EXETER TO BARNSTAPLE RAIL ROUTE MODERNISATION

Preliminary Strategic Business Case

Version Including Only the Executive Summary

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On behalf of the Northern Devon Railway Development Alliance

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REVISION AND COMMENTS

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This version includes only the Executive Summary. Readers requiring more information should read the full Five-Case Preliminary Strategic Business Case.

Disclaimer

The author of this document cannot vouch for the correctness of third party sources quoted, but has put particular emphasis on official statistics such as those from the Office for National Statistics, local authorities and the Office of Rail & Road. Conclusions drawn in the document are explained and are based on a cautious, sober assessment of options and contextual information. Such conclusions at the early stage of development of this document are necessarily provisional and it is recognised that other legitimate conclusions could be drawn. The document has been produced to aid decision-making and is intended for that purpose alone. It is the start of the analytical approach to decision-making through the various stages of business case described in the Introduction below, not its conclusion. The views expressed in this document are those of the author alone, even where comments have been accepted from other parties, and do not purport to represent the views of the members of the Northern Devon Rail Development Alliance, whether individually or as a group nor Network Rail or Great Western Railway as corporate entities.

Executive Summary

Key points

- Strong post-pandemic rail growth: Devon is a place for confidence in rail investment;
- Very weak socio-economic conditions in Northern Devon and Mid Devon and transport peripherality are key problems modernising the Exeter to Barnstaple route can help solve;
- The likely level of capital cost and project timescales are realistic aspirations for Devon;
- Strong synergy with separate, complementary schemes to:
  - Replace GWR's old fleet of diesel multiple unit trains;
  - Increase train service frequency increase across Exeter to four trains per hour between Exeter St Davids and Digby & Sowton and build a new station at Monkerton; and
  - Extend the Barnstaple route by reinstating train services to/from Bideford.
- As part of a vision for a complete modernisation of the Exeter to Barnstaple line, a range of options have been identified, including the following potential improvement outcomes:
  - The Exeter-Barnstaple rail route provides an important contribution to improved sustainability of transport connectivity for Northern Devon, Mid Devon and Exeter;
  - Materially faster typical journey times, with a fastest journey between Barnstaple and Exeter St Davids of no more than 54 minutes (Exeter Central typically 60 minutes), with potential further material journey time savings: significantly better than any bus journey time and competitive with variable and often unpredictable car journey times;
  - Train service frequency doubled from hourly to two trains per hour between Barnstaple and Exeter (three trains per hour for Crediton);
  - Very substantial increases in the numbers of passengers and revenue resulting from the combined effect of increasing frequency and reducing journey times;
  - Significantly improved punctuality and reliability for both Barnstaple and Okehampton train services, with reduced knock-on delay to other parts of the national network;
  - Reduced frequency and length of line closures due to bridge scour risks or track/other infrastructure damage following heavy rainfall with an ultimate goal of full route resilience to such events;
  - Train service capacity substantially increased, both for continuing growth on the Barnstaple-Exeter route and for any reinstatement of train services to Bideford;
  - Modern, faster accelerating, more reliable, higher capacity, more accessible, more comfortable, more environmentally-friendly trains replace diesel trains on the line;
  - Intermediate stations easier and safer to access and use by car/EV and active travel modes, including for disabled people; and
  - Stations and the train service brought into the digital age with wi-fi where not present, better mobile/wi-fi connectivity along the route and digital ticketing.

This vision and outcomes are supported by the following illustrative improvement interventions, subject to further engineering, operational and economic review as the business case progresses. The improvement interventions are analysed in more detail in Annex A. The list is not all-or-nothing: elements could be chosen depending on funding available and priorities, including a potential phased implementation over time, with elements prioritised for earlier or later implementation on the basis of a combination of cost and funding availability.

While the stations/accessibility interventions are highly scalable, the same is much less true of the interventions needed to modernise the railway infrastructure. Many elements of the stations/accessibility interventions could be implemented separately and in smaller or larger numbers and still give benefits to users. In contrast, it is not feasible, for example, to introduce additional passing places to facilitate an increase in the frequency of the train service without also modernising the signalling system and in some cases having to rebuild a second platform at stations. Equally, improvements to maximum permitted line speeds or introducing new, faster accelerating trains would not reduce journey times unless additional train passing capability was introduced. The many years that have passed with relatively little work being done on the line means that meaningful modernisation outside the stations needs a large step change in the capability of the infrastructure with a concomitantly large price tag. However, further economic, engineering and operability studies would be needed before firm conclusions can be drawn on the minimum viable product.

