GREENGAUGE21

Delivering South West England's New Economy

January 2026

1. Introduction

We recently reviewed the thinking behind the nation's largest rail investment projects either under way or in contemplation.[1]

We found two distinct types of business cases in play, the first broadly based:

(1) supporting or stimulating regional-scale economic growth

and the second, more narrowly focused:

(2) To overcome rail network limitations – inadequate rail capacity/capability.

The first approach seeks to directly address Government's primary policy ambition of higher national economic growth. But a presumption that better transport provision on its own can transform regional economic outcomes is a high risk approach, reliant on market mechanisms to deliver improved productivity because of improved connectivity and wider labour markets.

The second 'problem solving' approach relies on transport investment business cases that have been used by the Department for Transport, with methodological updates, over many years. Ministers may have more confidence in this apparently narrower focus on benefits, with an observable track record dating back to the case made to construct the Victoria Line across London in the 1960s.

Here, we want to look at a region of England that – as we will show – is exceptional for its *lack* of any major investment in rail: South West England.

In outlining a case for rail investment here, we use *both* approaches to develop a business case rationale.

The story we have to tell is one of a change, with a region experiencing a unique opportunity.

2. Regional comparisons

We offer first a summary overview of the economic regions of England, as well as in Wales and Scotland, in terms of major improvements for rail that are either planned or have already been forthcoming (as shown in Table 1, below).

Table 1: summary of rail investment region by region (and devolved nations)

English region/devolved nation	Rail network developments (achieved)	Rail network long term plans
Scotland	New (restored) railways: for the Borders, and for Leven (Fife) Glasgow Queen Street station rebuilt Rolling electrification programme Peak period fares scrapped	Rolling electrification programme HS2 services for Glasgow Completion of Borders Railway re-opening to Carlisle
North East England	Northumberland line re-opened Darlington station hub Tyne and Wear Metro fleet replacement and extension to Sunderland	Tyne and Wear Metro extension to Washington
Yorkshire/Humber	TransPennine Route Upgrade (TRU) (York-Leeds-Huddersfield)	Sheffield – HS2 services via Derby

[1] What is the Purpose of Britain's Major Rail Projects? – Greengauge 21

		New through station for Bradford
North West England	NW electrification programme Manchester-Stalybridge upgrade and electrification (TRU) Fully accessible Mersey Electric train fleet	HS2 services for Manchester, Liverpool, Crewe, Warrington, Preston, Lancaster and Carlisle; Stalybridge-Huddersfield (TRU completion)
East Midlands	Midland Main Line (MML) electrification (Bedford-Wigston) Lincoln-Nottingham line upgrade	HS2 services for Derby MML electrification northern extension
West Midlands	New Street station rebuilt Midland metro extension (Wolverhampton)	HS2 services with new stations at Curzon Street and at Interchange Midland Rail Hub (Bordesley chords) New stations and services Camp Hill line
Wales	Core Valley Lines Metro system GWML electrification to Cardiff	Cardiff Crossrail Wrexham-Liverpool direct
East of England	Total East Anglia fully accessible train fleet replacement New station for Chelmsford Thameslink 2000 cross-London service	East West Rail (new line, Oxford-Cambridge)
London	Elizabeth Line, Jubilee Line Extension, Thameslink 2000, London Overground; DLR Extensions; London Bridge, Waterloo, St Pancras and Kings Cross all rebuilt; Eurostar high-speed services to France, Belgium and the Netherlands	HS2 (new stations and services from Euston and Old Oak Common); Total rebuild of Euston station
South East England	HS1 with high-speed commuter services GWML electrification London-Reading-Newbury/Bristol Parkway Reading station & approaches total rebuild Gatwick station rebuilt Thameslink 2000 and Elizabeth Line cross-London services	Restored high-speed international services from Ashford and Ebbsfleet
South West England	Okehampton service re-established	???

Investments in rail achieved, along with longer term plans across the regions and devolved nations are substantial – except in South West England. Here, the reopening of a closed railway to restore passenger services from Okehampton has been hugely successful, and with exemplary arrangements put in place for bus-rail coordination. Indeed, here there has been good leadership on *local* rail projects

(although hopes for progress with new stations at Cullompton and Wellington have recently been postponed). The on-off reopening of the Portishead line for passenger services remains a possibility.[2]

But for the South West, there are now no developments planned for the main line railway, where the challenge is more a day-to-day matter – keeping the main lines open.

