

WINNING THE PASSENGERS BACK 13-PAGE SPECIAL

RAIL

THE BEST NEWS, COMMENT & ANALYSIS

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Fire rages on oil train

Diesel and gas oil contaminate river after derailment in Wales



THE IMPACT OF CLIMATE CHANGE



Carmont Task Forces

NR intensifies focus on weather and earthworks after fatal crash

Landslip in Hampshire

CrossCountry train hits debris: four weeks' rain in four hours



Rail projects 'accelerated' ■ SWR launches 'Arterio' EMU

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Comment



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WINNING PASSENGERS BACK

Radical fare reform is crucial

Towns and cities are learning to live without public transport

GIVEN that the pandemic recession was deliberately triggered, it wasn't unreasonable to hope that recovery would be as symmetrical as shutdown, and that our previous way of working and living would rapidly return.

This failed to take account of two key factors: the effectiveness of the 'Stay home, protect the NHS, save lives' mantra that we had effectively been brain-washed with for weeks on end; and that so many people would take so well to (nay, enjoy) working from home.

Thus, when Prime Minister Boris Johnson urged commuters to return to their offices after months of lockdown, he was widely ignored. Many office workers have remained at home.

It's not surprising. They are saving lots on rail fares, are spared the stress/time of commuting, and are spending more time with families. Furthermore, of the two to three hours a day they have reclaimed, around 45 minutes is being given back to their employers in the form of working longer hours. In the first two weeks in August, worker footfall in British cities was just 17% of pre-lockdown levels. Only one in six city workers returned to their offices.

Employers are pocketing unexpected financial/productivity benefits and have swung in support of 'WFH'. We have personal experience: RAIL publisher Bauer Media has extended our original March-September WFH period to Christmas. That will be ten months.

While WFH has led to a productivity boost for a significant business sector, this is at the expense of a much bigger group of crucial sectors which remain in severe (maybe terminal) distress. In central London/Manchester in early August, footfall grew by just 1% compared with early July. There was no growth at all in Leeds, Bristol and Nottingham, while in Birmingham worker footfall declined. Average total city footfall was 56% of pre-lockdown levels. Other 'bottom ten' cities suffering continuing economic misery were Aberdeen, Edinburgh, Cardiff and Oxford.

Conversely, towns/cities in the 'top ten' for footfall included Bournemouth, Blackpool, Southend, Chatham, Basildon, Warrington and Telford. Seaside resorts enjoyed 'staycation' income from visitors who couldn't fly abroad, while Burnley (my home town) surged to 98% of pre-lockdown footfall! Southend scored 114%, Basildon 102% and Birkenhead 118%.

Manchester, like London, is experiencing a 'bagel recovery'. Its economically stagnant city centre (41% of pre-lockdown footfall) finds itself surrounded by a rapidly recovering

hinterland. Working clockwise from 12 around Greater Manchester's struggling city centre, footfall figures are Bury 78%, Oldham 75%, Ashton-under-Lyne 74%, Stockport 70%, Altrincham 65%, Wigan 91% and Bolton 76%.

These places all have a common factor: their workforces don't have to rely on public transport. In a superb early September Sky News report by Business Correspondent Paul Kelso, there was a highly pertinent WFH quote: "I've got a better work-life balance not having to wait for delayed or cancelled Northern Rail trains... I've quite enjoyed it," said Laura Jane, a sustainability consultant who has abandoned her city centre office to work from her Bolton home.

This has devastating implications for public transport in all cities - but especially London. In early September, Transport for London recorded an 8% increase in Oyster 'tap ins' over a full week. Good news, but ridership is still 73% down on a year ago. That's 2.8 million

"This has devastating implications for public transport in all cities - but especially London."

Tube passengers every day. Damage to bars, restaurants, cafes, taxis, theatres, cinemas and hotels is huge. Sub-glacial city recovery rates will be a drag on the urgently needed national recovery, which our railways can accelerate.

Anecdotal evidence suggests passengers are returning to the railway faster than footfall is increasing in city centres. That implies that returning passengers are taking longer regional, inter-urban and inter-city trains for leisure, not business. This seems to be borne out by LNER's experience in a recent successful cut-price fare promotion, which generated 35,000 extra midweek journeys.

LNER loadings are now 40% of comparable weeks last year - encouraging given reduced service patterns and no Edinburgh Festival. Changing travel patterns are significant, with busier Fridays/Saturdays accompanied by less busy trains midweek. The cut-price fare promotion was also designed to not only answer an emerging modal shift towards cars, but also to smooth out demand through the week.

An increased number of services were opened for cut-price fares from July 17, for booking until early September. Bargain £5 single/£15 flat rate return fares were available on 50,000 each way tickets (40,000 Stand-

ard/10,000 First Class): Leeds-London £10; Grantham-London £5; Peterborough-York £7; Newcastle-London £15; and Edinburgh-London £20. It worked. LNER sold 35,000 journeys (70% of available seats) directly to 12,600 customers. Of these, 2,500 (20%) had not previously bought from LNER's website.

LNER also eased peak-time restrictions. From August 21, it allowed purchase of Super Off-Peak tickets all on Fridays (King's Cross-Stevenage excepted), to spread demand/boost volumes. These restrictions will remain eased until January 4 2021.


These lessons need to be learned at the Treasury/DfT, where it is suspected there is resistance to crucial fare reforms such as part-time season tickets.

Big dangers lurk here - especially in London and the South East, where high season ticket volumes have played a fundamental part in financing Britain's railways, directly or otherwise. Over 75% of our 1.8 billion yearly pre-lockdown journeys took place in the South East. This model has financed our railway since the Second World War, but five months of pandemic have accelerated by at least five years the established trend towards greater WFH. Our traditional financial model is in danger of collapse.

This applies most dangerously in London. There are only two sources of revenue for railways: the farebox and the taxpayer. Back in 2008-09, Labour Secretary of State for Transport Andrew Adonis scrapped the traditional model whereby the passengers funded 50% of their fare with taxpayers paying the other half. Since then, all Governments have continued to squeeze passengers harder - the balance is now 75/25 with passengers paying the lion's share.

In other words, passengers are paying 50% more of their fare than they were just over a decade ago. Good news for the Treasury when passenger numbers were buoyant, but now it means the financial impact is much more severe.

Remember Bolton's Laura Jane? Sky's Paul Kelso concluded: "Persuading Laura or anyone like her to build two hours of expensive inefficiency back into her day, in exchange for a heightened risk of catching a deadly virus, will take more than political optimism."

He's right. It will take not only radical fare reform, but also a new view of our railway's purpose. 

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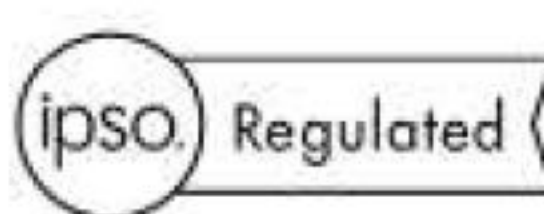
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News

6 Fire rages on oil train

COVER STORY Oil train blaze and derailment closes line in South Wales; residents evacuated and local river contaminated.

8 Carmont Task Forces

COVER STORY Independent units set up to improve the way NR responds to severe weather and manages its earthworks.

10 Hampshire landslip

COVER STORY Line in a deep cutting closed to traffic after landslip following a period of intense rainfall.

12 Projects accelerated

COVER STORY Transport Secretary announces an 'acceleration unit' to tackle delays to transport infrastructure projects.

14 Rail safer than roads

RSSB report concludes that rail travel remains safer than other modes, even during the midst of the Coronavirus pandemic.

18 Fares increase

Annual rail fares rise will go ahead in January, while reports suggest that a three-day season ticket is to be introduced.

22 Crossings misuse

Network Rail and British Transport Police issue joint safety plea after increase in trespass incidents and level crossing misuse.

26 SWR 'Arterio'

COVER STORY South Western Railway unveils the name for its '701s' that will carry passengers to the "heart of our network".

Features

40 Rail recovery

COVER STORY After Coronavirus caused passenger numbers to plummet, how can public confidence in rail be restored?

50 Vivarail overseas?

With its first hybrid trains heading out to Wales and other D-Trains to the Isle of Wight, Vivarail is looking to overseas markets.

56 TfSE update

Transport for the South East Lead Officer RUPERT CLUBB discusses the sub-national transport body's bid for devolved powers.

62 EMR anniversary

East Midlands Railway Managing Director WILL ROGERS looks back at an eventful first year for the new franchise.

Regulars

3 Comment

Nigel Harris says fares reform is vital to win back passengers.

30 Analysis

The gateway to the West.

32 Open Access

Something to say? This is your platform.

36 Bigger Picture

Crossrail from the air special.

48 Christian Wolmar

A safe return to rail.

54 Philip Haigh

Winning back passengers.

64 Fare Dealer

RAIL fares expert Barry Doe says BR-type quality can ensure a way ahead for the railway.

68 Insider

Rail fares increases.

70 Crossword

Calling all wordsmiths...

70 Stop & Examine

Carnforth station clock.

Cover story page guide



Cover: The scene of a DB Cargo oil train derailment at Morlais Junction (Wales) on August 26. JONATHAN LAWRENCE/MEDIA WALES.



6-7 Oil train blaze



26-27 SWR's 'Arterio'



The best of today's railway writing from ...

Anthony Lambert

"As car design and ambience have improved, train design has deteriorated. To attract people out of their cars, the railway has to inject some style and flair into lacklustre designs at the first refurbishment." Feature, 40-43



Jason Chamberlain

"In supermarkets and restaurants/pubs, you are interacting with other people, whereas on public transport the last thing most people do if they can help it is to interact with other people." Opinion, 44-45



Tom Ingall

"On the 0900 train there was one other passenger from Chesterfield to Leicester, and after that we were empty coaching stock to London. You would have heard a ticket drop on the empty concourse at St Pancras." Feature, 62-63



Residents evacuated as oil train

INVESTIGATORS are piecing together evidence from August 26's 2152 Robeston-Theale oil train that derailed at 2317 at Morlais Junction in South Wales, triggering a fierce fire from its load of diesel and gas oil.

On August 28, a statement by the Rail Accident Investigation Branch (RAIB) said the train consisted of 25 tank wagons. Each carried up to 75 tons of diesel or gas oil for Puma Energy. RAIB said ten wagons derailed (the third to the 12th in the train).

The train was operated by DB Cargo. The derailment occurred on the Up District line, which has a line speed of 50mph and is under the control of Port Talbot signal box.

The fire forced the evacuation of local residents and continued to burn for some time, with the Mid and West Wales Fire Service only handing the site over to Network Rail and the British Transport Police on the morning of August 28.

NR then drained the overturned wagons of their loads and started work to recover them. The front two wagons were taken by rail to Margam on August 31, and the rear 14 to Llandeilo Junction.

NR moved a Kirow rail crane from Eastleigh to Llandeilo Junction on August 31, and then to the derailment scene on September 1, with NR hoping to lift four of the stricken wagons by the time this issue of RAIL went to press. NR spokesman Dean Shaw said the line would remain closed until further notice.



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On August 27, BTP Superintendent Andy Morgan said: "We have launched an investigation and will be assisting the Office of Rail and Road and the Rail Accident Investigation Branch to establish the exact circumstances behind the incident."

"What we know is a freight train, carrying large amounts of diesel oil, caught fire and a number of its wagons also derailed. Thankfully, despite the clear danger, no injuries have been reported. The two members of railway staff operating the train were able to raise the alarm and uncouple the locomotive and move it to a safe space."

BTP followed this with a short statement on August 30, saying that it did not suspect criminal activity to be involved with the accident.

Realtime Trains logged the train at Morlais Junction at 2303, running 58 minutes early having left Robeston 44 minutes before its booked time.

Following the derailment, DB Cargo 66004 moved the rear 12 wagons back towards Llangennech station to keep them clear of the fire. The driver of the derailed train moved two wagons and locomotive 60062 *Stainless Pioneer* forward immediately after the accident, with help from another member of staff.

The accident forced the cancellation of Transport for Wales passenger services between Llanelli and Llandrindod on the Heart of Wales Line. Between Llandrindod and Craven Arms the line was already closed, following a landslip on August 12. As a result, TFW ran minibuses and coaches between Swansea and Shrewsbury.

The derailment also blocked the Swansea District Line, which acts as a second route between Briton Ferry and Llandeilo Junction to supplement the South Wales Main Line via Swansea. Its main users are freight trains.

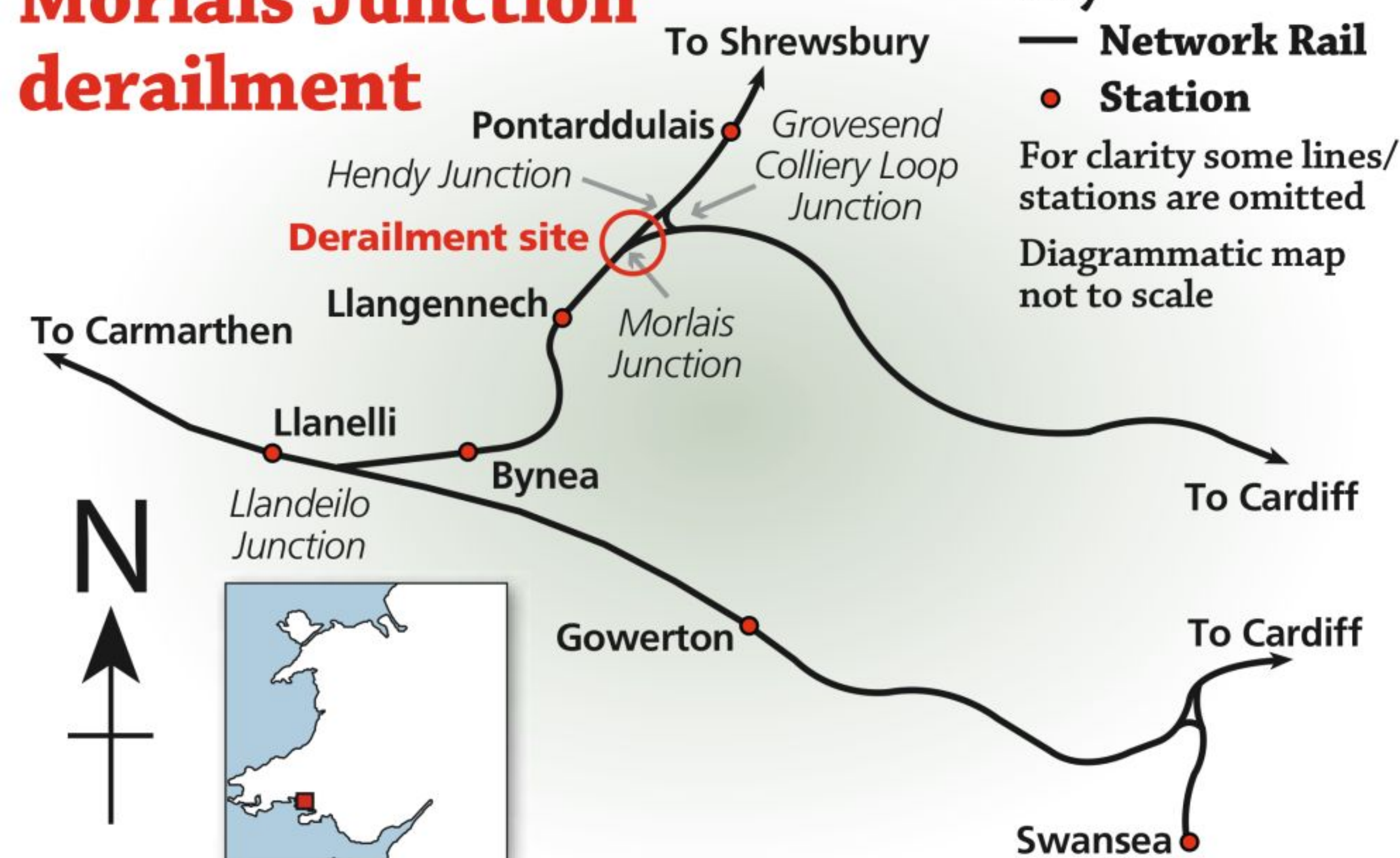
Fuel leaking from the train reached the nearby River Loughor and has contaminated the surrounding area, which is a site of special scientific interest and an environmental conservation area.

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Emergency services attend the accident site at Morlais Junction. PA IMAGES.

Morlais Junction derailment



Robeston train troubles

August 26's derailed train is not the first from Robeston oil terminal to demand Rail Accident Investigation Branch attention.

It investigated extensive damage caused by a Robeston-Westerleigh train after the brake system under one of its wagons fell apart on October 30 2017.

RAIB suggested that improperly fitted brake blocks was the most likely cause. This

led to a wheelset seizing and sliding, which gave it wheel flats. When it started rotating again, RAIB records that it damaged and broke rails in nine places, as well as damaging eight level crossings and five TPWS loops over 25 miles of line between Ferryside and Llangyfelach.

This section includes Morlais Junction, where the train damaged TPWS loops for PT381 and PT383 signals.

Oil train fire closes Welsh lines



The scene following the derailment of a DB Cargo oil train on August 26, which resulted in a large fire and fuel leaking into a nearby river, contaminating a site of special scientific interest. JONATHAN LAWRENCE/MEDIA WALES.

Also in this issue...

Network news

Soham station	11
Island Line	11
Hull Trains	13
Amsterdam-London	15
Crossrail	17
King's Cross closures	19
High Speed 2	20



Regional news

Find out what's been happening on the rail network in your area **24**

OPEN ACCESS 32-35

RAIL readers have their say on:

- Covid-19 recovery
- Isle of Wight
- Mid-Cheshire woes
- Rail freight
- Midland Main Line
- Midlands connectivity
- New fleets
- Accessibility improvements
- HS2's impact on woodland

THE FARE DEALER 64-65

"I feel that the only way forward is to get the running of our railways back into the hands of first-rate managers who can take total control, who don't have to seek the permission of the DfT for anything other than obtain a general remit and Treasury budget, and who are then left to get on with it."



Oil train fires

Oil train fires are rare. The last major incident was at Stewarton, in Scotland, on January 27 2009 (RAIL 611), with the most memorable in Summit Tunnel on December 20 1984.

At Stewarton, a bridge over the A735 road collapsed as DB Schenker's 0520 Mossend-Riccarton train crossed. The Rail Accident Investigation Branch published its report over a year later and found that corrosion had weakened the bridge's girders so much that it could not take the train's weight.

Of the train's ten bogie tank wagons, five were carrying gas oil, two diesel and three kerosene. RAIB noted that the

final wagon (carrying kerosene) caught fire. In all, around 220,000 litres of diesel and kerosene leaked from four tanks.

Network Rail had been about to replace the bridge as part of a £30 million project to lay five miles of double-track from Lugton to Stewarton.

At Summit Tunnel, BR 47125 was hauling the 0140 Haverton Hill-Glazebrook.

A faulty bearing under the fourth of 13 bogie tank wagons carrying petrol caused the derailment in the tunnel. The subsequent fire reached temperatures of 1,800°C (melting bricks) and led to smoke billowing across the Pennines

from the tunnel's ventilation shafts.

Initially the fire was brought under control, but it then worsened and eventually took four days to be controlled. It took until March 1 1985 to remove the last wagon and the tunnel remained closed until August 19 1985.

On March 3 1983, a track fault led to a fire near Warrington after dipped joints derailed a 14-tank train laden with gas oil.

On January 1 1969, loose tank covers caused a fire at Ambergate Junction, when sparks from brake blocks set fire to a highly inflammable light oil that had spilled from the wagons.

Task forces to study earthworks

TWO independent task forces, led by relevant experts, are working with Network Rail to improve the way the national track owner manages its cutting and embankments and the way it responds to severe weather.

Dame Julia Slingo is leading the weather taskforce, drawing on her experience as a former chief scientist at the Met Office.

Robert Mair will lead the earthworks taskforce. He is a crossbench member of the House of Lords and a former president of the Institute of Civil Engineers.

Slingo's work will look at how NR uses data and research to better understand how rainfall



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could potentially damage infrastructure at a local level. She will examine how effectively NR uses existing forecasting and monitoring systems and how they might be improved.

Mair will check how well NR manages its drains and earthworks, and whether or not it needs to better integrate its efforts. He will review NR's controls and assess whether they are effective or whether they are too onerous for frontline staff.

He will also suggest whether NR might learn from other organisations and establish whether NR is fully aware of the latest technologies that it could use.

NR Chief Executive Andrew Haines said: "With more and more extreme weather and tens of thousands of earthwork assets across Great Britain, our challenge is massive. And while we are making record investment in these areas, we have asked world-renowned experts Dame Julia Slingo and Lord Mair to help us address these issues as effectively as possible, and at pace."

The two appointments follow

August 12's fatal derailment of a ScotRail HST on a landslide at Carmont in Scotland (RAIL 912).

In the accident's immediate aftermath, Secretary of State for Transport Grant Shapps called for an interim report from NR by September 1 into the railways' resilience to flash floods. He instructed NR to follow it with a final report later in the autumn.

Meanwhile, the police and Rail Accident Investigation Branch examinations of the accident site continue. NR spokesman Nick King told RAIL: "We are currently constructing an access road across farmland next to the incident site, to allow us to bring in specialist

RAIB: 'washout of material' caused Carmont derailment

The catastrophic derailment at Carmont near Stonehaven was caused by material washed onto the track by heavy rain, according to Network Rail's safety and engineering director.

Martin Frobisher told RAIL: "The washout of material was driven by very high rainfall. It was certainly the immediate cause of the incident."

Investigators from the Rail Accident Investigation Branch (RAIB) report that 52mm of rain fell in four hours before the derailment. That's 75% of the total monthly rainfall for Aberdeenshire in an average August.

RAIB states that above the track a slope rises steeply to a field at that location, and the field then slopes gently upwards.

A drain runs along the edge of the field, then diagonally down the steep slope, reaching an outfall at a track-level ditch. The drain is an 18-inch diameter plastic pipe laid in a trench filled with gravel. Water flowing from land above the railway washed some of this gravel onto the railway, along with some larger pieces of rock.

RAIB states that its investigation includes "the management of earthworks and drainage in this area, including recent inspections and risk assessments".

Allan Spence, director of regulatory liaison at Network Rail, is leading the industry investigation into Stonehaven.

He told RAIL: "It's important to state that we don't yet know the water flows that led to the washing of material onto the track. We are still working to

understand all the natural and installed drainage in the area. RAIB referenced a drain, but a lot of the technical work is about understanding the flows that led to the dramatic event of washing material onto the track."

Network Rail has carried out an immediate inspection of 500 similar sites in cuttings across the network.

In recent years, the company has increased spending on earthworks and drainage. From 2009-14 it invested £550 million. That figure rose to £952m in 2014-19 and is increasing to £1.3 billion in the 2019-24 period.

Network Rail's Earthworks Technical Strategy, published in 2018, stated that the current rate of strengthening by renewal or refurbishment is between 0.5% and 1% of the total in each five-year period.

"What recent events have told us is about torrential rain leading to debris flows," said William Powrie, Professor of Geotechnical Engineering at the University of Southampton.

"Rain and run-off is channelled from a large catchment into a smaller area, encountering potentially unstable ground and causing a debris flow, or washout.

"It is rarer than other rotational landslips, which happen more slowly. But I wonder whether these are the really dangerous events, because they are so sudden and because of the nature of the debris."

Analysis of Network Rail records by the university found that washout was responsible for 25%



of railway slope failures between 2012 and 2018.

Powrie added: "This August we had six days when the temperature in southern England was above 30°. Then suddenly, we had monumental thunderstorms. Where earth has dried out, sudden rain does not necessarily infiltrate the ground. There is more run-off. You end up with the water literally washing the surface away.

"Network Rail knows where areas susceptible to the classic landslide lie. It is more difficult to know where the network is susceptible to the challenge of debris flow.

"Washout events are difficult to predict. They also involve conditions and influences well away from the railway and outside Network Rail's control. As we see increased storminess with climate change, we can expect more of these."

After Carmont, Network Rail decided it had to improve weather prediction. But calculating where thunderstorms will have the greatest impact is notoriously challenging.

Spence said: "We have a weather provider, MetDesk, which gives us real-time information - radar analysis of what rain is

s and weather response

equipment. The site itself is being inspected by the RAIB and we won't confirm timescales for the recovery of the carriages until those on-site investigations are complete."

King said that NR tentatively expected to have the site back in early September, but added that investigators might want further access as each vehicle was recovered but before they were removed from site.

He suggested that taking another month to reopen the railway would be a conservative estimate.

Scottish Transport Minister Michael Matheson said in late

August that it might be several weeks before the line reopened.

British Transport Police referred questions about handing back the site to Police Scotland. Police Scotland spokesman Ashleigh Barbour expressed surprise that anyone should question how long the investigation was taking, explaining that the site was really complicated and that teams were working day and night. She later added that RAIB had primacy on site.

A RAIB spokesman said: "The recovery of the train is hampered by difficult access and must be done with care to ensure both safety and preservation of

evidence. It will therefore be some weeks before the line can be re-opened. RAIB's presence on site will continue until such time that the train can be safely recovered by the rail industry."

This issue of *RAIL* went to press three weeks after the accident with the site still in investigators' hands.

This compares with the 25 days it took to investigate Hatfield's accident in 2000 and then repair and reopen the line (*RAIL* 397). After Ladbroke Grove's high-speed, head-on collision that killed 31 people on October 1999, it took 15 days to reopen the line (*RAIL* 369). [@philatrail](#)



Dame Julia Slingo will lead the taskforce looking at Network Rail's response to severe weather incidents.



Recovery efforts under way at the Carmont accident site on August 24. This photograph makes clear both the scale of the recovery and the difficulty gaining access to the site. NETWORK RAIL.

falling. It's called nowcasting rather than forecasting, with refresh rates every five minutes.

"We have looked to enhance several aspects of the Rule Book for drivers, trackside staff and operations staff, to make sure we have a consistent way of dealing with adverse rainfall.

"We've done a lot of work before about fog, snow, high water levels, flooding over the railhead. Now we are working with RSSB to enhance the modules in relation to high rainfall. We expect those to be published at the next possible opportunity."

This month, Network Rail

launches a new environmental strategy. It will focus on four big themes: a low-emissions, decarbonised railway; resilience to climate change; reducing waste; and biodiversity.

"I think the immediate actions we have taken after Stonehaven provide some reassurance," said Frobisher.

"Beyond that, we have a significant programme of work on how we adapt to climate change."

■ For detailed analysis of Network Rail's actions in the wake of the Carmont derailment, see the next issue of *RailReview* (www.railreview.com).

Stabilisation and drainage work carried out at Carmont in 2010

Network Rail rebuilt drains around Carmont in 2010 and 2011, as part of a £1.8 million project. It also stabilised the cutting sides with rock nails and installed nets to catch falling debris.

The work included a 500-metre crest drain along the edge of the field above the track.

An August 21 update from the Rail Accident Investigation Branch revealed that this drain joins another that runs diagonally down a steep slope, passing two access chambers, before discharging into a track-level ditch that takes water northwards towards Carron Water (see separate story).

Its investigation will look at how NR managed earthworks and drainage, including recent inspections and risk assessments. NR told *RAIL* the drain was last inspected in May.

RAIB's update revealed that ScotRail's 0638 Aberdeen-Glasgow HST reached 72.8mph

after leaving Carmont signal box to return to Aberdeen at 0936.

It said that at around 0938, it struck a landslip covering the northbound line and derailed.

The update said: "As the track curved to the right, the train continued in a roughly straight line for around 77 yards (70 metres) until it struck a section of bridge parapet, which was destroyed.

"The leading power car continued most of the way over the bridge and fell from the railway down a wooded embankment, as did the third passenger carriage."

It confirmed that heavy rain fell on the morning of the accident (see separate story). By the time of the accident, the rain had cleared and there was bright sunshine.

As reported in *RAIL* 912, the train waited at Carmont for two hours after its passage south was halted by the signaller at 0700, after reports of a landslip further south.

Aberdeen-Stonehaven shuttle begins

ScotRail started running a shuttle service between Aberdeen and Stonehaven on August 31, while continuing to run replacement buses between Montrose and Dundee.

The site of August 12's derailment at Carmont lies south of Stonehaven (between Laurencekirk and Stonehaven stations).

The shuttle runs roughly hourly in each direction, with some extra peak services and

some extended to and from Inverurie. ScotRail said it did not know when it would restart full services.

Spokesman Graeme Bulloch explained that it was unable to run a shuttle between Dundee and Montrose or Laurencekirk because of the availability of train crew and the way it fuels and maintains its stock.

ScotRail uses Aberdeen as a crew base and maintains and fuels trains there, too.

Heavy rainfall causes landslip i



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A landslip in a deep cutting closed the South Western Main Line between Winchester and Basingstoke from August 27-29.

As at Carmont in Scotland earlier in the month, a sudden debris flow followed a brief period of unseasonal and intense rainfall. A volume equivalent to the average rain for the whole of August fell in less than four hours.

The landslip occurred at the southern portal of the 0.5km Wallers Ash Tunnel near Micheldever.

A large volume of mud, water and debris collected high above the tunnel and spilled suddenly down the steep slope. A CrossCountry service struck the debris at around 1730, with the front of the train sustaining minor damage. It took more than



Above left: Debris lies strewn across the track at Wallers Ash Tunnel. Above right: the location is difficult to access, and contractors had to abseil down the slope. BOTH: NETWORK RAIL. Facing page: the stricken CrossCountry service.

At the scene... Paul Clifton

Few passengers even notice the short Wallers Ash Tunnel. Commuter trains are beneath the ground no longer than a handful of seconds, and the approach heading north is in a deep, green cutting.

It's a busy railway bottleneck. Two tracks handle all the passenger and freight traffic heading to Eastleigh, Southampton, Bournemouth and beyond.

High above the tunnel portal,

the only access is on foot. The morning after the landslip, with rain still pouring down, it was an unpleasant trudge through deep mud to get there.

I'm no geotechnical engineer, but listening to the workers on site the cause seemed clear.

Large quantities of surface runoff from neighbouring fields and the copse above the tunnel accumulated in a small hollow. In summer, this would normally be

parched dry. But a month's rain had fallen in an afternoon, and it had nowhere to go but down the steep side of the cutting, deeply covered in undergrowth that was rapidly washed away. It must have been quite a sight - and taken just a few minutes.

There's no record of recent landslips here. Until now, the ground appeared stable.

Academics have long been warning that hotter summers and

more intense periods of rainfall associated with a changing climate would bring more such incidents of debris wash to the railway.

They are harder to predict than more common landslides, in which a loose surface shifts over a more stable layer beneath.

Now we've had at least two in less than three weeks. Fortunately, the CrossCountry train did not derail when it struck the mud. It could easily have been much worse.

Longer trains plan for Kings Lynn

Eight-car trains will be able to run more frequently on the Cambridge-Kings Lynn route, following the completion of a £29 million infrastructure upgrade.

A new stabling siding at Kings Lynn that can accommodate longer trains has been completed, while one platform at Littleport and both at Waterbeach have been extended. New stairs and a ramp have also been built at the former, to improve access.

Testing will now take place on the route ahead of a planned timetable improvement from December.

NR earthworks maintenance measures "not effective"

A Rail Accident Investigation Branch report has concluded that the poor condition of an earth embankment and a lack of communication within Network Rail contributed to the derailment of a single DB Cargo wagon at Willesden High Level Junction on May 6 2019.

At around 2130, a single wagon in a freight train derailed on a curve approaching the junction, and then rerailed as it passed over the junction.

Although no one was injured, RAIB stated: "A derailment like this has the potential to foul lines that are open to passenger traffic or strike structures."

The investigation found that the track was supported by an earth embankment that Network

Rail had been monitoring since October 2016, and which was showing signs of progressive seasonal movement.

It said the derailment occurred because the wagon "encountered a significant track twist and had an uneven wheel load distribution".

The RAIB report added that the measures NR had in place for inspection maintenance and mitigation were "not effective" in detecting the risk and protecting the safe running of trains.

Within NR, there are separate teams which are responsible for track maintenance and earthwork management. RAIB said it "identified the lack of sharing of information between these teams as a possible underlying factor" behind the derailment.

