottingham (115 miles) to Liverpool. Move on to Derby to Stoke, 36 miles to electrify, and you get electric trains from Nottingham to Crewe, 68 miles, and Derby to Manchester, 64 miles.

By electrifying the Midland main line, you open the possibility of a rolling programme to electrify a series of well-used railways across the Midlands and the North. There is even an obvious home for the 33x5-car bi-mode units ordered for the Midland main line at CrossCountry, where the extremities of the system like west of Exeter are unlikely to be a priority for electrification anytime soon and bi-modes are a better option than diesels.

BOB POYNTER

Collingham, Notts

ANGLIA IN THE MIDST OF CHANGE

I enjoyed reading the 'Anglia in the midst of change' feature in the April issue. Having lived at several locations along the Great Eastern main line route for most of my life it has been a slow journey in terms of progress, especially when compared to other radial lines emanating from London.

Greater Anglia's introduction of new rolling stock is very much to be welcomed; I have only so far experienced the Class 755 bi-modes

Could more use be made of the loops here? Loco No 90006 *Modern Railways Magazine*/Roger Ford races south at Witham with the 11.30 Norwich to Liverpool Street service on 22 October 2019. Antony Guppy



and they are superb in terms of ride, ambience and increased capacity. I await my first opportunity to ride a Class 745 'Inter-city' EMU which I am sure will also be excellent, especially given their superior acceleration and automatic doors which will enable faster schedules and reduced station dwell times. I very much hope the Bombardier Class 720 proves to be a well thought-out design, replacing the rather unpopular Class 321s.

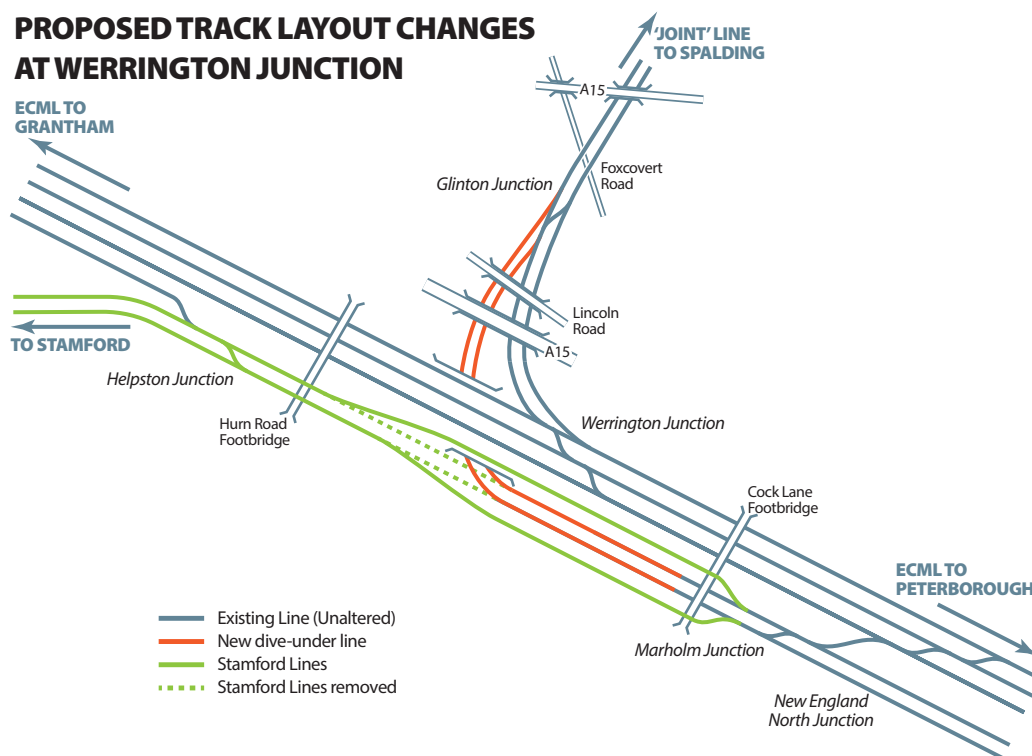
However, it was the infrastructure challenges I found most interesting. The Great Eastern main line must be the most intensively used, double-track, mixed traffic main line in the country. Whilst it is four-track for the first 20 miles to Shenfield, the additional tracks are in effect a standalone line which will of course become the eastern flank of the Elizabeth Line. Virtually no main line trains utilise them (allowing faster trains to overtake), although it is somewhat hypothetical since the two pairs of tracks are paired by use rather than by direction, meaning inefficient conflicting moves.

It is therefore good to read that Beaulieu Park is to have 'a loop' which could allow 90-minute Norwich to Liverpool Street services to overtake stopping services. However, there has been some doubt as to whether the station will have two loops or just one, and if it is only one then it will be of limited use unless it is located between the Up and Down tracks and is bi-directionally signalled. The original plan was to realign the existing formation so as to incorporate a central island platform with two platform loops between the Up and Down main lines which would allow overtaking and would also allow any terminating trains to reverse without having to cross the main through lines.

I cannot see why installation of a new loop at Marks Tey (presumably on the Down side north of the station since there is already one on the Up side) would provide much operational benefit given the proximity of Colchester five miles further north or Witham eight miles further south. What I would like to see is the use of Shenfield as an overtaking point since it now has two island platforms flanking the main line which are independent of platform 5 and the new platform 6 for terminating Elizabeth Line trains. Similarly, I am always surprised greater use is not made of the two Witham loops. And this does not necessarily relate solely to passenger trains.

Whilst the use of the Felixstowe to Nuneaton (F2N) route should

PROPOSED TRACK LAYOUT CHANGES AT WERRINGTON JUNCTION



always be maximised for Felixstowe intermodal traffic going to or from the north, as well as other freight traffic, there are still some daily intermodal paths required for services to Daventry and Cardiff plus a range of electrically-hauled services destined for Trafford Park, Widnes, Liverpool and Mossend which all need to use the GEML. With skilful planning, is there any reason why these 75mph timetabled freight trains should not overtake semi-fast passenger services at Witham and Shenfield (and Beaulieu Park in future) without detriment to the latter whilst benefiting end-to-end times for the former? By allowing a 75mph intermodal train to continue running at full speed, as opposed to having to slow down, be looped via a 25mph turnout, then restart to attain its previous speed, it utilises significantly less track capacity and from a CO₂ perspective it is significantly more environmentally friendly, and even more so for diesel-hauled services.

The GEML will always need to be a mixed traffic route with inter-city, commuter, metro and freight traffic. It is the equivalent of Heathrow in terms of traffic intensity (per single track) and it will need ongoing investment to squeeze more trains onto it, which it will need given the extraordinary urban growth in places such as Colchester and Chelmsford, ever increasing container imports at Felixstowe and very possibly a significant

number of heavy aggregate trains destined for the planned Sizewell C nuclear power station.

JONATHAN MOSER
Railfreight Solutions
Ipswich

WERRINGTON TRACK CHANGES

I'd like to make a couple of points regarding the update on the Werrington project ('Infrastructure News', last month).

The reference to the freight-only link at Helpston is not correct, the connection is part of the East Coast main line Down Slow, which is electrified. The ECML Down Slow passes through platform 5 at Peterborough and then shares the most westerly track with the Down Stamford as far as Helpston, where the two routes divide.

It would be possible for Up trains to cross on to the Down Slow at Tallington and run under single line working conditions to Helpston and then join the Up Stamford, which is not electrified. From Helpston Up trains would have to run for 3M 42ch to New England North Junction on non-electrified track before being able to cross to the Up Fast or Up Slow electrified lines. That would be OK for a hybrid Azuma, but would an electric Azuma be allowed to run that far on its one diesel engine? Class 91s would be OK on a Down service but would need a diesel pilot on an Up train, perhaps a better solution than an electric Azuma.

Thameslink trains have to cross the Up lines on the flat at the

south end of Peterborough. If a short length of the line towards Spalding and the new dive under were electrified they could run onto the Spalding line and reverse to get onto the Up side without blocking main line movements. It would require an Up direction signal on the Down Spalding to allow the terminating train to set off in the up direction.

ROBERT N. CURD
York

COVENTRY TO BIRMINGHAM CORRIDOR

Chris Stokes ('Between the Lines', March issue) details the operational problems affecting the Birmingham New Street to Coventry line.

I understand the LMS acquired an Act for four-tracking this section in 1939. Needless to say the project was overtaken by the outbreak of World War Two, but if there was a sound business case back then there is surely a stronger one now. Observation from the train appears to show no substantial development encroaches close to the line, so if four-tracking goes ahead now land acquisition should not be too difficult. With the Government's recent enthusiasm for infrastructure this development should be high on the list, as problems on this line can have repercussions as far afield as Aberystwyth, so the project has strategic value rather than just solving a little local difficulty.

JOHN HURDLEY
Birmingham

BOMBARDIER TARGETS ACCELERATION

Bombardier's UK President **MATT BYRNE** chats to **PHILIP SHERRATT** about developments at Litchurch Lane

For Bombardier, 2020 was set to be a year of big milestones. Before the coronavirus crisis hit the country, the manufacturer was targeting the year as one in which it would make significant progress with its new Avenra fleets. Added to that was the announcement in February that Alstom had reached agreement to buy Bombardier's Transportation division.

While the diversion of coronavirus is likely to affect some of these objectives, before the crisis hit Bombardier's UK President Matt Byrne discussed developments since he took charge of the UK division last October.

ALSTOM DEAL

On 17 February Alstom and Bombardier announced the signing of a memorandum of understanding that would see Alstom acquire Bombardier's Transportation division in a transaction valued at US\$6.4 billion. The deal was expected to take 12-18 months to complete depending on the involvement

of competition authorities, although clearly this was before the coronavirus crisis.

Bombardier Transportation has two shareholders – Bombardier itself and institutional investor Caisse de dépôt et placement du Québec (CDPQ). Under the deal, Bombardier would receive a cash payment while CDPQ would get shares, a move Mr Byrne describes as positive for the industry in its indication that a major investor wishes to retain an interest in the business.

This is not the first such proposed deal in recent years, with the tie-up between Alstom and Siemens quashed by competition authorities last year. However, Mr Byrne is confident the Alstom/Bombardier deal will get the green light, suggesting the businesses are more complementary with similar cultures, although he accepts questions will be asked, particularly in some continental European countries where overlap between the companies will attract close scrutiny.

'I believe it would be highly positive for the UK' says Mr Byrne. 'Bombardier has the Derby

factory, the Avenra product, the Services business and a signalling business, albeit a smaller one than Alstom's. Alstom has particular expertise in infrastructure and signalling. A joining of our Research and Development philosophies and budgets would allow us to accelerate the digitisation of the industry.' (An update on Bombardier's signalling business was provided in last month's 'Informed Sources')

While Alstom hasn't had a presence in the new-build rolling stock sector in the UK in recent years, Mr Byrne says the UK has been a cornerstone for Bombardier, which is one of the company's key strengths and makes the deal an attractive prospect for Alstom, boosting its UK portfolio.

In the short-term though, Mr Byrne emphasises that the companies remain fierce competitors. This extends to the most prized contract of all – that to build the first trains for HS2, where Bombardier has paired with Hitachi in a joint bid while Alstom has tendered separately. The various delays associated with HS2 had put the selection of a preferred bidder back to the end of the year, although



this could slip further following the coronavirus crisis. 'We're 100% committed to our partnership with Hitachi and we think we've got the best product and the best solution' says Mr Byrne.

FOCUS

While speculation around the tie-up with Alstom is expected to continue for some months, Mr Byrne says his main aim for Bombardier is to maintain a focus on the key milestones to be achieved this year. 'It's human nature that people will get distracted, but we need to keep our team focused on the deliverables' he says. At the heart of this is progressing contracts for the Aventra EMU. Drawing to a close are the builds of Class 345s for the Elizabeth Line (Crossrail) and Class 710s for London Overground (LOTrain).

For the '345s', a key objective has been resolving issues with European Train Control System (ETCS) in the tunnels to Heathrow Airport to allow Aventras to begin running Paddington to Heathrow services, which was planned for the spring. Beyond that, Mr Byrne says the key focus is on Crossrail's Stage Three opening, when services will begin running from Paddington to Abbey Wood through the central tunnels, with the phases of trial running and trial operations that precede this.

Crossrail Managing Director Mark Wild has publicly praised the co-operation with Bombardier as builder of the '345s', and therefore with responsibility for the on-train software, and Siemens, which is responsible for the signalling in the central section. 'It was a good innovation by Crossrail to bring the key parties together' says Mr Byrne. 'It's enabled what appear to be competitors to open up and say what is best for the project.'

Coats of many colours: vehicles from four different Aventra builds at Litchurch Lane on 6 March. At left, a Class 720 driving vehicle for Greater Anglia; in the centre a Class 345 vehicle for Crossrail heads a rake of '701' carriages for SWR; and on the far right is a Class 710 driving car for London Overground. Philip Sherratt



Longer LOTrain: No 710276 was the first five-car '710' for London Overground to move to the Old Dalby test track on 20 February 2020 and here awaits entry to the test shed on 21 March following four hours out testing near Old Dalby village. The five-car '710s' are expected to be renumbered in the '710/3' series prior to entering service. Joel Coulson

SOFTWARE

From a software perspective Crossrail is somewhat unique due to the various interfaces involved. The first true Aventra with next generation software is the Class 710 for London Overground, where software issues have caused some months of delays.

However, a major milestone was reached in early March with the start of multi-unit operation with pairs of units coupled together on West Anglia services out of Liverpool Street (p10, last month). By mid-March a second pair of units was in daily service.

'Our focus is on making sure reliability continues to drive upwards' says Mr Byrne. 'This is our shop window for the Aventra platform and the parent to the Aventra family – and the software progress here opens the door to allow other programmes to follow.'

The next Aventra contracts in progress are for Class 720s to Greater Anglia and Class 701s to South Western Railway. 'We've been building in earnest in anticipation of finalisation of the software and homologation process' says Mr Byrne. 'It's been a long journey, but we now have a lot of confidence in the progress we've made with LOTrain and that reads across to the following builds.' Key milestones included the start of on-network testing for Class 720s in the early hours of 17 March ('Moving Wheels').

Following that will be Class 730s for West Midlands Trains. Two types will be built – three-car sets for the Cross City line in Birmingham and five-cars for the London Northwestern branded services. A pioneer unit of each variant is being built before series production begins

later this year – the first images of the Cross City units were revealed in our last issue.

Last in the current order book is a 6x10-car order from c2c for Class 720/6s. This follows on from the Greater Anglia order – as the shared class number indicates, the two types will be quite similar, albeit with a number of aesthetic changes.

Mr Byrne pays tribute to Bombardier's team of around 100 software engineers based in Derby and points out that the key to how quickly software can be developed is whether it relates to safety critical elements. 'We can turn around software updates in a matter of hours, and if they're not safety critical they can be live within a few days' he says. 'But the safety critical elements require validation – it's not our lack of ability to programme them. This isn't just a rail industry challenge; we've seen similar issues in the aviation industry.'

With this busy workload, the six production lines at the Litchurch Lane factory are now shared as follows: two for Greater Anglia, three for SWR and one for West Midlands. A seventh line will follow for the forthcoming contract to build 280 vehicles for two new monorail lines in Cairo, with the first car due to be completed in spring 2021.

SHOWROOM

Aware of the number of vehicles set to be delivered over the next couple of years, Bombardier is developing a 'showroom' concept, designed to ease the introduction of new trains into service.

'The aim is to provide access for fault-free running and client acceptance but to take these

AVENTRA ORDERS

Operator	Class	Fleet	Number of vehicles
Crossrail (Elizabeth Line)	345	70x9-car	630
London Overground	710	48x4-car, 6x5-car	222
Greater Anglia	720	89x5-car, 22x10-car	665
South Western Railway	701	30x5-car, 60x10-car	750
West Midlands Trains	730	36x3-car, 45x5-car	333
c2c	720	6x10-car	60



Construction ramping up: a Class 701 vehicle for SWR takes shape in 'U' shop at Litchurch Lane. Philip Sherratt

away from the constraints of the day-to-day operation' Mr Byrne explains. 'Introducing a new fleet brings with it risk, and if we can take that offline it is less likely to disrupt services.'

For example, Greater Anglia and SWR, the next two companies receiving Aventras, will base those fleets primarily at their Ilford and Wimbledon depots respectively, both

'720' on test: the second day of daylight testing of a Greater Anglia Aventura EMU took place on 24 March when No 720509 worked to Norwich for the first time as the 5Q02 10.00 from Liverpool Street. It is passing George Hall foot crossing at Ardeleigh already three minutes early and would arrive at its destination seven minutes ahead of schedule on a fairly leisurely 108-minute non-stop run. Antony Guppy

of which are very constrained sites lacking space to house large numbers of new trains awaiting acceptance. The plan is to create showrooms on rail-connected sites on or close to customers for this purpose.

'The showroom will give us greater flexibility and enable us to keep vehicles in a pristine state, meaning more vehicles can be ready for sale to the customer, so it's not just a case of one in, one out. You can have the showroom on-route or off-route – we already carry out fault-free running off-route' says Mr Byrne, pointing to the extensive testing of the Crossrail and LOTrain fleets carried out on the West Coast main line.

ACCELERATE

Bombardier's 'Accelerate' programme has also been launched with a wider focus. 'The aim is to make sure our team in Derby and the support teams are focused on delivering our commitments to the Aventura programme' says Mr Byrne. 'The objective is a back to basics approach where we identify aspects on the critical path and ensure they are fully understood, fully resourced and delivered. This includes accelerating to deliver on the contracts we've got.'

Among the tools put in place as part of this programme is co-locating Bombardier personnel



in client bases. Bombardier is also opening a second test track at Litchurch Lane alongside the current one to provide more capacity for testing. The intention is that the existing track will be used for running at speed (the limit is 40mph) and the new one for slower speed testing. Opening is planned this summer.

But Mr Byrne emphasises that Accelerate is not just about process but also execution. This means having the correct resources in place and identifying bottlenecks. With the volume of trains to deliver over the next two years the programme is heavily focused on this aspect, but Mr Byrne says it is not just a short-term focus and the aim is to make Bombardier more agile and flexible once the current order book is delivered.

DECARBONISING

Whereas Bombardier built 2,805 Electrostar vehicles over some 20 years, the 2,660 Aventura vehicles currently under construction are compressed into a much shorter timescale, a result of the so-called mass extinctions of old fleets which have come with recent franchise awards. Mr Byrne said he expected a greater element of strategic direction offered by the Williams review would provide a longer-term focus to avoid such peaks and troughs.



First '730': the first of 36x3-car sets for the Cross City line in Birmingham under construction in 'G' shop at Litchurch Lane; Bombardier will also build 45x5-car '730s' for West Midlands Trains' London Northwestern Railway services. Philip Sherratt

Nonetheless, it leaves Bombardier with a challenge of how to refresh the pipeline of work for the Litchurch Lane factory past 2021. Mr Byrne highlights the decarbonisation agenda as key to this. Alstom, Bombardier's potential future owner, has invested heavily in hydrogen fuel cell technology with its iLint train in Germany and the promotion of its Breeze conversion of Class 321s in the UK.

By contrast, Bombardier has focused on battery technology as being most appropriate for the UK. 'We think developments in the last 12 to 18 months have vindicated this approach' says Mr Byrne. 'The capacity and range of the latest generation of batteries makes this a viable solution suited to the UK. Of course, we need an integrated strategy which uses battery technology alongside a strategic view of electrification to help meet emissions targets set by Government.'

One contract eliciting significant industry interest is for a replacement fleet for the Dublin Area Rapid Transit (DART) network operated by Iarnród Éireann. The contract will be for up to 600 vehicles as part of fleet replacement and expansion of the network. Mr Byrne says Bombardier will be bidding a bi-mode variant of the Aventura which would work on AC overhead and another power source.

Bombardier had proposed an electric/diesel bi-mode for the East Midlands and West Coast franchises, but this was not ordered by the respective franchisees. Mr Byrne says development of that variant is now on hold; while he does not rule out its revival if there is demand from the industry, he says the company is focusing on a battery/electric proposition.

A key advantage of the Aventura is its modularity, optimising production rate

and space. This would be a particular advantage when it comes to offering trains for export: 'Aventura has been designed for maintainability, manufacture and cost' says Mr Byrne, who hopes a contract in Ireland might not be the first such export deal.

EXISTING FLEETS TOO

Of course, future planning isn't limited to new-build trains. 'One of the strengths of Bombardier is how it stands behind its existing fleets, supporting operators and owners' says Mr Byrne.

An example is the Voyager fleet operating with CrossCountry, whose operations present perhaps the most significant decarbonisation challenge, with only around 30% of CrossCountry's network electrified. Mr Byrne says Bombardier's focus is on ensuring the Voyagers remain operationally and financially competitive. He does not rule out adding AC overhead capability to the fleet, as was once proposed through 'Project Thor'. But he says fitting batteries is also an option, with a potential opportunity to turn off diesel engines through key stations such as Birmingham New Street.

Bombardier also wants to secure the future of its Electrostars, which are now at varying ages but broadly in mid-life. A battery trial on a Class 379 on the Harwich branch in 2015 (the Independently Powered EMU) proved the concept of fitting batteries to such units, but with technology having moved on discussions are underway with various leasing companies. 'Putting batteries on a train is easy – the key is the intelligence of how you integrate the system, managing the batteries to provide the best balance of range and longevity of life' says Mr Byrne. 

CORONAVIRUS PROMPTS PRODUCTION PAUSE

On 25 March Bombardier paused production at its Litchurch Lane factory in Derby in light of the coronavirus outbreak, but planned to resume operations in mid-April, adopting new processes including greater spacing, split shifts, additional safety requirements and

washing facilities. The temporary pause also affected maintenance activities at Ilford and component refurbishment and overhaul at Crewe. Activities at the company's Services sites continued throughout in accordance with safe working practices.



GATWICK WORKS LEAD TIMETABLE CHANGES

Covid-19 has thrown everything in the air, but here's what the plans were before the crisis hit. **JAMES ABBOTT** reports

It is an irony that the station at the heart of the May 2020 timetable changes, Gatwick Airport, looks sure to be one of the hardest hit by the coronavirus crisis. In early April passenger numbers had fallen off the edge of a cliff everywhere, but with the finger pointing at international air travel as one of the key factors in the spread of the virus, Gatwick Airport can expect an especially hard slog back to former traffic levels once the crisis abates.

Nevertheless, in a reasonable response to what were rising traffic levels, the Department for Transport, Network Rail and the airport authorities co-operated on a £150 million plan to expand passenger facilities in the notoriously cramped station. As we explained in a feature in the February issue (p68), the work takes two platform faces out of service for a period of two

years from this May, necessitating adjustment of the timetable to accommodate this. The platform occupations are due to finish in May 2022 but work on the concourse will take another year.

Operator Govia Thameslink Railway cannot operate any terminating Gatwick Express trains with the reduced platform availability. Since December 2015 two of the four off-peak Gatwick Expresses have run through to Brighton and in the May 2020 timetable the two Expresses terminating at the airport are coming out of the schedules. Pre-Covid, the plan was that the remaining two Expresses, running through to Brighton, would run as 12-car trains all day to accommodate the extra passengers that could be expected, and the busiest hour in the morning and evening peaks would continue to be served by four trains an hour.