All other English regions and the two devolved nations have achieved much more to enhance the rail service offer – *and* still have major plans ahead.

Rail capital investment levels in all other parts of Great Britain have clearly been much higher. The South West has lost out.

3. The South West: region of opportunity?

There are three areas of the regional economy where current developments and initiatives shine some light on the economic prospects for the South West. These are in the fields of:

- Housing
- Defence
- Industry.

In this report, we concentrate on the Peninsular part of the South West, so just Devon and Cornwall. The eastern 'gateway' portion of the South West sees Bristol now being regarded by DfT as in scope for investment in metro-style development, alongside the major regional cities of the Midlands and North; Wiltshire and Dorset have fast electrified access links to the capital and in economic terms can be regarded as western extensions of the Thames Valley/wider South East.

But in what follows, the South West = Devon and Cornwall.

(i) Housing: *a new pattern of sustainable growth*

The South West has always been seen as a desirable place to live, perhaps only lacking in breadth of employment opportunities, and for some, seeming too remote. Higher earners from London and other major cities have acquired properties as second homes in attractive rural and coastal areas, in many cases pricing out local residents from home ownership. But this is changing. Tax breaks that could be enjoyed by second home owners were ended in April 2025. Housing has become more affordable (if only slightly so) in coastal resort towns and villages of South West England as a result.[3]

Many more people are now able to work remotely from the office, year-round. Why not choose accordingly, with a year-round home base in the South West? There is some evidence this may be already happening. The South West housing market is changing.

The biggest shift is taking place in the South West's largest city, Plymouth. This is where demand for housing is growing fast. Indeed, it *has the highest annual rate of house price inflation (+12.6%) in the whole of the UK*:

> "Plymouth has benefited from substantial infrastructure investment such as Royal William Yard, which created a number of new homes. The city's improved retail, sporting culinary and general lifestyle amenities also position Plymouth as an attractive option of house hunters of all ages."[4]

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[2] Viewed positively in Railways in the West of England: What next for 2026? - BBC News

[3] How Council Tax on Second Homes is Warping the Property Market. This shows that house price inflation is down 12% in St Ives, 11% in Newquay, and 18% in Padstow, for example. In South Hams, (in south Devon) the average property price in April 2024 of £486,538, had dropped to £427,142 in April 2025.

[4] Source: *Guardian* newspaper, 30th December 2025, P33. Plymouth has been placed as highest in Britain for 'overall life satisfaction' and highest for happiness (according to *Confused.com*).

An unappealing characteristic of Plymouth is the large-scale 1950s modernist city centre, rebuilt post-war on a 100% retail basis. This means empty streets in evenings, and no night-time economy – a cultural desert.

In April 2025, Plymouth City Council unveiled plans to build 10,000 homes in and around the city in partnership with Homes England, as part of a 'Plymouth City Centre Vision', with a plan to establish a "new residential core". This, the largest city in Devon & Cornwall by far, has "a very low level" of housing in its central areas, according to the Council, with only 1,000 homes, compared with 8,000 for typical cities of Plymouth's size.

The new plan looks likely to bring Plymouth into line with regional cities like Newcastle, Bristol or Norwich; considered as great places to live – and work, with diverse economies.[5]

Exeter is also expecting a continued focus on housing expansion, with up to 2,500 homes planned at its south western urban extension.

In short, Devon is experiencing step-changes in housing supply in its two major cities, and increased housing availability for those seeking to buy in locations across the wider South West where 2nd home ownership has previously dominated.

(ii) Defence

The nation's Strategic Defence Review (SDR) was published in June 2025. The Defence Industrial Strategy (DIS) that followed soon afterwards committed to a huge increase in overall defence spending from 2.7% of GDP to 5% by 2035.

In a little noted implication, the DIS envisaged 30% of its capital budget to go on 'security-related' spending and that would include *"non-defence budgets like upgrades to transport…networks…* which are critical to enabling the overall expansion of the military estate". Of course, details of upgrades of this nature may be subject to security restrictions.[6] Whether funding will be available for transport improvements from this new source remains to be seen. But the economic stimulus to the South West is palpable already:

> "The South West's defence sector is poised to play a crucial role in the UK's industrial strategy, contributing to economic growth and national security." [7]

Key initiatives include expanding domestic manufacturing capabilities with an acceleration of Innovation in Defence Technology including in the fields of:

- R&D in cybersecurity
- AI
- Autonomous systems
- Next-generation aerospace.