Three recommendations have been made to NR, concerning the use (and limitations) of information from its track geometry measurement trains for understanding the condition of the track and problems with the track bed and/or supporting earthwork structures, and how this may affect the safe running of train, along with measures to mitigate the risks arising from known defects in supporting earthwork structures.

Additionally, RAIB has identified learning points concerned with indications of poor track bed condition, the importance of good liaison between track maintenance and earthwork management teams, and the management of wagon diagonal wheel load imbalance as a result of the incident.

n Hampshire



three hours to disembark the 50 passengers on board. There were no injuries.

Although only five miles north of Winchester, the tunnel is in a rural location with no road access. Contractors were only able to reach the site after cutting through thick vegetation and abseiling down the slope on ropes. They found a large volume of unstable material requiring removal.

There was no previous record of landslips at this location and the slopes were previously regarded as stable. However, there were many other flooding incidents in the surrounding area of Hampshire on the same day, including blocked roads and shops under water in Winchester city centre.

Network Rail's Wessex Route Director Mark Killick said: "We appreciate this has caused a lot of disruption on one of the busiest

sections of railway in southern England for both passengers and freight. This is a challenging location, with inspection carried out by engineers reaching the slip by descending on ropes.

"It certainly appears to have been caused by a very large amount of water flowing after torrential rain and washing a lot of mud and debris across both tracks. But it is too early to say exactly how it happened. We have been working around the clock to make the site safe."

Some South Western Railway services were diverted via Havant and CrossCountry trains were diverted via Andover and Laverstock, each adding an hour to journey times. Replacement buses ran between Basingstoke and Winchester, with some passengers complaining about a limited service. [@PaulCliftonBBC](#)

Lines in Scotland and Wales remain closed after storms

The main line between Edinburgh and Glasgow is likely to remain shut for 'several weeks', according to a Network Rail spokesman.

Scotland's busiest rail link was severed on August 12, following a 30-metre breach of the Union Canal near Polmont after torrential rain and thunderstorms on August 12 (RAIL 912).

Track, ballast and overhead line equipment (OLE) was washed away, and uprooted trees were strewn across a 300-metre section of line, causing all services between Glasgow Queen Street and Edinburgh Waverley via Falkirk High to be suspended.

The canal breach has now been plugged and repairs to the railway are under way, although at the time this issue of RAIL went to press Network Rail was not yet in a position to confirm a reopening date.

A spokesman told RAIL: "Works are progressing well and

we're making inroads on filling the washout beneath the track and embankment.

"Once that's done there is obviously still a tremendous amount of work to do relaying the track and reinstalling the OLE stanchions.

"I can only say that it will be several weeks at this stage in terms of a timescale, but hopefully we'll be in a position to confirm dates soon."

Meanwhile, the Heart of Wales Line also remains shut as a result of the damage caused by heavy rainfall on August 12-13.

Ballast was washed away, and track buried beneath debris on a 350-metre stretch of the route near Knighton (Powys) with buses currently replacing trains between Shrewsbury and Llanelli.

No date has yet been given for reopening the line and Network Rail was yet to respond to RAIL's request for further information as this issue went to press.

J Murphy wins Soham station deal

J Murphy and Sons has been appointed to build a new station at Soham, at a total cost of £18.6 million.

The Cambridgeshire station will be a 99-metre single-platform facility able to accommodate four-car trains, and will include waiting shelters, lighting, information screens and a public address system.

It will also have a 50-space car park, cycle parking and ticket machines on the station

forecourt.

Passive provision for a future second platform and provision of lifts is being made by a stepped footbridge across the railway which uses an existing right of way.

Enabling works are expected to start in the autumn, with construction finished by the end of 2021.

When open, it will be served by Greater Anglia's Ipswich-Peterborough service.

Engineering dates agreed for Island Line

Dates have been confirmed for the extensive engineering work on the Isle of Wight, in advance of the introduction of Vivarail's Class 484 trains in 2021 (RAIL 912).

No trains will run on the Island Line between January 4-March 31 2021, while work takes place. It includes:

- Building a new passing loop at Brading to allow for a regular 30-minute service.
- Enhancements to the track to improve ride quality.
- Upgrade to the platforms to improve access for the new trains.
- Installation of new ticket vending machines at Shanklin, Sandown and Ryde St John's Road.

Buses will run between Shanklin and Ryde Esplanade, with a minibus operating along Ryde Pier to connect with the Wightlink ferries during the line closure.



SOUTHWESTERN RAILWAY.

Shapps: acceleration unit to keep rail projects on track



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INDUSTRY leaders have welcomed the creation of a new government 'acceleration unit' to tackle delays to transport infrastructure projects.

Secretary of State for Transport Grant Shapps made the announcement on August 21, in conjunction with the unveiling of some £360 million in funding for a number of road and rail schemes (see separate story).

The acceleration unit will be in place from later this month. It will be accountable to Shapps and led by Campaign for Better Transport Chief Executive Darren Shirley, who will leave his current role.

The team of specialists will engage experts with experience of delivering major projects - including Highways England Director of Complex Infrastructure Chris Taylor, who oversaw the early completion of the £1.5bn A14 construction scheme in Cambridgeshire.

The creation of the unit follows the establishment of a new Northern Transport Acceleration Council (RAIL 910) that forms a

direct link between Westminster and local leaders.

"We want to accelerate Britain's recovery [from COVID-19] by investing in vital infrastructure that will help get businesses back on their feet, create jobs to replace those that have been lost, and level up our country," said Shapps.

"The creation of our new Acceleration Unit and investment in our roads and railways will ensure we build back better, greener and faster in future."

Speaking on behalf of the rail supply chain, Railway Industry Association Chief Executive Darren Caplan responded: "It is positive

news that the Government has set up a new unit to accelerate transport projects, as well as providing £340m for rail schemes in Wales.

"Speeding up rail projects is a clear way in which the Government can spur green economic growth, jobs and investment around the UK, following the economic slowdown caused by the Coronavirus outbreak."

Rail Delivery Group Director of Nations and Regions Robert Nisbet added: "Putting investment in rail on the fast track is good news for communities and businesses across Britain. Rail companies

will continue to work together to deliver vital improvements to make our railway greener and support job creation."

The RMT union also welcomed the creation of the Acceleration Unit, although it described it as "nonsensical" that it will "predominantly focus on new roads when we are in the midst of a climate crisis".

On August 21, Highways England also launched its Strategic Business Plan and Delivery Plan for 2020-25, which confirms the delivery schedule for £27.4bn worth of road upgrades over the next five years. [@paul_rail](https://twitter.com/paul_rail)

Enhancements led by Welsh upgrades

Alongside the establishment of an Acceleration Unit, Transport Secretary Grant Shapps also announced £343m worth of investment to upgrade parts of the rail network in Wales.

This includes commencing design work on plans to upgrade Cardiff Central and to upgrade signalling on the Cambrian Line between Shrewsbury, Aberystwyth and Pwllheli.

There are also proposals to speed up journey times between Cardiff and Swansea, Chester and Llandudno Junction, and Cardiff and the Severn Tunnel.

Elsewhere, £1.1m has been made available to develop short-term plans to relieve overcrowding at London Liverpool Street, and funding provided to complete the £6.4m scheme to build a second footbridge at St Albans City.

Some £4m has also been provided to develop the design phase for gauge enhancements and track improvements for freight trains on the Great Western and Midland Main Lines and at Darlington, plus £9.74m for signalling and infrastructure enhancements on the Wessex route as part of the Feltham and Wokingham signalling renewal programme.



DB Cargo 66047 *Maritime Intermodal Two* passes Barrow-upon-Soar on the Midland Main Line on April 21, with a fully loaded intermodal service from Felixstowe South to East Midlands Gateway. £4m has been pledged towards gauge enhancement design work on this route, as part of a £360m funding package announced by government on August 21. MAT YARDLEY.

Samaritans and NR extend successful collaboration

Samaritans and Network Rail have announced a new five-year partnership to support the rail industry to reduce suicides.

It builds on a successful ten-year partnership that has led to 20,000 rail staff being trained in suicide intervention techniques and to the launch of public-facing campaigns including Small Talk Saves Lives.

This campaign encourages rail users to trust their instincts and to use small talk if they see someone who might be in emotional distress on the network.

It has won 27 awards since its launch in November 2017 and contributed to 1,711 potentially life-saving interventions being made by members of the public,

British Transport Police officers and rail staff in 2019.

Network Rail Chief Executive Andrew Haines said: "We're really proud of the work we've done with Samaritans and are looking forward to the next five-year programme. It's a significant period of time that will allow us to collaborate on new ideas, innovations and projects to continue saving lives."

Samaritans CEO Ruth Sutherland added: "Suicide is preventable, so partnerships like this allow us to continue the great work we do as Samaritans."

"As well as advice and guidance to the industry, the new programme will allow our

incredible team of trainers to continue our life-saving training, bringing it to even more of the rail industry, while also offering post-incident support to staff and passengers at rail stations, and raising awareness of Samaritans services."

Samaritans and NR have already continued with successful campaign activity this year, following the launch of the latest phase of Real People Real Stories on August 11 (*RAIL* 912).

■ For more information on suicide prevention in the rail industry and Samaritans' partnership with Network Rail, see *RAIL*'s 24-page mental health supplement in *RAIL* 908.

Scottish SME seminars planned

Scottish Enterprise is to launch a series of conferences and seminars over the next 18 months, with the aim of securing more third-party investment for the country's railway manufacturing and engineering sectors.

Delivered by Scottish Engineering, the project will try to build an "international rail cluster" linking Scottish small and medium-sized enterprises with train manufacturers, contractors, academics, and research centres.

Lift upgrades at Birmingham

Network Rail has begun maintenance work on lifts at Birmingham International station, in a project that runs until November.

Lifts on all five platforms will have parts replaced, with work starting on Platforms 4/5, then 3/2, and finally on Platform 1.

Additional staff will help passengers with heavy luggage while lifts are out of action. Passengers needing wheelchair assistance are advised to book it in advance.

Cooper to take charge at Arriva

Eurostar Chief Executive Mike Cooper is to take on a similar role at Arriva from early October, replacing Dr Manfred Rudhart, who is stepping down after almost five years as CEO.

Cooper worked for Arriva for nine years, leaving in 2014 to become chief executive of Yodel before joining Eurostar.



Hull Trains back in business

Hull Trains restarted its services on August 21, having suspended all its trains in late March owing to lockdown restrictions and the subsequent decline in passenger numbers. The open access operator is initially running two trains in each direction Monday-Saturday and three on Sundays. On August 22, 802303 stands at Hull with a service for London King's Cross. IAN LYALL.

Metrolink makes timetable change

Manchester Metrolink running times were extended from 2300 to 0000 on Mondays to Saturdays and from 2200 to 2300 on Sundays from August 24.

The frequency of trams on Sundays also rose to one every 15 minutes between 0700 and 2300, which Transport for Greater Manchester says reflects increased demand.

Metrolink services now operate on a ten-minute frequency on all lines between 0600 and 1900 Monday-Friday and then every 20 minutes until midnight.

On Saturdays, trams run every ten minutes from 0800 to 2000.

Ground investigations kick-start East Kilbride electrification project

Work has begun to electrify the East Kilbride line, with ground investigations currently being carried out.

"The Government has set an ambitious target to decarbonise our network by 2035. Projects such as this on the East Kilbride line will be key to delivering on that commitment," said Scotland's Railway Managing Director Alex Hynes.

"We are also examining how new technologies - hybrid, battery-powered and hydrogen trains - could be used to decarbonise lines where electrification may not be a practical option."

Currently, Class 156 diesel multiple units operate the 11-mile

route. The long-term plan is for four trains per hour operating between 0700-1000 and 1600-1900, each formed of eight coaches, with zero emissions.

A new station building with improved circulation space is planned at East Kilbride, as well as double-tracking (part or full) the single-line section between East Kilbride and Busby, relocating Hairmyres station 600 metres to the west, electrification of the route (including the Larkfield Curve), and platform extensions.

Further investigations of performance and infrastructure requirements for battery-powered hybrid trains will take place as an interim phase, ahead of full electrification.

News In Brief

Wright to aid Metro

Former Crossrail Programme Director Simon Wright OBE has joined Cambridgeshire and Peterborough Combined Authority, "to support the development" of the Cambridgeshire Autonomous Metro. Wright will work on a part-time consultancy basis.

Hurst Green upgrade

Network Rail has completed an upgrade of the trestle sections of platforms at Hurst Green station, along with repairs and slab replacements, in an engineering possession cut from the planned 52 hours to 27.

RSSB: rail travel safer than road



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TRAIN travel remains safer than other modes, despite concerns about the risk of catching COVID-19 while travelling.

That's the conclusion of the RSSB's *COVID-19 Transmission Rates on Rail* report, published on August 17.

The report concludes there is a 1-in-11,000 risk of being infected on an hour-long train journey with no social distancing or face coverings - and that risk more than

halves if passengers wear masks.

RSSB (formerly the Rail Safety and Standards Board) calculates that travelling by car is 25 times more dangerous than rail, cycling 403 times, walking 456 times, and by motorcycle 1,620 times less safe.

It adds that when the effect

of the Coronavirus is taken into account and compared against the average road safety risk, the risks are almost the same, and that across all transport modes the "risks of catching the virus are very low, and certainly tolerable".

The findings have been verified by the chief scientific advisor at

the Department for Transport, in collaboration with the Defence Science and Technology Laboratory.

To analyse the risk, RSSB's model took a typical passenger journey focusing on the time spent waiting on platforms, boarding and alighting, and the time spent on

Train loading data on Southeastern

Southeastern has started to publish train loading data ahead of passengers boarding services.

Designed to help passengers socially distance, its SeatFinder service updates daily, using train loading information from the previous week. It predicts the number of passengers on board by analysing weight, and shows results based on how busy the service was the last time it ran.

According to Southeastern, the service covers 93% of its stations. The data is being shown on departure boards at stations and on the operator's website. Red, amber or green carriage capacity indicators are set according to standards that ensure there is sufficient space for passengers to keep two metres or one metre apart while on-board.

Southeastern said it will also publish information on the type and status of onboard toilets.

TPE to reward COVID heroes

TransPennine Express is asking the public to nominate individuals who have gone "above and beyond" during the Coronavirus pandemic.

The winner will win a weekend for two in York, including attraction tickets as well as accommodation. Three runners-up will win a day out for two with attraction tickets included for a city on TPE's network.

People can nominate a 'COVID hero' via the operator's social media channels.

Traveller fatality risk for different transport modes (relative to rail)



Return to school prompts a boost in rail services

Rail operators in England are set to increase the number of trains they run, as children return to school.

Operators including West Midlands Railway, East Midlands Railway and Govia Thameslink Railway are set to gradually increase the number of services from September 7 (after this issue of *RAIL* went to press). ScotRail increased the number of trains it runs in August, ahead of schools reopening there.

EMR will be operating 97% of its pre-COVID timetable. In a bid to maintain high punctuality levels, it says most of its trains will no longer call at Alsager, which is served by hourly West Midlands Railway trains.

WMR is increasing frequency on Birmingham's Cross-City line from three to four trains per hour, with peak services on the Birmingham-Hereford and Birmingham-Shrewsbury lines doubling to two.

Snow Hill Line services rise to six trains per hour with those running

to Birmingham International rising to two (an identical increase to Walsall-Rugeley trains). Chase Line Trains will not run through to London Euston, to maintain service reliability.

Govia Thameslink Railway is adding extra and extended trains from September 7, after contacting more than 600 schools and colleges across its network to understand their needs. Some trains will be lengthened to allow social distancing.

Southeastern said it has hired additional staff at the busiest student stations, "specifically to control the flow of students, guide passengers through one-way systems, and promote social distancing". Spare face masks will be available at stations, should a child lose or forget their covering.

The operator has also published a 'Back to School' webpage, to provide passengers, parents and schools with direct access to the latest measures and requirements for safe travel.

The Rail Delivery Group says passengers concerned about how busy their train journeys will be can use the 'Alert me on Messenger' service, which provides real-time information on journeys including disruption and overcrowding levels via Facebook Messenger.

RDG Chief Operating Officer Jacqueline Starr said: "We want people to feel confident taking the train as they get back to school, and adding services back into the timetable where they're most needed will support that."

"Rail companies are doing everything they can to ensure people start the term with a smooth journey, including boosting cleaning, providing sanitiser at stations, and offering better information about busy services."

"Some train times will change so we're asking people to check before they travel and plan their journeys for quieter times if possible."

and during pandemic

the train itself.

Researchers then worked with crowd simulation software by Crowd Dynamics and combined data from LNER and infection risk data from the Office of National Statistics, to obtain informed estimates of the risk.

"While some of the risks identified are obviously higher than if there were no virus at all, RSSB believes they are small enough for people to be able to use trains for both work and leisure with no major concerns, provided passengers adhere to government instructions on the

use of face coverings," the report noted.

RSSB Director of System Safety and Health Ali Chegni said: "As more people return to schools and offices over the next few weeks, people rightly want to feel confident travelling by train.

"Our analysis suggests going by road won't offer increased level of overall safety, so the virus shouldn't influence whether or not people choose to travel by train.

"In a world with no virus, the risk would be even lower, but our data shows that even with the virus still present in the community,

the risk is low enough and tolerable.

"People who rely on trains for their livelihoods, education and leisure can travel safely, following guidance from the train operators, and wearing a face covering unless exempt."

However, RSSB acknowledges that the evaluation could change as new information becomes available or if the overall risk of infection across the country were to change. [@AndyRoden1](#)

■ Winning back the passengers - see pages 40-43.

■ Wolmar, pages 48-49.

Assembly starts on VLR prototype

Assembly of the proposed Very Light Rail vehicle for Coventry started in August, with work taking place on the carbon fibre and metallic backbone of the battery-powered vehicle.

Engineers from WMG at the University of Warwick and Transport Design International have been working with NP Aerospace under social distancing guidelines.

The finished vehicle will be able to carry 56 passengers and will be tested at the Very Light Rail National Innovation Centre Test Track at Castle Hill in Dudley. Testing is due to start early next year.

When the vehicle and track are fully tested, it is planned to build a permanent route between the railway station and Walsgrave Hospital. The project is being led by Coventry City Council.

NR consults on Ely upgrade plans

Network Rail is to launch a public consultation on proposals to upgrade the railway in and around Ely.

The Ely area capacity enhancement (EACE) programme aims to improve connectivity and reliability for passenger services, as well as meeting the demand for more rail freight between the Port of Felixstowe, the West Midlands and the North, to support sustainable, long-term economic growth.

The six-week consultation will launch on September 21. It will be run through an online web portal with opportunities to speak to representatives via webchats at specific times.

Siemens secures Core Valley deal

Siemens Mobility has been awarded a three-year contract by Transport for Wales to renew and replace lineside signalling infrastructure on the Core Valley Lines network.

It will create a new integrated Control Centre and test and commission more than 50 new signals, 300 axle counter sections and 98 signalling location cases.

The resignalling work will double train frequency from two to four per hour on the routes.

All equipment will be made at Siemens Mobility's Chippenham factory.

October start for Eurostar's Amsterdam-London train

Direct Eurostar trains will begin running from Amsterdam to London from October 26, with tickets on sale from September 1.

There is a six-month booking window, and the cross-Channel operator is currently offering fares as exchangeable with no fee up to 14 days before departure (for all bookings made until December 31).

Journey times to London are expected to be 4hrs 9mins from Amsterdam and 3hrs 29mins

from Rotterdam.

Trains had been running since the launch of the London-Amsterdam route, although returning UK passengers had to catch a Thalys train to Brussels, where they passed through border control before boarding a Eurostar service.

Eurostar has also confirmed that it is still running trains to Paris and Brussels despite Government reintroducing quarantining for passengers

returning to the UK.

The operator told *RAIL*: "We are continuing to monitor demand, and adapting our timetable to reflect that."

Eurostar 374028 leads the 1331 St Pancras International-Paris Gare Du Nord past Dollands Moor West Junction on February 14. UK passengers will be able to travel direct from Amsterdam from next month. ANTONY GUPPY.



DfT extends GWR Emergency Measures Agreement

The Department for Transport has extended the Emergency Measures Agreement for Great Western Railway until at least June 26 2021.

It follows the announcement of an agreement to operate GWR until March 2023 with a possible one-year extension, the first six months of which would be under an EMA, which expired at the end of August.

Under an EMA, the DfT waives revenue, cost and contingent capital risk. The train operator is

paid a fixed management fee with a potential performance-based fee.

The DfT can extend the EMA before it ends, and GWR also has the right to revert to operating with revenue risk with protection provided through the Forecast Revenue Mechanism until at least 2023. The franchise agreement also makes provision to agree a revenue rebasing which would apply at the end of the EMA term.

FirstGroup Chief Executive

Matthew Gregory said: "The extension of the EMA for GWR provides important clarity and continuity for our customers, employees and wider stakeholders.

"Across the network we are increasing service levels to provide more capacity as schools recommence and work and leisure facilities reopen, and we are taking all necessary steps to ensure our passengers continue to travel safely."

RIA aims to boost UK connections

The Railway Industry Association has joined Reshoring UK, a collaboration of industrial engineering associations which aims to connect manufacturers with UK suppliers.

RIA says the partnership will support its members who are looking to fill gaps in their supply chains or create new ones.

Exports Director Neil Walker said: "The UK rail industry is already well recognised across the world for its innovation, expertise and ability to deliver effectively, supporting both

our domestic rail network and other nations' railways.

"Yet the results of an independent ComRes survey of rail business leaders at the end of 2019 found that more than half felt that too little consideration was given for whether rail suppliers have a presence and support jobs in the UK.

"It is therefore vital that we continue to build up our domestic industry, while attracting direct investment into the rail market from overseas."

'Travel hacks' offer alternatives to Tube

London TravelWatch has released a map of lesser-known 'travel hacks' to help people using the Underground when travelling around the capital.

It includes a map of Thameslink services with Tube stations overlaid on top, to make it easier for people to travel around the capital safely and avoid busy Underground routes and stations.

The watchdog has also compiled a list of lesser-known Underground stations that are

near to busier stations, such as Mansion House being quieter than Bank. It has also listed alternative bus routes, which it claims could help people save time compared with using the Tube.

"Many people wrongly assume that taking the Tube in central London is either the only way or that it is easier and quicker. That's not always the case," said London TravelWatch Director Emma Gibson.

Avanti West Coast unveils UK's first fully wrapped Pride train

The first fully wrapped Pride train was launched by Avanti West Coast on August 25, staffed entirely by an LGBTQ+ crew for its first official service.

Following the cancellation of Pride events across the country,

the operator decided to wrap a Pendolino in lieu of its planned support for live events.

The 11-carriage, 265-metre train (390119) has been emblazoned with the most recent iteration of the Pride flag

(including black, brown, light blue, pink and white, to bring people of colour, transgender people and those living with or who have been lost to HIV/AIDs to the forefront).

It is the largest Pride flag the

UK has shown on the side of a train, and the livery will become a permanent part of the fleet.

AWC has launched a competition to name the train, with the winner to be announced in October.



AVANTI WEST COAST.

CRP launches in South West Wales

Transport for Wales has launched a new Community Rail Partnership for the South West Wales region.

The new CRP aims to help communities in the region gain the most benefit from their rail services. It will engage with communities across Swansea, Neath, Port Talbot, Carmarthenshire and Pembrokeshire.

Register now for Smart Transport virtual conference

The Smart Transport three-day autumn conference will be held virtually from October 20-22.

Organised by RAIL publisher Bauer Media, the event aims to showcase solutions to government policy in the fast-moving UK transport sector.

Key topics will include the impact of COVID-19 and decarbonisation of the freight industry, strategic 'placemaking', and bringing together the public and private sectors to enable innovation.

Transport for Greater Manchester's work to ensure Manchester remains a smart city of the future will also be highlighted.

The bi-annual conference was due to take place in Manchester but has been switched to an online event owing to the ongoing Coronavirus pandemic.

That decision also follows on from a successful series of webinars that took place in March, after the Smart Transport spring conference was also held as a

virtual event.

Smart Transport editor-in-chief Stephen Briers said: "We may have been prevented from staging the 'real' event this year, but our virtual conference will be a wonderful alternative, offering delegates, exhibitors and sponsors many of the benefits and features they love most over the three days in October."

To register for a free place at the conference, visit: conference.smarttransport.org.uk

Crossrail delayed further as cost could now exceed £19bn



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THE central section of Crossrail between Paddington and Abbey Wood is now not expected to open until the first half of 2022.

It is also expected to cost up to £1.1 billion more than the financing package agreed in December 2018, meaning that the final cost of the new railway could top £19bn.

The announcement was made the day after a Crossrail board meeting on August 20, with the delay blamed on lower-than-expected productivity, greater insight into the completion and handover of the ten central section stations, and restrictions imposed by COVID-19.

Crossrail Chief Executive Mark Wild said: Our focus remains on opening the Elizabeth Line as soon as possible. Now, more than ever, Londoners are relying on the capacity and connectivity that the Elizabeth Line will bring, and we are doing everything possible to deliver the railway as safely and quickly as we can.

"We have a comprehensive plan to complete the railway and we are striving to commence intensive operational testing for the Elizabeth Line, known as Trial Running, at the earliest opportunity.

"Delivery of the Elizabeth Line is now in its complex final stages and is being completed at a time of great uncertainty, due to the risks and potential impacts of further COVID-19 outbreaks.

"We are working tirelessly to complete the remaining infrastructure works so that we can fully test the railway and successfully transition the project as an operational railway to Transport for London."

However, London's Transport Commissioner Andy Byford responded: "It is very disappointing to receive confirmation from Crossrail Ltd that their plan for opening the Elizabeth Line now has a date of the first half of 2022.

"The line will transform travel across London and is vital to supporting jobs, homes and businesses across the capital. I will now work with my team and the Department for Transport to review Crossrail's plans.

"I have been very clear that I am



committed to getting this railway open safely and reliably as quickly as possible for the benefit of London and beyond."

Transport for London added that Crossrail's estimates are not confirmed, and that they are subject to review and validation by TfL and the DfT as sponsors of the project.

The London Assembly Transport Committee also weighed in, with chairwoman Dr Alison Moore saying: "The news will certainly frustrate Londoners again, because people were expecting to use the line from December 2018.

"Londoners will accept that COVID-19 has played a significant role in this delay, and that the

complexity of this project and the need to complete the work safely has meant it's had to be pushed back yet again. Understandably, that won't take away any disappointment or any concern that costs are escalating.

"Lessons must be learned from the way Crossrail officials originally planned for this major infrastructure project. Crossrail will be a fantastic asset to London once it is finally finished and the London Assembly Transport Committee will continue to keep a close watch on developments."

A particular problem has been the shafts and portals, with lower productivity than planned an issue.

TfL Rail 345004 prepares to depart Paddington on July 30 with a service for Heathrow T5. The '345s' will eventually serve the full Crossrail route beneath central London, once it opens on its latest estimated date in early 2022. FRASER HAY.

Eight of the ten shafts and portals have been handed over to TfL, with the remaining two expected to be completed in the autumn.

The handover of stations to TfL has now been phased - to reflect, says Crossrail, the "monumental task", while a pause in working during the COVID-19 pandemic and social distancing requirements means that fewer than half of the normal number of people are working on Crossrail sites.

Software testing for signalling and train systems is said to be nearing an end, and all central section stations apart from Bond Street are now certified to support trial running, which is expected to start in early 2021.

Crossrail says that it has planned a period of "intensive" construction activity in August and September to complete remaining construction works on the line of route, which will be followed by testing of the next iteration of the signalling software.

[@AndyRoden1](https://twitter.com/AndyRoden1)

Crossrail delays

July 2017: West of London station upgrades delayed by 18 months.

January 2018: Crossrail work estimated at 20% over budget but opening on target for December that year.

March 2018: Crossrail revises delivery schedule to meet December opening date.

July 2018: Government confirms Crossrail budget is to rise from £14.8 billion to £15.4bn. December opening still anticipated.

August 2018: Central section now expected to open in autumn 2019.

December 2018: Original opening date.

April 2019: Central section delayed again with completion expected between October 2020 and March 2021.

July 2019: Crossrail now not expected to open in 2021.

August 2020: Crossrail announces central section will be ready in first half of 2022.

Fare rise confirmed; three-day s

RAIL Minister Chris Heaton-Harris has confirmed that the annual rail fares rise will go ahead this January, despite strong calls for fares to be frozen.

Heaton-Harris said that the increase to regulated fares, which is automatically pegged to July's Retail Price Index (RPI) of 1.6%, was justified due to the enormous cost currently being borne by the public purse to support the railways through the COVID-19 pandemic.

According to official figures, total payments made by the Government to train operating companies (TOCs) since they transitioned to Emergency



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Measures Agreements in late March had reached £2.28 billion at the end of June.

Meanwhile, revenue collected from fares had fallen to less than 5% of pre-pandemic levels, meaning that rail journeys accounted for just 2% of all trips in the UK but were swallowing up more than half of total public spend on transport (56%).

"Taxpayers have been very generous in their support to keep trains running throughout the

Coronavirus pandemic," said Heaton-Harris (pictured).

"While it's only fair that passengers also contribute to maintaining and improving the services they use, a lower rise will help ensure the system returns to strength."

Should government stick with July's RPI of 1.6%, then January's fares rise would be the lowest since 2015. It compares with 2.8% last year.

Regulated fares, including season tickets and Standard returns, make up 45% of all fares and are under government control. Increases to unregulated fares, such as advance and peak long-distance tickets, are

made at an operator's discretion.

However, any increase to fares in January would appear to fly in the face of warnings from both the Campaign for Better Transport and Transport Focus that it would be counter-productive in attempts to attract passengers back to the network (RAIL 912).

Speaking in advance of the publication of the July RPI figure, on August 19, CBT Chief Executive Darren Shirley said that for people planning a return to work, a fare rise "is the last thing they need".

He added: "Raising rail fares when people are already staying away from the railway will further damage the economy and the

OLE upgrades on east London lines

Network Rail is to carry out a series of upgrades this autumn on the line between Stratford (London) and Shenfield.

At Stratford and Maryland, the overhead line equipment will receive a new auto tension system that adapts to temperature changes. Engineers will also be upgrading the power systems along the line to Shenfield.

The works will take place on Sundays October 18/25 and November 1/8/15/22. On those dates, TfL Rail services will be suspended with bus replacement services providing a connection to the Central Line at Newbury Park.

Also, London-bound Greater Anglia services from Norwich will terminate at Ipswich and a rail replacement bus service will be in operation between Ipswich and Newbury Park, between Witham and Braintree, and between Marks Tey and Sudbury calling at stations in between.

"The recent hot weather has shown that having a modern overhead power system that automatically adjusts to ambient air temperature is vital to running an efficient railway," said Network Rail's Anglia Route Director Ellie Burrows.

"Having completed the upgrade of the overhead wires between Forest Gate and Chelmsford and on the Southend Victoria Line, updating the wires in Stratford is our last big push to get this upgrade work completed."

Renewed Crewe bridge moved into place

The line between Crewe and Chester has reopened after a nine-day closure to enable the reconstruction of Boulderstones bridge (which takes the A530 Middlewich Road over the railway). The original bridge had been removed in June, and has now been replaced by a safer, more reliable bridge that will require less maintenance. The work forms part of the £5.7 million Great North Rail Project. Middlewich Road will remain closed until October, while final work takes place on the bridge. NETWORK RAIL.



Network Rail completes Bank Holiday engineering works

Network Rail completed engineering works over the August Bank Holiday encompassing the West Coast and Midland Main Lines, Greater Anglia and the South East.

On the West Coast Main Line, track replacement took place between Rugby and Coventry with that section closed throughout. Waterproofing was also completed on the Albany Road bridge in Earlsdon, Coventry. Signalling was transferred from Ditton to the Manchester Rail Operating Centre.

Work continued on the East West Rail project with a further span removed from the Bletchley flyover.

Of the upgrades in the North West & Central region, its managing director Tim Shoveller said: "This will make the West Coast Main Line more reliable for passengers, who we are welcoming back after the summer break as they return to school and work in the days and weeks to come."

Switch and crossing renewals, signalling commissioning and plain line renewals were done

in the St Pancras area as part of work towards opening Brent Cross station, while works at King's Cross (see separate story) also continued.