Under the plans, Gatwick will not be short of trains to London: there will be 16 trains per hour in each direction for the majority of the day (two Gatwick Express, eight Thameslink and six Southern), compared to 18 in the winter timetable. There will be a 30mph speed restriction through the station during the works.

END TO HAYWARDS HEATH SPLITS

Another change is coming on the Brighton main line: splitting and joining of West and East Coastway services at Haywards Heath, a feature of the timetable since 1997, ceases in the May timetable. Coupling and uncoupling has been a thorn in the side of the operators, introducing delay risk; the time taken for it will be used to extend dwells at Gatwick, mitigating risk from the works there.

Haywards Heath: splitting and joining here is to cease in the May timetable. In this 20 November 2018 view, the 19.16 from London Victoria comprised of two four-car Class 377 units has just been divided and station staff are about to signal the right away to the train guard. The leading unit, No 377408, will depart as the 20.05 to Littlehampton via Hove, while two minutes later the second half will depart for Eastbourne. John Vaughan



In the May 2020 timetable today's combined Coastway path will be used by independent half-hourly trains for Littlehampton via Hove (the West Coastway), with additional stops at Burgess Hill and Hassocks, and Preston Park will benefit from a half-hourly service as against hourly today. The East Coastway service to Hastings and Eastbourne via Lewes will take the path of today's Southern Brighton services, with extra station stops at Wivelsfield, introducing a new half-hourly service in both directions at Wivelsfield. The intention was to make both East and West Coastway services eight-car trains, but again who knows what coronavirus means for that aspiration.

Brighton customers wanting to go to London will have the choice of Thameslink services and the half-hourly Gatwick Expresses.

Other services which operate via Gatwick Airport such as Southern services via Horsham towards Portsmouth Harbour or Great Western Railway services will not be significantly impacted by the works, but timings may change.

THAMESLINK CHANGES

There are several weekend changes planned for Thameslink services.

The Saturday Thameslink service between Brighton and Cambridge will double to two trains per hour in both directions. This will increase the frequency of cross-London Finsbury Park to London Bridge services to four per hour



Hertford loop: No 717022 with a service to Moorgate at Gordon Hill on 5 September 2019. The loop service is due to run through to/from Stevenage again. Ken Brunt

in each direction (two Cambridge-Brightons and two Peterborough-Horshams).

On Sundays, the existing hourly variant of this service which operates between Cambridge and Gatwick Airport will be extended through to Brighton.

The existing two per hour in both directions Saturday Thameslink service from Rainham to Kentish Town will be extended through to Luton, although will no longer call at Kentish Town, mirroring the Monday to Friday service.

Meanwhile, Southern is introducing additional calls at Cooksbridge on Sundays to provide a seven days per week service there for the first time. This builds on the introduction of additional weekday services and a Saturday service in the winter 2019 timetable. Platform extensions were planned to be put in this spring at Cooksbridge and also Lancing and Goring-by-Sea.

In an effort to introduce robustness given the extensive engineering work planned, the service at Earlswood and Salfords stations reduces from two to one train per hour on Sundays in the May timetable.

North of the Thameslink central core, East Midlands Railway's precursor company made substantial changes in May 2018 to accommodate the redrafting of the Thameslink timetable; no changes were planned on EMR in May 2020. Pre-Covid, the plan was to introduce Class 360s on the newly electrified line to Corby in December 2020, prompting new EMR schedules then.

SOUTH WESTERN

Elsewhere in third rail territory, South Western Railway plans just a few tweaks to the timetable. In the evening peak, the 18.02 and 19.02 Waterloo to Farnham services will be cut one station short, both terminating at Aldershot.

A swap is planned in the late evening peak: the 19.39 Waterloo to Fareham will run to Poole, while the 19.48 Waterloo to Poole is amended after Eastleigh to run to Fareham.

An additional summer Sunday service is planned at 07.33 from Poole to Waterloo, up until 4 October. On Saturdays the 12.10 Weymouth to Yeovil Junction and 14.16 Yeovil Junction to Weymouth will no longer run.

Southeastern, long stuck in franchise change limbo-land that was only resolved on 30 March (p9), only planned one change of note in the May timetable: extension of a service in the morning from Tonbridge to Tunbridge Wells.

GREAT NORTHERN

Subject to the completion of the turnback (fifth) platform at Stevenage and an independent running line from Langley Junction (where the Hertford loop meets the East Coast main line), GTR will reintroduce weekday Great Northern Metro services between Stevenage and Hertford North. These services previously used to run to and from Stevenage but were cut back as part of the May 2019 timetable, to allow additional services between Cambridge and Brighton to operate. In the current timetable, the link between the Hertford loop and Stevenage on weekdays is provided by a rail replacement bus. The frequency of services will be increased across the entire week: there will be two trains in each direction per hour between Stevenage and Hertford North.

In the summer 2020 timetable, Great Northern Metro services resume their normal pattern of regularly operating to/from Moorgate on weekends and for late night weekday services; they have recently been operating into King's Cross in order to yield possession time for track maintenance on the Northern City line.

There will be some tweaks to timings to reflect the acceleration capabilities of the new Class 717 fleet and the restoration of services to Stevenage via Hertford North.

On Anglia few changes are expected: the plan there is to introduce a major timetable recast in December 2021. No changes were planned for c2c in May.

HUDDERSFIELD DIRECTS

LNER plans improved services between West Yorkshire and London. Pride of place goes to a new weekday Azuma service between Huddersfield and King's Cross allowing a full day's business in London, which pre-Covid was planned for introduction from Monday 18 May 2020. The new southbound service will depart from Huddersfield at 05.50 and Dewsbury at 06.01, joining with the existing





New destination: LNER's No 800210 stands at Huddersfield on 26 February 2020 after arriving with a test working from Neville Hill. An Azuma return working to King's Cross is planned in the May timetable. Russell Wykes

06.40 ex-Leeds to arrive in the capital at 08.51. The evening northbound service will depart from London King's Cross at 18.03 and will be formed of two five-car Azuma trains, which will split in Leeds, with one train continuing to Skipton and the other to Huddersfield, arriving at Dewsbury at 20.45 and then terminating at Huddersfield at 20.58.

Also planned was a doubling in the through services from Bradford Forster Square to London. The new 08.43 Bradford to London and 16.33 London to Bradford will supplement the current 06.30 up and 18.33 down.

LNER's main Azuma recast is planned for December 2021.

CHILTERN

Chiltern is planning an additional morning peak train: an 08.52 from High Wycombe to Marylebone, calling at Beaconsfield and Gerrards Cross. The train would be formed off an empty stock from Marylebone, using stock that would otherwise be berthed on the wall siding at the London terminus.

In the West Midlands, an additional 16.18 is planned from Stratford-upon-Avon to Hatton, connecting into the 16.12 Birmingham Snow Hill to Marylebone service that is set to call additionally at Hatton.

'We are tightening up our unit diagrams, which allows us to offer more seats in the morning peak into London and into Birmingham (from the Leamington Spa direction)' reports Chiltern. 'A downside of this is that the two trains from Kidderminster to Birmingham in the morning peak will be reduced by one carriage and as a result the 07.30 and 08.09 from Kidderminster will, after departing Stourbridge Junction, only

call at Rowley Regis before running non-stop to Birmingham Snow Hill.' The operator was also planning more carriages and high-capacity Class 165s (vice Class 168s) on trains that serve Bicester Village, but just when the crowds of overseas tourists will return here is anyone's guess.

At Paddington, major changes took place last December with the introduction of the Intercity Express timetable (p68, November 2019 issue). Then, new 'superfast' services were introduced in the peak, running from London to Bristol via Bath (first stop Chippenham) and to South Wales (first stop Bristol Parkway). The plan was to supplement these in the off-peak in May 2020 with half-hourly superfast services to Temple Meads calling only at Bristol Parkway, but Great Western Railway says there can be no surety when or indeed if these trains will be introduced in the post-Covid world.

London Overground was planning changes on the West London line involving additional peak shuttle services, but they have been put on hold.

EUSTON

Avanti West Coast divides its planned changes into 'commercial' and 'operational' tweaks. In the former category are an extra M-F call at Crewe for the 08.54 from London to Blackpool (arriving at Crewe at 10.38), and a call at Lancaster in the 10.30 Euston to Glasgow (a12.55). Crewe is again the beneficiary in Saturday changes: the 17.47 from Lime Street to London is set to call here, as is the 08.54 from Euston to Blackpool.

'Operational' changes include a three-minute earlier arrival at Holyhead for the 09.10 from Euston, while the 05.45 Wolverhampton to London Euston has been retimed in the May timetable by Network Rail to depart

from Birmingham New Street at 06.07 (currently 06.10) to avoid a pathing conflict with the retimed 1M16 Highland Sleeper.

Introduction of Grand Central's new open access service with Class 90s and Mk 4s between London and Blackpool via the West Coast main line, which was supposed to begin in May with the full service in December, has been postponed until early 2021 in the wake of the coronavirus crisis (p12). GC has also postponed the addition of an extra return working on its Sunderland to London route via the East Coast main line.

It has been widely reported that reliability of all services on the south end of the West Coast main line was adversely impacted by the changes to schedules introduced by West Midlands Trains in May last year. Some minor changes were made to ameliorate this situation in December 2019 and March 2020 (p17, January issue). WMT says 'the primary focus of the changes... in May 2020 will be to further reduce the level of complexity to address the drop in performance'. Among the main changes planned by WMT are:

- all services from Rugeley Trent Valley via the Chase line will remain self-contained within the West Midlands and will no longer travel through to London Euston;
- there will be a significant reduction in the number of through trains which split or join together at Birmingham New Street, reducing delays;
- services running through Stoke-on-Trent and the Potteries will now terminate at Birmingham New Street rather than travelling on to London Euston.

CROSSCOUNTRY

CrossCountry was planning a number of changes in the May 2020 timetable.

CROSSCOUNTRY TO THE COAST

Provided people are still going on holiday in the summer of 2020, as in previous years, an enhanced summer weekend service to and from Devon and Cornwall will operate on Saturdays and Sundays until 13 September. Great Western's recast in December 2019 means changed timings apply this year. Differences from the winter timetable include:

SERVICES TO/FROM THE NORTH EAST AND SCOTLAND

Saturdays

- 06.11 Leeds – Plymouth runs as 06.11 Leeds – Paignton (11.33), calling additionally at Dawlish, Teignmouth and Torquay.
- 06.12 York – Plymouth starts at 06.45 and resumes normal timings from Leeds.
- 06.40 Newcastle – Plymouth starts at York at 07.44 and extends to Penzance (15.41).
- 06.01 Glasgow Central – Plymouth runs as 06.01 Glasgow Central – Paignton (15.34) calling additionally at Dawlish, Teignmouth and Torquay.
- 06.35 Dundee – Plymouth extends to Newquay (18.36) and calls additionally at Dawlish Warren.
- 07.48 Glasgow Central – Plymouth extends to Penzance (19.46).
- 11.00 Glasgow Central – Penzance terminates at Plymouth (20.44).
- 06.50 Derby – Reading starts back at Sheffield (05.45).
- 09.27 Plymouth – Aberdeen starts at 09.23 and calls additionally at Teignmouth and Dawlish (the train is unable to call at Dawlish Warren this year, as changes to the GWR timetable mean there is insufficient time to do so).
- 11.27 Plymouth – Dundee starts back at Newquay (09.40).
- 12.27 Plymouth – Glasgow Central runs as 12.40 Paignton – Glasgow Central, calling additionally at Torquay, Teignmouth and Dawlish.
- 16.27 Plymouth – Leeds runs as 16.40 Paignton – Leeds, calling additionally at Torquay, Teignmouth and Dawlish.
- 17.27 Plymouth – Leeds runs as 15.40 Newquay – Manchester Piccadilly and 17.47 Bournemouth – Manchester Piccadilly runs to Leeds.
- 18.27 Plymouth – Birmingham New Street starts from Penzance at 16.32 and extends to Leeds (23.55).

Sundays

- 13.27 Plymouth – Edinburgh starts back at Newquay (11.41).

SERVICES TO/FROM BIRMINGHAM AND MANCHESTER

Saturdays

- 07.05 Manchester Piccadilly – Bristol Temple Meads extends to Newquay (14.04).
- 12.05 Manchester Piccadilly – Exeter St David's extends to Paignton (17.01), calling at Dawlish Warren, Dawlish, Teignmouth, Newton Abbot and Torquay.
- 14.05 Manchester Piccadilly – Paignton terminates at Bristol Temple Meads (17.05).
- 18.05 Manchester Piccadilly – Plymouth terminates at Bristol Temple Meads (21.04).
- 11.00 Bristol Temple Meads – Manchester Piccadilly starts back at Plymouth (08.42), calling at the usual stations, plus Dawlish Warren and Weston-super-Mare.
- 09.43 Penzance – Manchester Piccadilly starts from Bristol Temple Meads at 14.00.
- 16.45 Exeter St David's – Manchester Piccadilly starts from Bristol Temple Meads at 18.00.
- 20.00 Bristol Temple Meads – Birmingham New Street starts from Paignton (18.06), also calling at Teignmouth and Dawlish this year.

Sundays

- 17.05 Manchester Piccadilly – Plymouth diverts to Paignton (22.11) instead of Plymouth.

PLYMOUTH – CORNWALL LOCAL SERVICES

Saturdays

- 06.28 Plymouth – Penzance does not run.
- Additional 07.31 Plymouth – Newquay.
- Additional 19.00 Newquay – Plymouth.

Sundays

- Additional 09.20 Plymouth – Newquay.



CrossCountry on the coast: an HST powered by Nos 43207 and 43378 passes Dawlish with the 06.11 Leeds to Plymouth service on 2 March 2020. Work can be seen proceeding apace between tides on strengthening the sea wall: concrete panels are being positioned for the new outer wall while trains pass. D.W.V. Hunt

Between Birmingham and the North East, the new schedules include these changes:

- The 17.47 (SX) Southampton Central – York is significantly amended from Birmingham New Street onwards, departing Birmingham New Street at 20.28 and running progressively earlier to York, where it arrives 32 minutes earlier at 22.19. It ceases to call at Chesterfield, but is extended to Newcastle, calling additionally at Darlington (22.58) and Durham (23.15) and arriving Newcastle at 23.44.
- The 06.45 (SX) York – Plymouth starts back at Newcastle at 05.35, calling at Durham (05.48) and Darlington (06.06).
- The 17.27 (SX) Plymouth – Leeds runs later between Tamworth and Leeds and calls additionally at Doncaster (23.01), arriving Leeds at 23.34.
- From 19 September, the 18.27SO Plymouth – Birmingham New Street is extended to Derby, departing Birmingham New Street at 22.03 and calling at Tamworth and Burton-on-Trent.

On this route many trains are retimed by a few minutes at Tamworth, Burton-on-Trent, Derby and Chesterfield; many trains are also slightly retimed on CrossCountry's route between Birmingham and Nottingham.

Elsewhere, the timetable planners have made efforts to present standardised timings.

Southbound from Manchester, most CrossCountry trains are retimed to run slightly later between Stoke-on-Trent and Stafford. Standard departure times from Stoke-on-Trent will be 08 minutes past the hour for trains towards Bournemouth and 46 minutes past the hour for trains towards Bristol.

On Mondays – Saturdays in the new timetable, most trains from the South West towards Leeds and Scotland depart Bristol Temple Meads at 35 minutes past the hour and on Sundays most trains from the South West towards Leeds and Scotland depart Temple Meads at 31 minutes past the hour.



Operational simplification: West Midlands Trains aims to reduce the amount of splitting and joining at Birmingham New Street. Here a pair of Class 350s separate on 24 July 2019. John Whitehouse

WALES

Several service improvements are planned in coming years with a big influx of new rolling stock, but with deliveries of units such as Class 769s lagging and major changes having taken place on the South Wales main line in December 2019, consolidation is the order of the day for M-F Welsh services in the May 2020 timetable. Changes are:

- The 05.00 Carmarthen to Manchester Piccadilly is now split into two services, Carmarthen to Cardiff and Cardiff to Manchester (with the latter running earlier than today).
- The 07.02 Cardiff Central to Holyhead departs earlier at 06.45 and calls additionally at Pontypool, Gobowen, Chirk and Ruabon; this is one of the services destined to be operated by a loco-hauled set, and the removal of intermediate calls in December to speed up this working caused some controversy.
- The 06.34 Cardiff to Ebbw Vale goes earlier at 06.16.

- The 11.22 Cardiff to Holyhead calls additionally at Ludlow; this is also planned to be operated by a loco-hauled set when available.
- The 14.30 Manchester Piccadilly to Milford Haven calls additionally at Craven Arms and Church Stretton.

The May 2020 timetable includes a number of extra services in the Valleys on Sundays.

THE NORTH

Northern was planning for consolidation in May, with most emphasis on replacement of old trains with newly-delivered stock on the same schedules. An hourly York to Scarborough service was planned, complementing TransPennine Express's services on this route.

TPE's plans for May 2020 include extending Manchester to Huddersfield local services through to Wakefield Kirkgate. There will be a new overnight service between Cleethorpes and Manchester.

Liverpool to Glasgow services will pick up extra calls, as this service will transfer over from a Class 185 train to Nova 2s (Class 397 CAF-built EMUs) with more seats.

Merseyrail was not planning any changes.

SCOTRAIL

North of the border, the new station at Kintore on the Aberdeen to Inverness route was scheduled to open with the May timetable. Pre-Covid, ScotRail was planning an increased number of HSTs on InterCity services in the May timetable, and additional services between Fife and Haymarket during the peaks (terminating in platform 0 at Haymarket as there is insufficient track capacity to allow the service to reach Waverley). Various train strengthening plans were in place, but all must be in doubt now – as with all the other improvements outlined in this article. We wait with bated breath to see where the railway is when the coronavirus crisis abates. 

TPE in Scotland: at left, Nova 2 No 397004 departs from Edinburgh Waverley on 2 March 2020 as the 10.12 to Manchester Airport, while at right Nova 1 No 802202 waits to leave with the 10.21 to Liverpool Lime Street via York and Leeds. The Glasgow to Liverpool service via Carlisle is due to switch to Nova 2s in the next timetable period. Ian Lothian



MARVEL:

Improving Performance By Ensuring Diagram Resilience



With growing demand for train services, it is increasingly important that train operators and Network Rail can satisfy themselves that timetables are supported by resilient resource schedules that can recover from perturbations, rather than propagating delays into a downward spiral of late running and cancellations. This is particularly important given the criticism levelled at the industry for the poor performing May 2018 timetable change and the light this shone on the planning process in general.

Tracsis has worked with various train operators to develop a suite of modelling tools that enable operators to evaluate the robustness of different resource scenarios as they develop their timetable proposals. Network Rail can therefore have more confidence that proposed timetables will deliver strong performance.

The Marvel suite's next generation diagram structure supports parallelisation and multi-function planning roles, enabling future thinking operators to accurately assess their resource plan and identify potential diagramming errors.

The diagram below illustrates the inputs to the Marvel system, including the timetable and proposed resource diagrams. Underpinning

the analysis is traincrew agreements, competency levels and operating allowance data. Early in the resource planning process, diagrams don't come with comprehensive information on all activities. The suite is set up such that early passes of resource plans without full information can be tested by inferring missing diagram content based on the relevant planning and labour rules.

Once the data has been imported the system can be used to validate for consistency in the plans, including:

- Cross referencing all schedules against each other to ensure that the timetable is fully resourced with consistent times across the plan.
- Verifying that there are no gaps in diagrams that would involve stock or crew notionally moving locations without a scheduled activity.
- Verifying that traincrew reliefs match for on and off pairings.
- Checking diagrams against labour agreements.
- Highlighting rolling stock schedules that do not match the planned timing load.

Clear graphics report on the validations, allowing quick fixes to be implemented

to smaller inconsistencies and providing a powerful view of slack time and connectivity data that can be used to adjust diagrams; the views provided include:

- Gantt chart presentation of diagram activities.
- Location connections, visualising missing connections and opportunities to combine diagrams.
- Interconnectivity graph giving visibility of the knock-on effect of curtailing diagrams.

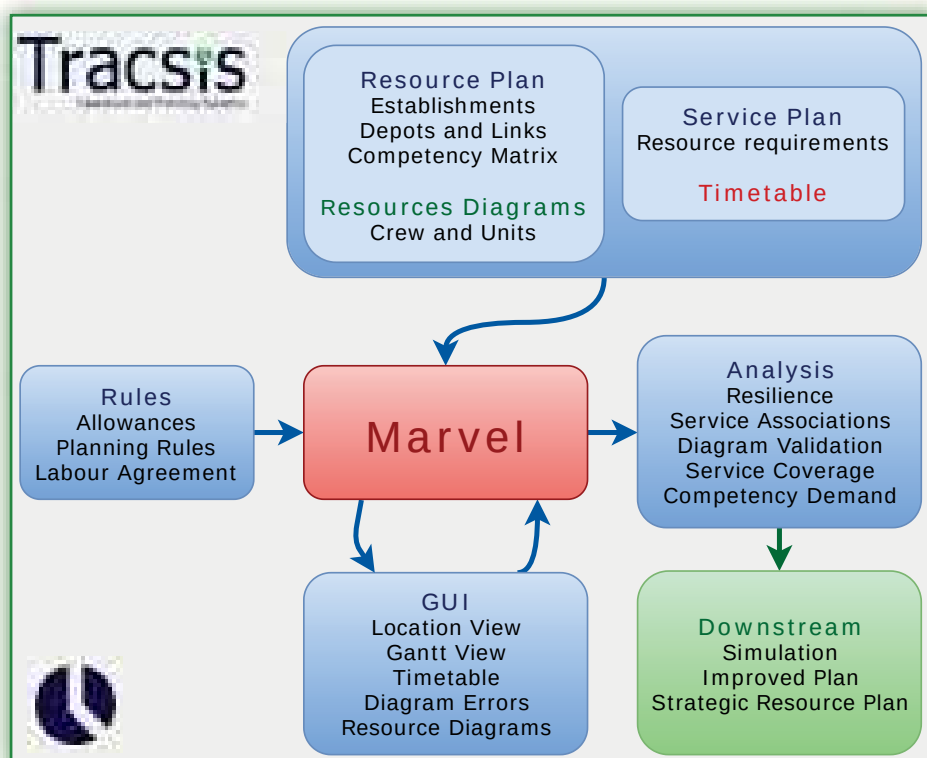
Following the validation of the resource schedules, the Marvel suite then allows the operator to assess the performance effect of the planned diagrams. Many operators use TrainTRACS to develop optimised traincrew schedules. These have historically required an experienced reviewer to check where the optimum solution may have produced diagrams that are too tight for the delivery of a resilient operation. The Marvel suite analyses the resource plan and timetable against profiles of historical or simulated delays and indicates where and when diagrams will start to incur delay and the propagation of delays through the service. This presents hotspots in the plan, directing the operator to where the most urgent attention is needed, either in terms of making diagram changes prior to implementing a timetable, or for where their focus needs to be for provision of spare cover and control instructions.

To support further detailed performance modelling of plans, the Marvel suite provides outputs that allow diagram associations to be created in microsimulation tools, dramatically decreasing the time taken to set models up for analysis.

The Marvel suite has an open reporting and exporting protocol, which allows extreme flexibility of outputs, including:

- Diagram summaries of productive and non-productive time.
- Schedule associations, which, combined with Bugle DayOne data, can enrich the accuracy of delay attribution reporting.
- Exports to other planning systems for use in downstream legacy systems.
- Distribution of diagrams prints in multiple formats.