Across the wider SW England region – Cornwall, Devon, *and* Somerset and Dorset – the defence sector, we note, already supports more than 61,000 jobs and injects £2.8 billion into the national economy.

Supporting access for the nuclear fleet HQ

At the heart of the UK's naval capability, Devonport Royal Dockyard, the largest naval support site in Western Europe and the UK's main facility for nuclear submarine maintenance and defueling, is undergoing a once-in-a-generation transformation:

> "The Devonport regeneration is not just a series of upgrades; it's a leap into the future….developing … new cutting-edge facilities for the Astute class submarines… This once-

[5] But unlike these comparator cities, Plymouth has only a single railway connected to the national network: there is no other place of comparable size wit this vulnerability

[6] New Civil Engineer, November 2025 p40

[7] south west england defence industry plans - Search

> in-a-generation overhaul is vital for maintaining the UK's strategic nuclear deterrent and bolstering the UK Royal Navy's operational capabilities. [It] involves extensive....construction, including the ....creation of new maintenance and operational facilities" [8]

There are multiple businesses in Plymouth which support the naval base, and in November 2025, *Helsing* (which claims to be Europe's largest defence technology company) opened its first UK Resilience Factory in Plymouth, to build AI-enabled submarine-hunters – "an underwater vehicle factory"[9]

Helsing reports that:

> "To develop ... [its] maritime offering, a new high-tech R&D Hub is being created, including advanced manufacturing machines and software tools. The Plymouth site will be Helsing's Maritime Centre of Excellence."

The factory is expected immediately to create high skilled and manufacturing jobs in the South West, scaling to hundreds to meet future demand.

Aerospace too

The Cornwall Space Cluster supports ground breaking technologies that businesses in Cornwall are developing for the data, space and aerospace industries.[10]

Overall, the commitment to increase defence spending is significant and the economies in Devon and Cornwall will gain a key stimulus from this development.

(iii) Industry: *developments in minerals extraction*

Cornwall and Devon hold key mineral assets that have been exploited since before Roman times. Extraction is set to return at key South West England sites. In all cases, mine/quarry owners expect to be able to use rail – both for shipping extracted product, and for the inward supply of necessary construction materials.

Currently little freight is moved across Devon & Cornwall's rail system, with just a single weekly china-clay freight train. But this is set to change, and much more freight on rail is now not just being discussed – it is expected.

Meldon Aggregates owns the quarry at Meldon to the west of Okehampton which is out-of-use but was earlier used for many years to supply granite, including for railway track ballast. It has recently sent a Formal Notice to Network Rail to restore the route to the Quarry with an expectation that aggregate flows would re-start in around October 2026.[11]

China Clay and Granite have been long term exports from the South West. The new and most exciting opportunity, however, lies in *Lithium***.**

This product plays an essential role in modern technology, particularly in batteries for Electric Vehicles (EVs), for smartphones and other electronic devices. Lithium batteries are both lightweight and have a high energy density.

Cornwall has Europe's largest Lithium deposits by far. The marketplace for Cornwall's output is essentially Europe-wide.

Cornish Lithium plans extraction from a site near St Austell in Cornwall and plans to use a site adjacent to the Parkandillack China Clay terminal to bring in mine construction materials (180,00 tonnes expected) as well as outputs of perhaps 8,000 tonnes/year over a period of perhaps 20 years, starting in 2-3 years' time. *Imerys Lithium* is already extracting product from a pilot site at Roche, in mid-Cornwall

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[8] Mace Group | Devonport Royal Dockyard

[9] Observer newspaper p43, 4th January 2026

[10] Key Sectors - Launching the UK back into space

[11] Andy Bowes-Roden, Deputy Editor, Modern Railways, writing in the November 2025 issue provides the insight into this summary of the prospects for extractive industries and for railfreight.

(with perhaps 21,000 tonnes/year for 30 years in mind) and *Imerys* will also likely seek to use rail to shift its product.

As with all mining operations, there are uncertainties ahead. Predicting market values and extraction costs are subject to uncertainty. But nowhere else in the UK (or Europe) has any prospect of delivering (high value) Lithium. The contribution of the South West to national economic growth is a further factor to be impressed on HM Government.

(iv) Conclusion

None of these developments – in housing, in defence and in industry – will diminish the essentially rural and coastal appeal of Devon and Cornwall. But together they point to a more prosperous South West and a different economic context looking forward. The opportunity to get full value from these wider developments across the freshly stimulated Devon & Cornwall economy should not be missed. *Dependable* rail transport connectivity will become a lot more important. Sadly, it is a feature currently missing.