In Anglia, engineers worked on a new siding as part of the King's Lynn Capacity Enhancement Scheme. At East Tilbury, overhead line upgrades took place, and at Cantley between Norwich and Lowestoft, track maintenance aimed at correcting faults was undertaken. Half a mile of track was renewed at Needham Market, with associated drainage,

Season tickets in the offing



environment at a time when we need to be investing in a green, sustainable transport-led recovery."

Transport Focus Chief Executive Anthony Smith went even further and called for a rail equivalent to the Government's 'Eat out and help out' scheme, which offered 50% discounts on food and drink in participating bars, cafes and restaurants on some days in August.

He said: "The Government needs to get TOCs to offer a combination of cut-price deals, carnet-style 'bundles', flexible season tickets for commuters and better value for money fares across the board."

Smith's comments followed

a survey from the watchdog showing that two out of three rail commuters expect to be working from home more often in the future.

Heaton-Harris responded by saying that the Government is working with the rail industry to seek ways to address these significant changes to established travel and working behaviours, including the introduction of new season tickets that better reflect post-pandemic patterns of working.

RAIL revealed in late July that train operators had been submitting proposals to the Rail Delivery Group that included plans

for a season ticket valid for three days out of every seven, or for 12 days out of 28 (RAIL 910).

Meanwhile, reports surfaced in the *Daily Telegraph* on August 29 that Government is expected to make an announcement on three-day season tickets as part of its drive to get British workers back into the office.

Heaton-Harris added: "We are investing billions to modernise our network and overhaul fares, including widening pay-as-you-go and smart ticketing, and introducing flexible tickets to benefit those who will be working from home." [@paul_rail](#)

■ See Industry Insider, page 68.



Part closures of King's Cross to facilitate East Coast upgrade

Network Rail has confirmed an extensive programme of closures and part-closures of the East Coast Main Line between Grantham, Peterborough and London King's Cross, as part of its £1.2 billion East Coast Upgrade.

The upgrade has been designed to yield two additional long-distance high-speed paths between London and Doncaster by December 2021, via a suite of interventions including the construction of a grade-separated junction at Werrington, and the remodelling of the approach to King's Cross.

The key dates include a three-month part closure of King's Cross from March 1-June 4 2021, when a reduced peak-time service and amended timetable will operate.

A full closure of the London

terminus is also planned at Christmas and over a number of weekends, including January 30-31, February 26-28, April 23-25 and June 5-6.

Further north, there will be nine days of reduced services between Peterborough, Grantham and Stamford from January 16-24, plus a further three-day full closure in mid-2021 in order to complete the new infrastructure at Werrington. A full list of closures will be published in the next issue of RAIL.

Ed Akers, principal programme sponsor at NR, said: "We want to deliver this vital job with as little disruption as possible, but we know it's going to have an impact on people going about their daily lives. I'm sorry about that, but I promise it will be worth it in the long run."

Clacton track and signalling work

Network Rail is planning a 23-day blockade next spring to upgrade track and signalling between Thorpe-le-Soken and Clacton-on-Sea.

Computer-based signals will replace the current system, which uses mechanical levers and pullies to change signals and track points. Alterations will be made to the overhead line equipment and the track layout will be remodelled and updated.

During the engineering work, which is scheduled to run from February 20 to March 14, buses will replace trains between the two towns.

"We will deliver a significant package of works during a three-

week period in February and March 2021. Completing these large-scale projects and maintenance in one co-ordinated effort will help reduce the overall amount of disruption and deliver a safer, modern and reliable railway for many years to come," said NR's Anglia Route Director Ellie Burrows.

Greater Anglia Managing Director Jamie Burles added: "Together with Network Rail we are transforming rail travel in Essex, as they modernise the signalling and track and we introduce new, longer trains to replace every single one of our old trains across the whole of our network."

HS2 helps with school play area

HS2 contractor Align is to start landscaping works on a new play area at Maple Cross (Rickmansworth), after planning permission was granted by Three Rivers District Council.

The creation of the play area follows a letter submitted by a Year 6 child at Maple Cross Junior Mixed Infant School, asking that some of the material excavated at the nearby South Portal construction site be brought to the school to "make a mound to roll down".

Conversion starts at Chart Leacon

Network Rail has started converting the former Chart Leacon depot in Ashford into a new light maintenance and storage facility.

Main contractor Balfour Beatty is taking down the former building to create space for five new sidings, to increase the number of depot facilities in Kent.

NR is also building offices and other staff facilities on the site.

SWR 'Meet the Manager' session

South Western Railway is running a virtual 'Meet the Manager' day on September 29, with passengers able to speak directly to the operator's senior directors and management.

The sessions are taking place via Microsoft Teams or Zoom.

on time

overhead line and structure works to improve reliability completed. Finally, at Clapton and Tottenham track maintenance took place.

A bridge was replaced at Catford, with points also renewed near Crayford. Repair and renewals on the Oxted Viaduct closed the East Grinstead and Uckfield lines. Points were renewed at Whitton Junction between Twickenham and Feltham, while work continued to connect the new South Western Railway maintenance depot there to the main line.

First construction train to Washwood Heath



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GB Railfreight hauled the first HS2 construction train to Washwood Heath on August 25.

More than 150 trains will carry up to 235,000 tonnes of stone from the Peak District to the Birmingham site - the equivalent of more than 13,000 lorry movements.

Ten trains per week will each convey 1,500 tonnes of aggregate, which will be used to build a large piling platform for the Bromford Tunnel approaches, as well as embankments and haul roads around the site, cutting the number of HS2 road vehicles on public roads.

HS2 Ltd says that construction of the entire railway will involve up to 15,000 rail freight movements - or in excess of one million lorry journeys.

At the peak of Phase 1 construction post-2022, it is estimated that around 17 trains per day will serve construction, with other railheads including the logistics hub at Willesden, which will cater for up to eight trains a day from this year until 2024.

At this location, the trains will haul around six million tonnes of spoil from the Euston approaches, including from tunnel boring machines.

Almost a million tonnes of spoil from rebuilding Euston station will also be removed by rail.

And later this year, six million

tonnes of aggregate for the central section of Phase 1 will also start deliveries.

Network Rail's HS2 Programme Manager, Freight and National Passenger Operators, Nick Cole said: "Network Rail has been collaborating with HS2 Ltd and its supply chain partners on the HS2 Materials by Rail programme for the past two years.

"We're delighted to see today's first materials freight train to Washwood Heath, and we will

continue to work closely with the programme in the years ahead to maximise the contribution that the UK rail network and rail freight can make to the construction of HS2."

GBRf Managing Director John Smith added: "HS2 is a hugely important project for the UK. Once it is completed it will play an



Amersham vent shaft design unveiled

HS2 Ltd has revealed the design for the Amersham vent shaft headhouse on the ten-mile-long Chiltern Tunnel.

To be set in a road junction outside the town, the circular single-storey building will be surrounded by a spiral-shaped weathered steel wall that is expected to fade over time to a

dark brown colour. On top of the building, a crown of aluminium fins will disguise the building when viewed from further away.

An 18-metre-deep ventilation shaft will access the twin tunnels to regulate air quality and temperature, remove smoke from any fires, and provide access for emergency services.



HS2 LTD.

Interchange station approved

HS2's Birmingham Interchange station, which links the new railway with the NEC, Birmingham International station and airport, has received planning approval from Solihull Metropolitan Borough Council.

The planning application includes an automated people mover between the sites, as well as the surrounding landscape and public realm. The station itself will make extensive use of renewable technologies, and in operation will use natural ventilation, daylight, harvested rainwater and solar energy to cut carbon emissions.

The construction partner contract is expected to be awarded in 2022, with building work starting in 2024. Growth plans around the site envisage

up to 5,000 new homes and 650,000m² of commercial space. It is reckoned that 1.3 million people will live within a 45-minute public transport journey of the new station.

West Midlands Mayor Andy Street described planning approval as "brilliant news", while HS2 Stations Director Matthew Botelle paid tribute to the station's designers.

"Our architects and engineers have worked together with landscape architects, soil scientists, ecologists and water specialists to develop a truly unique, landscape-led, contextual proposition which draws on the local Arden setting for its inspiration, with lots of new habitats for wildlife," he said.

Washwood Heath

important role in helping to move more passengers on the UK rail system and by releasing capacity for rail freight.

"The start of deliveries of aggregates from Hindlow Quarry to Washwood Heath is an important step forward in the construction of HS2. GB Railfreight is proud to be playing its part in making HS2 a reality.

"Rail freight is significantly better for the environment than moving

aggregates by road and the partnership between our team at GBRf, RSS and the BBV JV [Balfour Beatty Vinci Joint Venture] will move the equivalent of more than 11,000 truck movements.

"The strong partnership has been key to the success of the project so far and will support the delivery of over 235,000 tonnes of aggregates this year."

 @AndyRoden1



The first HS2 construction train is unloaded at Washwood Heath on August 25. Operated by GB Railfreight, the train ran from the Peak Forest. Eventually some 15,000 freight trains will be used in the construction of the new railway. HS2 LTD.

Greengauge 21 report calls for phased work on eastern arm

A new report by consultancy Greengauge 21 argues that major changes are needed to the plan for HS2's eastern arm that serves Leeds and Sheffield, to ensure that the Government's regional rebalancing agenda can be met

HS2's Eastern Arm co-author Jim Steer points out that the aim of Phase 2b ten years ago was to provide comparable London-Leeds journey times with those to Manchester, which would mean trains running non-stop through the East Midlands.

"The original ambition is understandable in headline terms, but with Government now seeking an integrated rail plan for the area, we have to ask if this is the best approach," he said.

"With a prospective eastern arm delivery date 20-25 years ahead (the 2040s), it is an approach that risks adding a new east-west imbalance, instead of helping Government's levelling up agenda. It would be ten years behind Birmingham and the North West getting the economic boost of HS2."

The report argues that plans should be changed to reflect the importance of the South West-North East corridor and to improve cross-country connections to places such as Cardiff and Edinburgh, with route upgrades increasing line speeds.

It also says that Nottingham should be placed on the HS2 network, linked directly from the south, and that the eastern arm of the railway should be built in three phases to start generating

economic benefits as early as possible.

These three phases should be: firstly Leeds-Sheffield, building part of the railway from the north; then Birmingham-Nottingham; and finally, a central section linking the first two phases.

It also suggests that the third and final section could be located within the East Coast Main Line corridor, with investment on the northern section of the ECML to increase line speeds. Full electrification of the Midland Main Line would also be needed for the eastern arm to work, because so many of its train movements will also use it to complete journeys.

The report also questions whether it is necessary to build Phase 2 to EU loading gauges (to potentially allow double-deck rolling stock). It suggests that construction to the UK loading gauge would lower costs and eliminate the need for dedicated platforms for HS2 trains at stations such as Leeds.

Steer added: "This doesn't mean abandoning the planning work to date at all. Indeed, developments around an expanded city station in Leeds and at a new station at Toton in the East Midlands should be accelerated."

But he warned: "Alongside these accelerated and broadened benefits, we have identified where some key savings in capital costs can be made. Value for money is going to be critical, we sense, in setting rail spending priorities ahead."

UKRRIN and HS2 team up on research

UK Rail Research and Innovation Network (UKRRIN) has signed an agreement with HS2 Ltd to support research and development.

The R&D will be supported across UKRRIN's three academic sites, with digital systems led by the University of Birmingham, infrastructure by the University of Southampton, and rolling stock by the University of Huddersfield.

The first project will be the use of simulation models to improve understanding of the performance of expansion joints on high-speed rails.

"By supporting HS2's research programme we can help accelerate advances that will improve the UK's railways through increasing capacity and decreasing the system's carbon footprint," said Professor Stephen Jarvis, University of Birmingham Head of the College of Engineering and Physical Sciences.



Level crossing misuse: NR and BTP issue safety plea



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NETWORK Rail and the British Transport Police have issued a joint plea for the public to stop taking risks on level crossings, following an increase in reports of trespass incidents and level crossing misuse.

The organisations say cameras have captured “dozens” of incidents, including people wandering along tracks or misusing level crossings by stopping to take selfies or pictures of others.

They have urged people not to loiter or be complacent when using a level crossing, calling on parents to ensure their children are closely supervised when in the vicinity of the railway.

The BTP said it has recorded 221 incidents of trespass and 67 incidents of misuse at level crossings so far this year, but expects the actual number of occasions that people have risked their lives to be much higher.

NR said these incidents have also led to delays for passengers, with more than 7,000 minutes of delay caused directly by trespass



A near miss by a Thameslink train with a group of walkers on a foot crossing between Shoreham and Otford (Kent) has sparked an appeal for pedestrians to take extra care when using crossings. ALL PICTURES: NETWORK RAIL.

and level crossing misuse so far this year.

“Each year, hundreds of people take risks on and around the railway, resulting in tragic consequences and life-changing injuries,” said British Transport Police Embedded Inspector Beata Evans.

“Safety is our number one priority. We’re reminding everyone of the importance of taking care

around the railway and that everyone loses when you step on the track.”

Incidents highlighted by Network Rail and the British Transport Police include:

- A near miss at Seal level crossing (near Sevenoaks), when a woman ran across in front of a train, causing the driver to activate the emergency brake.

- A near miss of five people by a

Blackfriars-Sevenoaks Thameslink train at a foot crossing between Shoreham and Otford (Kent). The driver of the train had to stop and leave his cab to check if they were OK.

- A car being struck by a train between Milliken Park and Johnstone in Scotland, which led to a closure of the line and the driver of the car being removed by the fire brigade.

- An individual leaving their bike on the middle of the track at Mingledale level crossing (near Harpham, East Yorkshire), to help a friend open the gate.

“We are incredibly worried about the spike in the number of trespass and level crossing misuse incidents during the summer months,” said Andrew Bound, Network Rail’s Wales Route level crossing manager.

“Our cameras have captured some irresponsible behaviour. Together with BTP we are urging people to not trespass and use level crossings safely - it is not worth risking your life.

“We will continue to work with BTP to warn people of the dangers, educate them about the consequences and hopefully keep everyone safe.”



A group take photos on the track at Harlech.



Two boys wonder down the tracks at Gobowen.



A girl sits on the rails near Wrexham while her friends stand talking



Two schoolboys wonder down the track at a level crossing at Stapeley.

Appeal for witnesses to vandalism

Network Rail and the British Transport Police are appealing for information from the public following a series of incidents where items were placed on the railway at Desborough (Northants).

On June 29, a train was reported to have hit a child’s bicycle left on the track, while on the following day a train hit a wooden pallet.

On August 4, people were spotted trespassing on the line, with further reports of trains hitting debris.

“Placing items on the tracks is extremely hazardous,” said BTP Inspector Mark Clements.

“Those involved are committing criminal acts which could have

serious consequences and endangers the safety of trains. If you see anything suspicious on the railway, text us on 61016 or call 0800 405040.”

NR Community Safety Manager Elisha Allen added: “This behaviour on the railway in Northamptonshire is extremely worrying, and it could have had fatal or life changing consequences. Railway lines are used 24 hours a day, seven days a week, and you should never anticipate when the next train is due.

“Trains travel at high speeds, they cannot stop quickly or swerve out of the way, and everyone loses when you step on the tracks.”

Anti-trespass signs installed

Network Rail has installed anti-trespass signs on Thistle Grove railway bridge on the Esk line, after 23 incidents have been caught on camera in the area since May.

NR said it is hopeful the signs will deter people from using the railway bridge to get to the other side of the River Esk. It warned that the bridge is not safe for members of the public to access and should be used by trained railway maintenance workers only.

NR has also placed anti-trespass signs at two nearby private foot crossings, to

remind members of the public not to use them. And it has sent out letters to local residents, reminding them of the dangers of trespassing on the railway.

“We hope the new signs deter people from trespassing on the railway and stop them using the bridge and the private crossings,” said NR Community Safety Manager Dawn Sweeting.

“People who are illegally using the railway bridge, intentionally or not, as part of their walking route are putting themselves in danger. The consequences could be fatal or life-changing,”

Atkins to carry out OLE study

Atkins has been appointed by Network Rail to analyse dynamic behaviours of overhead line equipment (OLE) and develop new OLE designs for future electrification schemes.

By using digital image correlation technology, Atkins will analyse the relationship between OLE uplift, OLE system type, train speed, and pantograph type installed at low bridges with low headroom or long width and with twin contact arrangements.

It will use the data to develop new rules for OLE design, that will be used by OLE designers to cut route clearance costs including

bridge reconstruction and track lowering for new electrification schemes.

Atkins Project mManager, Strategic Rail, Malabika Das said: "These new designs will help reduce electrification unit costs and, in turn, support the industry's climate and environmental targets.

"These rules of design should, where technically achievable, cover as many types of Network Rail OLE as is reasonably practicable, be based on robust and documented evidence, and strike a balance between conservatism and complexity."

Programme to highlight innovation

The Railway Industry Association and ITN Productions' Industry News are to produce a programme highlighting innovation in materials, automation, data and energy, to promote developments in the rail industry.

Called *Unlocking Innovation: MADE with Rail*, it will focus on RIA's innovation programme and is being produced in collaboration with Network Rail and UKRRIN (the UK Rail Research and Innovation Network).

It will showcase the industry's commitment to research and development, as well as its investment in sustainability and

the sector's potential to be at the forefront of decarbonisation and digitalisation.

The programme will launch as part of a content series through the year, including at RIA's annual conference in November.

RIA Chief Executive Darren Caplan said: "The coming year poses many opportunities for the rail sector and will give us an opportunity to showcase the cutting-edge products and services we provide that support passenger and freight users each day.

"Running across 2020, the programme will provide a fantastic opportunity to highlight the great companies working in the sector."

£3.7 million restoration of Stephenson's 1840 viaduct

The 180-year-old George Stephenson-designed Gauxholme Viaduct is to be restored and repainted in a £3.7 million project.

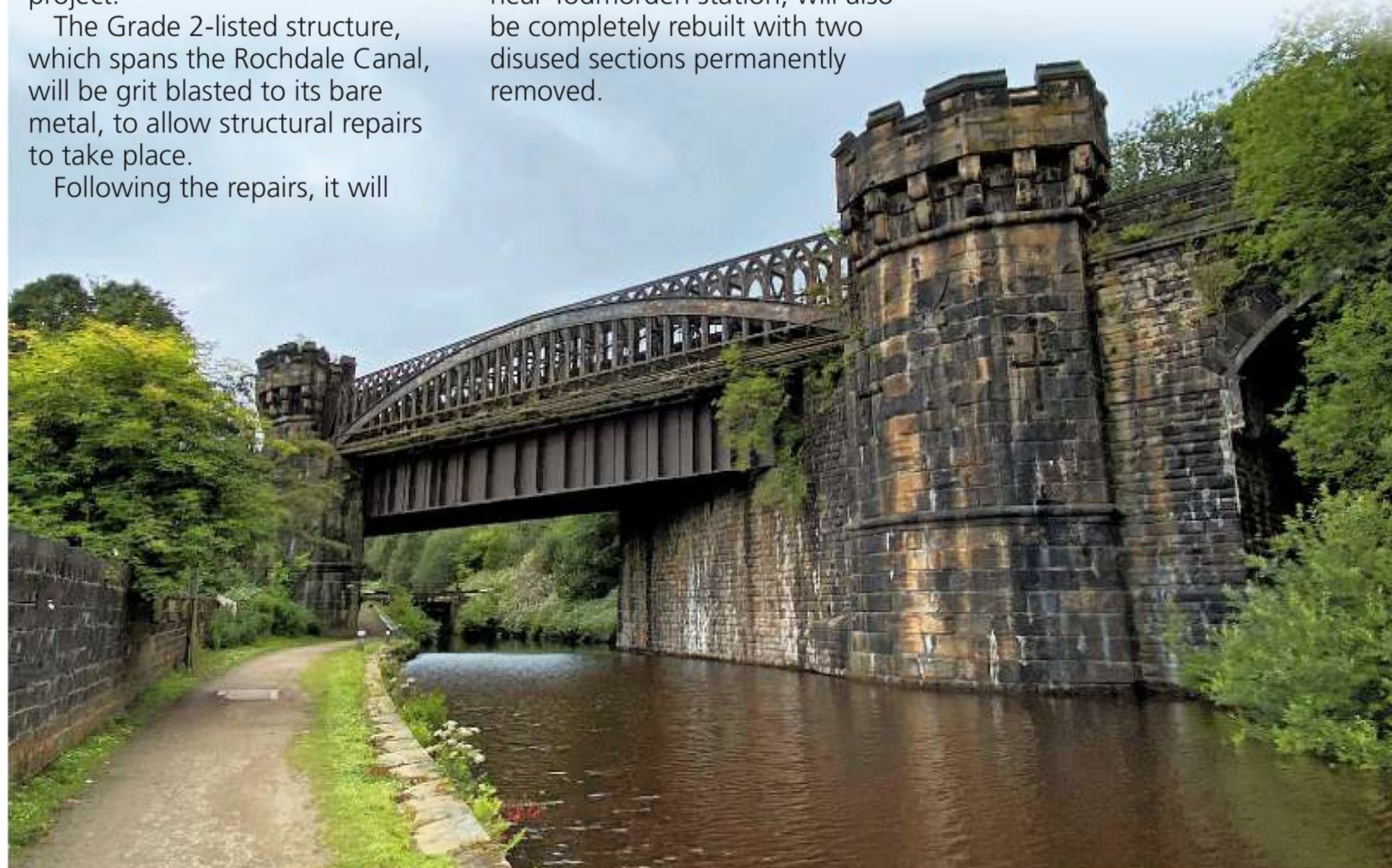
The Grade 2-listed structure, which spans the Rochdale Canal, will be grit blasted to its bare metal, to allow structural repairs to take place.

Following the repairs, it will

then be repainted in its original Victorian colours.

Taylor's bridge, which carries the railway over Rose Bank Road near Todmorden station, will also be completely rebuilt with two disused sections permanently removed.

The project will mean the closure of the railway through Todmorden from October 24 to November 1.



NETWORK RAIL

Lincoln-Newark signalling plans

Network Rail held two events on August 12/13 to inform residents about resignalling works planned for the Lincoln-Newark line in 2022.

The project will transfer communications and signalling to Lincoln Signalling Control Centre and close Swinderby signal box. Fourteen level crossings on the line will be upgraded with better barriers and obstacle detection technology, and Cross Lane level crossing in Collingham (Nottinghamshire) will be closed.

Following the work, line speed will be raised from between 50mph and 70mph to 75mph.

TfW extends smartcard rollout

Transport for Wales has started to install new bi-lingual ticket machines with smartcard compatibility at stations across the Wales and Borders network.

Machines have already been installed at almost 20 stations, and smartcards can now be used on routes including Cardiff-Shrewsbury, Wrexham-Bidston and Swansea-Milford Haven. Passengers can buy weekly, monthly and annual season tickets using the cards.

Platform validators have also been installed on Rhymney Line stations.

Tring accessibility work completed

Network Rail has installed lifts, ramps and a new footbridge to provide step-free access to all five platforms at Tring station.

The £5.8 million project was funded by the Department for Transport's Access for All scheme.

Webinars to discuss rail decarbonisation

The Railway Industry Association and RSSB (formerly the Rail Safety and Standards Board) are hosting a series of webinars over four days in October on the theme of decarbonising rail.

The webinars take place from 1400 to 1530 on October 19-22 and are open to all.

Themes include more cost-efficient electrification of the network, decarbonisation of self-powered rolling stock, zero carbon operation, maintenance and renewals, and more general decarbonisation themes.

RIA Technical Director David Clarke said: "The UK rail industry has been set the challenge of

removing all diesel-only trains from the network by 2040 and making the network net zero carbon by 2050.

"These goals are achievable but will require a clear decarbonisation strategy, investment in electrification and low-carbon technologies, and collaboration across the industry.

"All these topics will be discussed over the week of October 19 - so we welcome all to join RIA and RSSB, and our strategic partners UKRRIN and Network Rail, for what will be a fascinating week."

RSSB lead carbon specialist Andrew Kluth added: "Rail

decarbonisation's contribution to national net zero targets demands concerted action in almost every area of infrastructure development and rail operations.

"It will also demand co-operation and collaboration across stakeholders, not just in rail but in other sectors.

"RSSB is therefore delighted to support RIA's *Unlocking Innovation: Routes to Zero Carbon*, as it encapsulates these needs with the wide range of topics across the week's activities, and the broad spread of partner contributors."

Further details can be found at <https://www.riagb.org.uk/EventDetail?EventKey=U11020>

Positive response to Croydon remodelling

NETWORK Rail says it has received a strong response to its proposals to remodel East Croydon station with flyovers and dive-unders.

To eliminate conflicting movements at the busy Brighton Main Line station, Network Rail proposes to rebuild the station with two extra platforms (from six to eight) and a larger concourse. Better connections with the town centre will also be made.

Because high-rise buildings on both sides prevent expansion, the station will be moved around 100 metres north and rebuilt in two phases.

The Selhurst triangle will be provided with grade-separated junctions, with six new viaducts, bridges and dive-unders proposed. Major work would be completed in phases, with structures constructed off-site and lifted into place.

Windmill Bridge north of East Croydon station will be rebuilt and widened to increase the number of tracks from five to eight.

Major works are also planned



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for Norwood Junction station and surrounds, with track layout modified to provide through tracks on non-platform lines as well as dedicated and lengthened island platforms for north and southbound trains able to accommodate 12-car trains.

Two new footbridges - one with lifts - will be provided, and the signalling system upgraded to allow signallers to recover the service more quickly when delays occur.

NR's Southern Region Managing Director John Halsall said: "I'm really pleased to see we've already had a strong response to the public consultation and encourage both Brighton Main Line passengers and communities along the line of route to give us their feedback.

"These proposals are critical as they are the only way to deliver a

combination of more reliable, more frequent and faster services for passengers on the Brighton Main Line and its branches."

Croydon South MP Chris Philp added: "Fixing the Croydon bottleneck is an incredibly important project that will not just benefit the people of Croydon, it will affect a significant part of the Brighton Main Line. It's so important that the views of residents are heard on this crucial project and I urge as many people as possible to take part."

The public consultation closes at 1159 on September 20. For more information, visit networkrail.co.uk/Croydon. [@AndyRoden1](https://twitter.com/AndyRoden1)

Grade-separated junctions will be provided at the Selhurst triangle just north of East Croydon station, with six new viaducts, bridges and dive-unders proposed to ease bottlenecks. Selhurst station is to the top left of the picture, next to Selhurst Traincare Depot. NETWORK RAIL.



Regional News



Compiled by Howard Johnston

WESTERN

Buckfastleigh: It was 50 years ago (on September 8 1970) that the then-Dart Valley Railway acquired the first BR diesel locomotive to be sold into preservation - Class 03 shunter D2192. It is now at the Dartmouth Steam Railway.

Castle Cary: Although it was not needed because this year's Glastonbury Festival was called off, Network Rail installed a temporary footbridge to handle the expected crowds. The unsafe current structure is due for repair.

Mortimer: The Reading-Basingstoke line station may get 150 new car park spaces.

Swindon: Signal Point, the empty 1970s former Western Region headquarters next to the station, and which was once considered for demolition, is back in railway ownership. Network Rail took possession on August 10 and will now work with the borough council to find new uses for the 12-storey landmark.

EASTERN

Elsecar: The future of the Elsecar Heritage Railway is under review, after the trustees surrendered their lease to Barnsley Council in mid-August. The authority says closure is not being considered, and that it is committed to securing the system's future.

Morpeth: The Railway Heritage Trust is contributing

£120,000 towards the repainting of the station canopies in North Eastern Railway colours, to complement the rest of the restored building, and towards the replacement of seven rectangular steel supports with cast iron.

Newcastle: Listed building consent has been secured to revise the station frontage, to create two new entrances.

MIDLANDS

Bourne End: September 30 will be the 75th anniversary of the UK's seventh worst railway accident, which occurred between Berkhamsted and Hemel Hempstead on the West Coast Main Line. Forty-three people were killed and 63 injured when a Perth-Euston express was diverted onto the 15mph slow line at four times the speed limit. The locomotive and the first six of 15 coaches tumbled down an embankment. Driver error was blamed.

Burton-on-Trent: Repairs to the station's front entrance, including a like for like canopy, have been sanctioned. It was struck by a coach in mid-March and has been cordoned off ever since.

Oakham: The dilapidated station footbridge is to be renovated and strengthened without compromising its historic appearance.

Redditch: Improvements to the rundown station are seen as the important first stage of plans to remodel

the town centre, with £1 million found to speed up the programme.

NORTH WEST

Buxton: Proposals to reinstate the former Manchester-Derby line face opposition from 5,000 petitioners who want to see the Buxton-Bakewell section retained as the 8½-mile Monsal Trail cycleway and footpath. It attracts 330,000 visitors a year.

Colne: There is concern that diverting freight over a reopened link with Skipton will cause problems over the already heavily congested route into Leeds.

Lancaster: Efforts are being made to find uses for empty space at the station, including the first floor of the main building and the ground floor of the structure on the disused platform.

Newtown: Restoration of the New Mills line station footbridge has benefited from a £25,000 grant from the Railway Heritage Trust.

SOUTHERN

Coulsdon South: The new £3 million bridge and lifts have been completed at the Brighton Main Line station.

Eridge: The Railway Heritage Trust has made a grant of £30,000 towards refurbishing derelict space at the station as a waiting room.



Man jailed for Hillingdon murder

A 22-year-old man has been jailed for life with a minimum term of 25 years for fatally stabbing 22-year-old Tashan Daniel in an unprovoked attack at Hillingdon Underground station on September 24 2019.

Daniel died at the scene following a single stab wound to the heart. He had been on his way with a friend to watch Arsenal play Nottingham Forest.

Alex Lanning, from Uxbridge, was standing on the opposite platform and began shouting at Daniel and his friend. Neither party knew each other.

Lanning crossed the overbridge and was joined by 19-year-old Jonathan Camille. Daniel was

stabbed having gained the upper hand in the fight, which he was trying to end.

Both Lanning and Camille fled, with witnesses saying Lanning was smiling as he ran. They removed and hid their clothes in a nearby housing estate, and stole women's pyjamas from a washing line, which they then wore. They put towels on their heads when approaching CCTV cameras.

Lanning was found guilty of murder and Camille was found guilty of manslaughter at the Old Bailey on August 6.

Both were sentenced on August 20. Camille was jailed for six and a half years.

Recognition of Sunflower cards

The Rail Delivery Group has confirmed that Network Rail and every train operating company will recognise sunflower cards and lanyards.

The Sunflower is a "subtle but visible sign to rail staff that the wearer may need extra help or time on their journey", it said.

Robert Nisbet, Director of Nations and Regions at the RDG, said: "We want the railway to

be accessible for everyone. The Sunflower scheme can help people with non-visible disabilities feel more confident asking for assistance, whether that's to buy a ticket, find their way or get reassurance that the next train is theirs.

"Passengers returning to train travel after lockdown will also benefit from wider staff training to improve disability awareness."

Contributions for by far the UK's most published column by the same author – now in its 40th year - are most welcome from all sources. Personal observations, society magazines, website printouts and live links, transport group newsletters and

media cuttings (with dates, please) are sought to maintain topicality. We are currently experiencing some difficulties processing mail, so please send your contributions direct to hj@howardjohnston.co.uk, or alternatively rail@bauermedia.co.uk.

ANGLIA

Sutton Bridge: The Grade 2-listed former M&GN swing bridge keeper's house is up for sale. Believed to date back to the 1840s, it still has many of its original features. The asking price is £365,000.

LONDON

East Ham: Although it was widely reported that the June 25/26 lineside fire occurred at Manor Park, this is the general term for this part of the London Borough of Newham. The incident in fact took place alongside the London Underground tracks just east of East Ham station, affecting District and Hammersmith and City Line services.

Sutton: The London Tramlink extension from Wimbledon is another project that has been placed on the back burner by Transport for London until its cash flow improves.

SCOTLAND

Arbroath: Kerr's Miniature Railway is to close at the end of September after 85 years, because of falling passenger numbers. While it is hoped that the local authority may take it over, the track and fittings have attracted interest from several potential buyers.