Embedding Marvel within the planning function allows planners to prioritise their efforts to improve both long and short-term plans, giving the industry greater confidence of delivering resilient performance.



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Cambrian line growth

Service improvements on the scenic mid-Wales route are paying off, reports **THEO STEEL**

The Cambrian lines are one of the three railways to the west coast of Wales and stretch west from Shrewsbury to Aberystwyth, with the coastal line running from Dovey Junction to Pwllheli. The service has progressively improved and in particular since the installation of European Train Control System in 2011. ETCS was installed as a prototype system at a cost of £59 million.

The route is typically single track with passing loops; some are now dynamic on the main line. The coastal route is low speed with frequent stops, including some request stops. There were 16 stations closed on the main line in the 1960s and five closed on the coast – unusually three of these were closed in the 1980s due to the wooden structures being beyond repair or in one case to avoid lighting being installed. Llandecwyn was considered for closure recently but in the end rebuilt.

The coast route was looked at closely for closure in the 1980s prior to the wooden Barmouth bridge being rebuilt in 1986. The bridge over the Afon Dwyrdd near Llandecwyn was rebuilt in 2013/14 as a road/rail (parallel) structure in a protracted programme further extended by floods which affected the carryings north of Harlech, as can be seen in Table 1. The coast route is often affected by floods or storm damage these days.

In a more positive mode, Bow Street station (just north of Aberystwyth) is under construction and due to be reopened this year, and Carno, five miles west of Caersws, is on the list of four Transport for Wales prioritised possible re-openings.

SERVICE PATTERNS

The service from Aberystwyth to Shrewsbury is now 12 times per day with a first train at 05.xx and a last service east at 19.30. It is mostly hourly, and the gaps will be filled in from 2022; prior to 2015 trains were two-hourly. Typical trains to Shrewsbury, now

mostly extended to Birmingham International after reversal, take around 1hr 50min, and some run with Pwllheli portions. The coastal line trains typically take just under 2hr 20min from Pwllheli to Machynlleth.

Timings from Aberystwyth better the equivalent road journey, but road is quicker from Barmouth and beyond to the east. The coastal line does bridge estuaries like the Mawddach south of Barmouth where road requires diversion via Dolgellau. Overall timings to London from Aberystwyth are around 4hr 40min, and as much as 6hr 20min from Pwllheli.

The largest settlement served is Aberystwyth with its university, the National Library of Wales and other bodies and a population of 17,000. Newtown has 11,000 inhabitants and nowhere else is larger than 7,000. The line ascends to 658ft between Newtown and Machynlleth.

MAIN LINE BOOMING

Table 1 shows the station usage in selected years. The main line overall beats the doubling

Crossing the Mawddach estuary: No 158829 rounds the curve off Barmouth bridge on 10 June 2019 with the 06.43 Machynlleth to Pwllheli service. Alan Wallwork



of journeys achieved nationally since 1997 but with significant variations between individual stations. The growth at the east end of the main line is particularly encouraging.

Carryings along the coast have not grown as significantly but were quite strong in the 1990s given the base of school traffic to Harlech (retained to this day) and the Ffestiniog and now Welsh Highland Railways at Portmadog, the Tallylyn Railway at Tywyn and the Fairbourne Railway at Fairbourne.

The scenery on the route is generally good and spectacular along the coast. Indeed, there was even an August steam service to Porthmadog from Machynlleth operated daily by West Coast Railways, which chose not to invest in ETCS.

The coastal route has many attractions, ranging from magnificent beaches to walks and magnificent castles as well as the narrow-gauge railways. Obviously this gives a summer peak – albeit the heydays of holiday traffic from afar coming by train are no longer. There are '2 for 1' promotions with CADW (Welsh Heritage) and there is a day rover for £13.50. Sadly, the land cruise trains of the 1950s can no longer run after the closures of the connecting routes at Afon Wen and Morfa Mawddach.

PROSPECTS

The routes have been nurtured, and live train information is provided at all stations. Those



stations with buildings have often been readapted to other uses. The Great Western spent significant sums at Aberystwyth on a 1920s station and Penychain was opened to serve the Butlins holiday camp (still extant) that adjoins the railway. The large Cambrian building at Welshpool was separated from the tracks during the 1990s when the road bypass was built.

Infrastructure wise, £7.5 million was spent in 2017 on improving 3.7 miles of track and eliminating no fewer than eight level crossings near Ystrad Fawr. An overall resilience plan is

an obvious requirement given the number of interruptions due to flooding and storms; the structures on the line need careful watching too.

For the future CAF-built Class 197s will replace the present staple diet of ETCS-fitted Class 158s in 2023; a sub-fleet of 21x2-car '197s' is to be fitted with ETCS for use on the Cambrian lines. The Aberystwyth service is due to become hourly every day and extra Sunday trains will be introduced on the Coast route, including an express service stopping only at the main stations with better journey times. 

TABLE 1: STATION USAGE ON THE CAMBRIAN LINES

	1997-98	2013-14	2018-19
Pwllheli	68	31	76
Abererch	0.5	1.4	2.2
Penychain	10	3.3	3.6
Criccieth	17	18	28
Porthmadog	72	53	73
Minffordd	8.5	15	17
Penrhyndeudraeth	48	41	57
Llandecwyn	0.4	0.9	1.7
Talsarnau	4.0	7.0	5.9
Tywyn	0.5	1.4	1.3
Harlech	101	98	135
Llandanwg	2.1	4.4	4.7
Pensarn	1.6	1.8	2.7
Llanbedr	6.6	9.1	12
Dyffryn Ardudwy	13	17	15
Talybont	14	20	25
Llanaber	2.5	2.2	2.9
Barmouth	141	150	198
Morfa Mawddach	5.2	10	12
Fairbourne	40	38	41
Llwyngrwil	27	34	32
Tonfanau	0.4	2.7	3.1
Tywyn	88	98	105
Aberdovey	21	34	40
Penhelig	5.9	9.2	8.9
Aberystwyth	186	307	310
Borth	32	53	61
Dovey Junction	1.5	1.8	4.6
Machynlleth	64	120	131
Caersws	21	46	61
Newtown	66	124	185
Welshpool	50	122	183
Shrewsbury	1,137	1,802	2,277

Note: figures in thousands. In 2013-14 carryings north of Harlech affected by weather-related repairs. Source: Office of Rail and Road

DOING IT THE WRIGHT WAY

LNER Train Manager **GRAEME WRIGHT** talks to **PHILIP SHERRATT** about his unique approach to customer service

I'm on an LNER Azuma heading south from Grantham to London at the end of January. As we approach Peterborough, the Train Manager comes on the PA with the usual announcement for passengers leaving the train and a lengthy list of connections. The announcement concludes: 'This is a special announcement for customers travelling to March – I'm very sorry to announce you've arrived six weeks early.'

The voice I've heard is that of Graeme Wright, a Train Manager for LNER who has gained something

of a reputation for adding a touch of humour to his on-board announcements. 'I decided I wanted to be different in the way I do things' Graeme explains as we chat on-board the York to London service. 'I wanted to have more interaction and start dropping the odd joke in. Once you start talking to people it's easy to get them on side so then I started doing it some more.'

Although he's been on the railway for 25 years, it's only recently that Graeme has developed this humorous touch to his announcements. 'It can turn a situation on its head – it's hard

for people to become angry with you if you've entertained them' he says.

This is particularly the case when there is disruption on the railway, and Graeme is clear that providing timely information is crucial. 'I will always tell people everything and give them the full picture' he says. 'I won't try to hide any information. People can use social media to find

things out very quickly nowadays, but if I know anything my customers will be the first people to hear it.'

For the more amusing announcements, Graeme says he has some stock one-liners that he uses on the approach to particular stations, such as London King's Cross. Others he will change depending on external events; 'I'm

Babyzuma: Graeme Wright has coined this nickname for LNER's shorter five-car sets, which are used on most London to Lincoln services. On the day additional services to the cathedral city launched, 21 October 2019, No 800203 arrives at Lincoln ready to form the 11.18 departure to King's Cross. Philip Sherratt



a Sunderland season ticket holder and go to matches home and away if I'm not at work' says Graeme. 'So if Newcastle United have been beaten I might make a joke about that!'

Timing is key, and Graeme says he also tailors his announcements to his audience. For example, people travelling at the crack of dawn aren't the most receptive to his humour, and are most likely to be business travellers, so on early morning trains leaving London he tends not to make too many jokes. By mid-morning however it's a different story, with a broader mix of customers. 'LNER has lots of leisure travellers, and those people travelling off-peak are a more likely target audience' Graeme says.

In an industry bound up with rules and standards, Graeme says his managers have been very supportive of his approach. 'It breaks the mould by doing something different,

and I've had some high-profile people say good things about it' he explains. This has included some of his announcements being featured in the Comments section of *The Times* and more recently appearing on BBC local news reports.

TWEET ALL ABOUT IT

As well as being notable for his announcements, Graeme is one of a growing contingent of on-board staff to have set up a public presence on Twitter, where he goes under the moniker 'That Train Guy'.

One of the pioneers of this approach was Blake Cracknell, who featured in our July 2019 issue when he worked for Greater Anglia (he has since moved to Eurostar), but Graeme explains his account is slightly different. 'Blake's is company oriented whereas mine isn't quite as much' he says. 'I do the LNER stuff,

such as providing information about disruption and claiming delay repay compensation, but I also tweet about things like football and rugby league.'

Graeme will often announce on a train that passengers can contact him through Twitter, which is particularly useful on busy trains, and he also gets the occasional query from rail enthusiasts. 'It's another resource for people to make direct contact' he says. 'I've even been recognised in bars as that bloke from Twitter and have had people asking for selfies!'

Despite social media often being a challenging environment, Graeme says his experience has been very positive. 'Yesterday I posted a picture of the sunrise from the train I was working, and it got 360 likes' he says. 'I'm amazed by the response you get and the amount of people who take to it.'

BEST JOB IN THE WORLD

Like with any job there are changes all the time, and for LNER that includes the introduction of the new Azuma trains to replace HSTs and most of the InterCity 225s (some of the latter are now to be retained for longer than planned). Asked what he thinks about the new trains, Graeme is philosophical. 'Times change and things move on' he says. 'The Azuma trains have faster acceleration and better deceleration. They offer more legroom, better access to power sockets and better Wi-Fi. Some colleagues might disagree, but I think the change is a positive one.'

One change the Azuma trains bring is the presence of automated announcements, which don't feature on the legacy fleets. While there is a facility to turn this feature off, Graeme says he generally lets these run, particularly when they do the post-station announcements and warnings about safety and security. They are activated by GPS tracking, but when approaching stations Graeme will often try to get in there ahead of the automated announcement, which he affectionately dubs 'Doris'. 'People can think they are white noise, especially during things like security warnings' he says. 'When they hear a real voice, it makes them take notice.'

Graeme's efforts to do things a bit differently were rewarded last year when he picked up the Customer Choice prize at the LNER Legends awards. The awards are designed to recognise LNER staff who go the extra mile, with the prize Graeme received nominated by customers. However, he is customarily modest about the success. 'It's great recognition, but I'm just doing my day job.'

If it wasn't already clear, Graeme has a passion for working on the railway. 'I love doing this job – I think I have the best job in the world' he says. 'You can't beat it – I always come to work with a smile. There's a different challenge every day and no two days are the same. I don't want to go and work in an office, I've done that before and would much rather keep doing what I'm doing.'

GRAEME WRIGHT

Graeme, brought up in Gateshead, joined the railway in 1995. 'I left university after one year and saw it as a stopgap, but 25 years later I'm still here' he explains.

After a period working in telesales for what was then InterCity East Coast, during the GNER years he worked at Newcastle station before becoming a guard. He has remained with the company during the various

ownership changes that have followed, but most significant for Graeme was the decision to move to London in 2010 to join the station management team at King's Cross. However, in 2016 he opted to return to the role of Train Manager, but this time based at the southern end of the East Coast route, from where he works trains from London to Leeds, Lincoln and Newcastle.





To mark **JAMES ABBOTT'S** retirement as Editor of *Modern Railways*, **ROGER FORD** chronicles how the industry changed during his time as Editor and how the magazine changed with it

The 1980s

BRITISH RAIL'S GOLDEN AGE

'APT is dead: Long live APT!' proclaimed the banner on the cover of the January 1983 *Modern Railways*. For the second lead there was just one word – Marylebone, with 'candidate for closure' stamped across it. Inside was a technical description of the proposed Class 141 Railbus.

With British Rail generating content like this in James Abbott's first issue, *Modern Railways* in the early 1980s might have seemed a transport backwater for an ambitious young editor. But by the end of the decade, Marylebone had not only been reprieved but was the modernised London terminus of Network SouthEast's first 'Total Route Modernisation', with new signalling and trains. While the Advanced Passenger Train was definitely dead, InterCity had a new flagship in the 140mph Class 91 electric locomotive and Mk 4 coaches under the East Coast main line modernisation programme.

Aided by *Modern Railways'* support, a new generation of diesel multiple-units had been ordered to re-equip Regional Railways. Freight services too were being modernised with new traction and wagons. In James Abbott's first issue the magazine had just gained eight pages. By the end of his first decade, finding space to cover all that was happening was becoming a welcome problem.

We know now that the longest-serving editor had taken over at a tipping point for Britain's main line railways. In 1983, Sir Peter Parker retired as Chairman of BR and Bob Reid, his Chief Executive, took his place. The rest of the decade would see the transformation of British Rail as Bob, later Sir Robert, set about creating his business-led railway.

Critical to the revival of BR's fortunes, a revival which no-one, not even this magazine, anticipated, was Bob Reid's generation of a level of confidence in his management of the railway within Government not seen before or since. Having demonstrated the railway's commitment to change, resolved its major industrial relations issues and committed to a painfully demanding reduction in the Public Service Obligation (PSO) grant, British Rail had won the right to invest – and reports on investment projects began to fill the magazine's pages.

Driving the revival were the five sector directors, men who had joined BR's training scheme, had worked their way up through the industry during the hard times of the 1970s and were now ready for command. *Modern Railways* was the magazine they had read, and sometimes contributed to, during their careers. Now they were transforming the railway, not always without opposition, *Modern Railways* was the magazine they chose to explain and promote their visions.



New look, new Editor: the cover of the January 1983 issue of *Modern Railways*, the first edited by James Abbott.

Of course, it was not always sweetness and light. James Abbott had his fair share of ear bashing when trenchant editorials or critical articles failed to toe the official line. But it was recognised that *Modern Railways* was a candid friend of the industry and its unrivalled access to those creating the new industry continued to provide exclusive reports and

in-depth articles. Typical of the turnaround in BR's fortunes, the final issues of the 1980s focused on the boom in the West Midlands with new trains and electrification.

Reporting on Bob Reid's railway in its pomp was a heady time for *Modern Railways*. But with the new decade everything was about to change. 

PROMOTING TRANSFORMATION

James Abbott has been a great friend to the rail industry throughout his distinguished career – and hopefully will remain one. I got to know him in the 1980s when he gave us tremendous support in ScotRail as we sought to reinvigorate a rundown and dispirited railway under a new ScotRail brand.

His calm and modest style hid a winning combination of professional editor and informed railwayman and he was a pleasure to work with. James's glass is always full, and this meant he was always seeking the best of Scotland rather

than highlighting the failures. He had a knack of featuring the more meaningful events such as the rescue of the Strathclyde Electrics from closure, the launch of the 'Highland Chieftain' to confront unregulated coach competition and the reopening of the Bathgate line, which he rightly saw as 'rolling back Beeching'.

When I moved in 1986, James immediately understood my mission to 'do a ScotRail in London & SouthEast' and he weaponised *Modern Railways* to persuade a cynical national

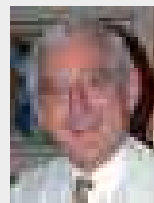
media to give Network SouthEast a honeymoon period. *Modern Railways* under James Abbott was a vital means of communicating the positive NSE story to the media, the politicians, the staff – and above all its readers.

James pioneered major NSE colour supplements explaining the new One Day Capital Card, Network Cards and the new concept of Total Route Modernisation on the Chiltern lines. He also encouraged Roger Ford to become a guru on the AC traction Networker trains and Alan Williams to help us in

upgrading railway design in his role on the NSE Design Panel.

For me, the 1980s were a golden age of railway revival – and James Abbott was right in there, encouraging the industry to do more and celebrating our successes with us.

Chris Green, Former Managing Director, ScotRail/Network SouthEast; later Director, InterCity and Chief Executive, Virgin Trains





Reporting on developments: the Class 365 rollout sees Chris Green, Managing Director, Network SouthEast (left) greet Bryan Ronan, Managing Director, GEC Alsthom Transportation Projects, as James Abbott watches on from the doorway. This was Chris Green's last public function as Director of Network SouthEast before taking over as InterCity Director on 1 January 1992. Roger Ford

The 1990s

MADE FOR THESE TIMES

As the new decade began, euphoria dissipated almost overnight. British Rail had ridden the economic boom of the 1980s, with ridership rising year on year: now that bubble had burst, past skills had to be dusted off as retrenchment took over. The momentum of major projects meant investment in rolling stock and infrastructure continued – helping the business sector managers as they fought to maximise revenue while cutting costs.

Meanwhile, Bob Reid's reorganisation was completed with British Rail now five vertically

integrated businesses with all activities contributing to a common bottom line. Was this the railway to serve Britain into the 21st century? We shall never know. Having been re-elected as Prime Minister in the 1992 General Election, John Major pressed ahead with the last great privatisation – British Rail.

In July that year the Government White Paper 'New Opportunities for the Railways: The Privatisation of British Rail' was published. And *Modern Railways* came into its own.

Alongside features on how BR was fighting the recession, articles examining and explaining the

Government's plans for privatisation began to appear. The editorial team had a crash course in new disciplines, private finance, leasing, franchising and the contractual structure of the railway to come.

Nor was it just British Rail. London Underground was employing the Government's Private Finance Initiative (PFI) to fund major projects, such as power supplies and rolling stock replacement. By the end of the decade this would morph into the ill-fated Public Private Partnership (PPP).

As the pace of privatisation quickened, *Modern Railways* had become a fully-fledged business publication, fulfilling founding editor Geoffrey Freeman Allen's aspiration when *Trains Illustrated* became *Modern Railways* in 1962. Advertising revenue is a key factor in business publishing, but with just two monopoly

customers – British Rail and London Underground – there had been limited scope for advertising sales.

Privatisation changed everything. Railtrack was created on the basis that it would buy in infrastructure maintenance and renewals. Train operators would lease new trains owned by rolling stock companies. At last the *Modern Railways* advertising sales team had a genuine market to serve and a unique product to sell – generating revenue to fund expansion of the magazine's coverage.

Editorially, there were now two groups of readers. For the long-standing readership – those working in the industry and those with a serious interest in the railways – reporting on, explaining and analysing the process of privatisation supplemented the traditional content.

But now, an entirely new readership was emerging – those implementing the privatisation process, whether as buyers, sellers, funders or advisors. *Modern Railways* was now the go-to source for information and analysis for financiers, lawyers and managers from other transport modes who were coming to grips with the railways for the first time.

To explain the complex contractual and regulatory mechanics of the fragmented railway, we went to the lawyer who had been at the heart of the team devising the new structure. In January 1996 Tom Winsor began his monthly column 'Legal Lines', a part-work which took readers through the rights, obligations and powers which would from now on rule industry.

Modern Railways also saw the need to bring the industry together. In 1998 the magazine launched the Railway Industry Innovation Awards. This was the first of the 'black tie' industry awards born out of the exuberance that characterised the second half of the decade. 

MAKING SENSE OF COMPLEXITY

It was perhaps in the 1990s, when rail privatisation was conceived, made flesh and began to walk, that *Modern Railways* under James's editorship had one of its most glorious periods.

This was the most complex industry restructuring and privatisation ever attempted anywhere in the world, then or since. The kaleidoscope was well and truly shaken.

Modern Railways rose above the noise and clamour and provided the industry and those who

were thinking of coming into it with a clarity and authority of analysis which no other journal or newspaper (even the mighty *Financial Times*) could approach.

James resisted the temptation to lampoon what was being done. The eeyore of rail commentary feasted on thistles in another field; James's editorship assured us that the analysis was tight and evidence-based, sound on facts and with commentary which always commanded respect, even reverence. Nor

did *Modern Railways* descend to the easy attacks on some of the personalities, the largest of whom was undoubtedly the late Sir Alistair Morton with his condescension towards the intellectual pygmies in the Treasury (well, as he saw them). The characters were colourful: John Swift, Roger Salmon, John McGregor, John Welsby, Sir Bob Reid, and the vivid Gerald Corbett, Chris Green, Gordon Pettitt, Richard Branson, Brian Souter and many others. And the lawyers did well, too.

These were the times of firecrackers and fusion; the debates raged and the magazine, more than any other, told the stories as they were, without spin but with energy, rhythm, bright colours and above all high authority.

Sir Thomas Winsor, Rail Regulator and International Rail Regulator, 1999-2004, now Her Majesty's Chief Inspector of Constabulary





The 2000s

A DECADE OF INNOVATION

Yet again, a new decade saw *Modern Railways* reporting on a railway facing troubled times. Even worse, trouble was coming from all directions.

Barely five years after Railtrack was floated on the stock market, its Chief Executive was telling *Modern Railways* that renewal of life-expired signalling was unaffordable. Meanwhile Tom Winsor, now the Rail Regulator, was pressurising Railtrack to reduce costs. Railtrack was also a prime target for the new Labour Government, elected in 1997, ideologically inimical to privatisation and dissatisfied with the falling performance of the industry.

Compounding Railtrack's woes was the trio of fatal accidents at Ladbroke Grove, Hatfield and Potters Bar, the latter two caused by infrastructure failures. By October 2001, Railtrack had been forced into administration and a year later Network Rail rose out of the ashes. This was a particularly busy time for *Modern Railways* as the magazine of record.

With railways part of Deputy Prime Minister John Prescott's extensive portfolio, the industry was returning to increasingly close government control. While the Strategic Rail Authority (SRA) was intended to be the link between Government and the fragmented railway, it lasted for only four years before it was abolished and its powers transferred to the Department for Transport.

This decade was dominated by big projects and big decisions. When Richard Bowker arrived at

his chairman's desk at the SRA, waiting for him was a copy of *Modern Railways*, opened at an exclusive report revealing that the existing Southern Region traction power supply could not meet the demands of the new Bombardier and Siemens EMUs on order.

Annual feature articles reviewed progress with the multi-billion-pound West Coast Route Modernisation. The last one went to print just as the rising cost hit crisis level.

In 2008 the banking crisis cut train operator revenues, bringing down National Express East Coast. London Underground saw

the Tube Lines PPP fold. On the positive side, annual features reviewing the activities and plans of operators and the metropolitan authorities became a fixture.

Modern Railways was ever a campaigning magazine. Sustained pressure for a revival of electrification bore fruit when the Government finally surrendered to industry demands and authorised the Great Western, North Western and Midland main line schemes.

Seeing the need for a regular forum within a fragmented railway, in 2002 James Abbott created the 4th Friday Club, borrowing a concept he had experienced in the US. Its simple format – a lunch followed by a presentation from an influential speaker, was an immediate success.

