



a report by Greengauge 21 for the Campaign to Protect Rural England



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Foreword

In 2015, a tenth of people's travel will be by rail. This proportion is unequalled since 1965, when the Beeching axe was falling most heavily. In fact we travel twice the distance by rail is we did fifty years ago even though our rail network is far smaller. But as train travel grows in importance, so places that are cut off from the rail network face growing disadvantages. This applies mostly to rural areas.

Revitalising our rural railways is an important element of 2026 - A Vision for the Countryside, which describes the England CPRE wants to see in our centenary year. This report sets out why better railways are essential if we want to protect and enhance our countryside, and get more people visiting and enjoying it. It shows that reopening is not an exercise in nostalgia, but vital both to unlocking the potential of rural areas and securing a resilient transport network.

The changing climate will increasingly threaten the resilience of our infrastructure, so it is not only the far South West that needs diversionary rail routes. Moreover, this report makes a compelling case as to the economic, social and environmental benefits of restoring sections of rail lines that were axed in the 1960s, turning them from dead ends into through routes again.

The interviews covered in this short publication speak volumes for the enormous popularity of reopening railways, whether for young people who desperately need access to jobs and training, or for older people who fear being left stranded. With growing numbers of households in our urban areas not owning cars, the direction of travel will certainly not be one-way. Travelling by train offers an enjoyable way to reach our finest and most tranquil countryside, while minimising negative impacts.

While the recent return to road building threatens some of England's most treasured places, we are doing next to nothing to widen travel choices outside of cities. That is why CPRE is calling for a 'smarter travel first' approach to make road building the option of last resort, whether in town or country. If rural areas receive their fair share of national investment, railways like this one can be reopened, with great benefits to the countryside, its communities, and those who wish to visit it.

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Executive summary

The cost of reinstating railway lines to modern standards can be significant. This is therefore only likely to happen where there is a compelling reason to do so. But with the demand for rail growing year on year, investment in rail capacity between and within our major cities is proving essential. So this report asks - by way of a case study - whether it is now time to consider whether railways in rural areas should be expanded, too.

The Campaign to Protect Rural England (CPRE) commissioned Greengauge 21 to examine the wider impacts of reopening the Plymouth - Tavistock - Okehampton - Exeter railway, as a second main line for Devon and Cornwall. Until now, the investment case has been driven by a need to ensure that the South West is not cut off by severe weather and landslips on the existing line. The event driving the examination of this proposal was the lengthy closure of the line after sea damaged the railway line at Dawlish in February 2014.

So far, little consideration has been given to how a second line could better serve the rural area through which it passes. This report considers these *local* economic and social impacts of such a move.

The methodology comprised a mixture of interviews with key stakeholders and site visits (to incorporate the views of people living, working and operating businesses in West Devon), a literature review, and a seminar at which invited experts were asked to comment on and validate the study findings. All elements of the work were considered in the context of district and county councils' strategic priorities and local plans.

1. The social and economic context for the re-opening of the line

The research highlights the potential benefits to the visitor economy and impacts on existing businesses and residents. It examines the increased potential for commuting to Exeter and Plymouth, and its positive and negative consequences. Through interactions with local and county councils, the community and voluntary sector, and regeneration organisations, we learn about and discuss the potential impact on skills levels, local income levels and productivity, as well as access to health and education facilities and the increased potential to retain younger people to contribute to West Devon's community. These are the practical social consequences of rail service reinstatement.

2. The likely areas of impact and key factors that would need to be considered in an investment appraisal

Our research highlights the need for the investment case to take account of wider economic effects. Creating a second route to connect Cornwall and Plymouth with the rest of the national rail network needs to be assessed in terms of the impact on the wider economy, rather than simply the financial costs to the rail sector. The impact of the rail service will be to strengthen demand - including for housing - in Tavistock and Okehampton. Project appraisal methodologies need to reflect this type of effect - and recognise that the alternative - a near totally car-based way of life and dispersed development patterns - is a less sustainable alternative. The potential to improve rail freight prospects also needs to be considered, and so too does the economic value of enlarging Plymouth's and Exeter's journey-to-work catchments.

Additional factors to be considered in appraisal

- 1. The *added value to the south west peninsula* of a second railway line through improved network resilience, taking into account the full wider economic value in ensuring that the whole peninsula is not periodically cut off from the rest of the country.
- 2. The *benefit to the local economy*, given the large area it would serve (West Devon and beyond into the wider catchment of North Cornwall and North West Devon), and in particular the strengthening of the economies of Tavistock and Okehampton.
- 3. The *enlargement of the Plymouth travel-to-work area* to include North Cornwall and much of North West Devon that would be a result of opening the line.
- 4. The *enlargement of the Exeter catchment both* in terms of travel to work/education and more widely for day out/shopping.
- 5. Meeting the strategic needs of the naval dockyard in Plymouth.
- 6. Helping to meet Network Rail and Government's aim to *improve rail freight* capacity and the enhanced potential to attract intermodal traffic (logistics using loading units similar to containers) to rail to flows to and from the South West.