Glasgow: The long-awaited redevelopment of High Street station on the North Clyde Line has received £10 million support from the city council. It is in

poor condition and considered inadequate for the expected growth in passenger numbers from today's 400,000 to 1.5 million by 2043. Large-scale housing developments and a new hotel are planned nearby.

Granton: The station due for conversion to offices (RAIL 910) is the former private Granton Gasworks station served by workers trains on the North Leith branch, operated by the Caledonian Railway and LMS until 1942. The ex-North British station, closed in 1925, was removed many years ago.

Motherwell: The closed signalling centre has been turned into an emergency standby electrical control room, to support the equipment at Cathcart.

WALES

Abergele & Pensarn: The Railway Heritage Trust has awarded a £125,000 grant to renovate the listed North Wales Line station for community use. The money will pay for new and restored doors and windows.

Crumlin: Three weekend closures of the Ebbw Vale line during September will allow the £5 million replacement of the single-track river bridge with a wider structure. It is part of the five-mile Cross Keys-Aberbeeg doubling scheme.

Henllan: The Teifi Valley Railway has relaid the track on its northern extension as far as Pontpretshitw, after it was controversially lifted in 2014 after being

WE'RE STILL WAITING...

(Items from this column from 30, 20 and 10 years ago)

Cheltenham (September 1990): Gloucestershire County Council is considering a £165 million light rail system to Cheltenham and Gloucester, incorporating disused trackbed from Bishops Cleeve.

■ *The scheme never got off the ground, and the Gloucestershire Warwickshire Railway has put the track back for primarily steam services, not trams.*

Sheringham (September 2000): Anglia Railways and Railtrack are keen to see main line services transferred to the North Norfolk Railway station, which has much better facilities.

■ *Network Rail rebuilt its own station in 2019.*

Skipton (September 2010): Interest is building in a main line connection for the Embsay & Bolton Abbey Steam Railway. It has a £2.5 million price tag.

■ *It's still being talked about - but could still be many years away.*

declared unfit for use by the Office of Rail and Road. Work is now heading for Llandyfriog.

Llandudno: There are plans to create a community area at the station. The Railway Heritage has awarded a grant of £21,000 towards the cost.

SWR unveils £1bn 'Arterios' for

South Western Railway has named its new fleet 'Arterio'. But what does it mean? And are the trains actually needed?

PAUL CLIFTON reports

A new train... and a new name. 'Arterio' is meant to suggest arteries, although wags on Twitter have been quick to come up with all manner of alternatives.

The name for the Derby-built Bombardier Class 701 fleet was unveiled on August 24 at South Western Railway's Wimbledon depot, where the trains will be maintained.

"Arterio is about describing our role," explains SWR Interim Managing Director Mark Hopwood.

"Carrying people through very busy arteries into the centre of London, where we see Waterloo as the heart of our network."

The first of the £1 billion fleet will run on Reading to Waterloo services towards the end of the year. They are late, like previous variants of the Avenra model built for Crossrail, London Overground and Greater Anglia.

The fleet was due in service in December 2019, but so far only four of the 90 trains have been

delivered. They are on test, and driver training has not yet begun.

"We are in the network testing phase, gathering data," explains Bombardier Engineering Director Christian Roth.

"In due course we will make a submission for the train to the Office of Rail and Road. That is planned for mid-September. That's when we start the driver training programme. And towards the end of the year we want to start the passenger service.

"The biggest cause of delay was the software development. These trains are very complex - they have a lot of new features, with the integration of new signalling technology as well.

"The Crossrail trains were delivered on time, but there was a long software integration period. That had a knock-on effect on the other orders. On top of that we had some production delay because of COVID. Production went to standstill. Then it took a considerable time to get back



to full manufacture, because of supply chain shortages."

The Arterio trains are designed for the doors to be opened and closed by the driver, as they are on near-identical Crossrail services from Reading, operating adjacent to the platforms where the SWR fleet will terminate.

They are the trains at the core of two years of damaging strike action by guards in the RMT union, who object to driver-controlled operation.

During lockdown, the RMT's mandate for further strikes lapsed,

meaning that a new ballot would be required. Hopwood says: "We have not yet concluded discussions with the union, but my wish is to find a way to do that."

Testing of the trains is being carried out by drivers from GB Railfreight in Eastleigh. Operations Manager Stuart Priday says: "You'll see us out and about on the network. The feedback I'm getting is that the drivers like them - they're comfortable and everything is at their fingertips.

"It's basically a big computer in front of you. It keeps an eye on the train and tells you everything. Pretty straightforward. It's no different to any other train to drive, really - you pull the handle and it goes, you push back the handle and it stops."

But have these new trains been overtaken by events? Are they even needed?

The key purpose of the Arterios is huge capacity. They are all about packing in passengers, with lots of room for standing - including between the vehicles (the trains are open all the way down).

But now, with empty platforms and social distancing on board the trains, services are hardly ever full.

These trains were ordered years before the pandemic, commissioned to tackle a problem that has (for now) gone away. Passenger numbers are no longer increasing at an unstoppable rate, driven by rising central London

The interior of a new Arterio. Four of the 90-train order have been delivered to SWR and are on test.
PAUL CLIFTON.





r the “heart of our network”

employment. The extra capacity is not currently needed.

Says Hopwood: “It’s important to remember these trains are not just about capacity. They are about providing a much better environment for our passengers, and also about punctuality, reliability and delivering good journey times.

“We are carrying four times as many passengers as we did at the height of the lockdown. That number is growing all the time.”

But at the height of the lockdown, that number was fewer than 5,000 passengers a day. Now it is 20,000 a day. This time last year, it was 100,000 journeys a day. Business is, at best, running at 20% of previous levels. And with new ways of working, nobody is suggesting that the big numbers will return for years, on a network that principally serves daily commuting.

“I think as schools go back, we will see more parents going back to work. We need to be ready to cope with more passengers,” says Hopwood. “And these trains have a 30-year-plus life. We can’t judge what we are doing based only on what has happened in the past few months. We have to be ready with a network fit for the future. People will come back to the railway.”

Given the benefit of hindsight, would such trains be ordered now? The fares from fewer passengers will not cover the cost of these 750 carriages. In effect, the tab will be picked up by the public purse.

“I think we would want a fleet of new trains,” notes Hopwood.

“We have four different types of suburban trains. Some of them are 40 years old. It’s difficult to run as punctual and reliable a service as we want with all those different trains floating around. A fleet of trains that are all the same allows train planning benefits.

“We will have a big job training 1,300 train crew. But we know how we can do that, and we will



have to get cracking. We have agreement with the drivers’ trade union. We will work hard on that through the autumn.”

Inside, plastic sheets have been

removed from the seats. But temporary carpet protectors are still on the vehicle floor - these trains are still some months from entering passenger service. Hopwood says delivery will “ramp up” during late autumn.

Roth, in charge of the project for Bombardier, was previously in Hopwood’s position as managing director of the train operator, so a visit to Wimbledon depot was a return to home turf.

He concludes: “In the previous franchise there was a big drive

The name for Bombardier’s Class 701 fleet was unveiled at South Western Railway’s Wimbledon depot on August 24. PAUL CLIFTON.

to increase capacity. But it was not possible to come up with new trains, so there were a lot of smaller enhancement projects.

“This is now the opportunity to transform this franchise, with more capacity, better dwell times, better running times, and therefore bringing the reliability of the entire service up to a much higher level.” **R**



“This is now the opportunity to transform this franchise, with more capacity, better dwell times and better running times.”

**Christian Roth,
Engineering Director, Bombardier**

Economic factors to affect Fre

CONTINUED use of veteran Class 86 electric locomotives by Freightliner will depend on the UK's economic recovery from COVID-19 and decisions on further electrification schemes.

At July's naming of 90014 *Over the Rainbow* at Crewe Basford Hall, the operator confirmed it planned to increase the number of electric-hauled trains it operates (RAIL 911).

Freightliner spokeswoman Lynn Crump told RAIL: "Our



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plan to upgrade the '86s' for a future service life will depend on a number of factors - including the rollout of electrification on the rail network, the economic recovery from COVID-19, and, therefore, the commercial benefit of the Class 86s' anticipated future life."

The newly named '90' is the

first of 13 former Greater Anglia locomotives bought by FL from Porterbrook to be returned to operational condition.

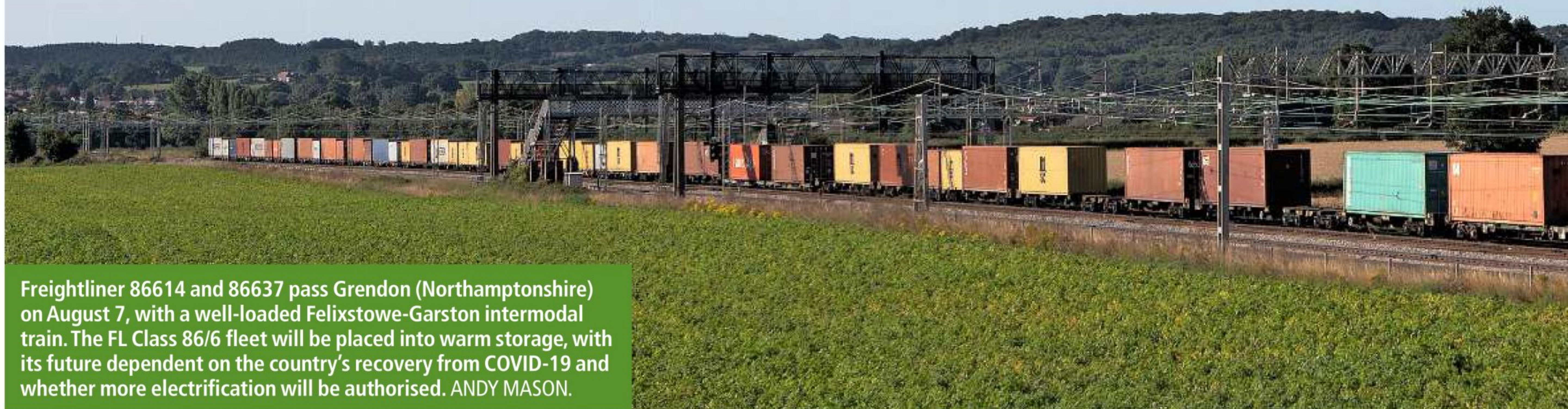
It's planned that as ex-GA Class 90s enter traffic, so the veteran Class 86/6s will be placed into warm storage. Currently five have been removed from traffic (86605/610/612/627/628).

All were stored this year, starting with 86610 in January, then 86627 in May, 86605/612 in June, and

86628 in July. FL has 11 Class 86/6s still in traffic (86604/607-610/613/614/622/632/637-639), while it also owns 86251 (stored at Basford Hall, but purely for spares).

It means that once the entire '86' fleet is placed into warm storage FL will have 23 Class 90s in its operational fleet (90003-016/041-049).

Crump added: "Freightliner is keen to continue working



Freightliner 86614 and 86637 pass Grendon (Northamptonshire) on August 7, with a well-loaded Felixstowe-Garston intermodal train. The FL Class 86/6 fleet will be placed into warm storage, with its future dependent on the country's recovery from COVID-19 and whether more electrification will be authorised. ANDY MASON.

Replacement block section for '37'

The Class 37 Locomotive Group, which owns 37003, has taken delivery of a replacement block section at UKRL in Leicester as part of its attempts to bring the locomotive back into traffic.

The group says the move is aimed at restarting restoration work following the lockdown. It hopes to rebuild a complete power unit using the block

and components of the unit previously removed from 37003,

It had been hoped the locomotive would return to traffic in time for its 60th anniversary on December 28, but following the discovery of a cracked crank last spring and delays due to the COVID-19 pandemic, this is now considered unlikely.



AL PULFORD.

Vivarail targets overseas markets

Vivarail Chairman and Chief Executive Adrian Shooter has told RAIL that a high proportion of the company's ex-London Underground District Line stock could be destined for a life overseas.

Some 200 40-year-old D-Stock vehicles are currently stored at Vivarail's base at Long Marston, awaiting conversion to diesel, electric, battery or hybrid-powered trains on the main line network.

The company has so far delivered three two-car diesel units to London Northwestern Railway for use on the Marston Vale Line, and has substantially completed an order for five three-car diesel/hybrid trains for Transport for Wales.

Five two-car electric trains are also on order for South Western Railway on the Isle of Wight, with all units due to have crossed the Solent by the end of March 2021.

Shooter says the company is unlikely to fulfil any more orders for diesel variants of the D-Train, but continues to develop its battery offering that uses fast charging technology. It is also considering

building a D-Train powered using hydrogen fuel cells.

He would not confirm where any orders were likely to come from but did reveal that Vivarail is bidding for a large overseas contract.

It is not known if there is any link with the announcement in March 2018 that Vivarail investor Railroad Development Corporation intends to test D-Trains in the USA.

Shooter told RAIL: "We are at the moment putting together a bid for an operator - not in this country - where the routes would be up to 500 miles long, to be provided totally with battery trains using this [fast charging] device."

"This bid we are putting together contemplates trains that are running for several hours - 60 to 70 miles between charging stations, but possibly going twice that far in emergency if the charging station should go down."

Shooter confirmed that Vivarail has received a number of other firm orders but did not disclose any further details.

■ See feature, pages 50-53.

Freightliner's '86' plans

with governments to meet net zero carbon targets through the alignment of decisions on investment and incentives, so that the right framework is in place to maximise the use of electric traction into the future."

Currently Freightliner operates a number of intermodal services hauled by diesels 'under the wires', while most terminals are not electrified.

This follows DB Cargo UK's

plans to operate more electric-hauled trains (RAIL 908) and DCRail's plans involving bi-mode traction.

Orion is also set to launch its logistics service using a mixture of electric multiple units and bi-mode Class 769s (RAIL 911).

Back on July 8, Rail Freight Group Director General Maggie Simpson told the House of Commons Transport Select Committee that operators

were ready to invest in new infrastructure and rolling stock, but that they needed Government commitment that it would continue allowing freight access.

Network Rail was also due to publish a decarbonisation strategy by the end of July that would feed into the Integrated Rail Plan that is due for publication in December.

NR told RAIL on July 31 that its document would be published "this summer". [@Richard_rail](#)



GA formally accepts six Class 720 EMUs

Six Class 720 electric multiple units were formally accepted by Greater Anglia on August 21, and are due to enter traffic later this year.

The five-car EMUs (720511/515/517/536-538) have carried out testing across the GA network and will now be used for continued driver training. They are expected to enter traffic on the Southend Victoria route first, but will eventually be used on all suburban services plus a handful of London Liverpool Street-Norwich trains.

A further five trains are undergoing mileage accumulation based at Wolverton Works (720516/518/539/540/542).

GA has 89 five-car and 22 ten-car sets on order. All should be in traffic by now, but while the five-car sets have been authorised to operate by the Office of Rail and Road, not one '720' has yet carried fare-paying passengers. No ten-car '720' has been released from Derby Litchurch Lane, where Bombardier is building the trains. Angel Trains is financing the fleet.

Preserved 40145 joins LSL fleet

Locomotive Services Limited is hiring preserved 40145 from the Class 40 Preservation Society for a minimum of six months.

The CFPS said the '40' will be used on "a few outings a month", with duties expected to consist of driver training and route learning.

It is the second '40' to join LSL's expanding fleet on loan, after 40013 *Andania* joined the Crewe-based operator in 2018 on a three-year deal.

News In Brief

Class 144 preserved

Northern 144013 has been preserved and moved by road to the Telford Steam Railway. The two-car Pacer had been included in the recently updated list of Class 144s given Government dispensation to remain in traffic until the end of 2020.

HNRC moves '25'

Harry Needle Railroad Company 25313 has moved to Work-sop by road from Leeming Bar. It will initially donate parts to classmate 25057, which is set for a main line return.

Class 56 transports Scottish slurry train

For the first time since the first running of the new calcium carbonate slurry train from Aberdeen to Spalding, which runs every two weeks or when required, a Class 56 brought the train down from Scotland. From Spalding, the slurry is transported by road to a paper mill in Kings Lynn. Colas Rail Class 56078 hauls the 2154 Aberdeen-Spalding Up Sidings past Knottingley on August 11. MARTIN ELSEY.



Removing the barriers from the

PHILIP HAIGH examines the capacity problems affecting services between Basingstoke and Exeter, and the improvement options being considered

LONGER loops lie at the heart of Network Rail's recommendations for upgrading the line from Basingstoke to Exeter, a line which was once the Southern Railway's gateway to holidays in the West Country.

Three demands along the route vie for NR's attention: regular services west of Salisbury; improved commuting opportunities into Exeter; and making it fit for diverted Great Western Railway services without compromising its usual timetable. And they come against a backdrop of house building that NR expects to increase demand for rail services over the next few decades.

The line's problems go back to British Rail's decision to cut its double-track to single in the 1960s, in the face of rising car ownership and falling rail use. Between London and Exeter, BR concentrated its efforts on the Great Western line via Swindon and Taunton, rather than the Southern's old route via Salisbury.

As NR notes in its latest investigation into the line's prospects, BR intended to have three passing loops (Honiton, Chard and Gillingham) and a six-mile double-track section

(Templecombe-Sherborne) for the 82 miles from Wilton (Salisbury) to Pinhoe (Exeter). The six miles later became ten with double-track between Templecombe and Yeovil Junction.

Then stations started reopening, such as Feniton in 1971, Pinhoe (1982) and Templecombe (1983). This put more pressure onto the single-track, with the result that BR laid a loop at Tisbury in 1986 and Network Rail added Axminster Loop in 2009. Cranbrook station joined the network in 2015. Railtrack had proposed more double-track in 1998 (RAIL 329), but little other than Axminster appeared.

Now, NR suggests a new 6km loop between Whimple and Cranbrook, extending existing loops at Tisbury (to be 5.5km and to include an extra platform at Tisbury), at Axminster (by around 1.2km), at Honiton (to be 3.9km), and at Gillingham (to be 3.7km), and pushing Yeovil's junction 1.6km further west to extend the double-track there.

The exact mix of improvements depends on what stakeholders such as government, local councils and passenger groups want from the line.



NR records stakeholders' top three priorities as reliability, capacity and London journey times. Meanwhile, Transport Focus surveys of passengers produce a top three of value for money fares, seat availability and punctuality. This on a line on which commuting brings 50% of all its travel (from surveys taken before COVID-19 struck).

Lengthening Tisbury Loop, for

West of England enhancement options								
Route / Service	Tisbury Loop east extension	Tisbury Loop west extension	Gillingham Loop extension	Yeovil Junction double-track extension	Axminster Loop extension	Honiton Loop extension	Whimple-Cranbrook new loop	Exeter St Davids enhancements
Basingstoke-Yeovil Junction								
1tph Waterloo-Exeter St Davids (current stopping pattern) and 1tph Waterloo-Yeovil Junction (all stations west of Salisbury)	Yes	Yes	No	No	No	No	No	No
1tph Waterloo-Exeter St Davids (limited stop) and 1tph Waterloo-Yeovil Junction	Yes	No	Yes	No	No	No	No	No
Axminster-Exeter St Davids								
1tph Waterloo-Exeter St Davids and 1tph Barnstaple-Axminster	No	No	No	No	No	Yes	Yes	No
Castle Cary-Exeter diversionary route								
1tph Waterloo-Exeter St Davids and 1tph Barnstaple-Axminster and 1tph Paddington-Plymouth (GWR diversion)	No	No	No	Yes	Yes	Yes	Yes	Yes



The gateway to the West Country



If funders agree with Network Rail proposals to enhance the Waterloo-Exeter line, it's likely to see plenty of yellow machines over the next decade. The ten-mile section between Templecombe and Yeovil junction is double-track and NR proposes more to improve service reliability. NETWORK RAIL.

to increase considerably but the infrastructure has not kept pace with this. In other words, we are squeezing more capacity out of much the same infrastructure."

It adds: "This gradual, incremental 'using up' of capacity without making significant changes to the infrastructure has knock-on effects to service performance, maintenance regimes, asset management and the operation of a robust timetable."

Hence the line's declining performance over the past few years, such that it now records 74.5% punctuality - almost ten percentage points adrift of its 84.3% target.

NR is clear about its effect: "The impact that poor performance and a lack of reliability has should not be underestimated."

"Services on the West of England Line have seen a reduction in localised patronage at several stations over the last few years that coincides with the record of poor performance. It is likely that this is a key component of a passenger's decision not to travel by train, in combination with the Waterloo blockade in summer 2017, poor car parking capacity and the subsequent strikes."

Thus stations such as Tisbury, Gillingham, Templecombe, Sherborne, Yeovil Junction, Axminster, Honiton, Feniton and Whimple have suffered from

declining passenger numbers since 2014-15 while Gillingham's peak was in 2015-16.

Despite this, NR expects crowding to increase. It reports that in 2018, passengers were standing from Andover on the busiest peak trains into London and suggests this will spread to Gillingham by 2041. Exeter, too, will witness similar crowding by 2041 if house builders meet their targets for new developments east of the city. This could be sated by running longer trains or, if NR delivers Woking's remodelling, more trains towards London.

Yet increasing services will overload SWR's current fleet of 30 three-car Class 159s and ten similar two-car Class 158s. SWR has no plans to replace them during its franchise, which should end in 2024.

With the Department for Transport keen to see the end of pure diesel trains, it's likely that future stock will be hybrid, incorporating power from batteries or hydrogen.

Electrification is another option - NR reckons that it might cut 14 minutes between Worting Junction and Exeter. (Worting Junction is near Basingstoke and is the point at which the line to London becomes electric on the DC third-rail system.)

NR suggests the extra off-peak trains that SWR introduced in May 2019 has harmed punctuality.

It says: "In some four-week periods, up to 25% of trains can be more than three minutes delayed in the Up direction (towards London) through Pinhoe and in the Down direction (towards Exeter) through Tisbury."

It explains further: "Trains end up waiting to cross at single-line sections of the West of England

Line. This means that if there is an issue, whatever the cause, it is difficult to recover the timetable without an impact on other services or creating lengthy gaps by turning services short of their destination."

Further pressure will come if new stations open. There are already ideas for stations at Oakley (between Overton and Basingstoke and linked to new housing), Porton (between Salisbury and Gillingham, the previous station closed in 1968), Wilton Parkway (east of Salisbury and possibly with platforms on the Westbury and Exeter lines), and a second new station for Cranbrook.

Then there are new services such as that proposed by TransWiltshire between Swindon and Westbury that might be extended to Salisbury. Or the Sundays Salisbury to Reading via Basingstoke train that might be run on weekdays, too.

There are also aspirations to run Heart of Wessex services from Bristol, Taunton and Wesbury into Yeovil Junction station, to connect with London-Exeter trains, although NR says it will look at this in its Dorset CMSP work. (Potential improvements at Exeter St Davids form part of NR's Bristol-Exeter CMSP.)

None of these longer loops or extra stations are guaranteed. To be delivered, NR must find funding from central or local government and put the ideas through the DfT's rail network enhancements pipeline (RNEP) process.

NR suggests Honiton, Tisbury and Whimple-Cranbrook (see panel) enter first for possible delivery in Control Period 7 (2024-29), tied in with track and signalling renewals and maybe a new train fleet. **R**

example, allows a two trains per hour (2tph) service from London Waterloo to Yeovil Junction (currently there's only 2tph between London and Salisbury, with one every two hours extended to Yeovil). Extending Honiton Loop and building Whimple-Cranbrook could result in 2tph at the line's western end between Exeter and Axminster, as part of Devon Metro.

Or, if funders decide that providing an alternative route for GWR services between Exeter and Castle Cary is important, then the line needs a longer loop at Axminster. At the moment, diverting one GWR train every two hours disrupts South Western Railway's services, but NR talks of hourly diversions in the future.

As NR notes in its new *West of England Line Study 2020* (the latest in its series of continuous modular strategic planning, CMSP, documents): "Since the last major West of England Line infrastructure modification in the 1960s, the service level operated has begun

West of England improvement packages

Package 1a: Extend Honiton Loop and build new loop between Whimple and Cranbrook. This improves journey times, increases punctuality, and allows 2tph to serve most stations between Exeter St Davids and Axminster.

Package 1b: Extend Tisbury Loop (east and west). This improves journey times, increases

punctuality, and allows 2tph between Salisbury and Yeovil Junction to serve all stations (eastwards loop extension) or some stations (westwards loop extension).

Package 2: Extend double track at Yeovil Junction and extend Axminster Loop. Together with Package 1a, this improves the

line's ability to take Great Western diversions and brings a small improvement in performance and resilience.

Package 3: Extend Gillingham Loop. Together with Package 1b, this improves performance and resilience and cuts up to 14 minutes from Waterloo-Exeter St Davids journeys.

Something to say?

COVID-19 RECOVERY

No encouragement for people to travel by rail

Has there even been lockdown at all?

Many countries required people to produce paperwork to leave their homes, with enforcement and a genuine likelihood of fines for transgressions.

In the UK, we had ministers politely asking us to "Do the right thing", few clear rules, dubious behaviour by many (right up to Government level), and consequent compromising of most enforcement.

One result was newspaper headlines of people on full trains without coverings, suggesting that trains were highly unsafe places.

Many people cried out back in March for the obvious step of making masks mandatory on public transport, yet even when the hideous figure of 1,000 daily UK deaths was reached, there was nothing. Months later, when the death rate finally reduced to double figures, only then was this step taken.

Car use was back to 50% of normal levels by mid-May, when rail travel was 5%. By mid-July, car use was over 80% while rail travel remained at barely 20%.

Can we say this was down to social distancing? Hardly, when Ryanair's Michael O'Leary easily persuaded the Government that he could safely operate flights with most or all seats occupied.

Network Rail spent months discouraging rail travel. As did the rail unions. On July 25, the

Journey Planner page of *thetrainline.com* started with “If you must travel” while easyJet.com started with “Prepare to fly with confidence”. Spot the difference.

It shouldn't be hard to understand how to promote railways, but the only people genuinely interested in rail prosperity seem to be columnists and letter writers in specialist magazines. Senior rail management, the unions and (most of all) the Government give a great impression of not sharing this agenda.

Chris Oldham, Shrewsbury

■ Nigel Harris may not concur with Christian Wolmar's comments on the potential for cuts in the UK's rail network (*Comment, RAIL 911*), but both their messages are, in effect, the same: we must ensure that our Government takes steps to get people back on the railway.

The incompetence of the DfT - highlighted strongly by the snippets we have seen from the delayed Williams review - has stifled progress with many rail improvements over recent years. Look no further than the May 2018 timetable debacle or the cutbacks in our electrification programme for evidence.

Our Government has made strong commitments on carbon reduction, and development of our rail network is key to this.

COVID will not go away in the short term, but we are making good progress in controlling its spread. However, people are still fearful of travelling by train - preferring to stay in their own bubble and use cars instead.

Yet while commuting volumes are unlikely to return to pre-COVID levels for many years (if at all), there is every chance that other segments will return to the railway.

The Government needs a campaign to demonstrate that rail travel can be safe (probably more so than



visiting pubs, indoor restaurants or supermarkets). It needs to stimulate travel with special offers and to reinstate timetables to somewhere close to previous levels.

If we don't do it now, the DfT will be forced to act, car usage will increase and we can forget any chances of reducing our overall travel carbon emissions.

Nick Hurrell, Dorset

■ An RSSB study estimates the chance of catching COVID-19 on a rail journey as 1-in-11,000 and describes it as “extremely low” (RAIL 911).

I find it alarmingly high. And if true, it would fully justify the Government discouraging rail travel.

Even at 25% of normal passenger numbers, there are still about 1,100,000 passenger journeys/day being made on the national rail network. Given a 1-in-11,000 probability of catching COVID-19, that means some 100 passengers per day could be expected to catch COVID-19 on a train journey.

Tim Morton, London

■ I agree fully with Nigel Harris's appeal to all public transport providers in Britain to get their act together and plan a fully

integrated network in which train, trams and buses work together, to provide a service where passengers can transfer from one means of transport to another with the minimum of inconvenience and waiting time.

Scotland and Wales already have bodies responsible for creating an efficient integrated public transport system. Both have let management contracts to single companies which can be called to account for any weaknesses or failures in the provision of the agreed services.

It is essential that Westminster establishes similar bodies in the English regions that are free from the continuous and destructive interference from the Department for Transport, and which address the important task of getting all forms of transport to work together rather than simply paying 'lip service' to this goal.

Meanwhile, money invested in some modest 'quick wins' would win back far greater numbers of passengers than might at first be expected.

Canopies and proper draught-proof waiting areas at stations would eliminate the ordeal of people forced to wait in the pouring rain for a connecting bus or tram.

Move bus and tram stops next

[illegible]

This is your platform...



The rail industry faces a challenge to persuade people back onto trains. A Circle Line service calls at a near deserted Notting Hill Gate station on July 19. JACK BOSKETT.

following the disastrous government exhortations to stay off public transport at the height of the COVID-19 lockdown, all transport with air-conditioning should be modified in the same way as airliners have been modified, to overcome passenger fears about cross-infection.

Budget airlines such as Wizzair have added to their air systems the same 'air scrubbing' kit as is found in every hospital operating theatre. Immediately, the air in the passenger cabins has become germ-free - far cleaner than air anywhere outside.

Such a modification - accompanied by a good national publicity campaign - would do wonders for public confidence in public transport.

Mike Pease, Pembroke

■ Nigel Harris's *Comment* (RAIL 909) makes for extremely sobering reading - one wonders if the railways will ever recover to the levels they had attained prior to this pandemic.

From a personal point of view, I worry that the recovery from where we are now could mean the death knell for those parts of the system that have never paid - I refer in particular to the Heart of Wales Line.

I am partially retired, but when I need to travel to my office base in Llandrindod Wells, I regularly use the train - not only because it is very convenient (I live a ten-minute walk from the railway in Llanwrda), it is also considerably cheaper than using the car.

I have been told that the fares on the Heart of Wales Line are the cheapest in the country - indeed, a day return of over 60 miles with a senior railcard was lately only £4.90, and this drops to zero with a bus pass for journeys made between October 1 and March 31.

I worry that with diminishing funds in the pot of the Westminster Government, and of the Welsh Government which funds Transport for Wales, the subsidy for running loss-making lines could all but disappear - closure by stealth, as was tried twice in the 1960s and again in the 1980s.

Tony Birdwood, Llanwrda

to train platforms wherever possible, so that passengers do not have to drag luggage up steps or along endless passageways.

Provide all new trains with larger public information screens. Do the same when refurbishing older trains. And rather than simply providing details of train connections, why not present appropriate bus and tram information, too?

We need a revolution in luggage handling. Inter-city trains have woefully inadequate luggage provision, especially now that overhead racks compete with wiring ducts or air grilles for space and one-direction seating eliminates space for stowing suitcases.

Baggage cars should be reintroduced, together with a new generation of porters/stewards whose job would solely be to assist passengers, handle and protect baggage, and provide information about onward travel and local amenities. Code stickers on luggage would match passenger ticket information, so that travellers could easily be reunited with their property once they had disembarked.

There should be no difference between platform and carriage floor heights.

And my top recommendation:

GIVE YOUR LETTER ITS BEST CHANCE...

- Please keep letters concise and no longer than 300 words.
- Please supply your full name and address with your letter or email.
- We reserve the right to edit submissions.

Isle of Wight possibilities

As a Mancunian exiled to the Isle of Wight, I have to agree with Barry Doe's doubts about the two proposals for extending the branch lines to Ventnor and Newport (*The Fare Dealer*, RAIL 907). Yet something may be said about them.

It is true that Southern Vectis runs a good half-hourly service to Ventnor. The problem is that road access to Ventnor is poor, utilising circuitous and narrow roads. Even with a station high above the town centre, the isolation of the town could be significantly reduced by reinstating the rail connection.

As for Newport, utilising the original track bed would result in a terminus impossibly far from the town centre. This is a non-starter.

But a late friend of mine, in teaching an engineering course at the local college, used to set his pupils the task of laying out a line from Whippingham station down to the East bank of the river Medina and then along the bank to Newport harbour which is on the edge of the town centre.

This is a much better prospect. But even so, despite the congestion on the roads at busy times, it is doubtful that such a line could compete with the bus company.

Graham Akers, Isle of Wight

Mid-Cheshire woes

Just a few years ago, passengers using the Manchester-Northwich-Chester (Mid-Cheshire Line) service were looking forward to the introduction of service frequency enhancements.