In 2004 *Modern Railways* scored another first, publishing the official reliability details for every

rolling stock fleet on the network. This became an annual feature, and for 2006 James Abbott came up with the idea of presenting awards for the most reliable fleets. He also suggested the title, the 'Golden Spanners'. Presented annually at a special meeting of the 4th Friday Club, the 'Spanners' has been followed by the Golden Whistles for operational excellence presented in conjunction with the Institution of Railway Operators.

Yet another innovation in this decade was *Modern Railways'* annual publication *The Modern Railway*. This combines a directory of now nearly 3,000 organisations in the UK railway industry together with financial and operational data, an overview of the year ahead, developments in the main engineering disciplines, reports on all passenger and freight train operators and much more. 

James Abbott, Editor of *Modern Railways*
and
Adrian Lyons, Director General of The Railway Forum

invite you to the inaugural meeting of

The Fourth Friday Club

an informal luncheon club for railway managers
on
Friday 27 September 2002
at
The Euston Plaza Hotel, 17-18 Upper Woburn Place, London WC1H 0HT

12.30 for 13.00

News update from Roger Ford of *Modern Railways*
Address by Chris Green, Chief Executive of Virgin Trains

Guests will be seated at the main table of Euston Plaza, opposite Euston Station

RSVP: James Abbott, *Modern Railways*, PO Box 208, Tunbridge Wells, Kent TN11 2XA
Tel: 01892 525339 Fax: 01892 526250 e-mail: james.abbott3@mrworld.com

Forum for networking: invitation to the first ever 4th Friday Club meeting, held in 2002.

SUPPORTING THE SUPPLY CHAIN

James Abbott has been a fantastic Editor for *Modern Railways*, as well as a real champion of the rail supply sector. Under his leadership, *Modern Railways* has been one of the go-to publications for in-depth, incisive analysis of the railway industry – providing honest scrutiny of the challenges the sector faces, whilst also being an enthusiastic advocate of the rail industry's achievements and the benefits it provides to the public.

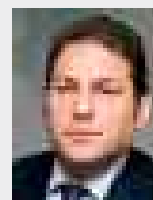
Whether on the topic of 'boom and bust', electrification, enhancements or digitalisation, James has always been a supportive ally, using the expertise and knowledge he has developed over the years to provide insightful editorial pieces. Never afraid to speak truth to power, James used his role as Editor to press for better delivery of vital rail schemes, for clear Government

policy and direction, and for the supply chain to deliver more collaboratively.

And, through the renowned 4th Friday Club events, including the Golden Spanners and Golden Whistles and the Railway Industry Innovation Awards, which RIA has been proud to sponsor for several years, James helped reveal to a wider audience many of the fantastic developments suppliers are delivering across the country.

On behalf of the Railway Industry Association and our members, thank you James for your dedication to the rail industry throughout the years, and we all wish you the best of luck in the future; you will be missed!

Darren Caplan,
Chief Executive,
Railway Industry
Association



The 2010s

AUTHORITATIVE COVERAGE IN 'INTERESTING TIMES'

James Abbott's final decade as Editor also began with a bright future ahead for the industry, and the magazine riding high. High Speed 2 was proposed and endorsed editorially for its capacity benefits. Thameslink was well underway. Construction of Crossrail was starting. The previous year the Government had announced 'work will begin immediately' on the electrification of the Great Western main line between London, Reading, Oxford, Newbury, Bristol, Cardiff and Swansea, to be completed within eight years. Franchising invitations to tender were becoming more ambitious.

Tom Winsor had returned, his monthly column providing an expert, if sometimes acerbic, review of the railway he had helped create 15 years earlier.

There was also, inevitably, controversy. Procurement of the Intercity Express Programme would be in the news throughout the decade. Signs of the aftermath of the collapse of Railtrack included the now-forgotten McNulty report, published in 2011 with its focus on reducing the cost of the railway.

It took two years for the crisis, which seems to have characterised the early years of each past decade, to appear. In 2012 the Department of Transport franchising team 'adjusted' the loans required in the competing bids from Virgin and FirstGroup for the Inter-city West

Coast franchise. The adjustments favoured FirstGroup, which was duly awarded the franchise. However, Virgin smelled a rat, protested, was vindicated and retained the franchise.

From the resulting furore emerged a new Franchise Director, a new franchise replacement programme and a new approach to procurement which put a value on quality in bid evaluation. New trains were the obvious quality enhancement and franchise replacement bids focused on the mass replacement of existing rolling stock. These 'mass extinctions' – driven by a combination of cheap borrowing and cheap trains – resulted in the procurement of around 8,000 passenger vehicles.

Network Rail's regulatory settlement for Control Period 5 (CP5), which started in 2014, included the largest ever enhancement and investment programme at £38 billion. However, CP5 was barely a year old when newly appointed Network Rail Chairman Sir Peter Hendy was commissioned by the Transport Secretary to review the enhancements programme 'to see what can be delivered in an affordable and timely way'.

A number of significant enhancement projects were running over budget and over time. The impact was exacerbated by the reclassification of Network Rail as a public body: cost overruns could no longer be funded by



Golden Jubilee celebration: on 28 September 2012 a railtour was arranged to mark *Modern Railways*' 50th birthday, culminating in the naming of GB Railfreight loco No 66745 in a ceremony at the National Railway Museum in York. Pictured with the nameplate are (from left) Industry and Technology Editor Roger Ford; James Abbott; the late Ken Cordner, Editor at the turn of the 1990s and latterly Contributing Editor; and Charles Long, Editor in the 1970s and 1980s. Tony Miles

borrowing on the money markets and infrastructure investment was dependent on the Treasury for loans.

Main victims of Sir Peter's review were the electrification schemes. Several were truncated or deferred. Electrification was off the Government's agenda again. It was a return to the DfT philosophy of the previous decade.

Meanwhile, Network Rail's Digital Railway bubble was promising European Train Control System (ETCS) could increase capacity by 40% without the need for expensive infrastructure enhancements. Yet by the end of the decade it was the 1990s once more, with replacement of life-expired signalling unaffordable.

As the decade came to a close, franchises let on the basis of exuberant ridership forecasts began to feel the pinch. Virgin Trains East Coast was the first to run out of money, but already other zombie franchises were limping

along, waiting for their parent company support to run out.

But throughout this hardest of the four decades, there was much to report as the daily railway kept on investing and delivering. The major projects, such as Thameslink, Crossrail and HS2, also had dedicated monthly pages. Fitting *Modern Railways*' unique in-depth coverage into what was now a regular 100 pages continued to be a welcome challenge.

In his four decades as Editor James Abbott has brought to fulfilment Founding Editor Geoffrey Freeman Allen's concept of a magazine aimed at the professional railway man, and now woman, but essential to the lay reader with an interest in the workings of the modern railway.

Today's railway is radically different to that of GFA's in the 1960s, and to that when James Abbott took over the editor's chair 37 years ago. But thanks to his stewardship, *Modern Railways* remains as relevant as ever. 

THE NEED FOR CHANGE

During the 2010s, the industry was having to work increasingly hard for ever diminishing returns, or indeed to stand still. Strong growth continued throughout the decade leading to ever more crowded trains, a more congested network and declining service performance. But it was also a decade of unprecedented investment in both train and track and those benefits are still feeding through today. James Abbott and *Modern Railways* have reported all the railway's trials and tribulations over that time.

One example was the launch of the enormously ambitious Control Period 5 programme in 2014. That created the opportunity for the

entrepreneurs in Stagecoach's Sir Brian Souter and Network Rail's Sir David Higgins to create an alliance on South West Trains, to test the potential for the industry's acknowledged problems to be mitigated by a collaborative structure – necessarily complex by nature to preserve independence in the obligations of each partner (legal, safety, regulatory/franchise) but share financial and resource opportunities and risk.

Just trying to explain how these issues were being resolved to experienced industry professionals and journalists like James was a challenge in its own right. Perhaps with hindsight, the biggest single

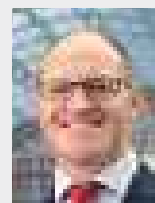
learning of the alliance was that to deliver change in a complex, busy railway the structure of the UK rail industry was just too complex and misaligned!

Sadly, both the alliance and the CP5 programme ran into difficulties, and the systematic lack of integration between track and train was revealed on an ever more congested network and franchises started to wobble. Virgin Trains East Coast was the first to fall, with *Modern Railways* reporting the true story that this was not a bailout of a private sector company but a failure of the system. The failures of the May 2018 timetable change eventually led to the commissioning of the Williams

review with the aim of addressing these structural deficiencies.

Modern Railways, with James at the helm, provided calm and professional reporting and challenge, and despite the challenges of the day job, a constant, positive reminder of the opportunities and great things the railway has to offer.

Tim Shoveller, Managing Director, North West and Central Region, Network Rail; formerly Managing Director, East Midlands Trains, South West Trains and Stagecoach UK Rail





EUROPE IN LOCK DOWN

KEITH FENDER reports on the way Continental Europe's railways reacted to coronavirus

The coronavirus pandemic originating in China saw the first European outbreak in Italy in early February. By mid-March multiple countries in Europe had imposed 'stay at home' lock downs for all but key workers.

Reduced timetables became common: in Ireland for example, a reduced timetable was introduced on 30 March that saw the withdrawal of all services on the Waterford to Limerick Junction and Limerick to Ballybrophy (via Nenagh) routes. Services between Dublin and Belfast continued with four train pairs operated using Northern Ireland Railways CAF DMUs in place of the usual 'Enterprise' push-pull sets. As in the UK, use of public transport was only permitted for specific work or shopping / medical purposes, with the Gardaí able to enforce compliance.

By late March passenger numbers in many EU countries were down to 15% of pre-pandemic levels and the closure or severe restriction of passenger rail services had become a global phenomenon – Indian Railways, for example, closed its network for over a week in late March.

INTERNATIONAL CONNECTIONS DWINDLE

By late March the number of international rail routes still in operation was small – and on all routes the service on offer was a fraction of the normal service. For example, Austria

still had some trains to Hungary – but none to any of its other neighbouring countries, including Germany.

Eurostar progressively reduced services in March to a point where a single train pair between London and Paris was on offer on some days. From late March the French Government's domestic requirement that all journeys outside the home be formally documented was applied to Eurostar passengers, even those transiting France between London and Brussels. By early April Eurostar traffic was down by 99% and the company announced it would furlough 80% of its UK-based employees from 6 April until potentially early July, taking advantage of government funding of furloughs.

OPEN ACCESS OPERATORS SUFFER

Whilst in most cases rail operators operating concessions or Public Service Obligation services could rely on continued funding of some sort from government, the same was not true for open access operators. In Germany FlixTrain services were suspended from 19 March, with national operator Deutsche Bahn accepting tickets instead.

Regiojet in the Czech Republic changed its reservation system to ensure social distancing guidelines of two metres distance could be maintained, running longer trains where necessary to accommodate passengers.

It continued to operate limited open access Czech domestic long-distance services plus contracted services. Fellow open access operator Leo Express was reduced to running a single train pair on the Prague to Bohumín route during April. In Sweden MTR Express (which rebranded to MTRX on 5 March) was running limited services as the Swedish Government's approach to the pandemic did not involve the complete lock down seen in other countries.

INTERNATIONAL RAIL FREIGHT

As borders across the EU closed, international rail and air travel largely ceased. Some countries such as Poland imposed quarantine measures for lorry drivers crossing the border, leading to major delays (tailbacks of up to 50km) for road freight as hauliers had to adjust to swapping drivers. The delays caused by border controls, sanitary inspections and quarantines made rail freight much more attractive and some operators saw traffic increase, although shutdowns in sectors such as car manufacturing resulted in a reduced need for freight services in some areas. Additional freight trains were being operated in March and April moving food and medical supplies, some, as highlighted by the public relations team at DB Schenker and supermarket chain Aldi, delivering pasta – bought in vast quantities by consumers Europe-wide, from southern Italy to Germany and beyond!



Ambulance train: a TGV with coronavirus patients on arrival in Nantes on 26 March 2020. Trains ferried patients from hard hit areas in the east of France to hospitals with spare capacity in the west of the country. SNCF/Jacques Witt

A tragic accident on 2 April temporarily closed the main European north – south freight corridor when a RoLa ('Rollende Landstrasse' – rolling motorway) train conveying heavy goods vehicles collided at speed with part of an overbridge that had fallen onto the line at Auggen in Germany, killing the loco driver and injuring three other people in the truck drivers' accommodation coach behind the loco. The bridge section that fell on the track was being prepared for demolition as part of the €385 million Mülheim (Baden) – Auggen quadrupling project. Crisis management plans developed after the Rastatt tunnel collapse in 2017 (further north on the same corridor) were used to minimise disruption and divert trains via alternative routes between Germany and Switzerland/Italy.

As the coronavirus spread around the world most civil aviation stopped or was severely limited, removing substantial passenger plane cargo hold capacity normally used for food and pharmaceutical products. The resulting increase in cargo charter flight prices as demand outstripped limited supply will also have encouraged the use of rail where possible. A first train of food products from Europe to China was despatched from Rotterdam in late March carrying products that until late 2019 were forbidden to transit Russia (as a result of Russia's response in 2014 to EU sanctions on Russia following the annexation of Crimea) and more trains were planned in April with refrigerated rail transport replacing air freight.

Intermodal trains between Turkey and Europe increased in number during March

to 14 a week by the end of the month, with logistics companies opting for rail to avoid multiple border delays en-route. Transit times were reduced as there was far less passenger traffic in evidence, meaning trains from Halkali (west of Istanbul) could reach Duisburg in Germany's Ruhr industrial area in five days. Rail freight east from Turkey into neighbouring Iran was reported to have grown massively as road transport suffered extensive delay at borders.

TRAINS FROM CHINA

The number of freight trains from China to Europe increased throughout March – these were very limited until late February as the Chinese Government restricted all rail movements, and much economic activity, whilst dealing with the initial coronavirus outbreak that originated in China. Ironically some of the first trains conveying components sourced from China as part of the supply chain for European factories may have arrived just as some of those factories were being closed due to lock down rules.

On 28 March a train left Wuhan, the Chinese city where coronavirus first broke out, with medical supplies for Europe. In late March and early April multiple freight trains from China operated, some achieving very fast transit times as rail networks in Russia and Europe were not as busy as usual. UK logistics company Davies Turner reported that it had received containers sent by rail from Xi'an, China, that took just 17 days to arrive in Dartford – having travelled by rail from Xi'an to Duisburg then by truck and ferry via Rotterdam to Purfleet.

In late March Russian operator RZD started operating one kilometre-long intermodal trains from the Chinese border at Zabaykalsk via the trans-Siberian line to Kaliningrad.

AMBULANCE TRAINS

The need to move coronavirus patients in France from overstretched hospitals in the Grand Est and Paris regions to other parts of the country where hospital capacity existed led to the use of TGV Duplex trains as ambulance trains, following a request from the government to national operator SNCF. The first train ran from Mulhouse and Nancy on 26 March carrying 36 patients, transported on stretchers, with ventilators, in the lower deck of the TGV vehicle, to hospitals in Angers and Nantes; others followed in the next week including from Paris Austerlitz to Rennes and St Briec. In early April the Spanish Government was considering the use of high-speed trains to move patients.

INFRASTRUCTURE WORK

The sudden removal of much passenger traffic gave infrastructure managers an unexpected opportunity to bring forward planned work. In some countries this opportunity was seized, whilst in others almost all non-essential infrastructure work ceased due to government restrictions.

In the Netherlands national rail infrastructure manager ProRail brought forward work to replace 7km of track in the tunnels serving Amsterdam Schiphol airport, normally one of the busiest parts of the Dutch rail network. ProRail and contractor Strukton moved all the work planned for successive weekend possessions to start on 30 March and did all 7km of renewals in one go, taking around a week, whilst little more

than a half-hourly service was running using the alternative pair of tracks. The planning work – which would normally take three months – was undertaken in four days, mostly working from home using conference calls!

The work, undertaken by teams of no more than eight, all of whom had volunteered, was carried out in full compliance with the Dutch Government's coronavirus distancing and protective equipment rules, with several extra mobile rest rooms provided so nobody got closer than two metres apart. Work briefings were conducted by loudspeaker rather than as a group. In April ProRail was examining the possibility of doing other renewal work whilst there was so little traffic.

In neighbouring Belgium, by contrast, infrastructure work was pared back to the absolute minimum. In France track upgrade work was placed on hold, even though in some cases this will delay the reopening of the lines concerned.

In Germany construction work continued on several projects, including construction of new metro line U5 in Berlin city centre (due to open later in 2020). In Poland construction work on the new cross city line in Łódź progressed, with the main tunnel boring machine being delivered in pieces in late March.

Some commissioning testing for the new Ceneri base tunnel in Switzerland was stopped for a month in mid-April, although work that could be done in accordance with minimum distancing requirements was permitted. The lack of test running (as loco cabs do not allow social distancing, with two or more people involved) will probably lead to the December 2020 opening date slipping into 2021.

MANUFACTURERS SHUT UP SHOP

Europe's rail manufacturing industry, like many other sectors, has been impacted by plant closures and staff sickness. Bombardier Transportation stopped production at its Crespin factory in France on 16 March, with around half the workforce in France on short-time working. Similar shutdowns impacted rail manufacturing plants across Europe, which will have a consequent impact on multiple new train fleet delivery plans later in 2020.

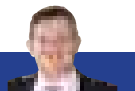
Alstom used its 3D printing capabilities at its Barcelona factory in Spain to manufacture visors for face shields and valves for respirators for hospitals in the Barcelona area.

LIFE GOES ON

Copenhagen opened the 2km-long northern extension to metro Line M4 to Orientkaj on 28 March without any ceremony. In Warsaw the metro system was extended with the western extension of Line M2 opening on 5 April. However, announcing the opening, the city's mayor specifically asked residents to avoid using the new line (and the metro generally) until the pandemic had passed.

Planning for the post-corona future continued in places. In Germany, Polish operator PKP IC started further approval tests of its Alstom-built ED250 'Pendolino' EMUs in early April whilst Czech open access operator Regiojet applied for paths to operate in Poland from December 2020. 

Our thanks to John Morris for some of the information in this feature.



Wires planned to replace life-expired DMUs: SLB unit No 12 leaves Zell am See on 25 July 2019. This unit was built by Bombardier in 1991 as ÖBB unit No 5099 002. Keith Fender

EUROPE

SANCTIONS FOLLOW OPENING OF RAIL LINK TO CRIMEA

In late January the American Government added eight individuals and Russian private rail passenger operator Grand Service Express to its sanction list imposed following the occupation and annexation of Crimea by Russia in 2014. The EU (of which the UK was then still a member) and Canada followed suit, sanctioning seven of the same people and Grand Service Express. The sanctions impact not only the individuals and Grand Service Express but also any non-Russian citizen conducting significant business with them.

The 19km double-track rail bridge over the Kerch strait (the longest in Europe) connecting south west Russia with the annexed Crimean peninsula opened to rail traffic on 23 December 2019. A DMU formed the opening special with Russian President Vladimir Putin enjoying a cab ride as part of the event. However, Russian Railways (RZD) does not operate services on the new link, the threat of sanctions limiting access to multiple European suppliers plus financial companies being enough to ensure operations are handled by nominally independent companies. All trains over the bridge are operated by the Russian Government owned Crimean Railway (KZD).

The new railway bridge over the Kerch Strait, just south and parallel with the new road bridge that opened on 15 May 2018, has been designed for electrification, with some overhead line support masts, but is currently not electrified. On the eastern bank RZD uses 25kV AC electrification and has undertaken substantial investment upgrading

capacity and modernising the routes leading to the eastern side of the bridge at Taman. On the Crimean side 3kV DC electrification dating from the Soviet period is used on the Dzhankoi – Simferopol – Sevastopol main line, but the line from Dzhankoi linking with the new bridge was not previously electrified and part of it still isn't, although modernisation and electrification at 25kV AC is planned. As the current operation deliberately avoids RZD operating trains on the new bridge, the fact trains have to change locos in Russia before heading to Crimea is not a real disadvantage, so the use of KZD diesel locos on the bridge and in eastern Crimea is unlikely to change in the near future.

Grand Service Express is an independent Russian passenger operator operating a form of open access service, albeit using rolling stock originally built for RZD and using RZD to provide traction in Russia. Grand Service Express has operated services between Moscow and St Petersburg since 2005 as well as the newly introduced services to Crimea. Two train pairs normally run each week from St Petersburg to Sevastopol and from Moscow to Simferopol. Passenger services via the new bridge started in late December 2019, and freight is due to begin this summer. Prior to the opening of the bridge a train ferry service for freight had operated. Ukraine suspended all land transport connections with Crimea in 2014 following the Russian annexation.

The road and rail bridges, which cost around \$3.7 billion, have been controversial, not only because of the geo-politics but also concerns that the geology of the area is unsuitable for such structures. The bridges are not the first over the Kerch strait – the occupying German army started building a railway bridge via a shorter

4.5km route across the straits in 1943/44, which was completed by the Red Army as it liberated the region in 1944 and was used until destroyed by ice floes in early 1945.



AUSTRIA

ELECTRIFICATION FOR NARROW GAUGE LINES

Electrification by 2026 of the 52.7km 760mm-gauge Pinzgauer Lokalbahn line from the Austrian lakeside resort of Zell am See to Krimml has been agreed by the line's owner, the state of Salzburg, which took it over from Austrian national operator ÖBB in 2008. The line has seen considerable passenger growth since its transfer from ÖBB, with over 900,000 passengers in 2018 and one million forecast in 2019.

It is currently operated by Salzburg region owned operator Salzburger Lokalbahn (SLB) using a mix of ex-ÖBB Class 5090 DMUs and push-pull sets hauled by 2007-built Gmeinder diesel locos. The fleet will require renewal in the mid-2020s, especially as parts for the Class 5090 units are now hard to obtain. Introduction of new hydrogen fuelled trains instead of conventional electrification (as planned for the Zillertalbahn in Tyrol) was considered and discounted. Planning is underway for a short extension from Krimml to the nearby waterfalls that draw many visitors; a feasibility study for an entirely new branch to the ski resort of Kaprun will also be undertaken.

Electrification at a cost of around €50 million is planned by 2026. Procurement for the new EMUs will be shared with the 66km-long 'Murtalbahn' (Tamsweg to Unzmarkt), which is jointly funded by the two states of Steiermark and Salzburg although



operated by the Steiermark-owned Steiermärkische Landesbahnen (STLB). A new 10-year contract for STLB was agreed in December 2019 with 260,000 train kilometres annually funded. Electrification of this route is planned as it also uses life-expired Class 5090 design DMUs.

FRANCE

REGIONAL OWNERSHIP FOR REGIONAL LINES

The French Government has proposed that much of the country's 9,137km of secondary passenger lines move to full or partial regional ownership/management. National infrastructure manager SNCF Réseau would retain around 17% (1,500km) of the existing network and relinquish or share responsibility for the remainder with the country's 18 regional governments.

Previous proposals in the Spinetta review undertaken for the Government in 2018 that suggested closing around 9,000km of the secondary network have been quietly dropped. This is in part a result of the 2019 nationwide consultation following the gilets jaunes protests in 2018/19, which identified poor rural public transport as a key grievance (and as rail transport has historically been provided by state-owned SNCF, a grievance seen to be the Government's 'fault').