Devon and Cornwall stand on a 'threshold of economic opportunity.' The scale of this opportunity and the challenge facing the South West is such as to impact on national economic outcomes.

Here is an opportunity for a significant economic uptick from a region that Westminster is more used to treating as an area of thin demand, extending westwards out of the prosperous South East. But transport weakness could undermine the opportunity.

4. The vulnerability of South West England's rail network

Twelve years ago, the rail network in South West England was broken by storm damage at Dawlish. Here, the only railway linking Cornwall and South & West Devon with the rest of England also serves as the coastal defence, and it was washed away.

Red sandstone cliffs, with residential properties at their summit and the main line railway along the shoreline at their base, were left insecure, battered by a sea storm.

Thoughtful remedial engineering work ever since by Network Rail has largely – but not entirely – fixed the problem. The engineers are rightly to be congratulated.

Train services can still get disrupted, and with little warning, when storms and high tides combine. Fanciful ideas to relocate the line towards Teignmouth some distance from the sea to escape the risk of cliff falls have sensibly been dropped in favour a major programme of cliff 'pinning.'

Meanwhile, operating trains through salt water spray risks damaging traction equipment, with water ingress through engine exhaust systems. At such times train services are delayed, some get cancelled, and those remaining on the coast route are switched to single track operation.

Sea level rises, estimated by Network Rail at between 0.5 and 1.0 metre, lie ahead over the next 100 years this and will also affect the two tidal estuaries along which the South West's lifeline rail connection runs, continuing its role as the first line of land defence. Here the necessary engineering works to protect the line remain to be carried out.

The final stages of the South West Resilience Programme that would stabilise the red sandstone cliffs between Parsons Tunnel and Teignmouth were put on hold last year on financial grounds. Although the sandstone cliffs between Parsons Tunnel and Teignmouth were considered the biggest geotechnical risk to the region's railway in Network Rail's Route Resilience Study of 2014, it remains unclear if or when this work will be completed. [12]

[12] This stage of the works (Phase 5) while much more realistic than the rejected 'build the line in the sea' idea has a capital cost of £335-£466m. Its postponement led to the following comment from John Stephens, chair of Peninsula Transport: *"The project is not yet complete…the decision [leaves] the line [still] vulnerable. [It] is yet another threat to the transport connections for the South West. Earlier withdrawal of funding for the A303/A358 and the congestion on the M5 places the region at risk…".*

Further east, the main line from Exeter to Taunton and Paddington is also subject to the ravages of the more extreme weather that we now recognise as associated with a changed climate pattern of higher temperatures and more rainfall. Again, some important remedial work has been carried out – for instance to the north of Exeter where the railway lies in the flood-prone Exe valley, and here a major renewal was undertaken where it crosses the river at Stafford's Bridge. But the line onwards to Paddington also has the flood-prone Somerset Levels to negotiate.

The truth is that across the South West, the clay-based soils that support railway cuttings and embankments are turning out to be unreliable. Victorian knowledge of soil mechanics when these lines were built has not stood the test of time. Flooding of tracks and earthworks slippage are unfortunately an ongoing problem.

East of Exeter, a second line onwards to London is available, and it *should* provide an alternative route capable of supporting service diversions when weather-based damage strikes. Instead, severe speed restrictions have been applied to this second line (which runs to Waterloo), and its train timetable has been trashed: weather-damaged earthworks again being the problem. The investment needed has not been forthcoming. Taking the train on this line has become a game of chance, with the near certainty of delays.

5. Transport network supply and demand

As we venture into the 'de-privatised' era with the formation of Great British Railways (GBR), protecting an entire region's connectivity ought to be seen as essential.

It is worth re-examining the inheritance from British Rail which closed the second main line between Exeter and Plymouth and down-graded the second line east of Exeter (to Waterloo).

Since these changes were made more than 50 years ago, use of the national transport system has grown dramatically for both road and rail. Highway capacity was increased significantly when the M5 motorway linking the Midlands with Exeter was completed in 1977. A longstanding plan to provide a dual carriageway road from London to west Cornwall (A303/A30) has since been partially implemented (most recently, with a section built across mid-Cornwall). But in 2025, Government gave up on A303 capacity schemes further east including the tunnelled route past Stonehenge[13]. Lengthy traffic queues are the inevitable consequence, especially during holiday periods, and especially with an unreliable alternative of using the parallel rail network.