3. The physical challenges of reinstatement

Clearly, the standards to which a railway would be constructed today differ considerably from the Victorian era. Current uses of the track-bed of the former railway - which is largely (but not entirely) intact - are described. Access to stations is a crucial factor. Through discussions with local authorities and the Dartmoor National Park Authority, the study was able to highlight the potential environmental impacts, alongside the question of how best to access and enjoy the natural environment.

4. The types of service that should be provided

The report considers a specification of the planned train service to achieve low incremental operating costs and strong revenues and benefits. It

concludes that a limited stop service operating directly to Exeter Central and (potentially) Waterloo could ensure the commercial success of the local train service and bring wider consumer benefits than a local branch line style of operation.

5. Conclusions

The key findings of this research are:

- The consensus of politicians, businesses, and the general public is that the rail line would bring significant benefits to the towns of Tavistock and Okehampton and to the surrounding rural areas.
- The economic case for creating a long-distance diversionary route can be strengthened by providing a new local rail service.
- Such a service could mitigate some of the problems faced by remote rural areas in Devon and North Cornwall, and will strengthen Tavistock and Okehampton, where additional housing is already planned and where sustainability objectives are best met through coordinating planned development with rail reinstatement.
- These benefits depend on services being properly integrated into the existing public transport network, such as through integrated ticketing and timetabling.
- A normal transport economic appraisal assumption of unchanged land use in the do something/do nothing cases is inappropriate.

The findings offer a basis for developing an updated business case that reflects the, on balance, positive consequential effects on the livelihood of those living and working in West Devon and its surrounding rural area through transformed accessibility.

Phasing of Implementation

The project lends itself to a two-stage implementation approach, with the first stage comprising two components.

The business case for re-opening the Bere Alston - Tavistock section of route will go to the Local Transport Board for consideration later this year. It is not yet funded, and it is expected that funding will be sought by Devon County Council though a Growth Deal bid. It could be in service by 2020/1 but the design of the route and station at Tavistock will need to be able to accommodate a subsequent northwards extension.

With the combined support of Devon County Council and the Department for Transport (DfT), there is an opportunity to provide a regular year-round Okehampton - Exeter service as an interim step towards the full scheme. This could help ensure progress is made with housing and other development and regeneration in Okehampton. Changes to the bus services will be needed at any interim as well as final stages of the project.

The full line, including the Tavistock - Okehampton section, could be opened in 2019-2024 (Control Period 6 for Network Rail) subject to feasibility, affordability and an investment decision. This timing fits well with the Industry Planning process; route studies to identify investment choices need to be completed by June 2016 and funding determinations would then follow. Planning consents would need to be progressed in parallel.

1. Introduction

It has been over 50 years since the Beeching Report ("The Re-shaping of Britain's Railways") led to a dramatic reduction in the railway network across rural Britain.

While some lines were closed that would today form useful additions to the national network, many branch lines were carrying very little traffic. The charm of these largely rural branch lines has led, over the years, to (sometimes nostalgic) hopes of their restoration.

The reality is that, often, former railway land has been lost to development since its closure. Costs of reinstatement to modern standards can be high. And, besides funding for capital works, the question of ongoing financial support to operate the services arises, at a time when cut-backs in the rural bus network are widespread due to pressure on local authority budgets.

It follows that creating new rail services is only going to happen if there is a clear opportunity to do so: where rights of way are largely intact or if there is opportunity for a new alignment; where there is the prospect of sufficient passenger (and potentially freight) demand; and if there is a compelling rationale to make the investment.

The example of the Borders Railway in Scotland, due to open later this year, is by far the most dramatic of a small number of line re-openings in recent years. The line will provides a rail connection between Galashiels - one of the border towns cut off from the national rail network in the 1960s - and Scotland's capital city, with new stations provided in the fast growing southern suburbs of Edinburgh.

At the time of most of the line closures, rail use on rural lines was often declining. Nationally, rail use fell by 16% to just 700 million passenger journeys per year over the decade to 1977 when the line we examine here was closed. Rail market share was steadily being eroded in both passenger and freight sectors. But this has changed. Over the past 15 - 20 years, rail use has been growing at a far faster rate than private car transport and HGV traffic. Passenger journeys by rail have doubled since the mid-1990s. This growth has happened in rural areas as well as on longer distance routes and commuter lines. Indeed, branch lines in Devon and Cornwall have recorded some of the highest growth rates nationally; overcrowding of trains on these lines has had to be addressed.