THREE TIERS

The Government plan has utilised UIC (International Union of Railways) categorisation for lines (based on axle loadings, speed, usage etc) and identified the approximately 9,000km of passenger lines in classes 7 to 9 for attention, classifying them as

tiers 1 to 3. The 1,500km of lines to be retained by SNCF Réseau as part of the national network (tier 1) are mostly either cross-country lines linking several regions (for example (Caen –) Mézidon – Alençon – Le Mans – Tours, straddling three regions – Normandy, Pays de la Loire and Center-Val de Loire) or busily trafficked lines also shared with TGV or freight (such as Blainville – Remiremont in Grand Est). The Government has indicated that around €1.4 billion will be made available to fund the necessary improvement work on this part of the network with a further €330 million from funding already agreed with the relevant regions.

Around 6,500km has been identified as important enough to be 'shared' between the regions and SNCF Réseau (tier 2) where Government funding may be available to bring lines up to modern standards. Funding for the 'tier 2' routes will be covered by the funding agreements in place between the central and regional governments in the future.

The final 1,000km in 'tier 3' are lines proposed for full transfer to the regions. The Government is requiring the regions to draw up plans for each tier 2 and 3 route, on a line by line basis, with the aim of prioritising investment. The future of the 2,900km of freight lines in France in the UIC categories 7 – 9 will be considered separately.

Under legislation passed on Christmas Eve (Loi d'orientation des Mobilités), the French regional governments now have the power to manage operation of lightly used railway lines. The new 'Mobility' law strengthens the role of regional governments in planning and financing public transport generally and commits France to banning the sale of new petrol/diesel cars by 2040 whilst increasing electric car charging infrastructure. The law also codifies planned Government funding for public transport, with €13.4 billion in the period to 2022 and €14.3 billion in the four years 2023-27; the bulk of this funding is for rail projects.

In late February the Center-Val de Loire region agreed to take over three 'tier 3' lines comprising:

- Tours – Loches;
- Tours – Chinon; and
- the metre-gauge Salbris – Valençay line (the remains of the former CF du Blanc-Argent network).

Elsewhere, Grand Est agreed to take over three routes (Jarville – Vittel, Arches – Saint-Dié –

Molsheim and Sélestat – Obernai) and agreement was pending in both Brittany and Région Sud (formerly known as Provence-Alpes-Côte d'Azur) concerning routes in those regions.

Whilst Brittany and Région Sud are planning to take over little-used railway lines they have very different plans to operate their regional train services. Région Sud is starting a tendering process for two groups of routes with the intention the new concession operator will take over from mid-2024; Brittany on the other hand signed a 10-year contract with SNCF in January covering all TER trains in the entire region and running to 2030.

'NO TABOOS'

Talking to local media in February, the French Transport Secretary stated there are 'no taboos' with competitive tendering (permitted from December 2019, and compulsory from 2023), with maintenance cost reductions, innovative new trains and replacement of rail services with alternatives all options available to the regions. The Government is particularly interested in very light trains (the idea of a 10-tonne vehicle with up to 100 seats has been mooted) and is funding some development research into this.

The sources of future finance remain opaque, with regions expected to fund substantial amounts of the infrastructure costs and a 12-year planning horizon discussed for 'tier 2' lines to be shared between regions and SNCF Réseau. The practicality of some of the suggestions is unclear; infrastructure maintenance cost reductions may be possible on the minority of secondary routes that have been modernised in the last decade, however for the majority of routes it is the cost of getting them into a fit state of repair that threatens their long-term future; the Government estimates this will cost at least €6.8 billion. Deferred maintenance and investment, especially in signalling, has left a large part of the network with deteriorating track quality and labour-intensive manual signalling.

The Government has talked about the potential for traffic growth through local management, and there is plenty of evidence in Germany, Austria and Switzerland of exactly this happening when regional governments gain control of not only the infrastructure but crucially the timetable and specify frequent services. Many of the 'tier 3' lines identified in France have almost no trains as high



Tier 3 and transferring this year: SNCF DMU No X72676 at Loches on 6 August 2019.

The 2019 timetable for the 47km branch from Tours had 15 services each way on weekdays – but only three pairs are trains, the rest are buses! Keith Fender



track access charges and ineffective accounting mean it is seen as 'cheaper' to run parallel buses other than at peak (school or commuter) periods, when trains are used. As the trains are generally idle when the buses are running (and vice versa), this leads to duplication of assets and costs. French tier 3 style lines with low train service levels only generate low track access revenues, in turn leading to low budgets for maintenance, reducing train speeds further and eventually leading to calls for closure.

If French regions look at the experience over the Rhine in Baden-Württemberg in southern Germany, they will see several 'tier 3' type lines, some of which were closed by DB in the 1960/70s, now thriving with frequent trains, often full. Some of these lines are now being electrified, such has been the traffic growth.



LUXEMBOURG

ETCS IN USE NATIONWIDE

Luxembourg, one of the smallest countries in Europe, has become the first European country to install European Train Control System (Level 1) on all railway lines – and to mandate the use of the system.

The national rollout had been long planned, with planning underway in 2005 and installation planned by 2017 – which was achieved. The political impetus for the mandatory use of ETCS was a head-on collision just inside Luxembourg near Bettembourg on the line to Thionville in France in February 2017, blamed in part on the existing Memor II+ signalling system; this was the second fatal accident on the same stretch of line in 11 years.

The practical consequences of both installing ETCS and then mandating its use on a network with substantial cross-border commuter traffic as well as international freight traffic is that train operators in neighbouring countries are required to equip their trains with ETCS or face them being



ETCS only: CFL electric loco No 3018 near the border with Belgium at Capellen, Luxembourg on 6 October 2018 heading for Luxembourg with a service from Kleinbettingen. Since SNCB Desiro EMUs took over Liège to Luxembourg services in December, passenger work for CFL Class 3000 locos is now limited to this route and many of the fleet have been transferred to freight. Keith Fender

banned from operating in Luxembourg. ETCS usage was mandated from 1 January 2020, as the old Memor II+ electromagnetic safety system was taken out of use on almost all the network, but despite over a decade of advance notice the majority of the 25 French Railways (SNCF) EMUs used for frequent cross-border commuter traffic were not equipped with ETCS in time. A derogation previously issued by the Luxembourg rail regulator to SNCF (until mid-2021) was withdrawn after the Bettembourg accident enquiry identified the Memor II+ signalling system as a cause. As a consequence, travellers from French cities in Lorraine (around 12,000 daily) do not have as many through trains as previously, having to change from an SNCF to a CFL service in Thionville.

Similar problems have been experienced between Luxembourg and Arlon in Belgium due to a lack of ETCS-fitted trains, although Belgian operator SNCB has equipped part of its Class 13

electric loco fleet and is working to equip more of its Desiro EMUs with the necessary equipment. Testing for use of SNCB Siemens-built Class 18 Eurosprinter locos in Luxembourg is also underway; when completed these should be able to operate services on the Brussels – Namur – Luxembourg route in addition to Class 13. On the alternative route between Belgium and Luxembourg, from Liège, SNCB has operated dual-voltage Desiro ML EMUs equipped with ETCS since December 2019, replacing loco-hauled trains.

For freight, dispensation has been granted for 2020 for freight trains to still run with Memor II+ operating on the Belgium – Luxembourg – France TEN (Trans-European Network) corridor avoiding Luxembourg City from Bettembourg to Rodange via Esch/Alzette and Pétange. From 1 January 2021 all freight operators using the route will be required to use ETCS.



To be replaced: BVG A3 series trains crossing the river Spree (and former East/West Berlin border) on the Oberbaumbrücke in eastern Berlin on 26 May 2019. Keith Fender



GERMANY

STADLER FINALLY WINS €3BN BERLIN U-BAHN ORDER

Berlin transport operator BVG announced a €3 billion order with Stadler for 1,500 new vehicles to enable largescale replacement of the existing U-Bahn fleet in 2018. Legal challenges from Siemens delayed the contract being finalised, although this legal action was dropped in May 2019. However, another unsuccessful bidder, Alstom, continued to fight the BVG decision, launching new legal action in late August 2019. This action was finally dismissed by the courts in late February, enabling BVG to proceed with the contract.

BVG changed key aspects of the order whilst the tender was underway in 2016/17, increasing the number of vehicles being ordered from 1,050 to 1,500 whilst adding requirements for the manufacturer to take on warranty and availability responsibilities for up to 32 years. Originally the first 24 vehicles were due in service from 2021.

The final contract as signed has a firm order for 606 vehicles to be delivered as two-car and four-car EMUs; initially 376 cars will be built with the next 230 to be ordered later. An option for a further 894 vehicles is within the framework order. BVG has two basic types of train – large and small profile – referring to the loading gauge of the lines they are used on. The Stadler order comprises trains of both profiles (small profile trains will be ‘type JK’, large profile trains ‘type J’), enabling replacement of the oldest trains on the network (some of which date back to the 1960s). The first of the new trains should be delivered in 2023 with series production running to 2033. Stadler will assemble the trains in Berlin at its existing Pankow factories, where it will invest €70 million.



U-BAHN FOR FREIGHT?

In mid-February German Federal transport minister Andreas Scheuer proposed government funding for a night-time trial of package delivery using existing U-Bahn systems. The proposed ‘Paket U-Bahn’ would operate from around 02.00 after the end of normal passenger service and distribute parcels and small packages to existing or new temporary storage/delivery facilities at or near U-Bahn stations for collection by the recipients of the parcels in the morning. Package delivery company DHL, which is owned by German postal company Deutsche Post, has already set up a network of delivery lockers at many main line and some suburban and U-Bahn stations, although these are currently serviced by delivery staff using road transport.

The ‘Paket U-Bahn’ concept would also allow package delivery ‘micro-hubs’ to be established at stations, from where couriers using electric bikes could deliver in the locality, reducing the number of delivery vans on the streets, the increase in number of which delivering online orders has added to congestion in many cities across the world. It is unclear how the German Government will fund the trial or where it will be; progress with the planning will inevitably have been delayed by the coronavirus pandemic.

The concept of freight being carried on urban railways (mainly tramways) is not new and was common in the early 20th century, although it is now much less common. Both London and Chicago used to have dedicated underground rail systems for mail and parcels, although neither is still in use.



IRELAND

IÉ TRIALS NEW FREIGHT SERVICE

Iarnród Éireann (IÉ) has operated a trial freight train for global logistics company XPO. The service between Ballina in County Mayo and Waterford Belview Port operated on 10 March with nine 14.5-metre LX-type flat wagons hauled by 201 Class locomotive No 222. It carried refrigerated containers and on arrival at the port the containers were off-loaded and transferred to a ship for onward transport to Rotterdam.

XPO is keen to help its customers lower their carbon footprint, with rail having the potential

to reduce emissions by up to 75%. In addition to lowering the number of trucks on busy roads, use of rail also alleviates the present shortage of HGV drivers. If the trial is deemed successful, the new freight service is expected to commence later this year. In 2019, freight traffic represented 71.6 million tonne kilometres in Ireland. *Tim Casterton*



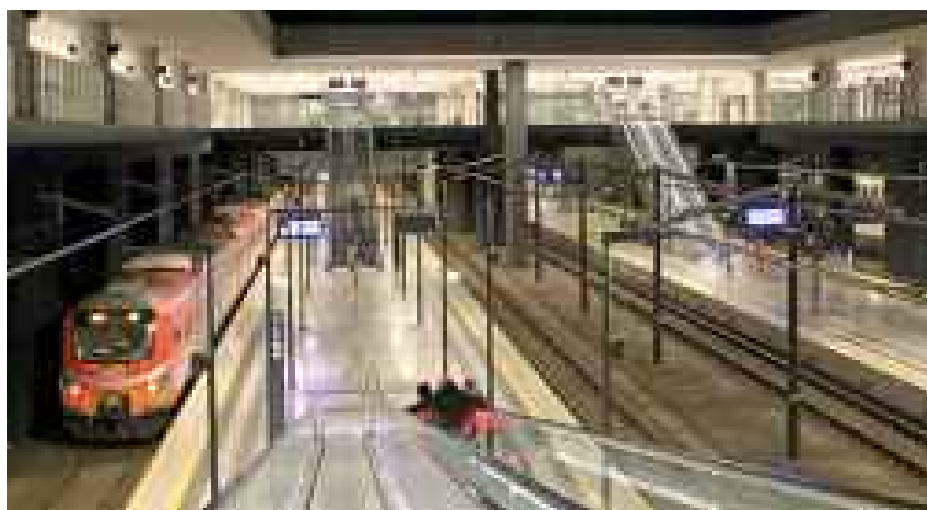
POLAND

ŁÓDŹ CROSS-CITY TUNNELLING UNDERWAY

Work to build a new double-track railway under the Polish city of Łódź, the third largest city in the country, is now underway. The new line will link the Łódź Fabryczna terminus, itself a new underground station that opened in December 2016 on the site of its predecessor which closed (for rebuilding underground) in October 2011. The new 3km-long double-track line, which will be up to 24 metres below the surface, will be made using a 13.04-metre diameter tunnel boring machine (TBM) supplied by German specialist Herrenknecht, which was delivered to Łódź in late March. Once assembled the TBM will drive east from the initial start chamber (constructed in 2019) to Łódź Fabryczna.

At the western end of the new tunnel a ‘Y’ shaped underground set of tunnels (totalling 4.5km) will allow trains to head north (towards Kutno/Poznań/Bydgoszcz) via Łódź Żabieniec and south via the city’s other major station, Łódź Kaliska, towards Wrocław and Katowice. Herrenknecht has supplied a separate 8.76-metre diameter TBM to construct these four sections. In total 17km of new track is planned.

Two stations are planned on the new cross-city line in the city centre and construction should be complete by December 2022. The project is part of the TEN programme and the EU is providing PLN1.43 billion (£280 million) of the PLN1.76 billion (£342 million) project cost. Once complete the new tunnel plus the approximately 3km mostly cut and cover four-track tunnel section between Łódź Fabryczna and Łódź Niciarniana / Łódź Widzew that opened in 2016 will enable many new journey possibilities for local services and much faster transit of the Łódź conurbation for long-distance services. *mf*



New terminus, but not for long: looking east at Łódź Fabryczna on 21 February 2020, with a Polregio EMU in shot. From 2023 trains will be able to operate through the station. Keith Fender



Norwich in 90 service: spring comes to Chelmsford Central Park as No 90008 *The East Anglian* powers the 09.00 Norwich to Liverpool Street on 16 March. Antony Guppy

Anglia Skodas bow out

Great Eastern loco-haulage ends

Late March saw the end of an era on the Great Eastern main line as the loco-hauled Class 90/Mk 3 sets were withdrawn, replaced by Stadler-built Class 745 EMUs.

The '90s' were introduced to the London to Norwich route in 2004 after being cascaded from the West Coast main line, in turn

replacing Class 86s. Ironically, 13 of the 15 locos from Anglia are to move to Freightliner, where they will once again displace '86s'.

The introduction of '745s' began on 8 January and saw the first brand new trains introduced on the Norwich route for over 60 years. Initially the takeover by '745s' was

slow, casting into doubt whether the loco-hauled sets could be withdrawn by the end of March as planned. However, the reduced timetable implemented following the coronavirus outbreak provided an unhappy solution, reducing as it did the number of trains needed to operate the Norwich to London services and enabling '745s' to take over. By late March eight of the 10 Class 745/0s ordered for the

Norwich route had been accepted by Greater Anglia, along with one of the Class 745/1 Stansted Express sets.

It was widely reported that No 90008 would have the duty of working the last loco-hauled diagram on Monday 23 March. In fact, No 90001 *Crown Point* had that honour the following day, immaculately turned out by the Norwich depot whose name it bears. 





Our loco: No 90006 *Modern Railways Magazine*/Roger Ford crosses Badley viaduct at the helm of the 13.30 Norwich to Liverpool Street on 12 February. Antony Guppy



End of an era: No 90001 *Crown Point* propels the 14.30 Liverpool Street to Norwich away from the Colchester stop as viewed from the Ipswich Road overbridge on 24 March, the final day in service for the loco-hauled sets. Antony Guppy



Fine spring morning: No 90009 tops Dedham summit at Fox Ash propelling the 10.30 Liverpool Street to Norwich towards its next stop at Manningtree on 17 March. Antony Guppy



Crossing the Stour: on what was expected to be the last day in service, 23 March, No 90008 propels the 11.30 Liverpool Street to Norwich service over the river Stour at Cattawade, near Manningtree, as the tide ebbs. Greg Howell

STOCK STORED AS TIMETABLES REDUCED

PACERS AND MK 3s AMONG VEHICLES WITHDRAWN

AS TRAIN operators reduced timetables amid the coronavirus outbreak, a number placed rolling stock into store as it was not needed to maintain the required level of service. If reduced timetables persist this could mean some sets will not return to service.

Among those in this category are Pacer DMUs. Northern placed its fleets of Class 142 and 144 Pacers into store while operating its reduced timetable. The operator has dispensation to continue using a small number of '142s' and all the '144s' despite their non-compliance with Persons with Reduced Mobility (PRM) regulations, with these dispensations expiring on 31 May for the '142s' and 31 August for the '144s'. When asked for a comment, Northern told *Modern Railways* it is 'maintaining its current fleet of trains to ensure they are all available for use, if necessary, to help get key workers where they need to be'.

After reducing its timetable Great Western Railway stopped using its eight Class 143 Pacer units on services in the Exeter area; these sets were also operating under a PRM dispensation running until 31 December and have only been operated coupled to PRM-compliant units since the start of the year but were not needed to maintain the temporary timetable.

Transport for Wales, the other operator of Pacers, placed some Class 143s into store at Landore depot in Swansea, although other Pacers remained in traffic; in total it has 30 Class 142/143 sets. The operator was not using its two loco-hauled sets comprising Class 67/Mk 3s in its reduced timetable; its amended schedules were based on a Sunday

service, a day on which the hauled sets are not usually deployed.

LOCO-HAULED CHANGES

On implementation of its reduced timetable Chiltern Railways retired its slam door Mk 3 commuter set which it had used on a daily return duty from Banbury/Bicester to London Marylebone. The set was planned to go into long-term storage in June anyway as its dispensation against Persons with Reduced Mobility (PRM) regulations expired at the end of that month, with Mk 3s withdrawn from Greater Anglia planned as a replacement. Chiltern also withdrew its PRM-compliant sliding door Mk 3 'silver' sets with the reduced timetable and said these were either stabled at depots or away for maintenance. The operator said it was maintaining its reduced timetable using only Class 165 and 168 DMUs.

In contrast, ScotRail continued to use its loco-hauled Fife Circle sets of Class 68/Mk 2 coaches. Although not deployed on their regular diagrams, in late March the sets were used on evening relief services from Edinburgh to Fife. ScotRail told *Modern Railways* the sets are on lease until the end of the year, although their PRM dispensation runs out on 31 May; the operator had previously published a tender notice seeking options for their replacement ('Moving Wheels', February issue).

ScotRail also ended use of its 'classic' HSTs at the end of March. The operator had used slam door sets in an unrefurbished state since December 2018 following delays to the refurbishment programme for its InterCity HSTs at Wabtec. Although it had a dispensation

against PRM regulations to continue using classic sets until December, deliveries of refurbished sets have accelerated in recent months, allowing the classics to be withdrawn.

Greater Anglia's Class 90/Mk 3 loco-hauled sets bowed out with little ceremony on 24 March (see pp80-81) as sufficient Stadler Class 745 EMUs were available to operate the reduced timetable introduced the previous day. The sets had a dispensation against PRM regulations until 1 April, and in early April movements of stock began to Locomotive Services Ltd, which is taking two of the Class 90s and some of the Mk 3 coaches.

'153' AND HST MOVES AT EMR

East Midlands Railway sent 14 Class 153s for store at Barrow Hill as the reduced timetable was implemented to create more space at its depots. The operator told *Modern Railways* the number needed for service remained under review and was liable to change on a daily basis. The first two Class 170s destined for EMR, Nos 170416/417, moved from ScotRail's Haymarket depot to Crofton depot on 23 March and will be repainted into full EMR livery ahead of driver training and entry into service on the Robin Hood line. A further three three-car sets from ScotRail are due to follow in June; entry into service of the '170s' will allow '153s' to be permanently withdrawn by EMR.

Meanwhile, EMR was awaiting the start of testing with its first ex-LNER HST. Nine sets are transferring to replace EMR's existing 2+8 sets with their unique VP185 engined power cars as the ex-LNER sets have a lesser degree of non-compliance with PRM regulations; the nine

VP185 sets have a PRM dispensation until 28 July. EMR reported it was awaiting clarity over timescales for the reduced timetable before it could understand where the ex-LNER HSTs fit into its plans. EMR's reduced timetable included only a small number of HST diagrams on the Midland main line, with most services covered by Class 222 Meridians, and by Easter weekend two of the VP185 sets had been sent off-lease.

SHORTER AZUMAS STORED

LNER stored most of its five-car Azuma sets and was instead prioritising using nine-car sets to maintain its reduced timetable; it's shorter sets comprise 10x5-car Class 800 bi-modes and 12x5-car Class 801 electrics. The operator said the move supported social distancing measures and reduced the number of crew needed where five-car sets would usually operate in pairs. As of the end of March it was also using four InterCity 225 electric sets, although this position was subject to operational change.

TransPennine Express continued to operate all three of its Nova fleets with its reduced timetable. Between 31 March and 4 April, the last six Class 350/4s used by TPE on its Manchester to Edinburgh/Glasgow route moved to West Midlands Trains as planned. TPE told *Modern Railways* its reduced West Coast main line service was being operated solely by Class 397 Nova 2 sets, although ordinarily '185s' would have been needed on some services until the rollout of '397s' is completed.

For its reduced timetable c2c was not using the six Class 387s which joined its fleet in 2016 and was operating all services using its Class 357 EMUs.

Chiltern commuter set withdrawn: slam door Mk 3s previously used on peak time services were placed into store in late March. Rail Operations Group loco No 47815 hauls the rake through West Ealing with the 5V94 Wembley to Long Marston move on 27 March 2020. Jamie Squibbs





PRM-compliant EMUs: Rail Operations Group loco No 37800 *Cassiopeia* approaches Wivenhoe Park crossing towing ex-Northern EMUs Nos 321901/902 on delivery to Greater Anglia as the 5Q98 10.50 Crewe South Yard to Clacton depot working on 31 March 2020. Antony Guppy

TESTING UNDERWAY ON GA '720' EXTRA '321s' TO BOLSTER SUBURBAN FLEET

ON-NETWORK TESTING has begun with the first Class 720 EMU for Greater Anglia.

GA has ordered 111 '720s' from Bombardier (89x5-car and 22x10-car), financed by Angel Trains. They will operate on all GA's suburban services in both East and West Anglia.

The first test took place in the early hours of Tuesday 17 March on the Southend Victoria line. Since then daytime testing

included trips to Norwich, King's Lynn and London Liverpool Street before the end of March.

GA is targeting entry into service for this autumn, although this may be affected by the coronavirus situation. The full fleet is due to be in place by 2022, replacing EMUs of Classes 317, 321, 360 and 379.

As a short-term measure, GA is receiving additional Class 321 and 322 units to bolster its suburban

fleet as part of its plan to improve compliance with Persons with Reduced Mobility (PRM) regulations and cover for the departure of Class 360s to East Midlands Railway to operate the St Pancras to Corby electric service. On 31 March Nos 321901/902 were delivered to Clacton, having previously operated with Northern, and a further '321' and five '322s' are due to follow, although GA told *Modern Railways* it

did not have a date for when these units will arrive. All eight EMUs are PRM compliant; GA currently has a mixed level of compliance within its EMU fleet, with 30 Class 321s which underwent Eversholt Rail's 'Rénatus' overhaul compliant with PRM but the remainder of its '321s' not compliant.