While the M5 motorway brought a major capacity uplift, today it is subject to congestion, especially around Bristol. Freight by road gets caught in the inevitable delays. It doesn't make for an appealing business development environment in the South West, where – as we have seen – there are a number of industries that are going to be reliant on rail for success.

Without a pricing mechanism on the highway system to regulate demand, in a growing economy, road traffic congestion is going to grow.

Meanwhile, rail travel volumes are increasing nationally, including in South West England, with the rail travel downturn during the Covid period now reversed. This upturn extends to the branch lines. The Exeter-Barnstaple Line is carrying 37% more passengers than in the pre-Covid year of 2019; the Falmouth-Truro line has 21% more passengers than in 2019, a pattern repeated across much of the Devon and Cornwall network.[14]

For rail, there are several devices to accommodate growing demand levels, such as changes to pricing and adding capacity through lengthening trains. More radical steps such as adding additional services may trigger a need to expand infrastructure provision.

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[13] https://www.greengauge21.net/connecting-south-west-england/

[14] The ORR's Estimates of Station Usage for 24-25 are now available and can be found at https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage/

But in this case, the challenge is primarily to restore and retain an acceptable level of train service *reliability* and that calls for a strategic assessment of factors that include the likely consequences of more severe adverse weather impacts over the decades ahead.

6. Establishing South West England's Rail Investment Needs

Here's the question: what measures does South West England need to implement in order to meet rail passenger and freight demand?

In apparent contrast with other regional needs, a central aim is going to be establishing a rail infrastructure capable of supporting a *reliable* set of train services at a regional/inter-regional scale on a day by day basis.

The ambition is *dependable connectivity* for households and businesses across Devon and Cornwall, in the context of decisions taken by Government to discontinue its programme of 'trunk road' enhancement over the region's key highway corridor link to South East England/London.

Here we are concerned with the south west peninsula, so *Devon and Cornwall* – although in railway terms, of course, the connecting routes across Somerset, Wiltshire, and so on are also critical to train service possibilities and performance.

(i) Logistics by rail

Since September 2025, Network Rail has been preparing the defunct freight yard at Tavistock Junction on the east side of Plymouth, adjacent to the A38 trunk road, for a return to use.[15] The expectation is for use as a rail logistics terminal with onward distribution by road, using containers/unit loads throughout. The likelihood would be an operation that links the Plymouth facility with rail-linked distribution depots in the Midlands that already have intermodal flows by rail to/from most parts of Britain (and mainland Europe, via the Channel tunnel).

The virtues of a switch to rail would lie in saving multiple HGV trips using the M5/A38 corridor (taking around 4½ hours each way). Such a switch will become even more compelling as HGVs switch away from diesel power: electric/hybrid HGVs have lower payloads because batteries significantly increase laden vehicle weights, and the road distance Midlands-Plymouth is on their likely range limit.

Possible sites for restored freight terminals may also exist further west, in Cornwall – at Moorswater (Liskeard) or Truro, for instance. And there is an ambition from the local MP for a restored rail connection at Falmouth Docks. Hackney Yard at Newton Abbot is another possibility. With longer trip lengths which are inescapable in the South West, the relative merits of a rail-based solution are magnified.

Already connected to the rail network is the Royal Dockyard at Devonport, available for the rail-based supply of construction materials as needed for its extensive rebuilding and expansion programme. Within the dockyard is a rail line known as 'the nuclear transport route' that connects each of the docks used for nuclear fuel operations and this is linked via a spur to/from the adjacent main line railway. This allows spent nuclear fuel to be transported by rail on to Sellafield (although such movements occur infrequently, probably less than annually).[16]

(ii) The overall rail freight challenge

Taking together the opportunities for rail to enter the logistics market in the South West, alongside the planned flows of construction materials to various key sites in Devon and Cornwall *and* the return of block working of aggregate trains from Meldon *and* the prospects of large tonnages of material for and from Lithium extraction, there will clearly be additional pressure on the South West's key rail arteries.

Reliance on the rail network to deliver, day in day out, to construction sites, supermarkets, and industrial processing/manufacturing sites requires a level of continuity in rail infrastructure availability that the network across the South West does not currently provide. The reliance needed could be met,

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[15] *Andy BowesRoden, Deputy Editor Modern Railways, November 2025 issue, p58 et seq*

[16] Devonport Nuclear Information Service Briefing Nuclear Information Service, December 2023

as it already is for containerised railfreight flows to/from the nation's major ports at Southampton, London Gateway and Felixstowe, by having alternative routes available when needed.