These had been promised at the December 2017 timetable change. And given that passenger usage had more than doubled since the award of the Serco/Abellio Northern franchise, they were also justified.

However, they were initially postponed until May 2018. And then, when Northern realised it would still not have enough additional units for all its planned December 2017 enhancements, Manchester-Buxton line enhancements were prioritised over the Mid-Cheshire Line.

It seems the Mid-Cheshire Line enhancements were then quietly dropped as a result of the problems which followed the May 2018 timetable changes in the Manchester area.

Given the above, I do not understand how Northern (under the control of the Operator of Last Resort, OLR) decided to firstly axe more than 50% of weekday Mid-Cheshire services in March when 'key worker' timetables were introduced, and is now claiming it is unable to reinstate any of the missing services until September 14, while not promising to reinstate the full timetable until December.

This is going to cause chaos when the schools start returning, as there are normally two morning-bound Chester services which are overcrowded in school term time and Northern only plans to operate one morning peak Chester-bound service instead of four. Forget social distancing, people will be lucky if they can get on the train.

The line serves some villages which have no alternative to public transport, and even some of the towns on the line have limited public transport aside from the train. Anyone who thought the OLR taking over from Arriva would solve the problems was mistaken.

Peter Myers, Cheshire

Church Fenton too costly

Regarding the Church Fenton electrification project: the cost of electrifying five miles of four-track route, including some minor signal work, is budgeted at £277 million.

This rate/mile makes the Great Western electrification look cheap. What work breakdown and costings justify this sum? Who signed this off as reasonable?

Graham Blakey, Frome

Compressed natural gas

However one manufactures hydrogen, it is far from being a panacea. What about compressed natural gas? Admittedly, it is still a fossil fuel and does produce CO₂ in the exhaust, but it is cleaner than diesel and is more or less universally available.

Way back in the 1980s, I read that Union Pacific experimentally converted some of its diesels to compressed natural gas. I have half a memory that due to a cylinder-full of gas having less calorific value than diesel, the power output was less so they needed five locomotives per train rather than four, or one assumes they ran shorter trains.

Conversion costs were

➔ claimed to be low, but oil prices fell during the late 1980s and probably encouraged them to abandon the experiment. In view of the now almost universal 'dieselophobia', could compressed natural gas have a re-birth?

And electrification may not reach every terminus, but Switzerland seems to have managed it. Is there nothing we can learn from them?

Wesley Paxton, Scotland

HSTs: muddled thinking

We are told that there is a shortage of diesel multiple units in the UK. With large numbers of High Speed Trains being scrapped, I suppose that's only to be expected.

Porterbrook says it is scrapping its HSTs "owing to a lack of interest in the vehicles from the industry". Perhaps they are the wrong kind of DMU?

Obviously an HST is not a Pacer, nor a Class 185 or '198', and is not entirely suitable for commuters. But surely, having had to travel on grossly overcrowded trains, when the travelling public reads this they must despair of the mentality of the people running our railways?

Tony Olsson, Nottinghamshire

Rail freight statistics

In terms of the "major freight slump" in relation to Office of Rail and Road figures (RAIL 907), one must be very careful in choosing the units used for measuring rail freight.

Supposing the railway once carried 100 freight loads (let's call them widgets), which were made of cast iron and weighed ten tonnes each. That's 1,000 tonnes.

However, if those widgets have now been miniaturised and made of plastic and weigh four tonnes each, but we now carry 200 of them, that's only 800 tonnes.

Has rail traffic really slumped?

Similarly, the use of tonne-km has its drawbacks. Five years ago, Network Rail built a flyover in the

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Shaftholme area (north of Doncaster) with the specific aim of shortening the route taken by freight trains. That scheme would have reduced the number of tonne-kms but made the railway more efficient. Is that a bad thing?

While of course we should be concerned about the impact of the Coronavirus upon railway traffic levels, trends need to be thoroughly analysed.

Nigel G Harris, London

Little impact on woodland

Regarding Fiona (Verney) Hope's claim that "108 woodlands are being felled for HS2" (Open Access, RAIL 907).

The figure comes from the Woodland Trust, but it's misleading at best. Of those 108, only 62 are directly affected. Some are anything up to 1,000 metres away from HS2. And of those 62, the majority lose only small fractions of the wood.

Even the Woodland Trust's own mapping tool shows the impact is less than 40 hectares (roughly 40 football pitches) in the 160-or-so miles of Phase 1 and Phase 2A of HS2 - roughly a quarter of a football pitch per mile.

And of that 40 hectares, only 8½ hectares is claimed as Ancient by the Woodland Trust.

All told, there has been some particularly clever and well-thought-out routeing of the line to minimise the impact of HS2.

Philip Entwistle, Northampton

A basis for hydrogen

Peter Prince writes a knowledgeable letter about the possibilities of hydrogen as a fuel for trains (Open Access, RAIL 904), but regrets that "unless you have armfuls of electricity to throw at them, they are more costly than

using electricity direct".

Potentially there are armfuls of electricity available, when wind farms produce more electricity than can be consumed. At least one company, Ryse Hydrogen, is producing hydrogen from renewable sources and using it to power buses. Might this not be the answer to Peter's dilemma?

It is not a substitute for direct cabling but might be the solution for lightly used lines.

Chris Barker, Hornsey

Multiple LRV workings

The suggestion on reverting the Bury-Victoria Manchester Metrolink line to heavy rail with longer trains (RAIL 906) brought an idea to mind.

Did Metrolink miss a trick when Victoria station was remodelled? Could it have included a bay/turnback platform long enough to accommodate three light rail vehicles (essentially six carriages)?

Being a former heavy rail line, most of the stations north of Victoria could handle this length of LRV with little modification.

I realise that it poses questions about whether multiple working of three LRVs is possible, and whether the overhead could handle three pantographs passing in quick succession (and indeed supply enough power). It would also require yet more trams.

Dave Jolly, Prestwich

Healey Mills for sleepers?

RAIL 907 reported that Network Rail will not contest a decision to refuse permission for a sleeper factory at Bescot.

One wonders whether the now derelict site of the former Traction Maintenance Depot and marshalling yards at Healey Mills, near Wakefield, could become a

suitable alternative location.

The Network Rail site already has east-west rail access, enough space for a factory with ample sidings, and the brownfield site appears perfect for rail associated development.

I'm sure the people of Wakefield and the surrounding area would welcome new employment opportunities.

Chris Brown, Bedfordshire

Better MML connections

After a hiatus of what felt like many decades, when the only talk seemed to be about improving one's ability to get into London either from afar or as a South East regional commuter, a lot is now (at last) being said about the importance of more general and wide-ranging connectivity - prompted partly by the government's 'levelling-up' agenda, but also by environmental concerns and other emerging factors.

By 'connectivity', most folk would surely expect the definition to include not only lateral transit between the main lines, but also an overall improvement in both point-to-point linkages and provision of through services.

We must also recognise growing demand to connect new or reconnect previously severed communities into the network, although that is a subject for separate debate.

Another new influence is the upsurge in overall availability of bi-mode stock, which means that partial routeing over already electrified lines is opening up options that would previously be considered undesirable (diesel under the wires) or impossible (lack of suitable stock).

The best significant example known to me of poor connectivity within the current route system is the Midland Main Line, particularly the section south and east of Derby/Clay Cross. Travelling from most of the MML to anywhere

Accessibility improvements need to be made on a case-by-case basis

Keith Rogers' comments about subways being preferable to footbridges (Open Access, RAIL 902) had a wonderful air of common sense about it.

Sadly, if there is one issue where today's modern railway has fallen flat on its face, accessibility at railway stations is certainly up there.

We shouldn't be in a 'tick box' situation when it comes to accessibility at stations. Each one should be done on a case-by-case basis with the emphasis of improving the situation, not making it the same or worse.

Examples include Pilning and Brigg.

I believe an independent board is needed, made up of people who know about accessibility - such as Lady Tanni Grey-Thompson and organisations such as the Royal Institute for Disabled Consumers.

A back to basics attitude is needed within the railway. Tackling accessibility and mistakes of the past should be a priority.

Paul Johnson, Doncaster

An elderly resident struggles to climb the non-ramp footbridge at Brigg station. PAUL JOHNSON.



A missed opportunity for Midlands rail connectivity

The report on HS2 connections in the East Midlands (RAIL 906) offers a large rail upgrade programme, but on closer examination reveals a serious lack of ambition coupled with over-provision.

Nottingham is the largest city in the East Midlands, effectively the regional capital. Every other regional capital near HS2 has direct rail services to London and other HS2 destinations, so why not Nottingham?

A classic compatible service from Nottingham to Birmingham via Toton is proposed, but it's a much longer route than necessary.

This longer route is one of many examples where HS2, rather than being the 'backbone' of the rail

network, becomes a straitjacket that prevents optimum local connectivity being achieved.

In their truly excellent evidence to the National Infrastructure Commission, Transport for the North offers this advice: "While NPR [Northern Powerhouse Rail] builds on HS2, the form of NPR needs to be what works best for the North, not what can be fitted into current HS2 proposals."

Midlands Connect would do well to heed this advice.

The case for linking Nottingham to London via HS2 is very strong. Nottingham has about 1.2 million London passengers per year - more than both Chesterfield and Sheffield combined, which have two HS2 services an hour, or alternatively about two-thirds of

Leeds passenger numbers, which has three trains per hour.

Greengauge 21 has proposed in *Beyond HS2* a Nottingham South connection to HS2 (presumably near East Midlands Parkway) that will deliver a Nottingham-London rail service in under an hour. This will be a massive improvement over the likely Midland Main Line electrified time of about 80 minutes or 80-90 via Toton (with a real-life interchange time at Toton).

Why has Midlands Connect not mentioned the Nottingham South HS2 connection? Has anyone in Midlands Connect read *Beyond HS2*? If so, why have they not acknowledged it?

At a time when co-operation between supporters of HS2 is

essential, this is a backward step. The Nottingham South HS2 connection would not only offer a 25% reduction of the Midland Connect proposed journey time between Nottingham and Birmingham via HS2, it would also enable the London to Chesterfield and Sheffield HS2 trains to serve Derby.

What really worries me is that Midlands Connect, which claims to represent the interests of Midlands rail users, appears to be putting the interests of the HS2 project above those of the people they represent and offering sub-optimal solutions which are not value for money.

The people of the Midlands deserve better from Midlands Connect and HS2. Please can we have it?

Graham Nalty, Derby

■ I studied the Toton HST Hub article (RAIL 906) with mounting incredulity.

A station in the centre of a thriving city such as Derby, Leicester or Nottingham would be a real hub, fed by existing public transport routes radiating in all directions. In contrast, the Toton site would really be just another out-of-town parkway.

Malcolm Goodall, Newark

East Midlands Railway 43059 leads the 0945 Nottingham-London St Pancras away from East Midlands Parkway on September 20 2019. Passengers from Nottingham to London may one day be making the same journey via a 'Nottingham South' connection between the Midland Main Line and HS2, argues Graham Nalty. PAUL BIGGS.



off-route is currently invariably tedious and frequently slow (often requiring one or more DMU hops) or user-unfriendly (poor connection times, overcrowded short-formed trains, inconvenient platforming).

Leaving aside the obvious desirability of wiring further north than Market Harborough, the plain fact is that under DfT rule nobody has been allowed to think through to fruition anything other than fixed service patterns from St Pancras to Sheffield via Derby or to Nottingham - with the exception of the very occasional train via the Erewash Valley or on to Leeds, and in the summer an actual whole train to Scarborough!

We have a great chance now to open things up. With pairs of five-car bi-mode trains giving great double destination choices, the MML can at last be reconnected properly with 'other places'.

The first thing is to restore more direct (through) trains to the North West and North East from the main townships on the MML. Only Derby, Chesterfield and Sheffield have any such links now, but they are so constrained to certain specific destinations and types of train as to be often inadequate.

Nottingham's links to anywhere other than London are, frankly, pathetic. Leicester is similarly disadvantaged, while if you live in Luton, St Albans or Kettering it's hopeless.

This may seem ambitious, but we are not talking of building new railways here, just new services, the effect of which would be to sew the MML back into the fabric of East and West Coast networks. We need this sort of aim if we are to achieve true connectivity.

Secondly, make use of the Erewash Valley route, especially when the Toton HS2 station opens.

Thirdly, further south, electrify and upgrade the Corby to Oakham to Loughborough linkage to give flexibility and new routeing opportunities.

Fourthly, get serious with cross-country service provision. It is simply not good enough using two- or three-car Class 158s or similar on busy routes such as Stansted to Birmingham or Nottingham to Cardiff or Liverpool to Nottingham. These should be Voyager or the equivalent with First Class provision.

Alan Fell, Topsham

Building of new fleets

Shadow Transport Secretary Jim McMahon states that new fleets for the UK rail network should be built in this country (RAIL 904).

However, he fails to acknowledge that this objective can only be achieved when the UK leaves the EU on January 1 2021. Otherwise,

all contracts for the construction of new fleets have to be advertised and open to competition from all manufacturers within the EU.

J Hedley, Ramsbottom

Slower journeys

In 1964, it was possible to go from Liverpool (Exchange) to Preston in 39 minutes. Today, if you went from Moorfields (the closest station now to the old Exchange), it would take at least 72 minutes and include 14 stops and a change at Ormskirk.

TransPennine Express, with its new Class 397s from Lime Street, now takes 47 minutes to reach Preston, while Northern with more stops takes at least 51 minutes for the same journey.

B J Horlain, Merseyside

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A bird's eye view

The new 120-metre-long steel and glass canopy for Crossrail's Paddington station dominates the south side of Brunel's famous 19th century terminus along Eastbourne Terrace.

The canopy is some eight metres above street level, while the platforms are located 20 metres below ground within the three-level box structure.

Destined to be served by 34 Elizabeth Line trains per hour (24 eastbound and ten west), the station is expected to

While Crossrail continues to be mired in delays and multi-billion-pound cost overruns, *RAIL* presents a series of stunning aerial shots taken from above the pan-London route this summer

RAIL photography: CROSSRAIL LTD



of Crossrail

accommodate some 174,000 passengers per day.

They will be able to interchange with main line services to Bristol, South Wales and the West Country, as well as Underground services on the Bakerloo, Circle, District and Hammersmith & City lines.

The station also marks the transition between the underground central section of Crossrail and its western surface sections to

Heathrow Airport and Reading.

Some of the 70 Class 345 trains ordered for the Elizabeth Line have already been introduced between Paddington (main line station) and Reading, while the first services ran to Heathrow Airport on July 30 (RAIL 911).

It had been planned that the Paddington-Abbey Wood central section of the Elizabeth Line would open by summer 2021, with the full

Shenfield/Abbey Wood-Reading/Heathrow Airport route operational by mid-2022.

However, in late July, Crossrail Ltd said that these dates would no longer be achievable because of disruption and delays incurred as a result of the COVID-19 pandemic.

According to Crossrail Ltd, the central section will now be ready to open in the first half of 2022 (see *Network News*). ➔





The new station concourse and ticket office at Whitechapel sweeps over the east-west Hammersmith & City and District London Underground lines, while the north-south London Overground East London Line passes directly beneath.

The green roof of the concourse, topped with sedum plants, leaves Whitechapel High Street in the foreground before dipping down beneath Durward Street, where it continues north above the London Overground cutting before providing access to the new

underground Elizabeth Line platforms.

The station will be served by 24 Elizabeth Line trains per hour during peak times, with eastbound services splitting shortly after leaving the station into two branches to Shenfield and Abbey Wood.



With Christopher Wren's 17th century masterpiece St Paul's Cathedral dwarfed by the UK's tallest building the Shard (standing 306.9 metres high), the old meets the new in this view looking east across Farringdon towards London's 'square mile' financial district.

Once the Elizabeth Line is open,

Farringdon will become one of the busiest stations in the entire country, providing direct connections with both the Thameslink and London Underground networks.

Two new ticket halls have been built for Crossrail that are connected by underground platforms.

The western end is located near to the

Thameslink ticket hall on the corner of Farringdon Road and Cowcross Street (beneath the building in the foreground with the crane on top), while the eastern end is bound by Charterhouse Street, Lyndsey Street and Long Lane (beneath the building to the immediate left of the ornate Smithfield Market in the middle of the picture).



Consisting of two island platforms, Abbey Wood station serves through trains operated by Southeastern, and will soon also act as a terminus for the South East branch of the

Elizabeth Line.

Shaped like a manta ray, the striking new station building on the Harrow Manor Way flyover has already opened to passengers,

with its zinc-surfaced 'wings' sheltering staircases that lead to the platforms below.

Two '345s' can be seen occupying the Crossrail side of the station, while on test.



Once an area strictly closed off to the public, the Royal Arsenal at Woolwich on the south bank of the Thames manufactured and tested guns and ordnance for British armed forces for almost 350 years until it ceased to be a military establishment in 1994.

The site now forms part of the London

Gateway redevelopment project, which includes plans for more than 3,700 new homes and new cultural, heritage, commercial and leisure quarters.

A 276-metre-long box station sits below the housing development in this picture, which also shows the new station entrance opening

out onto Dial Arch Square.

Some 56,000 passengers a day are expected to use the station, located on Crossrail's south-eastern spur to Abbey Wood and with interchange opportunities with the Docklands Light Railway and main line services operated by Southeastern and Thameslink.

Getting the public on board...

Coronavirus has undone decades of steadily rising passenger numbers. ANTHONY LAMBERT looks at how public confidence and demand could be restored, and at what practical and policy changes that might entail

CORONAVIRUS has destroyed 25 years of almost continuous growth in passenger numbers on Britain's railways, thanks to the Government's success in persuading us not to use public transport.

The challenge of restoring confidence in the use of trains and thereby rebuilding passenger numbers is hard to overstate, not least because the virus has changed far more than our attitudes to health and the way we travel.

The insistent government instruction to use public transport only if absolutely necessary and there is no alternative has created a climate of fear that will be hard to undo. As one train driver put it during the height of the lockdown: "We've got more staff than passengers."

While the messaging was necessary to ensure the safety of staff and passengers during the crisis, Her Majesty's Chief Inspector of Railways Ian Prosser CBE now thinks that "we have fallen into the trap of fear without assessing the real risk following mitigating controls. Research by DB suggests that the highest incidence of infection [outside hospitals/care homes] was within the home, compared with 0.1% on public transport. Moreover, trains are dramatically safer than roads - 25 times safer."

Prior to the tragic events at Stonehaven last month, no passenger had died on the railway since 2007. In that time, 25,675 people have been killed on UK roads and 314,491 seriously injured.

"It is important that the governments, rail regulator and the industry work together to educate the public and put the real risks in context and make them more comfortable using trains again," says Prosser.

Chris Pownall, of consultancy SYSTRA, stresses how quickly public opinion changes: "People have changed behaviour very quickly and if you don't do something to

encourage them to change back very quickly, those attitudes and behaviour become more ingrained."

Passenger numbers may not return to anything like former levels until there is a vaccine. And even then, the virus will have changed patterns of demand for travel.

A survey conducted by SYSTRA in June suggests that only 28% of office workers want to return to five days a week in the office, while 39% of people will use public transport less after all of the COVID-19 restrictions have been lifted.

Tellingly, that figure rises to 62% for London but is as low as 25% in the South West, perhaps reflecting perceptions of the risk of infection through the levels of crowding on trains.

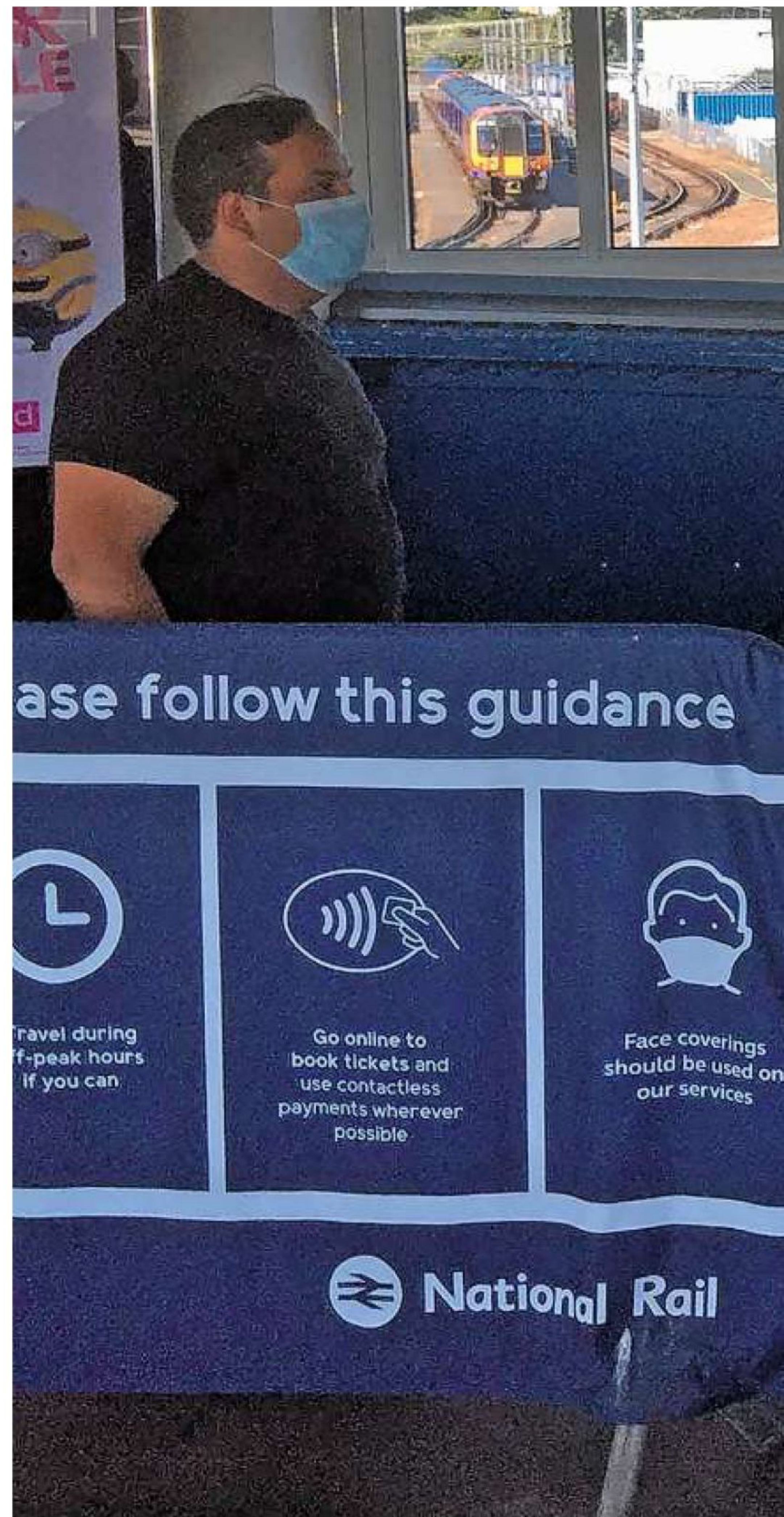
Most alarmingly, 30% of people will not revert to using the same amount of public transport even if a vaccine becomes available.

Companies, too, are thinking differently. As the chief executive of Barclays commented: "The notion of putting 7,000 people in a building may be a thing of the past." Twitter is not alone in allowing its 5,000 employees to work from home permanently.

But speculation that city centres are doomed can be overdone. The limitations of online meetings have been discovered, while many junior staff rely on an office setting to learn. As Mike Goggin, of Steer, observes: "Agglomeration economics are likely to remain valid, besides the attractions of urban living for cultural, culinary and educational amenities."

Like many crises, Coronavirus is expected to act as a catalyst to existing trends, principally the decline in rush-hour commuting as fewer people work in offices five days a week. Season ticket sales were already at 31% of journeys compared with 48% a decade ago.

The increase in teleconferencing is likely to reduce business travel, although train travel is expected to rebound more quickly than flying



(at least for business travellers) because of rail's city centre stations reducing the number of different transport modes and potential contact with the virus. There is also evidence of a revival of Sleeper trains, which travellers see as a safer option than flying.

Two types of response will be needed to rebuild railway (and government) balance sheets: those within the control of the railway industry; and those that depend on government policy and action.

Marketing campaigns

Train operating companies (TOCs) will have little influence on new patterns of work, but some commuters will need tempting out of their cars.

Discretionary travel is the market that will require the most effort to re-establish - and there should be willing allies who are equally anxious to revive economic activity with two-for-one offers at tourist attractions. In

Most alarmingly, 30% of people will not revert to using the same amount of public transport even if a vaccine becomes available.



These COVID-19 passenger instructions at Clapham Junction provide a vivid reminder of the climate of fear that must be reversed if the popularity of train travel is to be restored. DAVID STAINES.

France, SNCF has teamed up with Régions de France for its campaign to encourage people to holiday at home.

"We need a vigorous marketing campaign and slashed prices to tempt people back to try the product, because many of us have become non-users," says Transport Focus Chief Executive Anthony Smith.

"People telling others that they think the railway has done all it can to create a reassuring environment can create a virtuous circle."

It looks as though TOCs will be operating

under Emergency Measures Agreements (EMAs) for at least another 18 months from September, so it is imperative that within that time TOCs are incentivised to spend heavily on marketing to win back passengers.

A new framework for fares

Fares reform has been on the agenda for years, and the crisis is certain to accelerate the need both for the long-demanded simplification and for fares that reflect new patterns of travel. Top of the list must be flexible season tickets and carnets, but also needed is the freedom to

apply dynamic pricing.

Following the Rail Delivery Group's February report on *Easier fares for all*, RDG Chief Strategy Officer Andy Bagnall states: "We are working with the DfT on ways to be more flexible."

"But we need fundamental reform of the regulatory system to remove the straitjacket of peak and off-peak, which can make shoulder peak trains horribly overcrowded. Graduated fares on long distance, and using pay-as-you-go smart technology with the certainty of a price cap for commuters would help us make better use of capacity and increase overall journeys. The 1995 Ticketing Settlement Agreement prevents that approach."

Long-distance passengers have had to get used to booking ahead during the pandemic, but Smith does not want that to become the norm. We mustn't lose the 'turn up and go' attribute of the railway in the long term," he insists.

“It is important that the governments, rail regulator and the industry work together to educate the public and put the real risks in context and make them more comfortable using trains again.”

Ian Prosser CBE, HM Chief Inspector of Railways

WINNING PASSENGERS BACK

➔ Capacity and reliability

The reduction in passenger services following the start of lockdown on March 23 led to significant and predictable improvements in punctuality - within a week a previously unimaginable Public Performance Measure score of 100% was achieved.

Since the mid-1990s, passenger growth has meant Network Rail constantly playing 'catch-up' as it struggled to provide additional capacity. And there is little doubt we have been 'sweating' the assets at the expense of reliability.

Reducing train path utilisation so that we use no more than 75% of theoretical capacity provides greater resilience, so a fall in passenger demand may allow some trimming of the timetable.

Equally "flattened peaks may help the railways re-gear the way rush-hours are managed", says Goggin.

And on some routes where freight has been squeezed out during peak hours, that may release some welcome paths.

Since punctuality/reliability dwarfs other drivers of passenger satisfaction in Transport Focus surveys, a significant improvement will help win back passengers.

It may call into question the usual answer to rising passenger demand on regional and local routes, which is to run more short trains rather than simply lengthening them.

"We might move to a Swiss-style railway, with fewer and longer trains that help reduce the cost of the peaks and improve performance," Smith muses.

Rethinking trains

HS2 Ltd Chief Executive Mark Thurston suggested that trains may have to be redesigned to cope with a persistent Coronavirus.

That idea was roundly rejected by Christian Wolmar (RAIL 907) - not only because social distancing and an effective railway are incompatible, but because he says that "social distancing cannot become a permanent concept. Life would simply be intolerable."

A vaccine or combination of vaccines will hopefully obviate any need for distancing, but if commuting levels fall and the peaks are smoothed out, thought might be given to returning to a more generous 2+2 seating from the current 2+3 in many suburban trains.

More pertinent is the need to think about the quality of trains. As car design and ambience have improved, train design has deteriorated.

New trains have been broadly criticised for their interrogation-centre lighting, ironing board seats, inadequate provision for luggage, insufficient or total lack of toilets, preponderance of airline seating, and too many seats badly aligned with windows.

To attract people out of their cars, the railway has to inject some style and flair into lacklustre designs at the first refurbishment.

Whole journey thinking

The railway industry has become much better at recognising that journeys are made from door-to-door, rather than station entrance

“ To attract people out of their cars, the railway has to inject some style and flair into lacklustre designs at the first refurbishment. ”

to station exit. Information on connecting modes has improved, and Network Rail's *Design Council Think Station Report* (June 2020) calls for priority to be given to sustainable connecting modes.

Exceptionally good cycle parking facilities have been created at stations such as Cambridge and Brookwood, with Department for Transport funding for 27 more in the pipeline. The Government's £2 billion cycling initiative announced on July 28 is sure to include segregated bike routes to some stations. Active travel has shot up the agenda during the crisis, because the reaction to COVID-19 is more severe in those who are overweight or obese.

Walking or cycling to the station contributes to the 150 minutes of moderate-intensity physical activity each week recommended by chief medical officers.

In India, cycling has boomed because "everyone is obsessed with boosting their immunity to ward off the virus, and exercise is seen as vital". Not even London can match the Delhi metro, where bikes and e-bikes are available at 250 of the 285 metro stations.

Making railways the backbone of travel must entail a different approach to planning. Instead of locking car dependence into new housing developments, railway stations should be seen as primary development hubs.

Many countries and conurbations realise that the future lies in creating attractive, multi-purpose and largely car-free spaces around public transport hubs. By capturing the rising property values from the synergies of good place-making, public investment can be funded by commercial gain through such mechanisms as business rate supplements, workplace parking levies and developer contributions.

Whether any of this becomes part of the Prime Minister's call to "build, build, build" remains to be seen, but there are no signs of progressive thinking.

Air matters

The *By Train or Plane?* report published by UBS in April found that Coronavirus had made consumers and governments "more climate aware", owing to the dramatic improvements in air quality during lockdown. Over half a dozen of France's major cities turned green in the country's municipal elections in June, with cities such as Lyon and Bordeaux expected to adopt designs for cleaner and greener cities.

Air pollution has increased the number and severity of COVID-19 infections, according to health experts, besides the 40,000 annual deaths in the UK that are attributable to outdoor air pollution.

As Professor Jonathan Grigg, of Queen Mary University of London, said: "Preventing

A Great Western Railway Intercity Express Train crosses the M5 at Badgeworth (near Cheltenham) on January 10 2019. Despite the risks posed by COVID-19, attitudes towards rail travel must be improved as part of the fight against the even bigger threat posed by climate change. JACK BOSKETT.



the most polluting traffic from re-emerging onto our roads should therefore be part of COVID-19 policy."

We have to move away from the idea that it is an inalienable right to pollute by driving wherever and whenever we want, when the consequence is people dying. Rail is the only mode of transport that has reduced emissions while increasing passenger volumes, albeit with huge scope for further decarbonisation and reductions in nitrogen oxide through electrification.

There is a danger that the move towards electric cars will create within governments a sense of "job done". As a Government Office for Science report says: "Non-exhaust particulate matter emissions (e.g. tyre wear, brake wear and road dust resuspension) account for approximately 50%-60% of the vehicle emissions that contribute to poor air quality."

Electric vehicles will do nothing to reduce those emissions, nor to reduce congestion and tyre noise.

A stop to subsidising pollution

An objective study of transport taxation would conclude that it was intended to encourage pollution.

Aviation, the most polluting mode, pays no tax on its fuel nor VAT on tickets.

Fuel duty for motorists has been frozen for a decade, depriving the Exchequer of about £9bn a year (over ten years, that is almost enough money to build HS2, even at the higher estimates). Between 1980 and 2014, the real cost of private motoring fell by around 14%,

“ Rail is the only mode of transport that has reduced emissions while increasing passenger volumes, albeit with huge scope for further decarbonisation and reductions in nitrogen oxide through electrification. ”

while bus and rail fares rose by 58% and 63% respectively.

Major reform of transport taxation cannot be postponed because the Treasury will have to find a replacement for the £28bn a year it collects in fuel duty as we transition from petrol and diesel cars to electric.