A sub-fleet of GA's Class 317s is also undergoing PRM compliance work, and a dispensation for their continued non-compliant operation was due to run out on 15 April.

FIRST '803' BODYSHELLS ARRIVE TfW '230' testing begins

BODYSHELLS FOR the first Hitachi Class 803 unit for the new open access service to be operated by FirstGroup on the East Coast main line were delivered to the UK in late March.

Hitachi is supplying 5x5-car '803s' financed by Beacon Rail for the East Coast Trains service between London and Edinburgh, which is planned to launch in 2021. The '803s' will be EMUs fitted with a battery pack to provide local power only. Bodysells are being delivered from Kasado in

Japan to the Port of Tyne for transfer to the Newton Aycliffe factory in County Durham, where the sets will be assembled. Hitachi said the bodysells for the second and third trains are expected to arrive in May.

The East Coast Trains service is due to comprise five trains a day between King's Cross and Edinburgh calling at Stevenage, Newcastle and Morpeth, with a journey time of around four hours. FirstGroup was awarded access rights for the new service in April 2016.



D-train for Wales: on 8 April the first of 5x3-car Class 230 battery-diesel hybrid sets supplied by Vivarail for Transport for Wales began testing on the Cotswold line, near to Vivarail's Long Marston base. There is no date yet for their entry into service on the Wrexham to Bidston route; the '230s' will operate solely on this line, with two units required to provide the hourly service initially until frequency on the line is doubled to half-hourly in December 2021, when four units will be needed each day. This is No 230006 at Evesham on its first day out on test.

'387' ETCS testing underway

THE FIRST testing of European Train Control System (ETCS) on Class 387 EMUs took place during the weekend of 21-22 March.

More than 10 return trips were made between Reading and Heathrow ahead of '387s' being introduced on Heathrow Express services later this year. The testing involved owner Porterbrook,

Heathrow Express operator GWR, manufacturer Bombardier, DB Cargo, the Department for Transport and Heathrow Airport, and follows offline testing at the Old Dalby track in Leicestershire. Twelve '387s' are being fitted with ETCS and refurbished at Bombardier's Ilford depot for the airport service, where they will replace the current fleet of 14 Class 332s.

PROTOTYPE '150s' HEAD NORTH



On the move: Class 150 'prototype' three-car sets Nos 150001/002, constructed in 1984 and with GWR since early 2012, transferred as planned to Northern on 1 April, running together as the 5M31 08.57 St Philip's Marsh to Newton Heath working. During their time at GWR they received modifications to bring them more in line with the production Class 150 units. After initial use between Reading and Basingstoke, releasing Turbo sets to reinforce Thames Valley services, the introduction of Class 387 EMUs allowed them to transfer to St Philip's Marsh depot in Bristol for use on local services in the Bristol and Exeter areas. This is No 150002 working in the West Country on the approach to St Austell on 28 June 2018. Tony Miles

CONCERN ABOUT '197' INTERIOR SPEC

RAIL PASSENGER groups have questioned the appropriateness of toilets and seating for long journeys on Transport for Wales' new Class 197 DMUs.

TfW has ordered 77 of the CAF Civity DMUs for service entry in 2022 and 2023. There will be one toilet on each of the 51 two-car sets, which replace Class 158 and Class 175 units with two toilets per two-car set.

The Shrewsbury Aberystwyth Rail Passengers' Association (SARPA) says the Rail Delivery Group's minimum requirements are that no inter-urban DMUs should have fewer than two toilets, and there should be at least one toilet per 85 seats. The 21 Class 197s with European Rail Traffic Management System (ERTMS) for Cambrian services will be two-car units.

In a letter to Assembly Members in March, SARPA chair Jeff Smith said some trips from the West Midlands to Cambrian stations could take about five hours. Railfuture Wales said one toilet per unit was not suitable for the nature of the routes



CAF-built trains for Wales: the first Class 197 bodyshell at the manufacturer's Beasain factory in Spain ahead of delivery to the Newport facility in south Wales for assembly.

the units will operate, including Manchester to Milford Haven.

A TfW spokesman said the single toilet in two-car units was in line with toilet provision on new fleets being delivered to other operators. 'The toilets will be capable of two full days' operation in terms of water and retention tank capacity' he said. 'Routine servicing of the toilet tanks will be scheduled around the diagrams the units are operating to

ensure this. The two-car Class 197s will often run with a second unit on long-distance services, providing two toilets for a four-carriage train.'

TfW has intervened, with an additional £1.9 million, to prevent the Class 197s receiving the same type of seat as Thameslink Class 700 units ('Moving Wheels', February issue). However, Railfuture Wales and SARPA have concerns the seat chosen by TfW, without seeking

any passenger feedback, may be unsuitable for long journeys.

TfW said it was funding an upgrade to the Fainsa Sophia seat, 'the highest option available'. The spokesman said: 'This seat is used in a large number of UK long-distance fleets and is considered to offer good levels of comfort for long-distance operations.'

SARPA says even with the planned service frequency improvements the Class 197s represent significantly less than TfW's promised 65% increase in capacity 'across our entire network'. SARPA has asked for ERTMS on more Class 197s, including some three-car units. This would provide a 'cushion' for times of low availability of the usual Cambrian fleet, it argues.

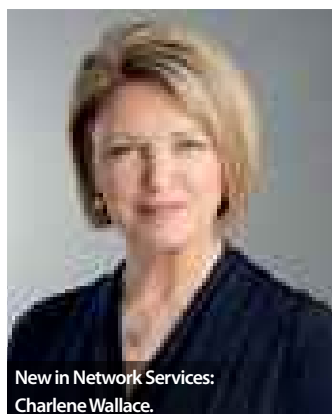
Asked about seats aligning with windows, the TfW spokesman responded: 'Carriages will be bright, airy with open window space. We have carefully chosen a layout to ensure that customers have a comfortable journey, and, where possible, this includes aligning seats with windows so that customers can enjoy the beautiful countryside.' *Rhodri Clark*

WALLACE JOINS NR

CHARLENE WALLACE has joined Network Rail as director for National Passenger & Customer Experience in the Network Services Directorate.

Network Services was created in 2019 as part of Chief Executive Andrew Haines' restructure and provides network operational, freight, telecoms and technical expertise, as well as co-ordination of national programmes, initiatives that support Network Rail's delivery for passengers and freight customers.

Ms Wallace brings over 20 years' experience in the public transport sector, having previously held senior board director roles in rail and aviation, including at Virgin Trains. At NR she leads the National Passenger and Customer Experience



New in Network Services:
Charlene Wallace.

team (NP&Cx), which includes the national stations team and the new Passenger Information During Disruption (PIDD) team.

BROWN STAYS AT TfL

TRANSPORT FOR London Commissioner Mike Brown has postponed his departure from the organisation in the wake of the coronavirus pandemic.

Mr Brown planned to leave in May to become chair of the delivery authority for the restoration and renewal of the Houses of Parliament. His departure was to coincide with

the Mayoral elections which were due to take place at the same time but have now been postponed by a year.

Mr Brown became Commissioner in July 2015, having previously been Managing Director of London Underground. He first joined LU in 1989 and became Chief Operating Officer in 2003 before moving to Heathrow Airport.

SPAVEN STEPS DOWN

DAVID SPAVEN has retired from the Rail Freight Group, where he has been Scottish representative.

Mr Spaven has spent his working life in and around the rail industry, having first been employed on the Far North line in his university holidays in 1973 and later working for 18 years full-time for British Rail in freight marketing management, initially with Freightliner in London then as Speedlink Coal Marketing & Contracts Manager in Glasgow. He left BR in 1993 to work as a rail consultant, currently with his own business, Deltix Transport Consulting. He was also heavily involved in the campaign to reopen



RFG retirement: David Spaven.

the Borders Railway and later in his career became a rail author, with eight books published to date. He is now putting the finishing touches to his next book – *Lost branch lines of Scotland: Beeching's blind spot and his cruellest cuts*.

NEW CHAIR FOR NCB

NETWORK CERTIFICATION Body has appointed Neil Hannah as Chairman, replacing Tim Dugher.

A physicist by training, Mr Hannah has worked in general management for over 30 years in both manufacturing and service businesses. The latter half of his management career was spent in the certification, test and inspection business. He is a Non-Executive Director of the British Board of Agrément, which certifies construction products. He has held senior management positions in BSI and Applus, where he managed aspects of inspection and certification in the nuclear, aerospace and oil & gas sectors.

OBITUARY

Royal service remembered

KEN MOULE, Chief Steward on the Royal Train for 34 years, sadly passed away on 31 March just under a month before his 83rd birthday after developing a chest infection caused by coronavirus. He joined the Restaurant Car Department of the Western Region at Wolverhampton in 1952, soon transferring to the West Coast. He went on to be

Chief Steward on the Birmingham Pullman for many years. He served on board trains for an amazing 62 years (with a short break for national service in the army in the mid-1950s). His career included 40 years working on the Royal Train, most of that as Chief Steward. He was awarded the Royal Victorian Medal (Silver) by the Queen for services to the Royal Family in 1995.



Loyal service: Ken Moule (centre) on 17 April 2014, his last day on the Royal Train, following his retirement presentation by the Queen.

New Shadow Transport Secretary

JIM McMAHON has been appointed as Shadow Transport Secretary in new Labour leader Keir Starmer's shadow cabinet. Mr McMahon was first elected as MP for Oldham West and Royton in 2015 and was previously a Shadow

Minister for Housing, Communities and Local Government.

He replaces Middlesbrough MP Andy McDonald, who had held the role since 2016 and moves to become Shadow Secretary of State for Employment Rights.

Rock Rail's Australian lead

ROCK RAIL has appointed Jim Eldridge to head up its new operations in Australia.

Mr Eldridge joins from Commonwealth Bank in Australia (CBA), where over a 37-year career he has been responsible for the origination and financing of multiple large infrastructure transactions. His time at CBA included several senior level secondments in both the USA and UK and the successful structuring of major financing transactions spanning rolling stock, air and road transport, health, energy and telecommunications. Among them was a secondment to Rock Rail in 2016 when he led negotiations with leading institutional investor organisations to secure the debt funding package for the company's successful East Anglia rolling stock deal.

Natalia Slavianskaia is also joining the Rock Rail Australia



Rock Rail role: Jim Eldridge.

business as Commercial Project Manager. She has over 15 years of rail industry experience, most recently working for Abellio's Greater Anglia operation where she supported the procurement of Rock Rail's second UK fleet.

A digest of the main changes on Network Rail, London Underground and Northern Ireland Railways infrastructure during February 2020; compiled by Martyn Brailsford of the Branch Line Society (www.branchline.uk).

February saw the commissioning of the new signalling on the Yarmouth and Lowestoft lines, the opening of Worcestershire Parkway station and the extension of the sidings at Redbridge, Southampton.

ANGLIA

Norwich to Yarmouth and Lowestoft (2:8/8A)

A major resignalling scheme has been commissioned which affects the existing Down and Up lines between Whitlingham Junction (exclusive) and Lowestoft, the existing single line between Brundall Junction and Yarmouth, the existing single line between Oulton Broad North Junction and Oulton Broad South and the existing single line between Reedham Junction and Yarmouth.

Brundall Junction (BL), Acle (A), Yarmouth (Y), Oulton Broad North (OB) and Lowestoft (L) signal boxes have all been abolished with control transferred to two new workstations at Colchester PSB:

- Brundall workstation – Whitlingham Junction (exclusive) to Buckenham and Brundall Junction to Yarmouth;
- Lowestoft workstation – Buckenham to Lowestoft, Oulton Broad North Junction to Oulton Broad South and Reedham Junction to Yarmouth (exclusive).

In addition, Reedham (RB), Somerleyton (SB) and Oulton Broad (OB) bridge signal boxes have each been downgraded to bridge operation cabins only, however Reedham and Somerleyton will have control of protecting signals whilst Oulton Broad will require permission from the signaller at Colchester. Cantley box, downgraded to a gate box in April 2019, has also been abolished.

Track alterations have taken place at a number of locations; please see the accompanying track diagrams which describe those at Yarmouth (alterations took place in October 2017), Brundall Junction (alterations took place in April 2019), Reedham Junction and Lowestoft (alterations commissioned in February 2020).

At Reedham Junction the trailing crossover between the Up Lowestoft and Down Lowestoft lines

TABLE 1: WHERRY LINES NAME CHANGES

Between (Line Of Route)	Old name	New name
Whitlingham Junction and Lowestoft (EA1470)	Up Main	Up Lowestoft
Whitlingham Junction and Lowestoft (EA1470)	Down Main	Down Lowestoft
Brundall Junction and Yarmouth (EA1500)	Up & Down Single	Acle Single
Brundall Junction and Yarmouth (EA1500)	Up Loop (at Acle)	Up Acle Loop
Brundall Junction and Yarmouth (EA1500)	Down Loop (at Acle)	Down Acle Loop
Reedham Junction and Yarmouth (EA1510)	Up & Down Single	Reedham Single

at 12M 49ch and the connection towards the Reedham Single line have been brought into use along with the removal of the temporary rail stop at 12M 53ch on the Reedham Single.

In the Lowestoft area, a new junction, named Lowestoft Coke Ovens Junction (22M 64ch), has been brought into use. The junction consists of a facing crossover between the Up Lowestoft and

Down Lowestoft lines together with the connection between the Up Lowestoft and Lowestoft sidings. At the station, all existing points and connections have been removed and a new trailing crossover has been provided between the Up Lowestoft and Down Lowestoft lines at 23M 21ch, with a new connection provided between the Up Lowestoft line and platform 4 at 23M 30ch.

The freight sidings now consist of a head shunt at Lowestoft Coke Ovens Junction end, with Siding No 1 adjacent to the running lines and a Loop line running parallel to that. Siding No 1 and the Loop join together to run into a longer head shunt at the station end of the layout and a Tamper siding has also been provided, accessed off the station end head shunt.

TABLE 2: WHERRY LINES LEVEL CROSSING CHANGES

LOR	Current name	Location	Upgraded to	Old name
EA1470	Brundall Church	5M 20ch	MSL-X	Church Lane
EA1470	Bells	5M 45ch	MSL-X	
EA1470	Brundall	5M 62ch	CCTV	
EA1470	Lackford Run	6M 29ch	n/a	Strumpshaw Occupation
EA1470	Strumpshaw Fen	6M 74ch	MSL-X	
EA1470	Strumpshaw	7M 11ch	CCTV	
EA1470	Buckenham	7M 62ch	MSL-X	
EA1470	Cantley Church	9M 74ch	MSL-X	Church Road
EA1470	Cantley	10M 03ch	CCTV	
EA1470	Hillside Farm	11M 23ch	UWCT	Hill Crest
EA1470	Double Crossing	11M 35ch	UWCT	
EA1470	River Board	16M 01ch	MSL-X	
EA1470	Wheatacre	17M 30ch	n/a	Landspring Dyke
EA1470	Waddling Wood	18M 23ch	n/a	Somerleyton Estate
EA1470	Fleet Pump	20M 01ch	n/a	Dunston Flixton Mill
EA1470	Gravel Dam	20M 43ch	MSL-X	
EA1470	Fisher Row	20M 77ch	MSL-X	
EA1470	Oulton Broad North	22M 01ch	CCTV	
EA1500	Chapel Road	7M 55ch	CCTV	
EA1500	Lingwood	8M 03ch	CCTV	
EA1500	Shearing	12M 01ch	n/a	Shearing No 2
EA1500	Malletts	14M 44ch	n/a	Baileys No 2
EA1500	Britannia Farm	15M 14ch	MSL-X	
EA1500	Acle Marshes	16M 06ch	MSL-X	Wrights
EA1500	Vauxhall	17M 02ch	n/a	Breydon Access No 51
EA1510	St John's	13M 35ch	n/a	Church Lane
EA1510	Beckhithe	13M 69ch	UWCT	Reedham High
EA1510	Wickhampton	14M 34ch	UWCT	Reedham Occupation
EA1510	Long Drain	15M 00ch	UWCT	
EA1510	Swans	15M 01ch	UWCT	Reedham Accommodation
EA1510	Bittern	16M 10ch	n/a	Wrights No 1
EA1510	Beighton Marshes	16M 22ch	n/a	Wrights No 2
EA1510	Breydon Sluice	17M 29ch	MSL-X	
EA1510	Wherryman's	18M 32ch	UWCT	Marshes
EA1510	Banham	19M 13ch	n/a	Breydon Access No 24

Note: MSL-X is a Miniature Stop Light, including wrong direction movements; UWCT is a User Worked Crossing with telephone; CCTV is a Full Barrier Crossing with Closed Circuit Television. The three LORs are defined in Table 1.

At Yarmouth, the existing crossover between the Acle Single line and the carriage sidings has been brought back into use.

A number of line name changes have taken place (Table 1) and a number of level crossing upgrades/renames have taken place (Table 2).

To assist in understanding this project's timeline, we reported that in October 2017 significant track alterations had taken place at Yarmouth and that in April 2019 Reedham Junction (RJ) signal box was abolished and Cantley (C) signal box was downgraded to a gate box along with a revised layout at Brundall Junction being commissioned but still operated from Brundall Junction signal box. Also please note that officially the station in Great Yarmouth is Yarmouth according to the Sectional Appendix, but is Great Yarmouth in all publicly facing material, including the platform signs.

TABLE 3: GREATER MANCHESTER STATION PLATFORM LENGTH CHANGES

Station	Page	Platform	Extension	New operational length
Hope (Derbyshire)	44C	2	7m (8 yards)	95m (104 yards)
Brinnington	44A	1	10m (11 yards)	99m (108 yards)
		2	10m (11 yards)	99m (108 yards)
Bredbury	44A	1	10m (11 yards)	99m (108 yards)
Ryder Brow	43N	1	11m (12 yards)	95m (104 yards)
		2	15m (16 yards)	99m (108 yards)
Belle Vue	43N	1	3m (3 yards)*	99m (108 yards)
		2	3m (3 yards)*	99m (108 yards)
Hall-i'-th'-Wood	46B	1	11m (12 yards)	94m (103 yards)
		2	9m (10 yards)	92m (101 yards)

* denotes a reduction in operational length

Between Cromer and Sheringham (2:8)
Beeston Regis User Worked Crossing (UWC) at 43M 49ch has been upgraded with miniature red/green lights to become an Overlay Miniature Stop Light (OMSL) crossing.
Ipswich (2:6B)
In connection with the construction of the new

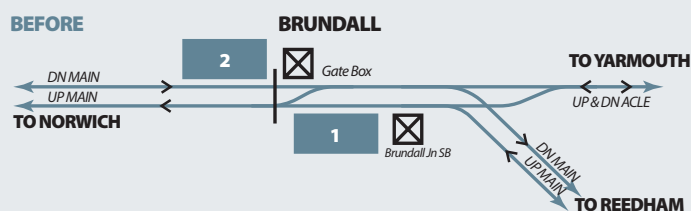
Freightliner Vehicle Maintenance Facility at Ipswich Upper Yard, all the hand points off No 4 Road at the south end of the reception sidings and the points controlled by Colchester PSB at the north end of the yard have been clipped and padlocked to prevent access to the former Upper Yard.

King's Lynn (2:12B)

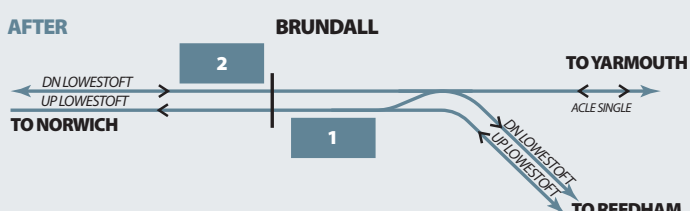
In connection with the introduction of a new stabling siding at King's Lynn, points have been installed in the running line at 96M 46ch in the trailing direction on the approach to King's Lynn and have been clipped and padlocked. The stabling siding will be on the Up

WHERRY LINES: TRACK ALTERATIONS AT BRUNDALL, REEDHAM, GREAT YARMOUTH AND LOWESTOFT

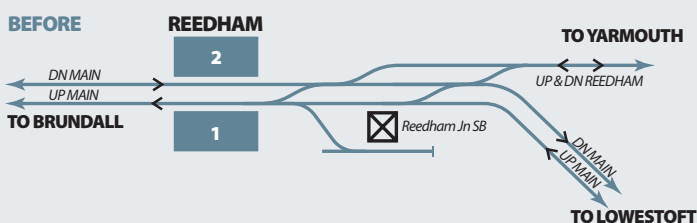
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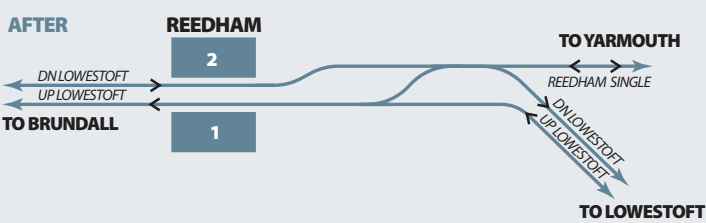
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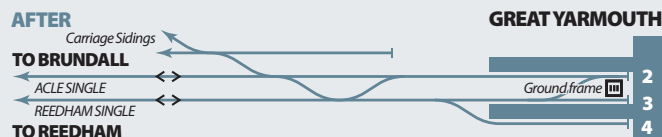
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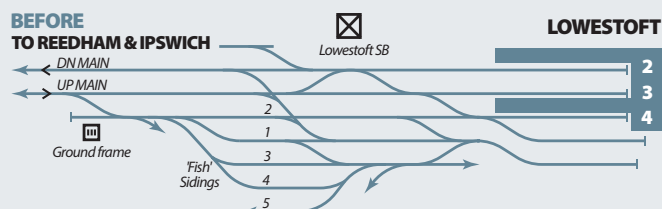
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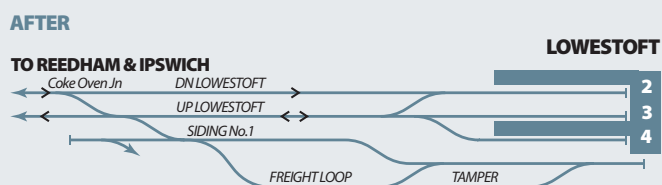
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Worcestershire Parkway: GWR Intercity Express Class 800/0 No 800003 departs from the new station on 27 February 2020 while forming the 11.50 London Paddington to Hereford service. It is working along the Up & Down Cotswold Single, which crosses the twin tracks of the former Birmingham & Gloucester Railway at this point. John Whitehouse

side, running from the points back towards Extons Road level crossing.

EAST MIDLANDS

Bedford Area (4:9C)

Further small infill to the overhead line equipment (25kV AC) has taken place on the Up and Down Fast lines at Bedford, electrifying both lines from the existing limit at 49M 47ch through to 50M 00ch. Missed out in the report covering December was the extension of electrification on all lines north of Bedford station from 50M 00ch to 50M 20ch.

Market Harborough (4:10A)
Platform 2 on the Up Main has been extended by 129m (141 yards) to have a new operational length of 265m (289 yards).