But the network west of Exeter comprises a single railway line with no alternative route available. Operational integrity remains a risk, as we have noted. The implication is that *either* today's rail network needs to be made fully resilient *or* a lot of heavy freight traffic is going to end up back on an inadequate road network across South West England.

Nationally, Government has adopted a rail freight growth target of +75%. Using rail rather than road haulage only makes sense over suitable distances and with a forward stream of freight volumes. Starting from such a low base currently, the South West could make a significant contribution to the Government's national rail freight target, for which, no doubt, other road users in the South West would be most grateful.

7. Adaptation of the rail network to the reality of a more extreme climate outlook

The national rail system is facing increased risk from climate change, cyberattacks and other hazards.[17]

One of the principal sources of vulnerability arise from severe weather events. But a focus on climate change *resilience* misses a key distinction.[18] It is this: rather than make a costly attempt to ensure each part of the rail network is always secure and available (that is, ensuring climate change *resilience*), the Climate Change Committee (CCC) has called for a focus on climate change *adaptation*. In a sense it is a value for money issue.

The CCC's calls for adaptation measures recognise that not all parts of every network can be made resistant to worsening major weather events. Instead the CCC proposes that by having oversight of *parallel* infrastructure, we can make better and more cost effective adaptations to address the more frequent and more severe weather events that lie ahead.

For rail in South West England, east of Exeter (nominally at least)[19] there are two parallel railway routes available. But west of Exeter (and note that a journey from Exeter to Penzance is generally scheduled to take around 3 hours: this is no branch line), there is no parallel rail infrastructure – not even as far as Plymouth.

So here, climate change *adaptation* would mean, for now at least, looking to the parallel A38 and A30 roads to provide a suitable alternative when a rail route is unavailable because of weather related disruption (and *vice versa* if either of these trunk routes is closed, for whatever reason).

This suggests that ***for now*** the rail sector should not be focussed only on its own travel mode, but also be open to collaborative management arrangements with National Highways and with interurban bus/coach/taxi operators, so that at times of major disruption, alternative 'just get me home please' services are available.

8. Transport network – overcoming fatal weaknesses in the SW England transport network

But the longer term issue remains. What is missing is all-weather, year-round rail reliability – a dependable service – for Devon and Cornwall's connections to the rest of the country. *It is a unique weakness in the national rail network.* Putting this right is the specific objective that, alongside

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[17] Chartered Institute of Transport (CILT) Focus journal of November 2025 p21-22

[18] Why the nation needs a climate change adaptation strategy for transport – Greengauge 21

[19] Most of the 'second main line' east of Exeter is single track with passing loops, and an inadequate back up. See Greengauge 21 report of 2025 for an outline plan to re-establish a double-track railway along the Exeter-Salisbury corridor. Connecting SW England: in place of A303/A358 widening – Greengauge 21 This would likely incorporate a discontinuous electrification approach – see 'Islands pf third rail power' Paul Clifton, RAIL Issue 1020, p60 October 2024

supporting the wider economic transformation of South West England, forms the case for investment in the Devon and Cornwall main line rail network.

Dependable rail connectivity can be achieved by two measures:

(i) re-doubling key sections of the Exeter-Salisbury line and replacing the life-expired diesel units on the route with dc electric units suitably equipped with batteries.[20]

and

(ii) recreating the second railway linking Exeter and Plymouth via Okehampton and Tavistock and so provide an alternative to the vulnerable coastal route.

Both measures are essential to secure the commitment to the rail freight developments described in Section 6 above. Together they will re-establish a viable pair of railway routes from Plymouth and Exeter to London.

(i) Exeter-Salisbury

The timescale for the first of these measures is urgent because the Waterloo-Exeter diesel train fleet is life-expired (after 40 years of service) and it makes no sense to replace it with new diesel units that would be still in operation in 2066 – well after the Government's net zero greenhouse gas emission target date.

Development of the fleet electrification solution obviates the need to commission entirely new train fleets, because at least two of the UK-based rolling stock suppliers have developed proposals for the discontinuous electrification approach at their own expense. Instead, existing surplus electric units would be converted for use west of Salisbury with battery power pack installations. A large part of the investment could be funded by the private sector, with paybacks made through leasing charges.