Other than water, road space is the only commodity that is not charged for according to usage, so this is surely the moment to start to implement road-user charging according to the user-pays and polluter-pays principles.

These are urged on governments and EU policymakers by the Community of European Railways (CER) and infrastructure companies, as a way of funding clean, low-carbon transport as we rebuild our economies.

Pressure from vested interests has discouraged governments everywhere from recovering the external costs imposed by road transport, in terms of pollution, crashes, noise and congestion. The craven reluctance to address these issues has gone on for at least three decades, stoking up the next big crisis - climate change.

Road-user charges would help to level the playing field between road and rail and encourage people to think about the best mode to use for each journey, rather than what

is (for many) the default choice of the car.

The catastrophic levels of borrowing created by Coronavirus will make it imperative to raise taxes and find new sources of revenue. It is common sense to devise ones that go beyond raising revenue and which also work towards a range of societal objectives.

Will it be a missed opportunity?

Coronavirus has accelerated trends and made a reality of the previously unthinkable. Such maelstroms can be a catalyst for positive change, given enlightened thinking and political courage.

Senior leaders, including Greater Manchester Mayor Andy Burnham, have urged that we 'build back greener', while the European Union sees "a boost for rail travel and clean mobility in our cities and regions" as part of the recovery plan.

Even the president of the AA, Edmund King, has questioned the wisdom of the £27bn roads programme, which would increase traffic and pollution.

Complementary measures designed to make rail "the backbone of modality" (as the Director General of the International Union of Railways recently put it) rely on taking a holistic view of transport, the environment and health, in order to produce a response that pays more than lip service to modal shift.

The win-win policies outlined would benefit the Treasury, improve the health and wellbeing of citizens (and so relieve pressure on the NHS and reduce its costs), and make our urban areas more attractive and our streets friendlier places, as well as addressing the next most pressing challenge of our times - climate change.

The global costs and impacts of climate change will make Coronavirus look like a walk in the park. Will the Government have the courage to press forward with such radical but wholly beneficial measures? **R**

■ The writer would like to thank Andy Bagnall, Robert Crawford, Mike Goggin, Marion Gourlay, Libor Lochman, Niall McGourty, Jon Peters, Chris Pownall, Ian Prosser, Anthony Smith and Hollie Taylor for their help with this article.

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Anthony Lambert has written over a dozen books on railways and transport articles for a wide range of publications including *RailReview*, *The Times*, *New Statesman* and *Local Government Executive*. He has also written speeches for the Community of European Railways and reports for transport organisations.



Guest Columnist

The growing likelihood of a ‘c

APPEARING before the House of Commons Transport Select Committee in June, Secretary of State for Transport Grant Shapps said: “The Coronavirus situation provides significant challenges but also significant opportunities to move faster to a different type of railway.”

Many of the features of what we knew of that ‘different railway’ had been trailed from the completed (but still unpublished) Williams Rail Review: the establishment of a champion of the railways (a guiding mind agency); long called-for fares reform; swapping the franchise contracting model for a concession one; and better alignment of incentives by reducing fragmentation.

With the creation of the unhelpful impression that getting on a train is more risky than base jumping into a music festival crowd without hand sanitiser, and with many people lucky enough to have the choice and deciding they quite like working from their armchair, it has resulted in a perfect storm of £900 million of government expenditure per month to continue running largely empty trains around, with little fares revenue to offset that.

So, when Shapps refers to the “significant opportunities” the Coronavirus situation provides, he may not be signalling opportunities to implement the Williams recommendations faster, but instead opportunities to definitively address the state’s relationship with the railways.

Because there may never be a better time for any government to ask publicly what all governments in the post-War period have asked themselves privately: whether the railways should continue to be part of the social contract between government and the people, or at least whether they continue to the extent they currently are? Does ‘different’ therefore mean ‘smaller’?

Railways and the social contract

The social and economic case for the railways being part of the social contract is well rehearsed. The railways offer the best way of moving the largest number of people into and out of our cities, of linking our cities, of increasing economic activity within and between those cities, of connecting remote areas to the rest of the country, of increasing land values, and of regenerating communities and the localities they serve - all at the lowest relative environmental impact.

They are considered socially necessary, like hospitals, schools and (dare I say it?) the police. And that is why people (and, in turn,

The railways have long been part of the social contract between the Government and the people. But under the shadow of the Coronavirus, is that contract about to be re-written? asks JASON CHAMBERLAIN

governments) are willing to subsidise them.

But it is a grudging willingness, because the price tag is shrouded by arguments about the best delivery model, perceptions of poor value for money, and a public and media that is hyper-sensitive to any period of poor performance.

The truth is that the railway’s part in the social contract has been rewritten for some time, as successive governments have reversed the taxpayer:farepayer responsibility to pay for them from 75:25 to more like 25:75.

Taxpayers will always remain sensitive to what benefit they think they get out of anything they fund through their taxes, particularly if that benefit is not direct or immediate. But the reversal has overlaid acute passenger sensitivity to value for money. The railways are now seen as expensive to all, whether you use them or not.

Allied to that is the fact that the franchising model has been driven into the dirt by a combination of efforts to squeeze ever more economy from it (or in Sir Humphrey-speak, ‘exhausting the value of the model’ by demanding ever-tighter margins from train operators) and occasional foot-shooting bouts of poor performance.

The latest conversation around railways and the social contract, and the *coup de grâce* for the franchising model, was delivered not by COVID-19 (both the main parties’ manifestos had announced pre-election that it would go), but by the Department for Transport decision last year to disqualify Stagecoach (and its various partners) from three franchise competitions and Arriva from one - in each case for non-compliant bids in relation to pensions liability.

“It has resulted in a perfect storm of £900 million of government expenditure per month to continue running largely empty trains around, with little fares revenue to offset that.”

The disqualifications led to litigation (Arriva settled just before the hearings), on the basis that they breached principles of fairness, transparency and proportionality. A 601-paragraph judgment was handed down in June this year and delivered a comprehensive government victory.

The arguments are complex (and not really the subject of this article). But the debate was precisely about the extent to which a key cost of running a railway - pensions contributions for railway employees - should come down to the state, or at least should be beyond a certain point.

‘Harry Potter Cloak of Invisibility’

The disqualification judgment exposes numerous exchanges between DfT and Treasury officials as the pensions crisis developed.

What those exchanges, the quiet rebalancing of the taxpayer/user equation, and the exhaustion of the franchising model all reveal is the invisible hand of the Treasury - or, to redirect a phrase that was used by the Court, the Treasury’s “Harry Potter cloak of invisibility”.

The DfT had decided to solve growing disquiet from the pensions regulator about shortfalls in railways pension funds by sticking the problem with the train operators. But the bidding community naturally did not think taking on potentially unquantifiable pensions liability solved that problem.

So, to avoid its franchising programme being derailed by universal non-compliant bids, the DfT developed a risk sharing mechanism. However, anything that moves the DfT’s risk needle needs Treasury approval, and in a clear assertion of its hegemony it only permitted the DfT to offer a time and subject-limited regime.

Despite palpable reticence within the DfT that this regime did not go far enough, its senior figures realised at some point that they were simply talking to the Treasury hand. So, they gave up trying to offer a more expansive regime and cross what the Treasury came to characterise as ‘one of our red lines’.

In bidding, Stagecoach and Arriva drew

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'different type of railway'



Two East Midlands Railway HSTs stand at St Pancras International on February 20. The pensions row that led to previous franchise holder Stagecoach being disqualified from bidding to run EMR in 2019 is evidence that the relationship between rail and the state is being reset, says Jason Chamberlain. JACK BOSKETT/RAIL.

their own red lines all over the risk sharing regime so that it was more favourable to them, believing that the other bidders would do the same and so force the Treasury to waive its hand, rather than just hold it up. But fatally, the others chose not to pick up their red pens and instead bid compliantly.

In the run-up to the fateful decisions to disqualify and thus avoid any more red lines, Peter Wilkinson, Senior Responsible Officer at the DfT, admitted to representatives of Stagecoach that the Treasury had put the DfT in an 'appalling' position. But that was that... Stagecoach and Arriva were disqualified.

It has always been this way - or at least it has been since 1952, when British Railway's finances took a turn due to the march of the car (or perhaps more accurately, the roads on which to carry them).

Treasury-driven messaging changed. The railways were no longer just providing a service in the national interest, they now had fiscal obligations.

The 1961 White Paper *The Economic and Financial Obligations of the Nationalised Industries* created financial targets for nationalised industries, including the railways, and this inexorably led to the Beeching cuts between 1963-65. By the time of privatisation, British Rail was functioning on a shoestring, reflecting the budgetary settlements imposed on it by Treasury.

When franchising was conceived, despite market wishes for long franchise terms to drive business certainty and innovation, the Treasury wanted terms of no longer than five years so that franchise competitions were run as often as possible to maximise value from the private sector. In the end, the compromise of seven years was closer to the Treasury preference and has remained largely the case since.

And it is the Treasury that has driven the rebalancing of the taxpayer/user equation, by requiring inflation-busting fare increases since 2004 and ever more value from franchise payments.

'To err is human. To blame it on someone else is politics'

All of this takes us to one of the sleepers on which Shapps' different railway might be built if any of Williams survives - a guiding mind for the railways.

When giving evidence to the Transport Select Committee in October last year, Shapps identified the key recommendation from the Williams' proposals would be having "[a] person who is responsible for it overall, [being] the person who you need to talk to about this problem or this improvement".

Or, to put it in the more colourful language of our Prime Minister: "The secret to improving rail transport, in my view, is you need to find the right arse to kick."

Unfortunately, since the abolition of the Strategic Rail Authority (SRA) in 2005, the DfT has ostensibly been in direct control of railway policy setting, and this has meant that the only arse the government has been able to kick is its own. ➔

Guest Columnist

➤ Following the May 2018 timetable debacle, it must have felt busier than the proverbial one-legged man at an arse-kicking contest.

As a former employee of the SRA and of the Office of Passenger Rail Franchising before it, I am firmly in favour of an agency that is (and people who are) directly invested in the railways and in the decisions made about them.

And there is clearly political value to a government in having something else to kick other than its own backside. But it is illusory to think that Rail for Britain, National Rail, or whatever it will be called, will be the true guiding mind for the railways - except perhaps within the box that is created for it.

In other words, the guiding mind will not be allowed to have too much of a mind of its own. This is what happened when Sir Alistair Morton led the SRA and tried to create long-term franchises. He was very much Emu to the government's Rod Hull, and it played a part in the DfT taking back direct responsibility for the railways thereafter.

The West Lothian question

The same must be said about the devolution model, which in recent years has been energetically pursued in the railways.

Devolution's attraction for central government is that it creates local responsibility, which on the face of it diminishes central government accountability. However, perhaps a side-effect of COVID-19 is the exposure of the fallacy that central government ever stops being accountable for socially necessary services.

Former London Transport Commissioner Mike Brown recently acknowledged that he came very close to closing the capital's transport network because of the drop-off in revenue caused by the pandemic (RAIL 909).

"Let's not beat about the bush. We are absolutely living hand to mouth now on TfL," he said.

Only a last-minute interim funding settlement with the Government of £1.6 billion stopped him from doing so. And the price TfL is paying for that handout is high: a Government-led sweeping review of TfL's finances, concessionary fares restrictions, and a government special representative on the TfL board - all, according to a DfT spokesman, because "the deal must be fair to UK

taxpayers". Trying to take at least a knife to a gun fight, London Mayor Sadiq Khan has called for his own independent review.

Devolution only goes as far as the devolved budget allows. Run out of money, and the only place to go is back to the source that can always find more. The virus may well have done irreparable harm to the devolved railway model because there is truly only one 'Operator of Last Resort'.

It's the economy stupid

The Office of Budget Responsibility estimates that the UK Government will have spent £300bn by the end of this financial year to prop up the economy in response to COVID-19, and £700bn over the next five years, including funding public services and businesses through the likes of the Job Retention Scheme.

Without raising taxes at some point (which the Conservatives ruled out in their manifesto), there will be less tax to pay for these extraordinary sums because of the economic downturn - less income tax, less corporation tax, less VAT.

Now factor in fares reform. Long before the pandemic, there was a call for simplified fares, with single journey pricing. With working practices needing flexible travel arrangements and pricing that is reflective of that, it is vital that this is addressed... and addressed soon. There must finally be a move towards national pay-as-you-go, capped-spend pricing, and/or carnet-type fares. The travelling public, if there still is one, will not tolerate anything else now.

However, such developments will shrink the fare box significantly. That would radically change the economics of the railways and means, bluntly, that the Government will have to subsidise them to perhaps an unprecedented degree long-term, which seems like the least likely outcome at this time.

'Perception is nine-tenths of reality'

But it will take more than fares reform to bring people back. The messaging has gone from 'avoid public transport where possible' at the outset to the more recent 'we are making clear that anybody may use public transport, while of course encouraging people to consider alternative means of transport'.

Practically, there's not a lot of difference between those statements. Public transport is still a last resort. But compare that with other

human activities where the messaging is completely different, and thus the perception of risk is also completely different.

I don't know about you, but my local supermarkets either aren't able or don't bother to mark out the required social distances other than lengthways - as if Coronavirus cannot travel sideways.

And while every other announcement tells shoppers to follow the distancing guidelines, those guidelines do not appear to apply to their staff, who do not have to wear masks and who regularly appear at your side to put more beans on the shelf just as you put some in your trolley.

And I know it has been a long time since I went to either, but I thought the principal purpose of visiting a restaurant or a pub was to open and close your mouth - perhaps the most dangerous transmission mode. All happening in an enclosed space at reduced social distancing and without a mask. Now we are

Two face mask-clad passengers leave a London Underground service at Paddington on July 19. The Government's decision to grant Transport for London £1.6 billion in emergency funding, to continue operating during the COVID-19 pandemic, is a fresh reminder of the social necessity of public transport provision, argues Jason Chamberlain. JACK BOSKETT.



"Devolution only goes as far as the devolved budget allows. Run out of money, and the only place to go is back to the source that can always find more. The virus may well have done irreparable harm to the devolved railway model because there is truly only one 'Operator of Last Resort'."

even being subsidised to do so.

In both supermarkets and restaurants/pubs, you are interacting with other people, whereas on public transport the last thing most people do if they can help it is to interact with other people. Yet travelling on public transport is perceived as the riskier endeavour.

The inconsistency of messaging has led to an inconsistency of perception and means that much more effort is needed to convince people to return. Telling everyone how much you are running a damp cloth over the door buttons is not going to cut it, I suspect.

So, what might, presuming the Government really does want the railways back?

Well, more positive messaging for a start. And where is the fares equivalent of Eat Out to Help Out, to incentivise passengers to start using public transport again?

One of the mitigants to salary reductions and furloughs that many have endured has been the saving from not travelling. If discounted travel is not offered to offset some of that, it's quite easy to understand why people might continue to vote with their feet to stay up on the sofa.

Beyond that, perhaps the introduction (and advertisement) of technological solutions that would both maximise (and demonstrate the

“In both supermarkets and restaurants/pubs, you are interacting with other people, whereas on public transport the last thing most people do if they can help it is to interact with other people. Yet travelling on public transport is perceived as the riskier endeavour.”

maximisation of) efforts to reduce potential infection and manage crowding. Just a sample:

■ UV cleaning (UV-C) technology which sterilises the air and which is considered effective at eradicating viruses and bacteria on surfaces.

■ The technology has been used for a long time in operating theatres and was introduced by some airlines and bus companies after the virus hit. It can be deployed at stations, depots and on trains, either delivered through HVAC vents or using mobile units, making it possible to deploy before and between services.

■ Mask-detection technology that warns station staff of someone entering the station not wearing a mask - and, of course, a commitment to enforce that rule.

■ Proper load counting technology that tells station dispatchers and passengers in

real time which trains (and which carriages within the train) are at socially distanced capacity.

■ More flexible timetabling technology and processes that allow services to be flexed on much shorter notice, to match demand trends and optimise safe travel.

Some tough choices

Despite operating under a cloak of invisibility, it is the Treasury that has shaped so much of the railways' existence since they became part of the social contract.

So, as the DfT contemplates a different railway for us, it's not hard to imagine the kind of exchanges between the DfT and Treasury that took place around the franchise disqualifications last year.

The spending review has commenced. The Chancellor has invited government departments to find budget savings and re-prioritise spending. He has admitted that “tough choices” are ahead.

We could see reductions in service frequency here and service closures there. We could see the curiosity of closing certain lines to pay for the opening of Beeching lines that have already been promised politically, if not that trade-off beneath the invisibility cloak. But equally, none of that could happen. Only one mind, that guiding mind, knows.

It is a tough choice for people to use the railways at the moment. A large part of that is because the Government has told the public to use anything but, although it is also fair to say that we have been all too willing to heed that messaging for many reasons beyond fear of contracting the virus.

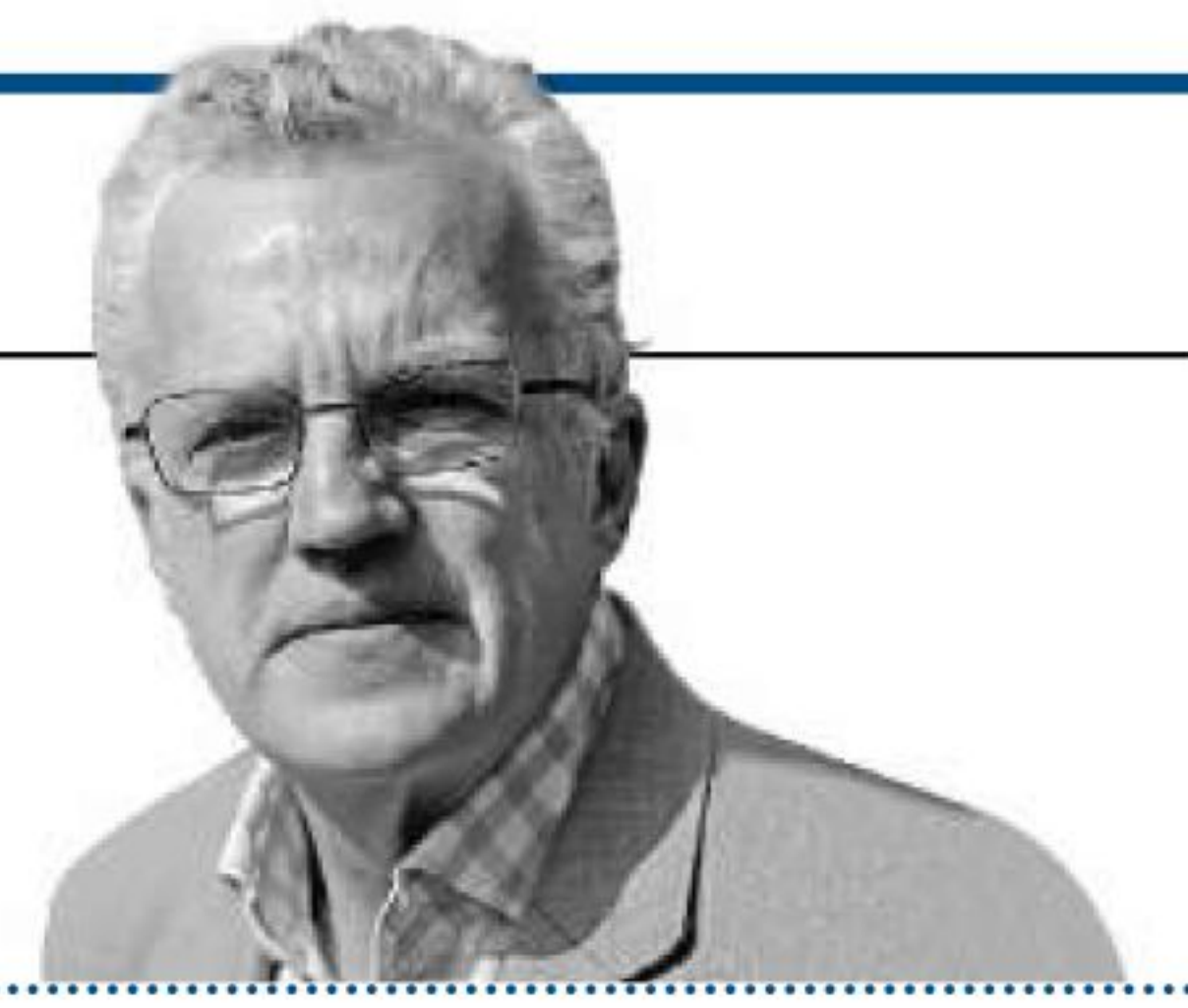
There is nothing immutable about the railways forming part of the social contract. For something to be socially necessary, society obviously has to have a need for it. But this is not enough - in a world of scarce resources, the social benefits must outweigh the costs to society and do so more efficiently than competing considerations.

If most of the travelling we do continues to be between the living room and the kitchen, and for the few times we venture further by other means, it cannot be a surprise if the guiding mind of the railway, the real guiding mind, takes the tough choice (or opportunity, you decide) to rewrite the social contract for it.

To coin a well-worn railway term, we must use it or lose it. **R**



Christian Wolmar



Does our safe return to rail re

STATISTICS are a big part of my business as a journalist. I love it when I can refer to the fact that railways are far safer than other land-based modes of travel, by referring to widely accepted metrics such as deaths per billion kilometres. I also enjoy using the remarkable fact that despite all the hype about privatisation being more efficient, over the past 20 years the cost of running the railway per passenger mile has remained virtually unchanged since the days of British Rail.

I have, in the past, enjoyed debunking statistics. For example, in my book on the Public Private Partnership on the London Underground, I discovered that some of the formulae for payment of the company was based on multiplying numbers to half a dozen decimal points. That was the point at which I realised the whole process was completely insane, as such complex formulae cannot possibly accurately reflect a business relationship.

There are two kinds of statistics. Some, like the railway safety figures mentioned above, are firmly rooted in clear facts. Then there are those which use estimates or assumptions that can be questioned. The projected cost of HS2 is a classic example, with estimates varying widely and then being used by either side of the debate to back their prejudices. Mixing these two types of figure can lead to completely misleading statements.

This is by way of saying that I do not agree with the old adage, coined by Mark Twain, that there are three kinds of lies: "lies, damned lies and statistics".

Statistics are an important way of getting to the nub of political debate, and no public discourse is possible without them. But we live in a world of fake news and, indeed, of blatant lying by politicians. It is not the fault of statistics, but rather their misuse and the analysis that goes into them which can justify Twain's famous statement.

This is to provide some context for the release (by the RSSB, formerly the Rail Safety and Standards Board) of research which purported to show that "the risk of COVID-19 infection [was] less than 0.01% on an average journey", and that even taking into account the risk of infection, rail still remained safer than travelling by car.

"The researchers had to assess the time that people were at risk in different situations, with a further ten variables such as station layout, platform depth, platform access points relative to train stopping points, train type and seating configuration."

This received considerable publicity. It was presented as good news for the rail industry and seemed to back up what I had said numerous times in this column - that the risk of rail travel had been exaggerated. I gleefully tweeted out references to the research.

However, alerted by *RAIL* reader Chris Barker, I started taking a more careful look at what the report was claiming. And I immediately became rather more concerned about precisely what it proved.

The researchers started from the point mentioned above - that rail travel is far safer than other modes: "On safety alone, for an individual traveller per kilometre travelled, the car is 25 times less safe than rail. Cycling is 403 times, walking is 456 times, and travelling by motorcycle is 1,620 times less safe."

No problem there. But then it gets much less clear. In order to assess the risk of catching COVID from a train journey, a wide variety of assumptions had to be made. Indeed, the formula is worth reproducing just to demonstrate the breadth of assumptions that have gone into it:

"The modified formula we use is: infection risk per contact = $s \times \beta \times l \times (\sigma + (1 - \sigma) \times \delta + (1 - \sigma) \times (1 - \delta) \times \mu)$ where:

s = The proportion of the population susceptible to COVID-19.

β = The chance of infection per contact given that one person in the contact has the disease.

l = The proportion of people in the population infected with COVID-19.

σ = Proportion of cases that are asymptomatic.

δ = Proportion of time that an infection which eventually shows symptoms is presymptomatic.

μ = Proportion of persons showing symptoms and not self-isolating."

There are lots of assumptions required here. The RSSB's explanatory paper on the methodology, which is a stunning 18 pages long, provides various sources for choosing particular values for these variables. For example, the value given to μ is 30% because one source suggests 20% and another 40%. Indeed, every one of these assumptions relies on previous research where accuracy is more



an estimate than a hard fact.

Then the researchers had to assess the time that people were at risk in different situations, with a further ten variables such as station layout, platform depth, platform access points relative to train stopping points, train type and seating configuration.

The researchers realised that it was impossible to create simulations for all types of journeys and therefore: "Our simulations use simplified assumptions concerning types of train services and different station layouts."

Fair enough, but that does mean, essentially, that there is some guesswork around what constitutes the average time at risk on a particular journey.

Further assumptions were made, such as that all passengers wear face masks and that

Transport writer & broadcaster

quire more detailed research?



Passengers at London Paddington station on July 19. Wolmar argues that RSSB research into the risks of catching COVID-19 from a train journey was based on too many assumptions. He believes the real risks are difficult to quantify. JACK BOSKETT.

Indeed, if any of the variables listed above are changed to make the risk slightly higher, the 14% would quickly become 0% or even a negative number, implying that rail travel is more dangerous than travelling by car. Then the headlines would have been very different.

I accept that risk assessments have to be made and I greatly support their use. However, and this is a major counter argument, this is the sort of research that gives fuel to those who subscribe to Twain's adage. This has been an attempt to find a number for something that is really unquantifiable.

Like everyone in the industry, I am desperate to find evidence that train travel is safe during the pandemic. Indeed, I reckon the estimate of 1-in-11,000 is far too high, but that is merely a gut feeling.

Research from other countries has indeed suggested that few (if any) clusters have their source in public transport use. I do not blame the RSSB for trying, but perhaps it would have been better to accept that there were just too many assumptions to provide a reliable figure.

This highlights two wider issues. Firstly, there should be a much greater reluctance to accept figures that result from complicated research which relies on many assumptions. The clear other example of this is when consultants say that HS2 will bring £60 billion worth of benefits to the economy over the next 30 years. This sort of assessment is little better than guesswork - you only have to consider how the arrival of COVID has changed projections.

Secondly, for the past 40 years, since I have been a journalist, there has been an increased use of consultants and business analysts to try to back up particular ideas or schemes using similarly complex models. This attempt at quantification should be reversed.

Again, using HS2 as an example, it is a mega-project that will undoubtedly have widespread impacts. Looking at those holistically, rather than trying to work out spuriously precise figures, is the way forward.

The same applies to the response to COVID. Let's get people back on rail, but not through unconvincing research. **R**

this reduces the risk of transmission by 56% - a weirdly precise figure. Three train types were chosen, and the train was assumed to move for 30 minutes, when half the passengers would alight and be replaced by the same number.

Space precludes further detail, but suffice to say that the researchers admit there are quite a lot of unknown unknowns that may affect the calculation, such as not knowing how the difference between an ordinary room in a house and a large railway carriage may precisely affect the likelihood of catching the disease.

After all these calculations and references to numerous other studies, the result was that the risk of car travel was still greater than travelling on a train during the pandemic - despite the fact that, according to the research, there is a 1-in-11,000 chance of catching COVID on an

hour's train journey.

However, the risk of car travel was now found to be just 1.14 times greater than the risk of rail travel for the same distance. Excellent, one might think, until it is explained that this means merely a 14% increased risk of using a car, rather than a 2,500% difference pre-COVID. That does not make such happy reading. Or, frankly, make for a convincing argument that justifies the media headlines. Or justify my naive retweets.

The key finding, in fact, is that train travel is far riskier now than it was previously - nearly 25 times more so, since it is now virtually the same as travelling by car.

Change the metrics slightly, such as assuming there are a few more people on every train, and the numbers can shift dramatically.

Write to Christian Wolmar

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Vivarail plans to sen

We are now producing a family of battery trains," says Vivarail Chairman and Chief Executive Adrian Shooter during a walk around the company's workshop.

"We will not be making any more trains with diesel engines."

Vivarail's facility at Long Marston is slightly ramshackle. It's an assortment of Portakabins and recycled buildings alongside a handful of old sidings, across the road from a long-disused military airfield and the stub of an equally disused railway line to Stratford-upon-Avon.

It doesn't exactly ooze hi-tech charisma as a simmering pot of cutting-edge innovation. But that is precisely what it aims to be.

To date, the company has publicly announced precisely three orders - five three-car diesel/hybrid trains for Wales, five two-car third-rail electric trains for the Isle of Wight, and three two-car diesel units for the Marston Vale Line.

Outside its factory stand 200 40-year-old ex-London Underground District Line vehicles, hoping for a new future while decaying gently in the meantime. Vivarail reckons the aluminium bodyshells are in excellent condition and good for another 30 years. The pile of stored trains is so extensive that it shows up clearly on Google satellite images.

There are more deals to come. And bigger deals, according to the chairman, chief executive and 25% shareholder. Shooter won't disclose the details, but hints that a large

Vivarail is producing just five electric trains for the Isle of Wight and five diesel/battery hybrid trains for Wales. But the company says it has more sales lined up - not all of them in the UK. PAUL CLIFTON reports

proportion of those idle LU vehicles will be transformed before heading to an overseas buyer, under battery power.

"There will be no more diesels after the diesel/battery hybrids for Wales that we are building at the moment," he reveals.

"To be honest, if we were bidding for them now, or at any time in the last year, we would have bid them as total battery trains. But three years ago, we were not ready for that.

"All of them, so far, have been tested on the main line. And all have done more than 40 miles several times, just on batteries.

"The batteries are charged by diesel engines, however. And they recover energy when braking, which means using a lot less fuel."

The Welsh order is substantially complete. The first set is away on test in Birkenhead. Another is at the point where wiring looms are being buried beneath shiny new panels, and seats are being fitted.

Three of the Island Line trains will be delivered this side of Christmas (a few Coronavirus-affected months behind the original schedule), with the remaining two crossing the Solent by the end of March.

Shooter tells *RAIL*: "In the family of trains, there is a battery driving motor car at each end. In the middle you could put a car with a pantograph and a transformer that runs on the 25kV, so that when it is under the wires, it charges. Beyond the wires, it can carry on with batteries alone.

"We reckon there are about 70 routes in the UK where such a train could perform. And our trains would be suitable for at least half of those.

"That train with a pantograph will be ready to demonstrate in the spring of next year. There are a number of routes we will run it on, to demonstrate its utility.

"One where it would be very suitable is the Ashington Blyth and Tyne Line, which will be opened a little after that. Four and a half miles out of Newcastle under the wire, then 15 miles without it. Then reverse. And the train will easily do that."

Vivarail has been contemplating a hydrogen variant. A company called Steamology, in the New Forest, received Government funding to work on the technology for a system that could be bolted on, in place of a battery or diesel motor.

"We may build a hydrogen fuel cell version," says Shooter.

"We have done all the design in principle, and quite a lot of the detail. You would have the same battery driving motor cars at each end. The middle car or cars - probably two of them - would have hydrogen cylinders and the cell under the floor.

"On those trains, it is important to note that you can't just couple the fuel cell to the motor, as others have done. You actually need to have a battery so that the battery can absorb the really quite violent driving that you get on a train. One minute it is on full power. Next minute it is off. The fuel cell can't handle that at all. So the cell sits there purring away, keeping the battery charged up.

"Fuel cells have advantages - such a train could run quite long distances. But what you don't see quoted much is the fuel cost. It is very much higher - three and a half times as much as a battery - because to produce the hydrogen you have to electrolyse it. You can't use dirty hydrogen, which is a by-product from chemical factories. The inefficiencies in the system simply make the fuel very expensive.

"To give you a measure of that, when I used to run Chiltern Railways, our profit in a good year was not dissimilar to our fuel cost. So, if your fuel cost will be three and a half times as much, you can see what that does to the

“I would be surprised if you don't travel on a battery train as a fare-paying passenger in this country in 2022. I'm not saying there will be a lot of them, but there will be at least one.”