LONDON NORTH EASTERN

Barnsley Area (2:34B)

Barnsley Manual Controlled Barrier Level Crossing, at 6M 59ch, has been abolished, with all the equipment removed.

LONDON NORTH WESTERN

Washwood Heath West Junction (4:20)

In connection with the ongoing HS2 project, the Down Washwood Heath Neck (39M 55ch to 39M 77ch) is currently out of use.

Greater Manchester (4:43N/44A/C/46)

A number of Greater Manchester (plus Hall-i'-th'-Wood and Hope) stations have had their platforms lengthened, see Table 3 on previous page. In addition, the extension at Darwen (reported in December 2019) has now been commissioned.

LONDON UNDERGROUND

Aldgate East (5:44A)

The trailing crossover just east of Aldgate East (36.000km) has been plain lined.

Royal Oak (5:44A & 3:1A)

The hand worked trailing crossover just west of Royal Oak (49.000km) has been plain lined.

SUSSEX

Between Horsham and Christ's Hospital (5:19C)

Bakers UWC at 39M 33ch has been closed and the telephones recovered.

WESTERN

Between Worcester Shrub Hill and Pershore & Bromsgrove and Abbotswood Junction (LNW) (3:15A & 4:23C)

Worcestershire Parkway station has now opened with platform 1 (Up Gloucester) having an operational length of 265m (290 yards), platform 2 (Down

Gloucester) having an operational length of 237m (259 yards) and platform 3 (Up & Down Cotswold Single) having an operational length of 265m (290 yards).

Platforms 1 and 2 have a mileage of 68M 13ch, whilst platform 3 has a mileage of 116M 60ch.

Between Pershore and Evesham (3:16C)

Charlton UWC at 109M 13ch has been upgraded with miniature red/green lights to become an Overlay Miniature Stop Light (OMSL) crossing.

Between Bath and

Bradford-on-Avon (3:5C)

Glass' UWC at 0M 20ch has been closed, however the footpath crossing and its associated equipment remains open and in situ.

WESSEX

Redbridge Sidings, Southampton (5:33A)

In connection with the freight train lengthening works project at Southampton the following alterations have been implemented at Redbridge (81M 70ch). The existing Loading Dock Siding has been taken out of use and the associated hand point recovered. The existing head shunt at the country end of Depot Reception Siding No 1 has been recovered, as has the associated hand point and trap point. These will be replaced with plain line which

will be connected into a new hand point detailed below. The existing Depot Reception Siding No 2 has been extended by approximately 415m (454 yards) at the country end and a new fixed buffer stop with retro-reflective plates provided. A new hand point has been provided 25m (27 yards) on approach to the buffer stop for run-round manoeuvres via Depot Reception Siding No 1.

Sandhurst (5:28B)
Both platform 1 on the Down Blackwater and platform 2 on the Up Blackwater have been extended by 6m (7 yards) to have new operational lengths of 84m (92 yards).

NEXT MONTH

March will hopefully see a significant number of level crossing alterations plus the track work to serve the new platform 5 at Stevenage should be commissioned.

Information has been grouped according to the current Sectional Appendix / Weekly Operating Notice areas. All details can be subject to subsequent amendment. Books and Diagram Reference Numbers (in brackets) relate to the latest relevant Quail Track Diagram books obtainable from Trackmaps at www.trackmaps.co.uk

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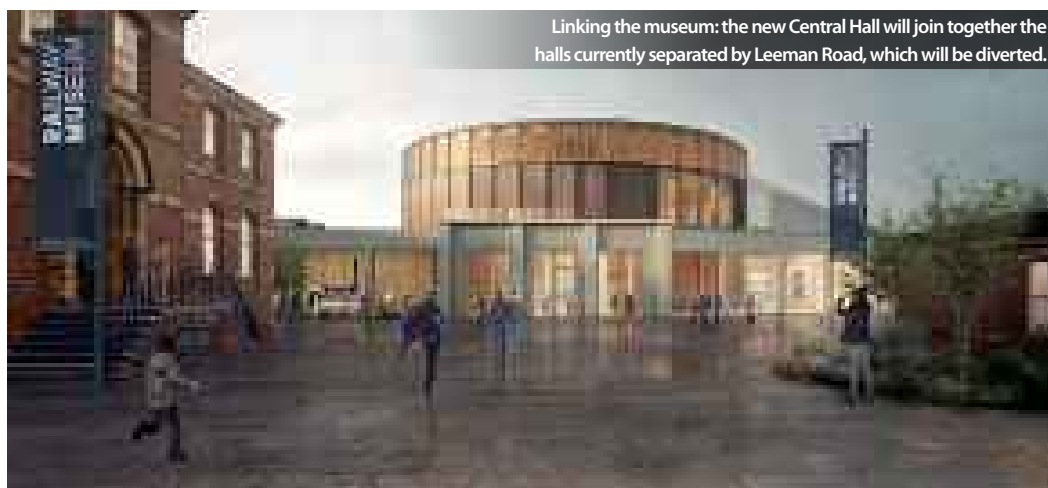
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Linking the museum: the new Central Hall will join together the halls currently separated by Leeman Road, which will be diverted.

NRM EXPANSION PLANS

A TEAM led by designer Feilden Fowles has won an international competition to create a new Central Hall for the National Railway Museum in York. The design concept references the history of locomotive roundhouses and railway turntables with its central two-storey rotunda, which will be clad with recycled patinated copper and lit with high clerestory glazing. The designers say the rotunda will unify the diverse buildings that make up the existing site.

On entering this new welcome and orientation space, the visitor's gaze will be drawn upwards to the engineered ceiling, stitched together with radials of UK-sourced Douglas fir, described by the competition jury as 'a spectacle'. A first-floor balcony will offer views of York, while at ground level



Roundhouse design: the proposed look of the new Central Hall at the NRM.

five different portals will lead to different parts of the museum.

A new double-height gallery, the Exhibition Hall, will use the same grid as the existing Station Hall and celebrate its brick arched openings.

Feilden Fowles' design concept was developed with fellow team members Max Fordham as Building Services Engineer and Price & Myers as Structural and Civil Engineer.

Zonegreen protects Crown Point

ZONEGREEN IS equipping Norwich's Crown Point depot with its latest personnel protection technology, as part of a £40 million upgrade. The Sheffield-based firm has just completed phase two of the installation, adding its flagship Depot Personnel Protection System (DPPS) to a third road in the refurbished facility.

Zonegreen's engineers have most recently installed DPPS on road 14, which is housed in its own maintenance shed. Last year, Zonegreen installed DPPS on roads 16 and 17 at Crown Point, where it has been interlocked with gantry gates, to prevent access to new high-level maintenance areas until overhead lines have been isolated. Greater Anglia's new Stadler trains have many serviceable components housed on the roof.

Once complete, DPPS will protect six roads at Crown Point, which is being extended and upgraded to cater for 58 new Stadler Flirt trains ordered by Greater Anglia. All work is being carried out whilst the depot remains operational.

Meanwhile, in an export contract, Zonegreen has installed a new push button warning system to three double-ended roads in Fairview depot, which is used to service Dublin Area Rapid Transit (DART) trains.

UK suppliers need all our support

IN LAST month's issue we talked about the role local supply chains could play in the decarbonisation agenda and the plan had been to do a follow-up article to that. But since then our world has been turned upside down with the current Covid-19 pandemic and it's inappropriate to ignore this.

From the middle of March, Rail Forum Midlands' (RFM's) work has been dominated by the impact the virus is having on our members and their businesses. We are providing news bulletins three times a week, ensuring members have easy access to the latest government guidance and support. We have spoken to many members who are wrestling with the impact the pandemic is having on their companies and we are seeing a number of firms taking



the decision to temporarily close their factories or furlough their staff. Our normal events programme has been replaced by a series of online sessions including mental health, specific hot topics (such as furloughing and contracting issues) and more general online 'surgeries' for members to raise concerns and ideas.

We have also been in constant contact with government departments, including the Department for Business, Energy & Industrial Strategy and Department for Transport, and with key clients, to raise members' concerns. Some of these have been addressed or alleviated through the various

support packages announced and more recently we have summarised four key issues in a document to government. This is a moving target but at the end of March these were summarised as follows:

- Ensuring that Network Rail, train operating companies and other key clients keep as much work flowing to suppliers as possible. This will facilitate a quicker return to 'business as usual' for many organisations.
- Providing urgent clarification on how the furlough payments will work and the process for claiming this relief (including exploring avenues for advancing some money to those that are in real need).
- Ensuring that clients and tier 1s make prompt payment and

that this flows down through the whole supply chain.

- DfT, TfL and other 'ultimate clients' facilitating relaxation of supplier penalty clauses (for example for late delivery) throughout the supply chain to avoid unnecessary concerns, penalties and potential litigation.

These 'asks' will no doubt evolve over the coming weeks as the whole situation plays out not just in the UK but across the world. The coming few months are clearly going to be a challenge and RFM will continue to listen to our members and support them as much as possible. Now more than ever, UK suppliers need all our support.

New offices for 3Squared

SHEFFIELD-BASED RAIL

technology company 3Squared has moved into new 9,000m² offices following a £250,000 refit of the entire second floor of the Fountain Precinct building in Sheffield city centre. 3Squared supplies software to the railway sector that helps customers save money, improve performance and reduce business risk.

Tim Jones and James Fox founded 3Squared in 2002 and have grown the company from a two-man start-up to a successful, Queen's Award-winning business that employs 52 members of staff. The move into the larger office will enable the company to further its growth plans by almost doubling its head office workforce.

No need to touch door handles

RUSSIAN RAILWAYS (RZD) is currently testing 36 attachments for door handles provided by Siemens Mobility. The attachments enable doors to be opened with an elbow or lower arm rather than a hand and thus reduce the risk of spreading germs or a virus like Covid-19. Siemens Mobility has installed the prototypes in several Desiro trains

being operated in the Moscow area by Russian Railways. The parts are produced with the help of additive manufacturing. Implementation in further train fleets is being planned.

Siemens Mobility recently purchased two Stratasys 3D printers to help with the maintenance of the Russian train fleet, which also includes several Velaro high-speed trains.

Weardale enters new ownership

LAST YEAR Iowa Pacific Holdings entered into insolvency in the USA, leading to problems for British American Railway Services, in which it was the main shareholder. BARS owned the Weardale and Dartmoor Railway Community Interest Companies and RMS Locotec, formerly parent to Devon & Cornwall Railways, which operated freight services. RMS Locotec's Washwood Heath base was in the path of HS2 and its assets have been sold off (with DCR now owned by the Cappagh construction company, under whose ownership it has acquired four Class 60s from DB Cargo to operate freight services from Wembley – p20, February issue). Dartmoor Railway, the CIC that operated heritage services between Okehampton and Meldon quarry on track owned by Aggregate Industries, has entered administration.

The Weardale Railway, which stretches 20 miles west from Bishop Auckland to Stanhope, has been bought out of administration by the Auckland Project, a charity supporting economic regeneration around Bishop Auckland by promoting tourism in the region. The Project says it will work with Durham County Council and will continue to call on the expertise provided by the staff of the former Weardale Railway CIC and volunteers of the Weardale Railway Trust, which operated the summer heritage service on the line on behalf of its previous US owner.

The Auckland Project has ambitions to incorporate the Weardale Railway into its plans to celebrate the historic Stockton to Darlington Railway, which in 2025 will celebrate the 200th anniversary of the first passenger service.

TV series covers railway buildings

A 10-PART series on UKTV's Yesterday channel entitled *The Architecture the Railways Built* was due to start on 28 April at 20.00. The series celebrates more than 40 individual stories from across Europe. 'I have never been more proud of something that I have helped to make' says Tim Dunn, the historian and broadcaster

behind the series. He adds: 'The production team (Brown Bob, who were behind Peter Snow's Rail Restoration) helped get folk from across Network Rail, TfL, European operators and private/heritage sites to talk about not trains, but architectural and civil engineering heritage – and the way the modern railway looks after it.'



Making Friends: RBF president Pete Waterman with staff from Porterbrook during his visit to Derby.

RBF MAKES FRIENDS

THE RAILWAY Benefit Fund, the charity supporting the UK's rail workers and their families when they experience tough times, has kicked off a 'Making Friends' initiative. Committing to an annual joining fee, for a minimum of three years, gives access to a range of services and opportunities offered by RBF, including:

- a way for companies to complement and enhance their wellbeing strategy with RBF's independent and confidential services;
- profile in RBF's nationwide promotional campaign and communications within the rail industry;
- receiving an RBF Friends logo for use in internal and external communications and their own

logo and company biography in the RBF Friends directory; and

- 10% discount when booking onto RBF events.

Four corporate sponsors have joined up so far. Abellio Rail Replacement (ARR) and Merseyrail – both important supporters of the charity and RBF board members – were the first to join the programme.

On a recent #MeetPete roadshow visit in Derby to showcase RBF's services, charity president and famous record producer Pete Waterman signed up East Midlands Railway and Porterbrook. Rupert Brennan Brown, Porterbrook's Director of Stakeholder Engagement, said: 'We are delighted to have signed up as a Friend of the Railway Benefit Fund.'

ANTI-COVID SERVICE

CREWE-BASED TBM Rail has extended its hygiene and sanitising services to support transport fleets as they tackle ongoing deep-clean challenges caused by the coronavirus. Cleaning seating, washroom facilities and storage tanks are core services offered to transport operators across the UK by the company.

Recently, TBM has extended these services to include a 'fogging' machine that sprays a sanitising mist onto all surfaces within passenger carriages and driver cabs. The firm says the solution kills up to 99.9999% of germs within minutes. TBM also offers products that can create a protective barrier.



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EVENTS

Our monthly event listings will return when the coronavirus crisis abates.



Stations nearing completion: work in progress on the upper concourse at Whitechapel on 25 February 2020, before the coronavirus pandemic forced a shutdown around a month later. Although historically one of the most troublesome of Crossrail's station sites, Whitechapel has made good progress in recent months. Philip Sherratt

COVID HALTS CONSTRUCTION

To say everything was going smoothly might be overstating the situation. After all, Crossrail remained late and over budget. But during the first few months of 2020 Crossrail Ltd Chief Executive Mark Wild's programme to get the Elizabeth Line open by summer 2021 was showing signs of success.

In the latest published update to the London Assembly Mr Wild noted key milestones reached recently included the Track Safety Justification being certified by the Railway Assurance Board for Crossrail, Connaught Tunnel achieving Interim Acceptance and Mile End shaft being handed over to the Elizabeth Line Infrastructure Manager, Transport for London's Rail for London arm.

Indeed, much of the central section of Crossrail was substantially complete by this stage. The key focus for Crossrail had switched to completing software development for the signalling and train systems along with safety assurance for the railway so that intensive operational testing, known as trial running, can begin. This was expected to start in autumn this year.

But then Covid-19 arrived. The Prime Minister's announcement on 23 March that people should stay at home wherever possible has sent seismic waves through the construction industry with projects paused, staff furloughed and companies forced to

implement extreme measures to not only ensure worker safety but put their organisations in a position where they could hope to survive the outbreak.

Although the Government has indicated construction site activity can continue where site operating procedures that implement social distancing requirements are in place, Crossrail faces the added pressure of needing to follow the policies set by parent company Transport for London. And with TfL, led by the Mayor of London, telling Londoners to keep their distance, avoid public transport and only travel where necessary, the Crossrail team needs to be showing it is following the advice of Public Health England and doing everything possible to halt the spread of the virus.

So on 24 March London's Transport Commissioner Mike Brown announced TfL and Crossrail would halt all work on project sites unless there was a need to continue for operational safety reasons. 'This means that work on all such projects will be temporarily suspended as soon as it is safe to do so' he said.

In a TfL statement Mark Wild added: 'Essential and business critical work continues across the Crossrail programme, but our priority is to keep our people safe and limit movement. Last week we asked everyone who could work from home to do so and put in place measures to limit

movement across the programme. As a further measure we have taken the decision with our Tier 1 contractors to temporarily stop station activity and close our sites until further notice.'

And so, just when that 2021 opening was within sight, Crossrail faces yet another Herculean challenge. Stopping work on site clearly has implications for the opening date; how serious these are depends on how long the Covid-19 restrictions remain in place, but Mayor of London Sadiq Khan and London Assembly Transport Committee deputy chair Caroline Pidgeon are among those who have warned the current situation is likely to affect when Elizabeth Line trains start transporting passengers.

According to Crossrail Chief Executive Mark Wild: 'While we are doing everything we safely can to keep the Crossrail programme on track, Covid-19 will have an impact – it's too early to tell what that impact will be. We are doing everything we can to support our principal contractors during this difficult and challenging time. Our arrangements remain under constant review and we are liaising closely with our Tier 1 contractors and their supply chains to ensure that the Crossrail programme continues to be delivered safely.'

MONEY MATTERS

Crossrail Chairman Tony Meggs said he is focused on making sure every

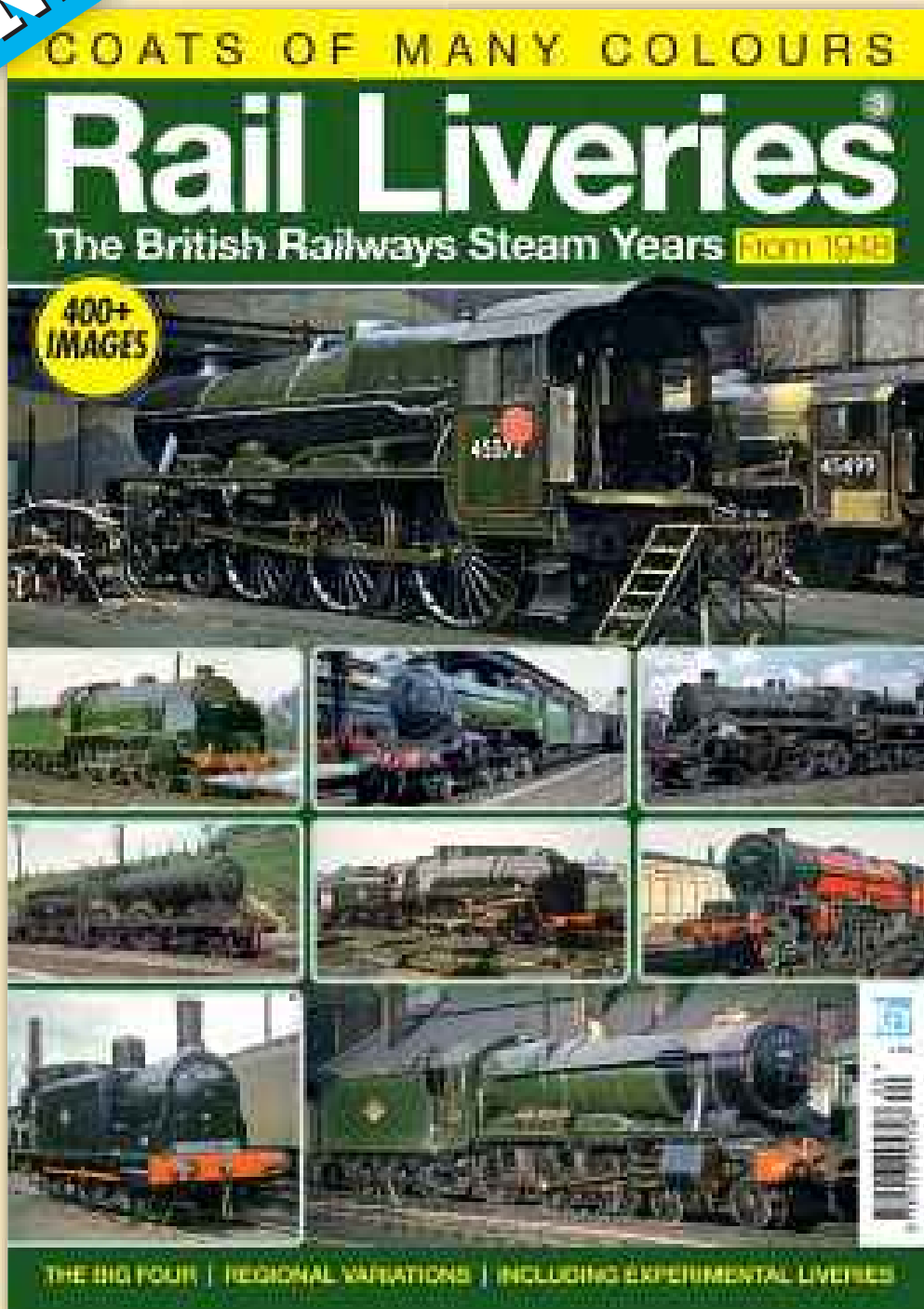
person working for the project, including small sub-contractors and those employed by big companies, gets paid during the site shutdowns even if they are unable to come to work. 'We want to pay them for their welfare, but also so we can restart very, very quickly. If we weren't able to keep our supply chain intact, it would take us years to build it back up again' he said.

Mr Meggs warned Crossrail will need money from Government to be able to pay its supply chain as the coronavirus crisis continues, and this will add to the project cost. Mayor of London Sadiq Khan and TfL were already in negotiations with Government regarding how to plug a shortfall in Crossrail funding, but with ticket revenue from TfL rail services down more than 90% as passengers heed advice and desert the capital's public transport network, a wider bailout will be required.

Speaking in March, Simon Kilonback, TfL's Chief Finance Officer, said: 'Our best forecast, based on government scenarios, is that the financial impact of the coronavirus could be up to £500 million. We manage our finances prudently, and have reduced our deficit hugely in recent years.' He went on to add: 'Given the nature of the situation, we will be looking to the Government to provide appropriate financial support.'  Dan Harvey

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In 1948 the newly formed British Railways executive were faced with trying to provide a corporate image across a collection of some 20,000 steam locomotives in various states of repair. The fact that most were in shades of black or green should have helped but a corporate livery is about much more than the shade of paint, it's about badges, logos, font styles and lining. The Devil is in the detail.



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Building a railway in a pandemic

Prime Minister Boris Johnson's 'lockdown' announcement on 23 March saw High Speed 2 contractors scramble to comply with new Government guidelines designed to slow the spread of the Covid-19 virus.

The immediate result was a pausing of most HS2 activities while the teams at different locations reviewed what steps needed to be taken to comply with the Standard Site Operating Procedures Social Distancing policy. This meant that by 26 March most HS2 works were on hold apart from activity needed to maintain site security and meet health and safety requirements.

For Phase One the only works continuing, subject to review, were on the section between Long Itchington Wood Green Tunnel to Delta Junction and the Birmingham Spur. Work also continued on the Delta Junction to West Coast main line tie-in contract. All Phase 2a works were paused.

This initial review period focused on the questions that are affecting us all. Does all work have to stop? Can some work be completed at home? Are we allowed to go to a place of work if appropriate measures, such as social distancing, are in place?

While many building firms have been furloughing staff, the emerging picture with HS2 is that some work can continue. Contractors who had paused activity are now looking at where they can restart works, on a limited scale, while complying with government health advice.

Central area contractor Fusion had people back on site continuing with vegetation clearance and site setup in Buckinghamshire and Northamptonshire. Align – the main works contractor responsible for the Chiltern tunnels and Colne valley viaduct – was also looking at resuming limited work on the



Demolition done, but what next? Tower crane in action at Euston in January 2019. The joint venture responsible for enabling works at Euston has removed this crane but carrying out more significant work on site during the lockdown is challenging as it requires workers to travel in by tube. Courtesy HS2

south portal site, next to the M25 and from where the Chiltern tunnel boring machines will be launched.