West of Salisbury, the partially re-doubled line would have the capacity to host services diverted from the Paddington line, and it would also allow the sought after expansion of *Devon Metro* services over a north Devon (Barnstaple) – east Devon (Axminster) corridor axis, serving both the expanded housing developments to the east of Exeter and the employment opportunities clustered around Exeter Airport, job opportunities missing in north Devon.

(ii) Exeter-Okehampton-Tavistock-Plymouth

Creating an all-weather alternative to the coastal route would end the sense of a lottery around rail travel to/from the rapidly expanding city of Plymouth, South and West Devon, Torbay and the whole of Cornwall.

It is an investment that can be regarded as an essential adaptation measure to ensure rail service continuity through the increasingly frequent periods of adverse weather conditions that lie ahead. It would be a model climate adaptation measure.

Without it, switching logistics flows to rail in the South West must be doubtful; use of rail to support Lithium mines questionable; and rail access to the national nuclear naval fleet at Devonport left as being on a 'weather permitting' basis.

Lacking this certainty of rail service availability will also over time diminish tourism appeal in the West Country with a continuing reliance on a strategic highway network that we now know is not to be further improved.

In short, re-creating the second, northern, link between Exeter and Plymouth would bring a very wide set of economic benefits.

It requires reinstating a rail line across a 17.5 mile gap between Okehampton and Bere Alston. Interestingly, two miles of this gap will need to be put back into operational use by aggregate trains from the planned re-opening of Meldon quarry. And the long-planned line from Bere Alston to Tavistock

[20]This will permit cost-effective 'discontinuous' electrification and allow the removal of the few remaining diesel units from the London terminus of the route at Waterloo. This is an approach with full support from the railway supply sector, which has developed technologies that obviate the need for direct power feeds from the high-voltage national grid.

accounts for a further five miles of route, leaving a gap with a substantially intact track-bed to complete the link, of around just 10 miles.

This missing section has a number of structures including the viaduct at Meldon which will either need renewal or replacement. The route through Tavistock is intact, but it was left without protection for future reuse and has some housing units built across it as well as District Council offices on a former goods yard site. The housing at least would probably need to be replaced with new builds, which could be created nearby.

Tavistock's re-usable viaduct: photo Greengauge 21

The long-planned Bere Alston-Tavistock *branch line* scheme is flawed. It would terminate on Tavistock's southern edge, leaving an awkward 20-minute walk to reach the town centre. It was initially put up in the 1990s by the developer of a major housing estate on the edge of town at Callington Road.

Reinstatement of the line as far as Tavistock was the subject of significant, preparatory work by Network Rail in a recent, failed, 'Restore your Railway' bid, but this funding scheme of the previous Government *was* successfully used to fund the Okehampton branch reopening.

Tavistock has nearly twice the population of Okehampton. Although Okehampton reinstatement is regarded as a success story, its value would be magnified by a linkage further west *via* Tavistock to Plymouth and Cornwall.

A through route Plymouth-Bere Alston (for Gunnislake/East Cornwall)-Tavistock-Okehampton-Crediton-Exeter provides multiple new station-station passenger connections, while separate branches Plymouth-Bere Alston-Tavistock and Okehampton-Crediton-Exeter do not. The revenue potential is much higher from a through route than from two branch lines, and train operating costs are lower with less 'down time' at terminus station turnrounds.

Branch lines may be an enjoyable (if nostalgic) reminder of times long since gone, but they are cost-inefficient. Replacing two branches with a through route makes good business sense for the rail system and will reduce the level of public sector funding needed.

A re-connected 'northern route' built on granite will be less prone than the existing line along the coast and across the South Hams to earthworks failure. It has easier gradients – so a better proposition for freight, avoiding the current risk of needing to sub-divide and then re-connect longer freight trains, as on the existing line. And of course, it presents the confidence rail passengers seek of a dependable service provision.

With higher levels of rail demand, beneficial reductions of traffic on routes such as the congested A386 into Plymouth and the A30 into Exeter (the latter a key aim of the current Okehampton interchange plan) can be fully realised.

In an expanding regional economy, opportunities to improve commuting time travel, access to regional hospitals, access to jobs and to apprenticeships, adult learning and degree courses (all available in Exeter and Plymouth) are rare and valuable, especially at a time of economic expansion.

New services linked into Exeter and Plymouth would bring valued support for existing and potential housing expansion in Devon's towns and cities.

9. Conclusion

The case for major rail investment elsewhere has tended to rest on either one of two propositions:

either as a prerequisite to achieve a step change in regional economic outcomes, *or*

to address a foreseeable short-comings in network condition, usually represented as capacity shortfalls.