Adrian Shooter, Chairman and Chief Executive, Vivarail



and 'family' overseas



484001 at Long Marston on August 18. All five '484s' on order for South Western Railway will be shipped to their new home on the Isle of Wight by the end of March. PAUL TIMLETT.

economics of the railway."

How active is the hydrogen project?

"We are not spending at a great rate on it, but there are one or two applications that people are keen on doing, despite the additional cost. I suspect we will have one, if only because there is so much enthusiasm for it."

"Do I think we will have very many hydrogen trains? No. I don't think we will. The economics are not there."

Fast charging is an aspect that Vivarail has been exploring in some detail. Shooter explains: "You can get 100 miles off a battery under the floor. The batteries have 100kW/

hours of energy. They weigh 1.7 tonnes, including an integral cooling system. You need that if you're going to charge at a high rate."

"With the new batteries we have developed with a German company, Hoppecke, they can be charged up from nearly flat to full in ten minutes. Which is a bit of a game changer."

Game changer? No car charger at a motorway services comes close, and the automotive sector has led the way so far, investing tens of billions of pounds each year. It has a volume and level of commercial demand that rail can never match.

But Shooter adds: "We have such a thing.

We have designed and patented it. It's called Fast Charge. It is going through the Network Rail approval process to be fitted as a standard piece of kit. This autumn it should be fully approved."

"If you imagine a scenario where a train is shuttling backwards and forwards, maybe on a ten-mile branch line with a charger at one end, you're actually only going to be charging it for a couple of minutes."

"If you're talking about long-distance trains, you can install a charger that can replenish the batteries in a few minutes. We are at the moment putting together a bid for an ➔

Some of the 200 ex-London Underground D-Stock vehicles currently stored at Long Marston could be destined for a future overseas, says Vivarail. JACK BOSKETT/RAIL.



➔ operator - not in this country - where the routes would be up to 500 miles long, to be provided totally with battery trains using this device.

"The driver has to do nothing, other than stop in the correct place. It is fully automatic. It goes through various safety checks to make sure no one has shorted the conductor rails, which are positioned under the train so that when they are live, no one can get electrocuted. They are dead if the train is not there.

"We charge at a very high rate of over 1,000 amps per shoe. That is about three times the maximum you would put through a cast iron shoe on a third-rail train.

"This bid we are putting together contemplates trains that are running for several hours - 60 or 70 miles between charging stations, but with the possibility of going twice that far in emergency if the charging station should go down.

"Essentially, what we are doing is coupling to a big static battery which dumps a big charge very quickly. Depending where you are in the world, you could use various means to charge the static battery where this fast charging device sits.

"Typically, you would charge overnight, connected to the local supply. There are cheaper tariffs at night. If you're in a very sunny place - like where we are putting this bid together - you could equally charge it from a solar farm. Quite a large one, admittedly."

Where is this sunny place?

"Abroad."

Where, exactly?

"Abroad is a very big place."

Shooter will not be drawn further, but he adds: "The family can charge off the Fast Charge, off the 25kV, or off fuel cells. Also, we are working on re-equipping other trains, besides our District Line stock."

That could potentially include South Western Railway's Class 455 commuter trains, which are being replaced by new Bombardier Aventras over the next two years. SWR Interim Managing Director Mark Hopwood has previously mentioned the idea, although Shooter will neither confirm nor deny it.

"We have a quote in for re-powering some half-life EMUs. Not in this country. So they would be battery trains. We are also talking to one or two people in this country about half-life EMUs. And finally, a product we will

launch before long is to re-power a DMU.

"Almost all the DMUs in this country have a diesel engine which drives a Voith gearbox, which is very reliable but not tremendously efficient. We would replace that with a large electric motor, driving the same thing the gearbox is driving. We have done simulations and plans for a number of locations. That is a product we will launch in some detail next year."

All this is a long way from the company's current small order book for Wales and the Isle of Wight. To be blunt, Vivarail to date has a handful of hybrid trains and a handful that are simply updated bog-standard third-rail traction.

"We have some other orders which I am not permitted to tell you about yet," Shooter says mysteriously.

"And we have a long list of potential orders. We are talking to various customers. Some customers are quite precious about what they want the market to know."

But you have plenty of work for your 240 staff?

"Oh yes."

In the meantime, after five years alongside the storage sidings, Vivarail is getting ready to move. And it's moving to a place with no railway.

Shooter explains: "You've seen our location at Long Marston. It has served us very well, but it is disjointed. We are sitting in a Portakabin. Our workshop is OK, but not wonderful. Our stores are two miles away.

"So we are moving to a place 20 miles from here at Southam, north of Banbury, where we will be under one roof - offices, stores, everything else.

"It does have a disadvantage - it is not rail-connected. So we have done a deal with the people who run the 2½-mile Barry Railway in South Wales, connected to the main line. And we will be doing testing and commissioning of trains down there."

Where is viable right now for battery trains?

"I think quite possibly the first you will see is Ashington Blyth Tyne," says Shooter.

"We are talking to people about other places. One I can't tell you about will happen quite quickly.

"I would be surprised if you don't travel on a battery train as a fare-paying passenger in this country in 2022. I'm not saying there will be a lot of them, but there will be at least one.

"The Government has started to realise that if it is making commitments about decarbonising the rail network, it needs to start doing some small things now."

Everyone wants to know how long the batteries are going to last. That anxiety is one of the main factors that put car buyers off choosing pure electric plug-in vehicles. And it affects second-hand prices - used electric cars are cheap, because the early models suffered a steep decline in battery performance over four years.

Shooter responds: "Our batteries will be warranted for seven years by the manufacturer, Hoppecke. All ranges I have quoted are at the end of seven-year ranges, so you can assume

Vivarail is preparing to move from its home of five years at Long Marston (pictured here in March 2017) to a new production facility at Southam. Testing and commissioning will take place at the Barry Railway in Wales. PAUL STEPHEN.





230006 awaits departure with a test run from Bidston on July 30. It is one of five diesel/hybrid trains ordered from Vivarail by Transport for Wales. IAN SHELDERDINE.

“However much of the UK will be electrified, everything left over has to be addressed by hydrogen or battery power, so the amount of future electrification is a very interesting number. I would say the technology is moving very quickly.”

Adrian Shooter, Chairman and Chief Executive, Vivarail

the trains would go rather further when they are new.

“Every individual cell is monitored continuously for current and temperature. A computer in the battery module reports to the computer that controls the train. The latter uses that information when it takes the charging current in. The computer in the battery is also in continuous communication with Hoppecke.

“You don’t want to charge to 100%, because then you won’t have space to accommodate energy stored during braking, so you won’t charge over about 90%. Nor will you take it right down to zero, because that will reduce the life of the battery. These things have all been studied quite carefully.

“The warranty will have conditions applied, including not normally taking the battery below about 20%, so everything is very highly controlled, measured and managed.”

Vivarail boasts a modular design. As

technologies evolve, replacement power sources could simply be plugged in, provided they can fit into standard boxes.

“Our black boxes on these trains are all exactly the same,” says Shooter.

“The current batteries will have different cell chemistries in the future. We will be able to change those batteries throughout the life of the train. That is really important. It is part of our bigger story of upcycling or recycling.

“The Welsh trains have batteries that are absolutely fine for that application. But at some point, we could fit them with newer batteries. There is no doubt that in five years’ time there will be a better battery than the Hoppecke ones we are currently fitting. And we aim to be able to just slide that in.”

Advocates of hydrogen power on the railway believe the battery business is already mature, whereas hydrogen remains in its infancy.

The rate of battery development, they argue, is limited. With vast sums already invested

by the automotive sector, the scope for rapid innovation is diminishing. Only small incremental steps are likely, whereas with no hydrogen train yet in passenger service in the UK, the untapped potential is much greater.

“In one sense that is fair,” says Shooter. “But it is not fair in that the actual application of the battery technology is moving forward fast. We know what is coming next year and the year after.

“This fast charging technology, which we have pioneered, we hope will be the standard UK automatic battery charger, no matter whose trains couple to it. Once you have that, you are not limited by distance.

“However much of the UK will be electrified, everything left over has to be addressed by hydrogen or battery power, so the amount of future electrification is a very interesting number. I would say the technology is moving very quickly.” **R**

About the author

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Paul has been the BBC’s transport correspondent for southern England for 25 years. He is one of the country’s most experienced transport journalists. He is a Fellow of both the Chartered Institute of Logistics and Transport and of the Chartered Institution of Highways and Transportation.



Philip Haigh

Transport writer



Rail faces a fight to win back

SO it's September. We're six months into a pandemic and passengers are slowly returning to trains.

From a low of 4% in April, rail usage has recovered to about a quarter of that seen last February (it had peaked at around a third in early August). London Underground usage hovers at around a third. Meanwhile, our roads are busy - indeed, Department for Transport figures show they're back to normal, having dipped to about a third at their lowest weekday point back in April.

To my mind, that shows that demand to travel remains, but that potential passengers are yet to be convinced that trains are safe (with an element of London commuting still absent as offices remain closed).

It seems to me that people would rather travel in their own personal space - a space they feel they can control rather than one in which they're in someone else's hands. And that's despite RSSB research showing that, even in this pandemic, the risks in rail travel are broadly the same as road.

RSSB says: "When the effect of the virus is taken into account and compared against the average road safety risk, the risks are almost the same (road is 1.14 times the risk of rail). Across all transport modes risks of catching the virus are very low, and certainly tolerable."

Nevertheless, perceptions do not necessarily match statistical numbers crunched by a remote body. But they can be shifted by a concerted campaign in which rail companies demonstrate what they're doing to keep passengers safe. They need to be, because I worry that rail is showing itself to be optional rather than essential, as well as (with another round of massive financial support coming) very, very expensive.

I don't think I'm alone in this, judging by a conversation with a senior rail freight manager who, frankly, was flabbergasted at the way passenger operators were continuing to spend as if there was no tomorrow.

Further concern came from the response to a Tweet in which I compared the time taken to reopen the railway through Carmont with the time taken in other accidents.

At the time of my Tweet, it was 16 days since Carmont's derailment and Network Rail had not yet received the site back from

Train operators must demonstrate to the general public what they're doing to ensure that rail travel is safe, says PHILIP HAIGH

investigators, so that it could start recovering the wreckage (a task neither easy nor quick) and repairing the railway.

Ladbroke Grove's awful accident took place on October 5 1999. Trains ran once more from October 21. Hatfield happened on October 17 2000. The line reopened on November 10 after investigators took three weeks to hand the line back to Railtrack.

RAIL 396 quoted Alan Hyde (train operator GNER's corporate affairs manager) saying: "It does seem strange that the site has taken a month to reopen, especially as it was self-evident what the cause of the accident was. Compared with a road accident where the road would reopen within hours, it is puzzling."

The cause of Carmont was known very quickly - the train derailed on a landslide. Despite this, my Tweet had plenty of replies saying that investigators should take as long as they need.

Of course, we should learn what we can from railway accidents, to take reasonably

practicable steps to prevent them happening again or to reduce their consequences.

It might be that there is something to learn from this HST accident and fire that wasn't identified after Ladbroke Grove's accident and fire (following a high-speed, head-on collision). Or in the way Carmont's trailer cars deformed that wasn't evident in 1997's accident at Southall or 2004's accident at Ufton Nervet.

At Southall, a collision between an HST and a stone train tore away the side of power car 43173 and left the second coach (Trailer First 41050) bent almost double. It was cut up on site. Carmont's investigators want the wreckage removed intact, just as they did at Hatfield.

The longer Aberdeen can manage without its railway south, the weaker the case becomes for having that railway. Tracks and trains exist solely to carry goods and passengers - there's no other reason for a railway. Even at a time when passenger usage is so low, there needs to be a sense of urgency in returning to normal - whether that's reopening lines closed by

Great Western Railway 802114 passes Bishton (South Wales) with a service bound for London Paddington on March 16. Government's decision to extend GWR's Emergency Measures Agreement is indicative of ministers taking 'the easy option' instead of having a firm strategy for the railways, argues Philip Haigh. PAUL SHANNON.



passengers lost to the roads

accidents or encouraging former passengers from their cars.

Rail has spent the last 25 years as a success. Passenger numbers have doubled and there have been a series of improvement schemes that seemed impossible in British Rail's final days.

You can be a senior TOC or NR manager and have never witnessed anything but a growing railway. There's only a dwindling band of old hands that recall BR stripping costs out - for example, by replacing double junctions with single-lead layouts to minimise the costs of maintaining trackwork. Over recent years, some of this has been reversed so that more trains can run or so that timetables can be more punctually delivered.

But there is another option. That's to cut back services to a level that reduced track layouts can run. And ministers might even decide to go further, as they did in the early 1980s when they asked David Serpell to review the railway.

Fortunately for BR, MPs and others attacked Serpell's report for being as shoddy as the

report reckoned BR's management to be. Yet Serpell's report did have an effect. Railway historian Terry Gourvish noted: "It may be argued that the report did encourage the [BR] Board to pursue efficiency measures in operating and engineering and to firm up its investment management."

Which is just as well, because the report put forward the prospect of cutting BR to 16% of its size. One option was to cut it back to be a commercially viable network of a West Coast Main Line to Birmingham, Liverpool, Manchester, Glasgow and Edinburgh, an East Coast Main Line to Leeds and Newcastle, and a Great Western Main Line to Cardiff and Bristol, plus a handful of lines in southern England serving such places as Bournemouth, Portsmouth, Brighton, Dover, Norwich and Southend.

Ponder that today. We would not be arguing about extending Midland Main Line electrification northwards to Sheffield (get on with it, minister), we would be arguing about reopening it.

September 1's news that DfT has extended Great Western Railway's Emergency Measures Agreement until next June suggests that ministers are happy to keep paying millions of pounds to run trains despite the lack of demand. On the surface, that's welcome. But look deeper and it's DfT perpetuating the pre-pandemic railway and feeding a bubble that must surely burst.

GWR's example suggests that DfT will extend emergency deals for other operators. That's certainly easier than carefully calculating where changes could and should be made. In essence, DfT is taking the superficially easy option of doing nothing. It lends credence to *RAIL* 908's headline of ministers having 'no leadership, no strategy and no plan'.

Extension kicks the can of Keith Williams' reforms further down the cess, doubtless to be joined by the can of fares reform. It strengthens my view that his review should be in an archive, not an in-tray (*RAIL* 906), and that fares reform will ultimately prove too difficult to deliver.

So, we're left with what senior railway manager Michael Holden described in *RAIL* 908 as "the worst possible way to operate our railway".

Surely the DfT can do better than this? If it's paying for the trains, then the least it could do is encourage their use. If it's paying, then how about borrowing Belgium's idea of giving people a handful of free tickets between any two UK stations to use between now and next Easter? Take this opportunity to promote rail. Convert potential passengers from their cars. Don't just sit there writing cheques to train operators.

■ After mentioning fibre optics to detect the sounds of landslides last time, reader Stuart Walker alerted me to a Network Rail trial of just this at Pass of Brander, in 2014.

NR Scotland's Nick King confirmed that the trial lasted four years, but he explained that the kit had been too sensitive and triggered too many false alarms.

"We need it to be more effective and less sensitive" he said, adding that NR thought the technology still had potential but needed more development. **R**

About the author

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A transport vision for

To trace the short history of sub-national transport bodies (STBs), we must go back four years to the passing of the Cities and Devolution Act 2016.

Paving the way for the introduction of directly elected mayors to combined authorities in England and Wales, it was this piece of legislation that also made provision for the creation of STBs, to provide strategic transport governance and to identify investment priorities at a regional level.

The Act's provision for STBs was not intended to apply to Scotland or Wales, where transport is already a devolved matter.

Meanwhile, no further provision was required for London, where Transport for London has been exercising its various devolved responsibilities for the past 20 years.

But elsewhere in England, it was recognised that a large gap existed between strategic planning and investment decisions conducted at a national level, and the power of individual local authorities to effectively influence them.

A total of seven STBs have therefore been created in the past few years, grouping together local authorities, Local Enterprise Partnerships (LEPs), businesses and other stakeholders in order to provide a single voice on behalf of the regions they represent.

To date, the most high-profile STB has undoubtedly been Transport for the North. Bringing together 20 local and combined authorities from across the north of England, it became the first STB to transition from shadow form to full statutory status in April 2018.

This move to statutory status required the passing of secondary legislation that enshrines a wide range of devolved powers into law, in areas including franchising and smart ticketing.

It also means that government must formally consider TfN's recommendations and the STB's 30-year Transport Strategy, when making future strategic transport investment decisions.

Following closely behind Transport for the North are six other emerging STBs that cover the length and breadth of England. The most mature of these are Midlands Connect (RAIL 877), England's Economic Heartland (RAIL 851) and Transport for the South East, while Transport East, Western Gateway and Peninsula Transport are still in earlier stages of development.

In pole position to become the second STB

Transport for the South East Lead Officer RUPERT CLUBB tells PAUL STEPHEN about the sub-national transport body's bid for devolved powers, as it prepares to implement an ambitious 30-year Transport Strategy

to achieve statutory status is Transport for the South East (TfSE), which submitted its proposal to government in July.

Established in 2017, the STB and its transport forum comprise 16 local transport authorities, five LEPs, plus representation from Network Rail, Highways England and a host of other organisations (see panel, page 59), in a region that stretches from Berkshire and Hampshire in the west to the Kent coast in the east.

The TfSE area contains some 7.5 million people and 300,000 businesses that are largely centred on a number of key transport corridors linking London to the coastal towns and cities of Southampton, Portsmouth, Brighton, Dover, Folkestone and Margate (see map, page 60).

The area also encompasses the major international gateways of Gatwick and Heathrow Airports, the ports of Southampton and Dover, plus the Channel Tunnel and HS1.

According to TfSE Lead Officer Rupert Clubb, the powers currently being sought by the STB would enable it to implement a 30-year Transport Strategy for the region.

These powers include the ability to deliver region-wide smart ticketing and to implement road charging schemes and clean air zones. However, they do not include the same sort of powers that were secured by TfN to co-manage the Northern and TransPennine Express franchises.

Clubb explains: "Since our first board meeting in 2017, we've stepped our way through the publication of an Economic Connectivity Review and a Transport Strategy. For us it was a crucial starting point to identify the economic opportunities in the South East, without which it would have been very difficult to develop a Transport Strategy that genuinely facilitates economic growth.

"More latterly, we have submitted both our Transport Strategy and a proposal for powers to make that strategy a reality. Those are both with government, but the emphasis of what we're about is basically to have a future that is a benefit to people, businesses and the

environment."

Published in July, the Transport Strategy sets out a vision of how this future may look, with commitments to achieving net zero carbon by 2050 and to fully integrate transport, digital and energy networks. Key to achieving this will be skills, innovation, commercial and housing development, plus investment in



“The emphasis of what we’re about is basically to have a future that is a benefit to people, businesses and the environment.”

**Rupert Clubb, Lead Officer,
Transport for the South East**



or the South East

transport and other civic infrastructure.

According to the Transport Strategy, the region has a Gross Value Added of £183 billion, which could grow to as much as £450bn and create nearly 500,000 extra jobs by 2050.

That's provided the right interventions are made to improve connectivity, to make the transport network more resilient, to get people out of their cars, and to better integrate land use and transport planning.

TfSE describes the Transport Strategy as "a waypoint" in a journey that will culminate in 2022 with the publication of a strategic investment plan, to be implemented with national agencies such as Network Rail and

Highways England.

Five area studies have now begun to inform the strategic investment plan, by looking in more detail at exactly what interventions will best support the vision outlined in the Transport Strategy.

A joint team of WSP, Atkins and Steer was appointed in early August to deliver the area studies, while WSP has also been commissioned to carry out a future mobility study and action plan. A partner for a freight,

logistics and international gateways study is due to be announced later this year.

"In effect, the Transport Strategy provides the framework that will allow us to build a strategic investment plan which we hope to publish in the next couple of years," adds Clubb.

"That will set out the things that we believe need to happen in the South East to bring about growth.

"In terms of COVID-19, we absolutely ➔

A Southeastern Class 395 Javelin approaches Ebbsfleet International on February 20, with a domestic high-speed service to St Pancras International. Transport for the South East is advocating an extension of the Crossrail route from Abbey Wood to Ebbsfleet, in order to boost economic growth and improve connectivity to deprived communities in Kent's coastal areas. JACK BOSKETT/RAIL.



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➔ recognise that there is a strong focus on having a green recovery. We think that the strategic direction we've set out until 2050 is very much the right direction.

"We also know that road and rail corridors are very important to us. And although rail is going through some challenges at the moment, the need for a green recovery and to manage our carbon emissions presents a real opportunity if we get the right levels of investment."

As the region with the highest number of rail journeys outside of London (300 million in 2018), but also with a heavy reliance on private cars (70% of all journeys, compared with 4% for rail and 5% by bus), increased investment to add capacity and to improve reliability on the main routes in and out of London can be expected to feature highly in the strategic investment plan.

TfSE is also likely to call for investment in rolling stock and in enhancing radial lines running from east to west, to speed up journey times and improve the customer experience.

Examples given in the Transport Strategy include extending Crossrail from Abbey Wood to Ebbsfleet, extending domestic high-speed services on High Speed 1 to call at additional stations, and improvements to the East and West Coastways that converge on Brighton.

Clubb describes journeys on the West Coastway Line from Brighton to Southampton as "like a throwback to the 1960s", owing to Southern's continued use of elderly Class 313s (actually built in 1976-77).

He also calls it "absolutely crazy" that it takes longer to travel by train from Brighton to Southampton (65 miles) than from London to York (200 miles).

Clubb also points to the Transport Strategy's compatibility with the Government's self-proclaimed 'levelling up' agenda, despite the region's relative prosperity compared with the rest of the country.

Statistics reveal that when disaggregated from neighbouring London, transport spending per head of population in the South East is actually significantly lower than the

(Left to right) Southern 377438 stands at Redhill on June 3 with the 1430 Reigate-London Victoria, while 377306 is at the buffer stops with the 1401 from Tonbridge. 455812/839 occupy Platform 0 with a Streatham Hill circular service via Brighton. As one of the most important transport corridors in the South East, further upgrades to the Brighton Main Line is a key priority for TfSE. ALEX DASI-SUTTON.



national average in England (see graph, below).

It is also easy to overlook the fact that pockets of deprivation exist in places such

as Hastings (ranked in 2019 by the Ministry of Housing, Communities and Local Government as the 13th most deprived of 317 local council areas in England), Thanet (ranked 30th) and the Medway towns.

Clubb adds: "It is a challenge for us that London tends to get included in the South East, when infrastructure spending is a lot higher there than it is here. There are parts of the South East that are definitely prosperous, and we have some really strong businesses that are really productive, but there are also massive pockets of deprivation.

"Hastings, for example, is in the top 10% by most indices, and a number of other coastal communities really struggle. There are challenges around rural deprivation, too, so it's not always the same picture as that which gets painted.

"Part of our job is that if we're genuinely going to emerge with a stronger economy, then transport connectivity is vital - in particular how we better connect some of these deprived communities and attract inward investment."

In terms of TfSE's decision not to follow exactly the same route chosen by Transport for the North in its bid for statutory status, Clubb

Planned transport infrastructure spending per head





TfSE Transport Forum members

Associated British Ports Southampton
Brighton & Hove Buses
British Ports Association
Civil Engineering Contractors Association
Coast to Capital LEP
Confederation of Passenger Transport
Department for Transport
District and borough authorities
(representatives from Kent, East Sussex,
West Sussex, Surrey and Hampshire)
Energy UK
Enterprise M3 LEP
First Group
Freight Transport Association
Friends of the Earth
Gatwick Airport
Go South Coast
Heathrow Airport
Highways England
Motorcycle Action Group
Network Rail
Rail Delivery Group
Road Haulage Association
Solent LEP
South Downs National Park
South East England Councils
South East LEP
South Western Railway
Stagecoach Group
Sussex Community Rail Partnership
Thames Valley Berkshire LEP
Transport Action Network
Transport Focus
Transport for London

is some recognition there of the role STBs have to play. We are having consultation with government and we have shared ambitions, so there's not really a timeline on this. In the meantime, we will crack on."

Now that its proposal is with government, and work has commenced on developing a strategic investment plan, TfSE has recently moved to strengthen its strategic and working-level partnership with Network Rail.

Already a key player in TfSE's transport forum, NR signed a Memorandum of Understanding to underpin the relationship between the two parties on August 7 (RAIL 912).

Although not legally binding, the document commits NR and TfSE to the delivery of a shared vision for the region which is conducive to the Transport Strategy. This includes facilitating modal shift, achieving net zero carbon targets, better integrating transport and land use planning, and providing best value to taxpayers.

Both TfSE and NR have pledged to explore options to improve cross-regional services on routes including HS1, Ashford-Reading and Brighton-Southampton, and to support the development of capacity improvements via schemes such as Woking and Croydon Area Remodelling.

The document also commits both parties to working towards the withdrawal of rolling stock recognised as no longer fit for purpose, ➔

says the proposal to government reflects the desires of the partner organisations.

It also reflects the vastly different geography of the TfSE region, where franchises are less self-contained when compared to the north of England and the Northern and TransPennine Express franchises that are co-managed by TfN.

There are also important contextual factors to account for, including the unknown nature of the restructuring to the rail industry that is expected to follow the yet-to-be published Williams Review.

Government is also expected to publish a devolution White Paper later this year which could have an effect on what types of powers are shifted from Whitehall in future.

Clubb explains: "You have seven STBs around England and they all reflect local circumstances. It is tempting [to request TfN-

type powers] but we have at least said in our proposal that we want to be consulted about new rail franchises.

"We are still waiting for the Williams Review and to understand what that throws out. But we are signalling our ambition that if Williams is true to his word and wants to bring track and train closer together, then we'll want to be all over that.

"We're not here to be difficult or awkward. We're here to make the quality of life for our residents and businesses the best it possibly can be. We've therefore asked for powers that we think can help us implement the Transport Strategy, and to support government and policymakers to put in place the right interventions."

He adds: "There is a White Paper coming out in the autumn, and I would hope there

“ There are parts of the South East that are definitely prosperous, and we have some really strong businesses that are really productive, but there are also massive pockets of deprivation. ”

Rupert Clubb, Lead Officer, Transport for the South East

Rupert Clubb

Rupert Clubb has led the development of Transport for the South East since its inception in 2017. As chief officer lead, he chairs the Senior Officer Group and supports the Chair and Partnership Board.

He is also the Director of Communities, Economy and Transport at East Sussex County Council.

A former president of the Association of Directors of Environment, Economy, Planning and Transport, Rupert is a Chartered Civil Engineer and Fellow of the Institution of Civil Engineers and the Chartered Institution of Highways and Transportation.

➔ including the much-maligned '313s'.

Originally, the Memorandum of Understanding (MoU) was due to have been signed in February, before its formal agreement was delayed by the outbreak of the Coronavirus pandemic.

Clubb says: "The MoU is a natural progression of the close relationship we have established over the past couple of years. It sets out those common goals and objectives that we have on net zero carbon - an improved customer experience, better integration and much more."

NR London and South Strategy and Planning Director Mike Smith adds: "This MoU is a signal of our intent, but also the action that we've already begun to take. It's been brilliant to have worked side by side with TfSE over the last few weeks, months and years, and the MoU formally establishes the good, strong and open discussions that we've been having."

Having been involved in strategic planning and route enhancements in the South East for more than a decade, Smith says the establishment of TfSE has been hugely beneficial, given its ability to provide a single voice on behalf of its members.

The area covered by TfSE also broadly mirrors the geography of NR's devolved South East Route business, making the link-up an obvious and mutually beneficial one.

He says: "One of the challenges we've always had is the sheer number of organisations involved. It has sometimes been difficult to get a sense of strategic direction when you have so many transport authorities."

"Nobody falls out or sets out in a completely different direction, but when you're trying to make a case for inward investment you need a level of regional cohesion."

“The changing environment around COVID-19 and everything else also means that people are starting to think about how we can use transport in different ways. That conversation would be very difficult without TfSE playing a role.”

Mike Smith,

London and South Strategy and Planning Director, Network Rail

Key population centres, international gateways and transport corridors in the TfSE area



Source: TfSE.

The rail network of the TfSE area



Source: TfSE.

"The Transport Strategy has such a powerful message around innovation and quality, around having the right mix of transport modes, and provides a timely call to ourselves to recognise that we have to use transport for what it's best at, which is driving economic growth and connecting communities."

"The changing environment around COVID-19 and everything else also means that people are starting to think about how we can use transport in different ways. That conversation would be very difficult without TfSE playing a role."

Although the Memorandum of Understanding is primarily forward-looking,

both Clubb and Smith say that it cements a close working partnership that has already yielded results, including work to improve capacity at Gatwick Airport station and to reduce disruption during the Brighton Main Line Upgrade programme.

With NR fully on board with the aspirations of TfSE and its Transport Strategy, all eyes must now be on the Government and whether it too will provide the necessary backing by granting statutory status.

Clubb concludes: "What we don't want is for people to visit some plush office in London where the Transport Strategy is lying on the coffee table, but that's all it ever does."

"We need something from government that says 'TfSE, we believe in what your strategy says and understand the rationale and the points you make about the statutory powers - now go and turn it into a reality'."

Further reading

- England's Economic Heartland's Action Plan - RAIL 851.
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In an almost 20-year railway career, precious little could have prepared Will Rogers for the past 12 months.

Starting as an engineer with Interfleet Technology (now SNC-Lavalin), he has been involved with fleet management and new-build fleet procurement before moving into operations, latterly as Managing Director of Arriva Rail London.

Moving to the same job for East Midlands Railway might have seemed like more of the same. However, the year has had other plans for us all.

Faced with such unprecedented challenges, Rogers is very quick to offer praise to his entire staff: "We don't underestimate their efforts, especially our frontline teams in helping to keep our services running throughout the pandemic. It's been incredible to see how everyone has responded and continues to do an outstanding job during an uncertain and difficult time. I can't say thank you enough."

In particular, the word 'agile' crops up throughout our interview, as he explains East Midlands Railway's approach to the times we live in.

Owner Abellio was a late entrant into the race for the franchise. In April 2019, it was announced that it had unseated the incumbent (East Midlands Trains, operated by Stagecoach), and on August 18 2019 its eight-year reign began and its distinctive purple branding started to appear on trains.

The operation is split into three strands: the inter-city services running between London St Pancras, Leicester, Derby, Nottingham and Sheffield; the regional services (for example, Liverpool to Norwich and Derby to Matlock); and finally a new offering, the electric trains running the outer-suburban services which

East Midlands Railway has had the ultimate year of two halves. Managing Director WILL ROGERS chats to TOM INGALL about an eventful start to the new franchise

will now continue up to Corby.

Rogers is sure that the promised level of transformation was key to securing the franchise: "We want to really deliver for the customers and communities of the East Midlands. There is fleet replacement and significant commitments around stations. Fleet replacement is quite a big story, which is starting imminently with the introduction of Class 180s that we'll run for a period of time as we transition High Speed Trains out of service."

The HSTs were due to have departed the Midland Main Line by now, as they were no longer compliant with disability access regulations.

Some have already made their last revenue-earning journey, but with dispensations put into place because of the uncertainty of the electrification programme, others continue in traffic - supplemented by the so-called 'red' HST sets cascaded from the East Coast Main Line.

Ultimately, there will be an entirely new fleet of bi-mode express trains (built by Hitachi) to replace the HSTs, the Class 180s and the relatively young Class 222 Meridians on the inter-city strand of the business.

"We're expecting the bi-mode trains at the back end of 2022 into early 2023, as the current plan. There will be significant changes to the rolling stock on each part of our network," Rogers continues.

"In May next year we'll introduce Class 360s

into service, which will run the EMR electric service - a half-hourly timetabled departure between St Pancras and Corby. The '360s' are currently operated by Greater Anglia and come as four-car sets but can run as up to 12-car units. This service will utilise the electrified infrastructure and brings with it the sixth path into London, which will allow us to increase capacity.

"On our regional fleet we have the Class 170 transition, which is starting. We've received our first ones and driver training is under way."

The Class 170s will replace the venerable Class 156 and '158' diesel multiple units, offering not only a more modern experience for passengers but also a higher top speed.

It must be quite startling, however, to begin a new franchise and see every assumption fundamentally challenged or changed just six months later. But as the pandemic accelerated, EMR acted presciently and made changes before the Government put the country into lockdown.