For the Costain/Skanska joint venture carrying out HS2 works in the London area, the need to avoid workers having to use the London Underground to travel to site means continuing activity is more challenging. The team has started the removal of a tower crane at Euston, used during demolition, and is considering what other activity can continue while maintaining social distancing.

Work at Euston station resumed on 30 March following the implementation of social distancing measures. Network Rail said this would allow it to continue demolishing the canopy at the southern end of platforms 17 and 18, demolishing the West Ramp and putting up scaffolding over the escalators to the London Underground. It also intended to proceed with work to

create a secondary means of escape through the western building.

So while many of us are confined to home HS2 site activity is continuing – although HS2 Ltd notes none of this work is on anything like the scale it would have been without Covid-19 and the level of activity remains subject to constant review. This pattern of HS2 dribs and drabs could continue for weeks or months until the lockdown is lifted. Or the Government could decide to step up the pace by issuing the long-awaited Notice to Proceed.

Following the Prime Minister's commitment in February to go ahead with building High Speed 2, the Notice to Proceed is the contractual gateway between the first (design) and second (build) stages of the main contracts. When it comes, it will effectively provide a green light to the four big joint ventures responsible for constructing the HS2 alignment between London and Staffordshire.

Pre-Covid, the expectation was that the Notice to Proceed would be given in April, allowing work to proceed to the timescale outlined earlier in the year. One might expect the decision to be postponed until current restrictions are lifted, but that would inevitably lead to further slippage and delay. Perhaps the Government will not wait that long.

CAUSE FOR PAUSE?

Never let a good pandemic go to waste. Writing to the Prime Minister and Transport Secretary Grant Shapps on 24 March, the day after restrictions on movement were announced by Government, long-term HS2 critic Tony Berkeley called for the PM to halt work on High Speed 2 for at least six months.

Lord Berkeley called for the moratorium to ensure safety – partly because of concerns HS2 contractors are not complying with social distancing rules when they encounter people protesting against the scheme (who appear to be maintaining their presence at HS2 sites despite calls from ministers and medics to stay at home).

His letter also presented the Government's spending on the Covid-19 response as grounds for a further review of the case for High Speed 2. Lord Berkeley wrote: 'I am also sure that ministers will want to look at the finances for HS2 and/or its cheaper alternatives in the light of the Government's unexpected expenditure on supporting business and people as a result of the coronavirus, before deciding whether to allocate over £100 billion to HS2.'

He continued: 'Ministers may also wish to consider whether, as a result of people getting used to working from home or remotely, demand for transport in the future will be reduced to the extent that HS2 in its entirety is no longer needed.' **mr** Dan Harvey

HS2 PHASE ONE ENABLING AND CIVILS WORKS CONTRACTORS

Enabling works

Area South	CSjv (Costain/Skanska joint venture)
Area Central	Fusion joint venture (Morgan Sindall/BAM Nuttall/Ferrovial Agroman)
Area North	LMJV (Laing O'Rourke/J Murphy & Sons joint venture)

Civils works

Area South – Euston Tunnel and approaches and Northolt Tunnels	SCS Railways (Skanska/Costain/STRABAG joint venture)
Area Central – Chiltern Tunnels and Colne Valley Viaduct	Align joint venture (Bouygues Travaux Publics/VolkerFitzpatrick/Sir Robert McAlpine)
Area Central – North Portal Chiltern Tunnels to Brackley and Brackley to South Portal of Long Itchington Wood Green Tunnel	EK joint venture (Eiffage/Kier)
Area North – Long Itchington Wood Green Tunnel to Delta Junction and Birmingham Spur and Delta Junction to West Coast main line tie-in	BBV JV (Balfour Beatty/Vinci)

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New timetable under development: a recast was planned for December on the Midland main line, although the coronavirus crisis is likely to delay this. Thameslink unit No 700053 forms the 11.58 Luton to Sutton service at West Hampstead Thameslink on 26 January 2020. Ken Brunt

I'm most grateful to Chris Rowley, Network Rail's Capacity Planning Director, for agreeing to meet me to discuss where Network Rail has got to on its drive to deliver excellence in its vital train planning activity.

Around 10 years ago, train planning was centralised in the Milton Keynes headquarters office, a change that resulted in a massive loss of expertise, as only penny numbers of staff transferred from the old ex-British Rail regional offices. Large numbers of new, inevitably inexperienced people were recruited, and some didn't have the right skills and aptitude for the quite specialised work involved – there was a view at the top of the company that this was little more than a data input task. Reflecting this, until a couple of years ago, train planning had been seen as a low level, entry grade activity.

This has now changed, particularly since Andrew Haines' appointment as chief executive. There is now a career structure in the train planning function, so it's no longer the case that swathes of people move on to other, more highly paid

jobs just as they are getting to grips with the complex task at hand. The recruitment process also now includes aptitude tests and clarity on what the role involves, so people with the right skills join the company.

As a result, retention rates have dramatically improved, with a reduction in staff turnover of over 50% in the last 18 months. The number of train planners has increased by 30% in just over a year, enabling Network Rail to begin to get on top of the continued scale and complexity of timetable changes and to cope with planning on an increasingly congested and fragile network.

Network Rail acknowledges that a lot has gone wrong. 2018 was an annus horribilis, with service meltdowns on Thameslink, Northern and TransPennine Express. In the case of Thameslink, the timetable plan has proved to be robust, and the problems related in large measure to late decisions by the Department for Transport on the initial pattern and level of service to be operated, resulting in a massive driver training problem.

In contrast, the major service changes in the North had assumed 'just in time' completion of key infrastructure works, particularly Manchester – Bolton – Preston electrification. The timetable had to be rewritten at the last minute, with major changes to traction and route knowledge, and performance fell off a cliff. The Castlefield corridor, and critically presentation into the Castlefield corridor, remains a disaster zone, and there are also problems in the wider Leeds area and at York.

Mr Rowley contrasted this with the experience on Great Western. Here, the electrification project was challenging, with overruns in costs and timescales, resulting in significant reductions in scope, although the related major remodelling of Reading went relatively well and has unblocked the route's major pinch-point. The route also had new train fleets, with Intercity Express Trains having to be reconfigured at a late stage as an all bi-mode fleet.

Despite all this, the train plan has been reasonably robust throughout, and the accelerated and enhanced service was not introduced until

the new fleet was up and running, driver training was complete and the sectional running times had been validated and in some cases amended in the light of actual performance. As a result, the December 2019 timetable introduction went smoothly, with generally only positive publicity. All this was greatly helped by the timetable being largely specified by a single operator, able to take a holistic view of its part of the network, in marked contrast to the situation in Manchester. The Network Rail Region alongside the operator also took an active interest in the development of the timetable from several years out.

Major timetable changes are usually, but not always, taken forward through an Events Steering Group (ESG), a quaint name for a key part of the process. These groups are part of the formal timetable change process (Part D of Network Rail's Access Conditions), and a key part of the industry's regulatory framework. The ESGs bring together the passenger and freight operators affected by the proposed change, together with the Network Rail Region, with the aim of delivering



a robust overall timetable plan, facilitating any necessary trade-offs. The process is also key for getting 'buy-in' from the Regions, accountable for performance on the day.

One ESG just completed covers the rewrite of the Midland main line timetable planned for December 2020 following electrification to Corby. All operators on the route were involved but the work was led predominantly by East Midlands Railway and Govia Thameslink Railway. This process – from a timetable perspective – is going well. I would hope that the finished product will produce a better Midland main line timetable than the current uneven intervals for major flows such as between Kettering, Wellingborough and St Pancras, and at East Midlands Parkway.

The proposed 2021 East Coast main line timetable is also covered by an ESG. The issues on this route are more complex and difficult. Many franchised operators are affected – GTR, LNER, TPE, Northern, CrossCountry, East Midlands, ScotRail – together with freight operators, and two existing and one future open access operator.

There are rights for eight inter-city paths an hour out of King's Cross, and the constrained section between Peterborough and Huntingdon also has to accommodate two Thameslink trains each way every hour and some freight, notably London Gateway to Yorkshire intermodal trains. All the passenger trains, together with the Cambridge line services, also have to get through the two-track 'chicane' between Welwyn Garden City and Knebworth, while allowing for stops at Welwyn North too. I suspect this may be an unsolvable Rubik's cube – the network is almost certainly oversold on this route.

While Network Rail clearly has some responsibility for all these issues, DfT has either over-specified services, for example the undeliverable South Western franchise specification, or accepted wildly optimistic bids, as with West Midlands, leading to the May 2019 fiasco on the London Northwestern routes. I believe the Office of Rail and Road is equally guilty, accepting open access bids for London – Edinburgh and London – Blackpool services which will further clog up two already fragile main lines and, however dressed up, will primarily rely on extracting business from existing operators.

A key issue for Network Rail is how to quantify the potential performance impacts of future changes. Its main technique has been RailSys modelling, but at present this takes 13-14 weeks, so the results are often too late to influence the planning process in time. Another practical approach now being adopted is to analyse current performance at key locations. For example, there is theoretically a path for an additional hourly down fast to down slow movement at Ledburn Junction, on the West Coast main line south of Leighton Buzzard, but analysis of the actual passing times on the up fast shows this is illusory, as either the additional train or an up fast service would usually be checked, with potential consequential delays on both lines.

Bluntly, many key routes on the network are now close to full, and extra trains are likely to degrade performance disproportionately. In the post-Williams, post-coronavirus world, I would fervently hope that those specifying future timetables, whether franchising authorities or bidders, together with ORR, take note and stop specifying extra services without recognising the impact on performance.

The impact of the coronavirus crisis on the railway industry began to be felt on a small

scale in January. The virus first appeared in Wuhan, a Chinese city of which none of us had heard, and we initially watched its spread in China without too much alarm. The first impact on Britain's railway was also limited and localised: Chiltern's substantial day return business to Bicester Village, a key destination for Chinese tourists staying in London, collapsed. The widespread shutdown of Chinese manufacturing also rang alarm bells for the intermodal business of the freight companies, but this was not an immediate impact, as the massive reduction in container volumes took weeks to work through to British ports because of the long sailing times from the Far East.

Despite initial efforts to prevent it, the virus has come to Europe in full force, and more and more commuters began to work from home, with peak trains suddenly becoming much more comfortable. Volumes really collapsed at around 16 March, with London commuting dropping to around 25% of normal levels and inter-city services also taking an enormous hit. By around 18 March, it emerged that service cuts were to be introduced, both to better match supply and demand and also to make the network more resilient in the event of widespread sickness of train crew, signallers and maintenance staff.

In parallel, Government advice to everyone to stay at home unless their journey was essential became progressively stronger, culminating in a lockdown announcement by the Prime Minister on 23 March. It's astonishing to realise that the country went from near normal life to unprecedented restrictions in the space of around three weeks.

The initial service cuts were introduced on 23 March, with wide variations in the scale of the reductions. Merseyrail, effectively a self-contained network with an all-day 15-minute frequency, was first off the blocks three days earlier, dropping to a half-hourly service. The initial response by others was variable, ranging from 25% cuts on LNER to well over 50% on Avanti West Coast, with Euston – Manchester and Euston – Birmingham services both dropping from three trains an hour to an hourly service.

While there was some concern about overcrowded trains, particularly on London Underground, I suspect most long-distance services have been close to empty, although like the great majority of us I haven't been around to see. On day three of

the lockdown, the British Transport Police was asking passengers at major stations whether their journeys were necessary – and I doubt whether many NHS staff commute from Edinburgh to King's Cross! As I write this, there are almost certain to be further service reductions, although perhaps less dramatic than the cuts by Eurostar, down to a couple of trains a day.

The high level objective for the network is to deliver broadly a 50% level of service on a resilient basis, isolating service groups to maintain reliability, with the possibility of temporary closure of some secondary routes if there aren't enough signallers at work to maintain services on the whole network. Priority will be given for maintaining routes for vital freight flows, especially intermodal flows tied in with supermarket supply chains. A small number of operators have also had to cancel even some of the trains they planned to run, as sickness at a train crew depot can lead to colleagues having to self-isolate, with snowballing cancellations to emergency timetables.

As I write this, the lockdown was due to end on 13 April, although it's possible it will have been extended. By late April, the country and its rail network may be gingerly starting to return to normal, albeit with franchised services all operating under short-term government contracts, with operators being paid a small margin on total costs, and revenue risk taken by the government.

When this is all over, life may never be the same again. Most people will go back to work most of the time. In many cases, work can only realistically be done 'on site', and even where it is possible to work from home, the majority of people will not want to work at home all the time – there is a need to see the people you are doing business with face-to-face, and also social reasons to go to work, or at least get out of the house. However, there is certainly likely to be a significant shift to home working, and Monday and Friday commuter trains will probably lose even more passengers.

The industry will lose revenue, and the crowding pressures at peak periods are likely to reduce, reducing the need to increase peak capacity. Also, Government will have to manage its way out of the enormous short-term debts that are being incurred to mitigate the impact of the crisis, although I doubt whether anyone in the Treasury or DfT has the time or the perspective to plot a forward course at present. **mr**

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Who knew? Even while the last issue was being printed, the world for all of us began to change at an increasingly unexpected and worrying rate. By the time it was delivered, just a few days later, we were all being told to stay at home. All those whinges and ramblings about services, seats and the like suddenly seemed irrelevant.

Instead, train services were slashed, in my neck of the woods by 50%, mostly in the early morning and late evening in what looked like a rerun of Northern's recent strike timetables. On the Esk Valley line, this meant the early morning and later evening services introduced only last December were the early casualties, having run for just three months. True, initial usage had been low – hardly surprising in the early weeks since there had been no such services for 30 years and absolutely nothing had been done to promote or even advertise them, the only contribution being a poster promoting 'four additional trains a day to Middlesbrough' which had to be withdrawn because there were in fact only two – one in the morning and one in the evening, and now both withdrawn.

But the immediate withdrawal of these morning and evening services while others during the day continued to run seemed at odds with the Government's avowed intent to maintain services for key workers while dissuading use for unnecessary travel. Sure enough, in the days before the further clampdown, hordes of visitors invaded Whitby (and Scarborough), despite most attractions being closed, defying Government advice and handwritten notices imploring visitors to go home. Then, there was a further centrally imposed cut to the Esk Valley service, which meant the earliest you could get to Middlesbrough – and more importantly the huge James Cook Hospital – was after 10.00 in the morning, while the last train of the day was at the ridiculously early time of 14.02, less than four hours later and thus – as was quickly made clear – useless for key workers who were turning in solid 12-hour shifts.

Yet in between, there was still an additional working to Whitby and back which was of no use to key workers but could only encourage the sort of unnecessary travel the timetable was supposed to suppress, plus school services which just a few days later were pretty much ghost trains because all schools were closed. So unwittingly, trains when nobody needed them, but none for key workers. Armed with local knowledge and in response to



Dancing in the aisles: on-board the Esk Valley line's 'Forget Me Not' dementia train, organised by the Community Rail Partnership.

urgent requests, the Community Rail Partnership (CRP) pressed for early morning and later evening services to be restored and for the middle of the day trains to be withdrawn instead.

This experience underlined yet again the continuing reluctance of some train operating companies (TOCs) to consult Community Rail Partnerships on such issues, particularly at the moment when many of their management teams are working from home or, worse still, suffering from the virus.

At the best of times, Northern has no presence on the Esk Valley line other than its drivers and conductors. Northern's north east unit, of which the Esk Valley line is the southern extremity, is managed from Newcastle, a three-hour train ride away on a good day. So it is hardly surprising that local knowledge can be sparse. TransPennine Express, on which the Esk Valley relies for connections towards York and London, is managed from Manchester, even further away on the other side of the country.

In contrast, CRPs are on the ground every day – and often getting an earful when things go wrong! Yes, I know that among them there are armchair critics and trainspotters in sheep's clothing, but then so too are there on the railway itself. In my experience most CRPs across the country – and there are now over 60 of them, each designated by the Department for Transport and subject to annual accreditation – include many professionals who

can add real value. According to the DfT their role, using their local knowledge, is to be the 'critical friend' of the TOC. Yet all too often their vital local input seems to be ignored by those sitting in offices far away.

Northern covers a huge geographical area in the north of England, much of which beyond the conurbations is deeply rural. It has 17 CRPs on its patch, considerably more than any other TOC.

When the present crisis is over, the rail industry will need all the help it can get to rebuild confidence and thus ridership, especially here in the north. A year of timetable chaos followed by another year of Northern strikes, and now by the current cuts, has seen passengers repeatedly asked not to travel and confidence in services shattered.

None of us know whether or when it will be possible to switch back to whatever was previously considered normal, whether people newly accustomed to home working and video conferences will return to their old ways, or whether those who forsook the train for their cars on quieter than usual roads to ensure social distancing will then be in a rush to come back to rail. Nor will it be uniform across the country. The local knowledge of CRPs will be important. TOCs should be sure to use it to the full.

While I was busy lambasting the rail industry in the North in these columns over the last few

months, Mrs W and her colleagues on the Esk Valley Community Rail Partnership were perhaps rather more constructively organising special trips along the line both for people living with dementia and their carers. These 'Forget Me Not' trains – so called because it is the logo of the Alzheimer's Society – are actually normal service trains on which one carriage is reserved. There is a two-piece band playing music from the '60s, '70s and '80s to encourage a singalong (and sometimes even dancing in the aisles!), hand massage, a PAT (Pets As Therapy) dog for those who are no longer able to keep pets, the fire brigade to give advice on keeping homes safe, lots of knitting and an everlasting supply of biscuits to supplement the picnics people are encouraged to bring along.

Started experimentally last September in response to the continued run-down and closure of other facilities in North Yorkshire, these 'day centres on rails' have proved an enormous success, with widespread local, national and even international media coverage and interest from other Community Rail Partnerships and groups. The trains ran once a month right through the winter, the number of people travelling growing each time, but were then halted in their tracks by the virus. It has to be said that Northern was entirely supportive – as perhaps one might expect as normally quiet midweek trains saw ridership trebled – and the conductors in particular, not always popular with some travellers because of the many recent cancellations due to strike action, have truly risen to the occasion.

Nevertheless, operation was not without its challenges. As Whitby is a terminus, getting a large party of often also physically disabled people on board is not a problem time-wise, but at Middlesbrough, making sure that everybody is off the train as quickly as possible in the couple of minutes allowed and not left to be carried on to Newcastle and Hexham is a challenge. Here once again local Northern frontline staff turned up trumps.

But it is all so worth it. Seeing the delight of those living with dementia – and the gratitude of their carers for the temporary respite from an often otherwise housebound existence even ahead of the present lockdown – is a huge reward for those involved. This is what Community Rail is all about. 

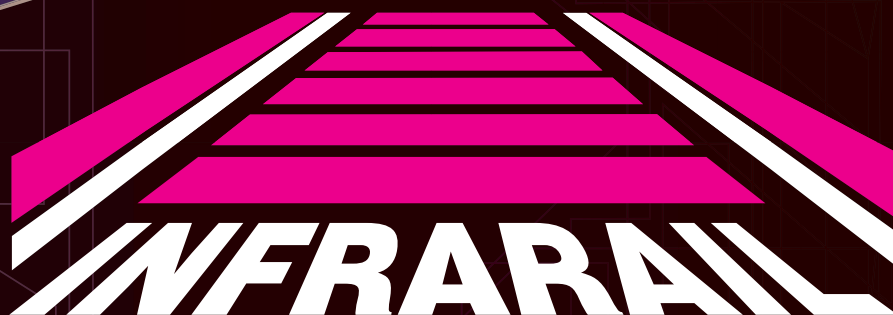
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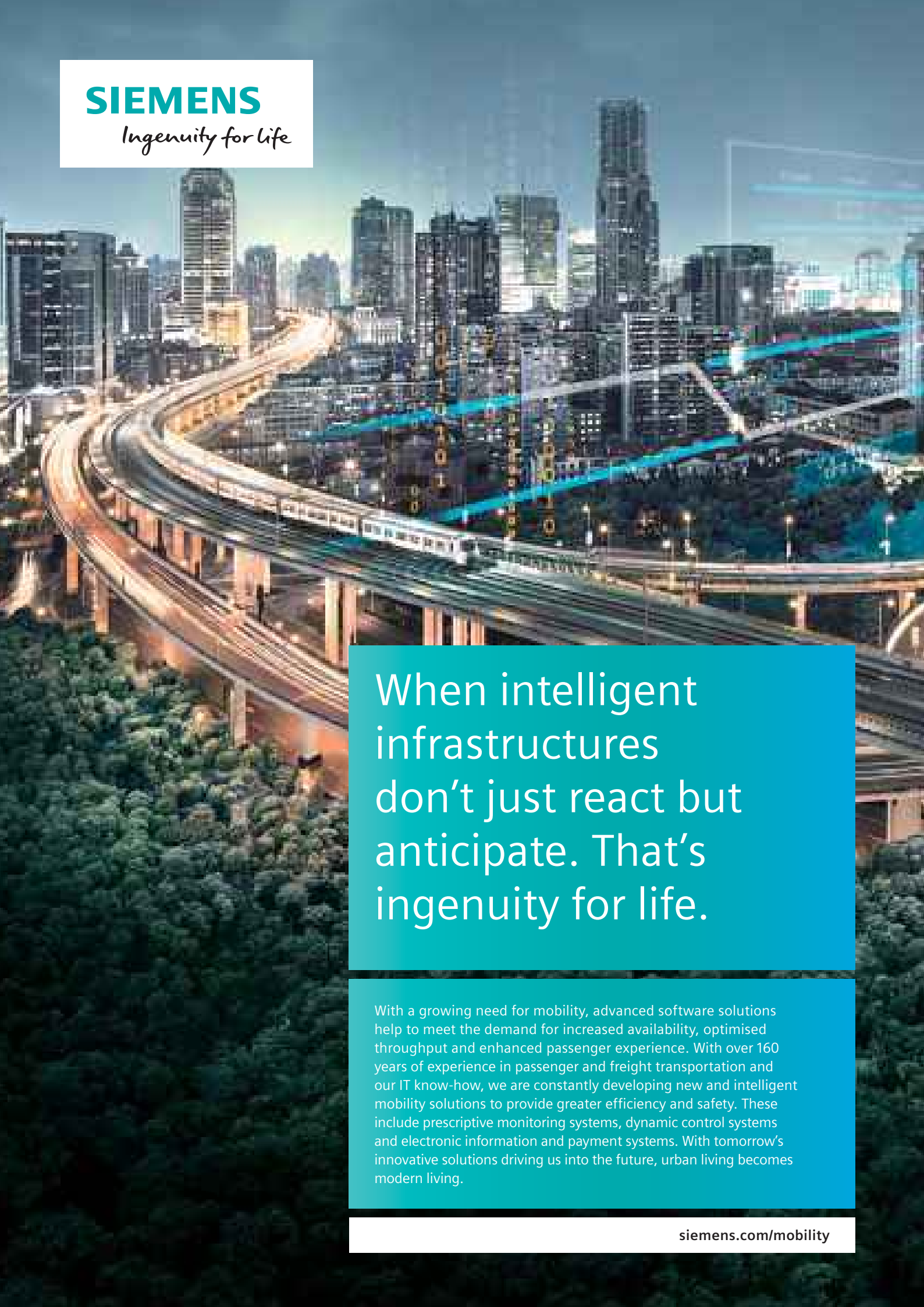
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