Here, in order simply to retain dependable regional connectivity for Devon and Cornwall, these two distinct analytical strands can be brought together to develop a sound business case.

We have been concerned here with one part of the national geography – the 'far south west,' perhaps, seen through a Westminster lens. It is an area which has not much troubled those concerned with rail capital budget allocations, only with funding essential remedial works.

What would change this wasteful complacency? The answer we give here is that Devon & Cornwall are on the cusp of economic resurgence – and transport provision needs to be updated to support it.

We pointed to key indicators in the *housing market*; to the likely effect of a very substantial increase in *defence spending* centred on Devonport Royal Naval dockyard at Plymouth (and also other locations, in Cornwall); and to 21st century expansion of mining activity, *especially in Lithium*.

Devon & Cornwall has ongoing lifestyle appeal. The digital revolution mans this part of South West England can now attract those with the necessary skills and who no longer need to be tied to five-days-a-week in-office work patterns, as a most suitable place of residence. Dependable, fast connections to the capital and Heathrow airport add to the feasibility of making a move to the South West.

These changes are coming together most notably (but not only) in Plymouth, where a sterile, post-war, retail-only, city centre plan is set to be transformed with 21st century residential expansion. Just in time since, as reflected in house price inflation, Plymouth is experiencing the nation's most significant uptick in housing demand.

In the 1980s, it was to the M4 corridor west of London that the advent of microchips & personal computers drew companies, in a burgeoning sector – a global phenomenon centred on California's 'Silicon Valley'. Now, 40 years on, with the new workplace flexibility, digitally-enabled businesses and professions and their staff may choose other, more appealing, locations to live and work.

We are already seeing an influx into Devon and Cornwall, now in the 2020s

Rather than second homes, the market looks like switching to year-round homes in this always-appealing part of the country, bringing year-round jobs with them.

The attraction will likely be across the region, and more urban-centred than rural for all-year round living.

With this shift, comes demand for specialist skills related to the defence sector. New businesses are being attracted to the expanded budget that is going into the nation's nuclear fleet base at Devonport. In this era of international uncertainty, technological advances in subsea systems and aerospace (where the Cornwall space cluster specialises) will have a major role to play.

So, we conclude there are the early signs of a primal economic shift happening here at a regional scale in Devon and Cornwall.

There are also prospects – some of them already in play – for renewed mineral extraction in both counties. There will be granite/aggregates from Meldon (quarry reopening, in Devon) and in Cornwall, where two companies are developing mining of Europe's only significant Lithium supply – so essential to contemporary efficient battery technology.

Both these extractive enterprises are seeking use of the rail network to shift product. More demand for freight by rail is also likely through an expected switch of logistics operations to Devon (and possibly Cornwall too) from national logistics centres in the SE Midlands – journeys of a length which will lie just beyond the likely range of future hybrid/battery HGVs.

With these developments will come new pressures on the South West's transport system. Freight and logistics by rail demands 100% route availability, which is currently lacking across Devon and into Cornwall. And the second (northern) route across Devon has much easier track gradients than on the southern route, so current limits on railfreight loads could be avoided.

Economic growth with expanded housing and employment adds to pressures on various sectors including the region's transport system. Currently, this will be found lacking:

- *both* in commuting capacity *and*
- in fast links to the national capital and international airports

and, most worryingly,

- in the rail network's all-weather dependability.

The only coherent solution

Fortunately, there is an obvious answer to the weakness in Devon and Cornwall's rail connectivity, which is vulnerable to adverse weather impacts. As called for by the Committee for Climate Change, the answer lies in adaptation measures that look to ensure there are parallel facilities that can be made available as needed.

There is every reason, on this cusp of regional economic rebirth, to reinstate the missing link from Bere Alston to Okehampton, serving the commuter town of Tavistock *en route.* A through route rather than a pair of branch lines will generate far more passenger revenue. This link will be essential to win new mining-based freight flows to rail, as well as Devonport naval base freight flows. It will also help attract supermarket logistics traffics off the motorways/trunk roads and onto rail.

Our case for re-establishing the 'northern' route between Exeter and Plymouth can be characterised as meeting a *clearly identifiable existing rail network short-coming*, that really cannot be ignored.

But it is also *the exciting prospect for the South West England economy* that drives the need for a viable alternative route across Devon for rail. It would be unforgiveable if rail network weakness limits a regionally-significant upswing in economic output that is now in play.