Modernising the railway infrastructure

- Raising line speeds at places where higher permitted maximum speeds could in practice be used to reduce journey times;
- Replacing all remaining sections of old jointed track with continuously welded rail;
- Creating a dynamic loop of around seven miles between Newton St Cyres and the former Coleford Junction by reinstating double track between Newton St Cyres and Crediton and installing new point work at the former Coleford Junction, thereby converting the parallel currently single lines from Crediton to Okehampton and Barnstaple into double track;
- Creating additional double track on the northern part of the route to allow trains to pass each other, subject to further engineering and operational study;
- Reinstating the second platform at Yeoford on the new double track section, where possible reusing old platform structures and avoiding lifts unless absolutely necessary;
- Modernising crossing control and signalling systems;
- Using modern monitoring technology to improve the resilience of the line's bridges to closures due to scour risks; and
- Changing station request stop status: removal of request stop status at more heavily used stations and station stop kiosks installed at less-used stations to reduce journey time-delaying speed reductions at those stations.

Introducing modern trains

- As part of separate, complementary scheme, replacing the diesel trains on the route with modern trains offering:
    - Shorter journey times through much higher acceleration;
    - Greater reliability;
    - Selective door opening to achieve greater capacity without costly platform lengthening;
    - More comfort for passengers;
    - Ideally level boarding for improved accessibility; and
    - Greater environmental friendliness, including lower noise levels.

Improving the usability and accessibility of the stations

- Improving selected station car parks to good modern standards;
- Enlarging existing station car parks at key stations;
- Installing electric vehicle chargers at all stations with formal car parks;
- Installing ticket machines at larger, higher use stations, and pay-as-you-go;
- Installing wi-fi at stations without it and improving mobile/wi-fi connectivity along the route;
- Creating improved, safer access to intermediate stations for pedestrians and other users; and
- Improving road layouts at key level crossings for the safety of road and rail users.

Strong post-pandemic growth – Devon a place for confidence in rail investment

Given that Devon County Council has a successful record in promoting improvements to the rail network and given that train services in Devon and the South West continue to be well used and grow even after the COVID pandemic, with the Exeter-Barnstaple route in particular substantially above the best pre-pandemic passenger numbers, Torridge, North Devon and Mid Devon should be seen as places in which there should be confidence in investing in rail.

Within that wider context, this document concludes, at an early stage of business case development and through a cautious, sober assessment of the factors involved, that the aspiration for a full modernisation of the Exeter to Barnstaple railway line and the train services using it is sufficiently realistic and is of sufficient potential to help address the material local socio-economic and transport-related issues to justify further work being undertaken.

This would involve decisions on who should sponsor business case work going forward and on whether to progress the development of a full Strategic Outline Business Case. Such work would enable engineering design to establish an envelope of likely costs, including to inform the development of a fuller economic appraisal. This is explored further in the Management Case.

The problems modernising the Exeter to Barnstaple rail route can help solve

Very weak socio-economic conditions: Barnstaple, the North Devon, Torridge and Mid Devon districts register unusually poorly on a wide range of socio-economic indicators. The trend towards the centralisation and specialisation of services and facilities means that many people need to travel to Exeter and beyond for work, education, health care, leisure and other purposes, even with countervailing initiatives to maintain local self-containment.

The physical peripherality of Northern and Mid Devon inhibits the development of stronger areas of the local economy: The local economy has strengths in the growing sectors of defence, renewable energy, tourism and other fields. Key employers report that weaknesses in transport provision make it harder to recruit permanent staff. 'Hard-to-recruit' specialists such as sub-contractors from other parts of the country need to travel inwards to support these developing areas of the economy.

Slow journey times for all transport modes results in physical and social peripherality: The physical geography of the area between Barnstaple and Exeter creates physical and social peripherality in Northern and Mid Devon, which exacerbates the weak socio-economic conditions. This will continue without intervention. The rail route is geographically the most direct, but over-rationalisation of infrastructure in BR days results in inherent limitations in what it can offer, while the car and bus routes are longer and geographically indirect. Car journeys are long and slow and suffer from road congestion, in particular in Exeter and Barnstaple, and are not resilient to the effects of severe weather. Public transport is slower still, with the slow, infrequent through Barnstaple-Exeter bus services not operating on Sundays and taking an indirect route via Bideford/ Torrington. The intermediate railway stations have either no or in most cases infrequent bus services. The Exeter to Barnstaple rail route is slow for the distance involved (and is perceived by actual and current non-users as slow) and typical journey times are materially slower than the fastest in the timetable. Poor connectivity with longer-distance train services at Exeter St Davids deters the use of the route for longer-distance journeys, both for outbound and inbound travel such as tourism.

The current timetable is a compromise that satisfies nobody fully imposed by the infrastructure: Several intermediate stations, in particular Crediton, are growing fast in usage albeit from a lower base than Barnstaple, which sees the lion's share of passengers. It would therefore not be possible to omit many calls from the timetable, but these calls and the need to pass other trains because of the inherent limitations of the over-rationalised infrastructure mean a slow and irregular service. This, and poor connections in Exeter, suppress demand for longer-distance through rail journeys, which reduces rail revenue.