"The big decision for me was on March 2, when we made the call to stand up our command structure and we established the objectives straight away to keep our staff and customers safe," explains Rogers.

"That structure remains in place today, and I'm pleased we made that call then because it stood us in good stead to deal with the range of challenges that the pandemic has presented.

"By the time the Government implemented the full lockdown we'd already done quite a lot of planning. Such have been the changes in terms of what we've been delivering and the impact on our workforce, setting up a good command structure has meant we can be very organised as a business. It's been essential and I'm pleased we made that call then.

"I have been blown away by how people have pulled together to keep essential services running. You could see passenger numbers softening, and then they fell away very quickly after lockdown."

I travelled to London for work in late April, and the contrast with the normal experience was so stark it remains with me today.

On the platform at Sheffield at 0805, the trains rolled backwards and forwards but for 20 minutes I was the only passenger in sight.

On the 0900 train there was one other passenger from Chesterfield to Leicester, and after that we were empty coaching stock to London. You would have heard a ticket drop on the empty concourse at St Pancras. At their lowest point, passenger levels were some 99% below normal.



A deserted concourse at St Pancras International on August 3, when passenger numbers on EMR services remained at 87% below normal pre-pandemic levels. TOM INGALL.

Franchise commitments



Passengers stream past one of three East Midlands Railway HSTs lined up at St Pancras International on February 20. A new fleet of Hitachi bi-mode trains will take over the operator's inter-city services from London to Leicester, Derby, Sheffield and Nottingham from the end of 2022. JACK BOSKETT/RAIL.



“We’re looking across customer segments - business, commuter and leisure - they will return at different stages and different volumes.”

Will Rogers, Managing Director, East Midlands Railway

There’s an oft-repeated piece of frontline railway humour that goes something along the lines of: ‘This job would be alright... if it wasn’t for the passengers.’ 2020 has delivered the punchline - be careful what you wish for.

Rogers continues: “We’re about 87% down right now, so there has been some improvement. But there is clearly a long way to go.

“I think it’s really difficult to say how long it is going to take for customers to return. There are a number of different factors, but a key one is ‘the new normals’ that people and businesses are establishing.”

Can you do more to bring people back to the railways?

“Customer expectations have changed. Things such as cleanliness, safety, reliability and trust are all the top priorities, and we’re responding to that. We have been pleased by some of the findings of our most recent travel surveys - 90% of customers told us they felt ‘safe’ travelling with EMR and 87% of customers would recommend travelling with us since the pandemic started.

“We also need to understand what new travel patterns will be like - for example, will there be a peak or not? We’re looking across customer segments - business, commuter and leisure - they will return at different stages

and different volumes.”

Besides passenger usage dropping so rapidly, there was another seismic change for the rail industry which went practically unmarked in the wider media. Franchising was suspended - EMR, like everyone else, is now on an Emergency Measures Agreement, with the Government paying the way and taking the revenue.

“The current contract lasts until September and we don’t know yet what is coming next. There’s an expectation something will follow, but precisely what that looks like we’re not sure.

“Looking at our passenger volumes today, there’s still a significant challenge to the structures that went before. I think a return to franchising that we knew back at the start of March is unlikely in the short to medium term.”

Does that mean that Rogers and EMR will have to change their approach? Will there still be new trains if passengers aren’t riding?

“Absolutely. As we look forward there are still exciting improvements for our customers. We’re planning ahead and focusing on delivering the commitments we made, which includes the fleet replacement.

“Electrification has been a significant investment in the future of the Midland Main

Line and will bring significant enhancement in journey times and capacity. Clearly there’s talk of wider electrification schemes, which would be good to see, particularly as we look to rail to fulfil the sustainable transport brief which we know is more in focus as we bounce back from Coronavirus.

“It’s interesting to look at what might be possible on our regional services, too - either enhancing services or bringing services to areas that might not have had them previously.”

It has been an extraordinary first year. But rather than retreat into a bunker, EMR has maintained its mission against the backdrop of a global health crisis. It has continued to serve, both on the tracks and off. Its staff have raised money for charity and supported local food banks.

It would be wrong to pretend this has been the year it expected, and EMR’s agility will doubtless be tested further depending on the future business model the Government imposes.

However, while our minds are elsewhere, it’s still running the trains and bringing about the changes it committed to when the world looked very different. **R**

About the author

Tom Ingall, Contributing Writer

Tom Ingall is an award-winning BBC Transport Correspondent and author who lives and works in South Yorkshire. A life-long interest in railways also has him volunteering at the Great Central heritage railway in Leicestershire.



Barry Doe



Britain's leading fares and

BR-type quality can ensure a

THE arguments about the way ownership of the railway should proceed are being bogged down with statements about the past that are not true. I find this so depressing.

How can we have a debate about the future if we can't even agree on the past? A typical case appeared in a recent *Open Access*, where a regular contributor (whose views I normally respect) referred to "a monolithic, unresponsive, bureaucratic structure".

I agree that matches today's structure exactly, where the railways can do nothing without the permission of the Department for Transport (DfT), which is indeed monolithic,

unresponsive and bureaucratic. All entrepreneurial flair has been extinguished.

The trouble is the author was making that statement about British Rail! I know more than three decades have passed since the creation of Regional Railways, Network SouthEast and InterCity, but can anyone who is really objective fail to have been impressed by the huge progress made by those sectors and the leadership shown by managers such as Chris Green?

'Unresponsive'? Is that the word for the railway that created the High Speed Train, increased business dramatically, gave us a

simple fares system (since ruined), introduced railcards, and in general offered standards of comfort and on-board service that were far higher than anything that exists today?

Yes, a handful of operators since privatisation have equalled the quality of BR - among them First ScotRail and GNER (as I mentioned in *RAIL 911's The Fare Dealer*), and to which I would add Anglia Railways in its GB Railways days, South West Trains (SWT) and East Midlands Trains (EMT).

I recently heard former Secretary of State for Transport Sir Patrick McLoughlin (who could never understand that increased usage in recent times has been despite privatisation, not because of it) say that the current system is superb, and that the proof was having people with the flair of Sir Brian Souter involved.

GNER 43197 stands at York on February 5 2005 with a service bound for Glasgow. Barry Doe believes that GNER has been one of the few train operating companies since privatisation to have matched the quality of BR. ALAMY.



service expert

The Fare Dealer

way ahead for the railway

I had the privilege of knowing Sir Brian when he was chief executive of Stagecoach and he's a man I greatly admire - a man of great calibre who made Stagecoach by far the best of the bus groups in Britain.


He also ensured SWT and EMT were exceptional by appointing fine managers such as Andrew Haines (now chief executive of Network Rail) and Tim Shoveller (now managing director, Network Rail North West and Central).

However, it seems McLoughlin has overlooked the fact that Stagecoach has been dismissed from running railways by the DfT. Only the monolithic, unresponsive and bureaucratic DfT would be so stupid as to get rid of the best owning group, just to satisfy their own prejudices.

I feel that the only way forward is to get the running of our railways back into the hands of first-rate managers who can take total control, who don't have to seek the permission of the DfT for anything other than obtain a general remit and Treasury budget, and who are then left to get on with it.

As I've said many times, BR was a corporation like the BBC - and the Government doesn't schedule TV programmes. A 'Strategic Rail Authority Mk 2' is needed, and if that's a step too far for now, I am happy with Network Rail taking over the role.

We have in Andrew Haines one of the finest

managers of his generation and a railwayman who has been a commercial man as well as an operator. Few today understand running railways as well as he does, and he has many experienced people in his teams. 

About the author

Barry Doe, Contributor, *RAIL*



Barry Doe has a bus & rail timetable web site at www.barrydoe.co.uk which also contains his rail franchise map for downloading. Contact him at faredealer@barrydoe.co.uk

Sorting out fares... but not with DfT in charge

I am similarly depressed by the lack of understanding of the current fares disarray among the media - and possibly even sections of the industry.

In *RAIL* 911's *The Fare Dealer*, I had to explain how part-time seasons are not new. Certainly, some other operators did not know this.

I also recently spotted a comment that we must get rid of the system created by British Rail where "returns cost £1 more than singles" - after all my attempts to explain how this isn't strictly true!

Let me have one more try. BR had singles valid all times. Take a £50 single. The peak return would have been £100. BR then introduced Off-Peak Saver and SuperSaver Returns (SSR), and initially a Saver might have been £60 and an SSR only £55.

After experimenting (something today's railway cannot do with the Department for Transport in control), it found it could induce more traffic by lowering the SSR, so we ended up with its being perhaps only £45.

Now, at off-peak times, someone wanting a single would initially be sold the £45 SSR rather than the £50 single. However, it caused confusion for customers, who inevitably wanted to know why they'd been sold a return. Booking clerks therefore suggested it would be better if a new SuperSaver Single could exist at £1 less.

This is not BR charging £1 more for a return than a single, but charging £1 less for a single at certain off-peak times to avoid confusion.

After privatisation, full fares increased vastly but Savers were capped - a ridiculous move by the government, which should have capped the full fares.

As a result, a previous £100 peak return soon became £200 - no exaggeration, and my table in *RAIL* 898 shows how many peak

fares are now treble what they were in 1995.

Indeed, we now have the ridiculous situation where a Peak Return from London to Bristol is £224, yet the Super OP Return is only £63 - but in this case Great Western Railway has gone a stage further by having a Super OP Single to match at only £36 (of which more below). How can it be sensible to charge £112 to reach Bristol in the peak, yet only £36 off-peak?

BR would never have been so stupid as to allow such discrepancies, which is why I object to silly comments about BR charging £1 more for returns than singles - better to ask why today a peak single can be more than treble an off-peak one.

So, back to that Super OP single. Note £63 return, but only £36 single. OK, that's 57% of the return rather than 50%, but it can be done. We're frequently being told that the industry would love to go to a singles-only fares system and that the Williams Review wants it. Who doesn't? The DfT perhaps?

However, like part-time seasons, this is something GWR created and has sold for some years, while the rest of the industry continues to wonder how we can have a nationwide singles-only structure!

It's infuriating that the industry (and certainly the DfT) wonders how to proceed yet seems totally ignorant of what GWR already does. GWR does not receive a subsidy for doing this, which seems to prove that the rest of the industry could easily fall into line. Fares system sorted.

The only thing certain is that it won't happen, not while the industry has to get DfT permission to buy a box of pencils!

Sorry, but I say it again: monolithic, unresponsive and bureaucratic. Put railway managers in charge and then we can move forward.



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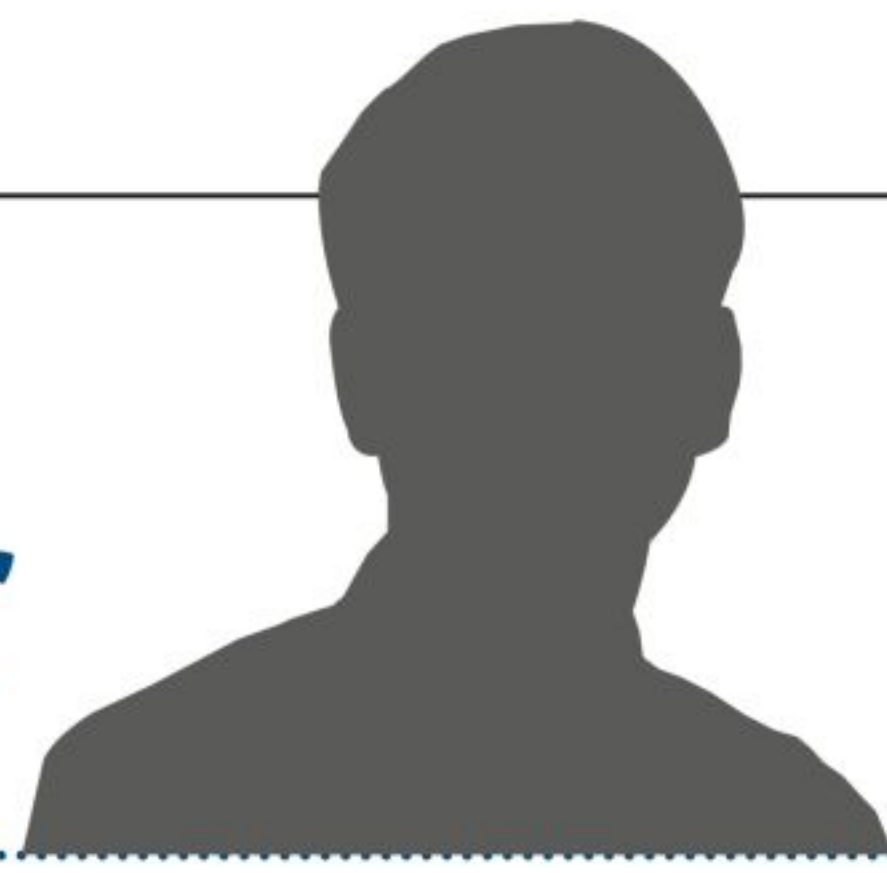
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MIKE BROOK.

Industry Insider



Fare rises: a necessary evil?

Any freeze would have a long-term effect of reducing future revenue

THERE is a lot of muddled thinking about rail fares, but one inescapable fact is that operational costs increase if inflation rises, as many contracts for the supply of goods and services contain clauses that link charges to the level of inflation. In addition, most agreements covering staff pay are linked to cost of living increases.

Although it will hopefully be a temporary feature, the social distancing rules that apply to using rail services also increase the cost of providing capacity for use by an individual passenger. For example, to cover operating costs on longer-distance routes, at least 70% of seats need to be occupied. But with social distancing requirements, load factors will not reach this level.

The result is that a fares freeze can only increase the need for Government revenue support payments. These are being paid at an unprecedented level under the Emergency Measures Agreements for franchised operators, which will continue as these are replaced by the intended Recovery Agreements.

The argument put forward to cancel the January 2021 fares increase of 1.6% (in line with the annual change in the Retail Prices Index increase in July 2020) is that it will encourage a speedier return of demand to pre-COVID levels.

In reality, it is questionable whether a fares increase will have any significant effect on efforts to restore passenger numbers, while employers continue to require staff to work from home using readily available computer software and conferencing apps. For optional and leisure travel, the requirement to wear a face covering and a lack of catering facilities will deter many - particularly if the alternative of using a private car is available.

A fares freeze is not a one-off event, as it has a long-term effect of reducing future revenue unless the inflationary increase is restored at some time in the future, which is an unlikely action.

With a pre-COVID annual fare box income totalling some £10 billion, the revenue foregone will be £160 million. But it doesn't end there - if the figure is projected into the future, over a period of ten years the income stream reduction will be £1.6bn before annual inflation is added to that figure.

What this does to any financial return is to reduce the benefit:cost ratio, so that marginal projects (and there are many of these) will fail to demonstrate an investment justification. This has the potential to curtail ambitions for line reopenings, unless the lost level of income can be replaced by another revenue stream such as revenue support payments.

It can be seen how damaging the fares freeze instituted by Transport for London has been. Lower levels of income from fares has led to investment being curtailed, and although the policy was aimed at helping people on lower pay to access jobs it was a blunt instrument that ignored the ability of many (including tourists) to pay higher fares that contribute to investment.

“Lower levels of income from fares has led to investment being curtailed.”

The conundrum of retaining income from those who can afford to pay while providing access to better-paid jobs for those who cannot has long been recognised in railway fare structures, where what were once known as Parliamentary fares or ‘workman’s’ tickets had to be provided by rail companies at appropriate times, to allow essential travel to work journeys.

In the BR era, these were valid on any train that arrived before 0800 and were limited to a 60-mile distance. There was a system to cover shift work, where a declaration had to be made by the ticket holder with the signature of an employer for defined categories of work.

Times have changed. The assumption in the past was that higher-paid people would not be travelling to arrive at their destination before 0800, whereas today very highly rewarded financial services staff are at their desks much earlier than that to reflect trading on a worldwide basis.

Economists have long recognised the wider benefit that rail offers for connectivity with employment, education and the prevention of social exclusion. But there is an underlying assumption that fare box income should be maximised to keep any revenue support paid by the general taxpayer to the minimum

necessary.

Of course, cheaper fares are popular. But there has to be confidence in an unsatisfied demand that will cause users to buy lower-priced fares in sufficient numbers to balance the loss of revenue from existing users.

The opposite rationale applies to increasing fares, with a judgement to be made if there will be a reduction in demand that negates any financial benefit.

There was a very deliberate policy of increasing fares above the level of inflation in the pre-privatisation period, to suppress demand so that the cost of providing additional capacity could be avoided.

Since privatisation, there have been periods when annual fare increases were pitched at a level as high as RPI+3%. This was cut back over time to a straight RPI increase because average pay levels were growing more slowly, and hardship had become evident for some users.

But in summary, there is no evidence that increasing fares in line with inflation has put a brake on continuing passenger growth, requiring expensive infrastructure capacity enhancement that the Government sought to avoid in the past.

This is not to ignore the views of Transport Focus, which has stated that increasing fares makes it vital that passengers can easily access products that represent the best value for their journeys - TF's regular National Rail Passenger Survey reveals that less than a third (30%) of rail commuters are satisfied that their ticket represents value for money.

This is particularly evident for season tickets, as although unlimited travel is permitted during the period of validity, no account is taken of less regular travel patterns and the use of off-peak services where cheaper tickets are available for individual trips.

Transport Focus research has identified that many rail passengers want smarter ticketing systems that they can understand and trust, and which are simpler to use offering choices that suit the way we travel now.

As a result, a joint initiative with the Rail Delivery Group has been launched to assess whether the 1995 Ticketing and Settlement Agreement remains relevant, with an ‘Easier Fares’ consultation process to allow public input which closes on September 10. **R**

WHAT'S YOUR VIEW? Email: rail@bauermedia.co.uk

The need for speed

PAUL SHANNON examines the scope for increasing the speeds of several key freight flows.



PAUL SHANNON.

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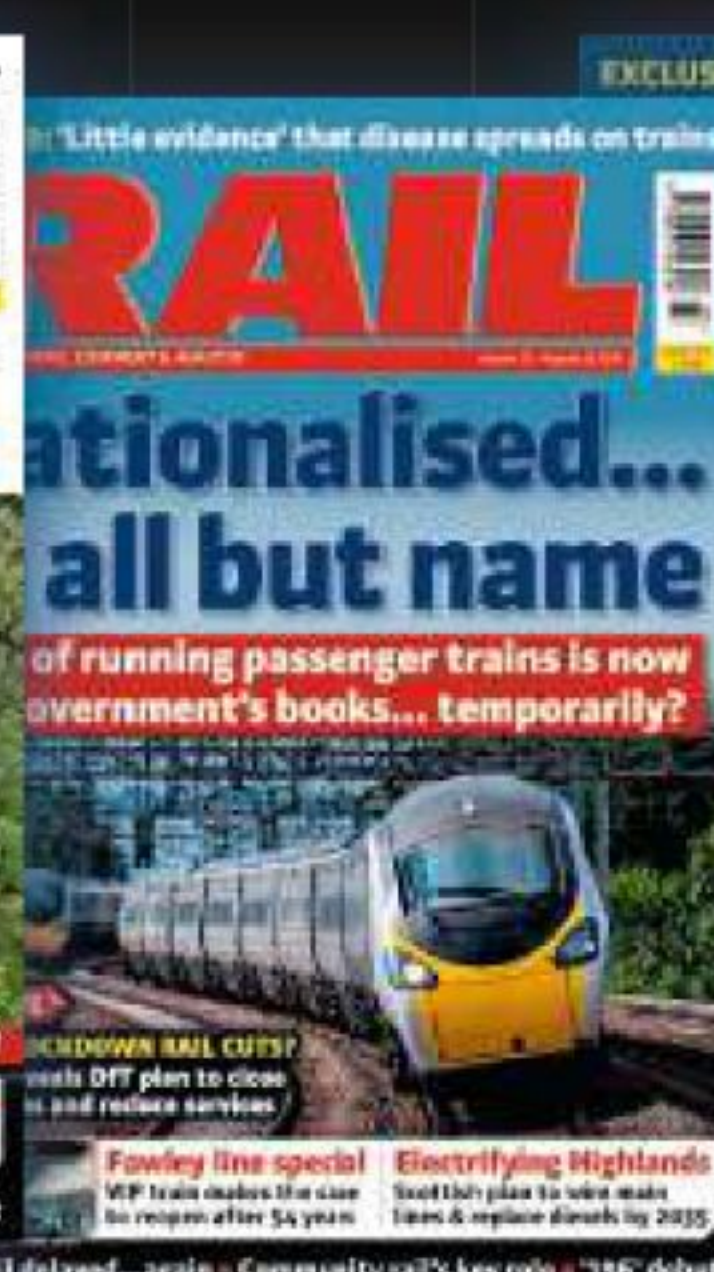
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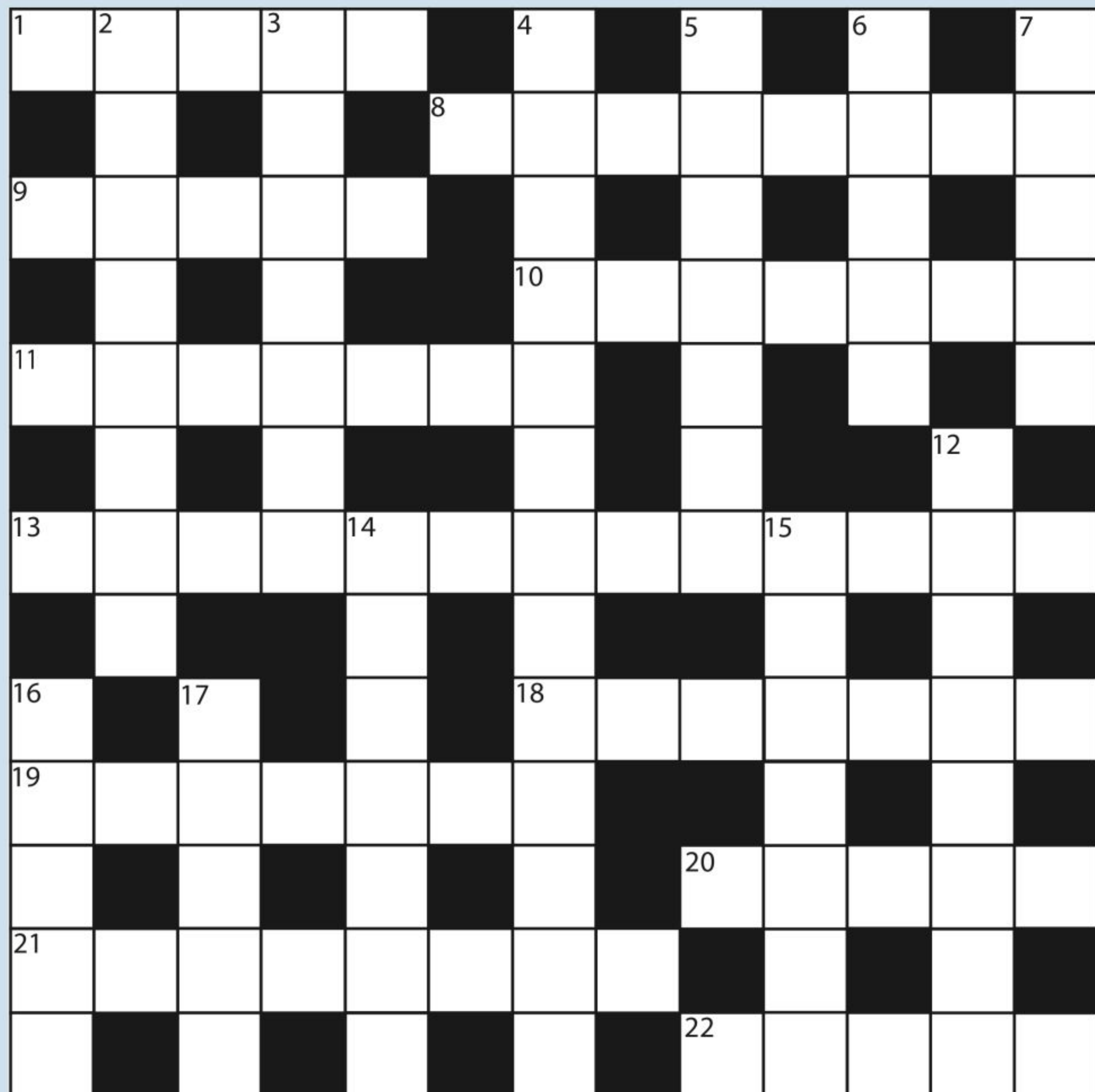
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WELCOME to the *RAIL* Crossword. Sadly, due to the Coronavirus outbreak, we are currently unable to offer crossword prizes for the foreseeable future, but we will endeavour to continue to keep producing crosswords for every issue, and invite all our solvers to just play along for fun. Keep solving, stay with us and stay safe.



Compiled by Mike Wright

Clues Across

- 1** See **22 Across**
8 Perhaps hires Chief Operating Officer? Take more care! (8)
9 East Anglia services may have been taken over by South West Trains, with blood... and tears... (5)
10 Might fans of Guy Ritchie think Northern station should be accompanied by two smoking barrels? (7)
11 Created by a blower, to encourage the fire in a stationary steam locomotive (7)
13 Preserved Class 52 locomotive based at the East Lancashire Railway (7, 6)
18 The most vigorous? He is not, but is still the most pretentious (7)
19 Kojak joins Losing My Religion band, in principle! (7)
20 Leading engine on a double-headed locomotive service (5)
21 Introduced for part-time workers in London, to cut travel costs (4, 4)
22 and **1 Across** A narrow escape, but not necessarily for some men in 'Movember' (5, 5)

Clues Down

- 2** Female bird accepts prize at Transport for Wales station (8)
3 Railway structure - a particularly striking example can be seen at Ribbleshead (7)
4 MEP health scan reveals fault, so Great Western Railway train could take him here to recover (10, 3)
5 Feeling very warm when on short branch line en route to Tottenham? (7)
6 Used for storing rail-transported biomass at Drax Power Station (5)
7 You wouldn't want to be on a train if this isn't working! (5)
12 Crossover between two parallel tracks in both directions (8)
14 CME bear-hug? (7)
15 LNER... EMR... SWR? Dealt with one at a time, the answer is right in front of you (7)
16 Token given to driver, authorising entry into single-line section (5)
17 A little bit fruity on the approach to Huddersfield station? (5)

Answers RAIL 911

Across: 6 Remorse 7 Light 9 Sabre 10 Measure 12 Central Line 14 Holland Park 18 Fan Mail 19 Esher 21 River 22 Bittern

Down: 1 Delay 2 Course 3 HST 4 Diesel 5 Charing 8 Revamps 11 Stencil 13 Polarix 15 Lamiel 16 Rosyth 17 Heart 20 Sir

Stop & Examine

For a brief period, visitors to Carnforth station will not be able to encounter its most iconic feature, after its famous clock was removed in August for renovation and repairs.

The clock, manufactured by Joyce of Whitchurch, first graced the station in 1895. Hand-wound, it is one of the last examples of its kind and featured prominently in the famous 1945 David Lean film *Brief Encounter* - the outdoor station scenes were filmed at Carnforth.

The clock's original faces and mechanism were lost in the 1970s, but were tracked down some 20 years ago after much detective work and a few strokes of luck. It was restored to its original condition by a team of local volunteers and rehung in 2002.

Now, a full renovation is under way, carried out locally by members of the original restoration team in the team's own workshops. The mechanical and metal works will be done in motor engineer Peter Yates' workshop, and the woodwork by cabinet maker Terry Boxford.

The work involves stripping down and repainting all the woodwork, while the metal work involves the removal and replacing of the main mounting brackets.



"A horrid bout of insomnia" ended up with railway engineer and *RAIL* contributing writer Gareth Dennis delivering a hugely entertaining thread on Twitter.

Gareth sought to compare post-Second World War Prime Ministers to post-war British Rail locomotives. And just in case you missed it, here's his verdict:

Clement Attlee = Class 47. Best in class. Transformed services in Britain, providing a tremendous improvement for huge numbers of people. Showed signs of fatigue towards end of career and ought to have stepped away from front-line service earlier.

Winston Churchill = Class 37. Reliable and sturdy, though undoubtedly well past sell-by date in later years of service. A prolific smoker. The nation's focus for nostalgic views of the past that ignore a complicated history.

Anthony Eden = Class 52. Attained front-line role thanks to a fixation with outdated ideas. Superficially capable, but in reality largely weak and ineffective. Remembered mostly for catastrophic failures.

Harold Macmillan = Class 66. An austere but reliable workhorse. A mixed relationship with working conditions and air quality. Has done little to push technology forwards. Unpopular with railway enthusiasts.

Alec Douglas-Home = Class 22. Largely forgettable, with a



Some final thoughts from the team at RAIL

@RAIL

Send contributions to: rail@bauermedia.co.uk



Left: The Carnforth Station clock is prepared for removal. Above: Volunteer Peter Yates watches as the clock is secured to a trolley. ROBERT SWAIN.

The main bearing bush on the south-facing clock face, which is open to the weather, also has to be remade. And the clock's works in general are being examined.

It is not anticipated that the work will take long. However, it is subject to COVID restrictions and Network Rail working practices.

No date has been given for when the clock will be back in situ. As for cost, it is anticipated that this will be minimal as most of the work will be done voluntarily.

Owner Michael Smith said: "Sadly my father died in November last year, and purely by coincidence on that same day, the clock was stopped to preserve its deteriorating mechanism.

"He would have been very proud to see the volunteers putting in so much effort to restore its workings.

"Our thanks go to Network Rail and Northern, without whose help and support these actions would not have been possible."

A return of a *Stop & Examine* faithful (although certainly not a favourite!)... the spread of the dreaded buddleia.

"I was catching a train to Ely from Peterborough on August 1, turned left coming off the footbridge on Platform 5, and there, growing out of the platform, was a buddleia plant, perhaps about a foot high," writes Phil Button, from Biggleswade.

"This wasn't at the end of the platform, but right in the middle where both staff and passengers regularly circulate.

"In days of old a porter would have removed it with a quick hoik before it got too big. Now this sort of thing is just left."



career to match. Served an incredibly short time in service. The last in a line of outdated relics.

Harold Wilson = Class 40. A plucky if cumbersome northerner. Gave solid service during career, though failed to deliver on initial hopes. Steadily fell from grace as public and colleagues' disillusionment with poor performance grew.

Edward Heath = Class 56. Assertive and capable. Modelled more closely on preceding types than successors were. Had a decidedly European beginning and end to front-line service. Concluded career with a whimper

rather than a bang.

James Callaghan = Class 55. A career defined by power-sharing, hubris, and a rapid fall from grace. Entered service with impressive credentials, but ultimately only spent a relatively short period in front-line operations. Had a big nose.

Margaret Thatcher = Class 43 (HST). Considered to have dragged the country into the modern era, but actually locked in an outdated source of power for decades. Came along at a time of great change and is often credited for more of that change than ought to be the case.

John Major = Class 31. Decidedly unremarkable with little lasting impact, but a surprisingly useful service life viewed with the benefit of hindsight. Member of a long, unofficial line with black windscreen wipers and a grey roof.

Tony Blair = Class 86. Heralded the future, but only after demise of predecessors. Made a bit of a mess of infrastructure throughout career. Spent later years in front-line service on borrowed time. Still finding extensive work abroad.

Gordon Brown = Class 91. Technically

capable and certainly a heavy-hitter, but wider events and a lack of general appeal led to a shortened career in front-line service. Slower to pick up pace but unstoppable once moving. Occasionally exposes blunt side to the general public.

David Cameron = Class 43 (Warship). A pretty shoddy type with a career to match. Riddled with reliability issues and prone to repeated failures. Tried to break with European ties without due effort or consideration resulting in unavoidable calamity. Has an oddly shaped face.

Theresa May = Class 74. A re-hash. Tried to be all things to all people but suffered dismal reliability. Incapable of joined-up operations despite supposed multiple working abilities. Defined by its relentless failures in service. Had a relatively short career as a result.

Boris Johnson = Class 50. Loud, fast and has a habit of swallowing its own effluent. Been around a bit. Inexplicably popular with the masses. Incapable of handling complex operations or heavy lifting. Still relies on outdated sources of power. Steeped in archaic WW2 references.



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