Poor rail punctuality and reliability adversely affects the wider rail network and deters passengers: The route suffers from passenger-deterring poor punctuality and reliability and the inherent limitations of the long sections of single track with few passing places resulting from over-rationalisation in BR days exacerbate delays and mean they are difficult to recover from. The route exports delay to the rest of the national rail network. As well as the more regular disruption caused by late running and cancellations, the line is also affected on a less frequent but still regular basis by more extreme disruption caused by heavy rainfall swelling the River Taw and other waters crossed by the route leads to sudden precautionary route closures. These are implemented on the basis of an agreed operating procedure to reduce the risk of serious accidents resulting from damage to bridge supporting structures. Such closures sap the confidence of users and potential users, putting at risk the continuing strong growth in usage seen in recent years and limiting the wider social benefits the line brings to the area. While some alternative transport provision with taxis and buses has been possible in these circumstances, it is never a full substitute for the train service and has been accompanied by a 'do not travel' request from GWR.

Insufficient train capacity for busiest times now and future growth: The capacity of the longest trains is already insufficient for the busiest times when the route is seeing unprecedented growth in usage. Unlike most places in the country, usage of the Barnstaple route is outstripping the highest passenger pre-COVID usage figures, which were themselves at a record high. Current fleet problems mean that GWR sometimes runs shorter trains than diagrammed, exacerbating the crowding issues.

The stations are difficult to access and use: Most intermediate stations have limited parking and poor pedestrian access, for example direct onto unlit rural roads with no pavements. Barnstaple station car park has insufficient capacity to allow for significant further growth in usage. Several stations are inaccessible, or only partly accessible, to disabled people. Poor accessibility and usability of the stations constrains further growth in usage.

The route has not entered the digital age: Mobile connectivity is poor along the route, resulting in poor on-train wi-fi limiting the use of the train journey for productive work purposes. Apart from Barnstaple, the stations do not have wi-fi and there is no pay-as-you-go ticketing.

The old diesel trains are environmentally unfriendly: The old diesel trains used are not environmentally friendly.

The level of capital cost and project timescales are realistic aspirations for Devon

At this early stage when no views have been taken on the extent of physical works needed to upgrade line frequency and improve journey times, which would be by far the most costly part of the overall scheme, no attempt has been made to develop a cost envelope. Instead, a wide range of locally-promoted rail schemes which have either recently been implemented or are currently in the course of construction or planning are noted in the Commercial and Financial Cases. This list of schemes shows that it is realistic for a local authority under the right conditions to be able to sponsor substantial rail schemes.

The largest of these schemes in financial terms is the Northumberland Line reinstatement of train services on a freight-only route promoted by Northumberland County Council. This opened for train services in December 2024, with further stations opening in 2025 and 2026. The overall cost is cited by the promoter as £299 million.

A vision for a programme of modernisation of the Exeter to Barnstaple line

This document presents a vision for a programme of modernisation of the Exeter to Barnstaple railway line that addresses these problems by transforming a 19th century asset into one fit for the challenges of today and the longer-term future and which would also provide a better basis for the separate, complementary schemes to increase the frequency of train services across central Exeter and to reinstate train services beyond Barnstaple to Bideford. While the complete package of improvements would provide the strongest outcomes, some individual elements could be undertaken separately if it did not prove possible to fund the entire package, or they could be implemented in sequence if funding was not all available at the same time.

The vision is purposely integrative, encompassing network infrastructure, stations and rolling stock, as all elements would benefit from modernisation. It intentionally looks to the longer term, not limiting itself to short-term 'quick-fixes'. While current rail organisational structures with separate funding lines for infrastructure and train operations/stations may make such an integrative approach more difficult, it is noted that the proposed new structures for the railway involving Great British Railways, which are expressly intended to bring the management of the infrastructure and train services back together ('vertical integration'), are designed to reduce the impact of such barriers.

Objectives

The following are proposed, aligning with and pursuing local, regional and national strategies:

1) Create transformational change to the Exeter to Barnstaple line by providing a platform for continued modernisation through future investment beyond the more limited 'patch and repair' of the past, in particular ensuring more punctual/reliable train services;
2) Provide additional capacity to the rail network between Exeter and Barnstaple to support and mitigate the impacts of current and expected future demand growth including where driven by increasing local population and planned housing expansion, also including if train services are extended to Bideford;
3) Improve socio-economic conditions in the Northern Devon and Mid Devon areas by reducing the negative impacts of peripherality, assisting in lifting productivity, prosperity and local economic growth;
4) Enable rail and more sustainable active and public transport modes to take an increased share of overall transport demand, itself growing as local population and housing increase, to contribute towards decarbonising transport on the Northern Devon - Exeter corridor;
5) Enhance access to employment opportunities, education and healthcare in Exeter and beyond for Northern Devon and Mid Devon residents, facilitate access to 'hard-to-recruit' jobs for people outside these areas, in particular by improving station usability for all passengers; and
6) Improve visitor access by sustainable public transport to the natural environment, including the Tarka Trail, the South West Coast Path, the Two Moors Way, the Exmoor National Park, the North Devon National Landscape, the UNESCO North Devon Biosphere and other coastal areas.