The reasons for this rail resurgence are in part related to the growing problem of road traffic congestion and the declining appeal of road-based

travel alternatives, while rail services are getting better. Major investment is under way on the major rail arteries - the intercity routes and in the major cities. And so it is timely to consider now whether there are also places where the role of railways in rural areas can be usefully expanded.

Greengauge 21 is a research group that supports the development of Britain's rail network and it has been commissioned by the Campaign to Protect Rural England (CPRE) to examine how rail can better serve rural areas. The work reported here is a first case study in this field and it has been carried out with information provided by Network Rail.



Source: BBC

We chose the *Plymouth - Tavistock - Okehampton - Exeter* line as a case study because we believe it to be one of the best candidates for a railway reopening in England. It is one that could serve a wide rural area of West Devon and a broad, deep rural catchment beyond it that is currently without any rail service. A reopening could help address economic and social needs of a large part of South West England. So far, this has been a prospective line re-opening with the very specific aim of creating a second through route, providing resilience to the rail services in Devon and Cornwall. Less attention so far has been paid to the question of how its re-opening would affect the rural area through which it passes - and it is this that forms the focus of this research.

2. Approach

The aims of the research were to establish the social and economic context for the re-opening of rail services on the line; to assess the likely areas of impact (the key factors that would need to be assessed in an investment appraisal); and to outline the types of service that should be provided. We also wanted to explore whether there were wider lessons that could be drawn from this case study that would be relevant to other locations in England and Wales.

Our approach comprised four key elements:

- a programme of interviews with key stakeholders
- a literature review
- site visits and an assimilation of the views of people of West Devon at a seminar at which the study findings were presented and discussed with invited experts.

Much of our understanding of the area came from the set of formal interviews carried out. These were designed to address broad areas of interest. We talked to people in the public and private sectors; to those in the voluntary sector who tend to be closely linked in with their communities; and of course to those concerned with transport plans and policies, with wider environmental and sustainability matters and with rail service provision. Our questions extended over the education and health sectors, business interests and the tourism sector. We have drawn freely on the views and information provided; some will see their own views closely replicated in this report.

But just as important was the opportunity we took to observe daily life in the area in March 2015 on a completely informal basis. We learned, simply from listening, that people were very in touch with, and proud of, the parts of West Devon where they live and work, and knowledgeable on contemporary planning policy issues. From this, we gained appreciation of the concerns people have about pressures on infrastructure and services and their sense that while a new rail service would help in many ways address real problems and challenges, it might also bring unwanted side effects.

We were very fortunate to come across a recent, very thorough, survey of attitudes of the residents of Tavistock that explored these themes - and we report it in summary in Chapter 4.

On the question of investment appraisal, it was not the specific purpose of this work to make the case for re-opening the railway - the "northern route" in a set of options to provide rail network resilience in Devon and Cornwall. But we have reviewed the work carried out to date and, drawing on our appreciation of the local economy, as well of wider developments in transport investment appraisal methodologies, we were able to identify the features that should be considered in forthcoming work in this area. Our aim

has been to identify opportunities to strengthen future iterations of the investment case.

We have described this as a first case study, and if there is an appetite to do so, we would consider extending the work into further case studies or a programme of research into rail service development across rural Britain.

3. The Social and Economic context: Okehampton, Tavistock and surrounding areas

Creating a second railway route across Devon on the north side of Dartmoor would create the opportunity to provide rail services to the two main settlements at Okehampton and Tavistock. These are towns with distinct characteristics, each with a large rural hinterland. This wider area - much of it covered by the district of West Devon but also extending to adjoining districts - along with the specific circumstances of the two towns, needs to be considered in assessing the impacts of the rail project.

West Devon is very largely (97%) "green-space". It is an area rich in protected countryside (Dartmoor National Park, and the Tamar Valley Area of Outstanding Natural Beauty). It has a mixed economy with a relatively high proportion of employment in the tourism sector (catering and accommodation), and low levels of unemployment. But it also has low levels of household income. Remarkably, it has the lengthiest commuting distance of any mainland district in England and Wales, according to the 2011 census. Travel is an issue here.



Bude is said to be the town furthest from a railway station in England (45 miles to Exeter). The wider catchment extending beyond West Devon into North Cornwall and Torridge illustrated in the map above needs to be considered too, since places such as Launceston, Holsworthy and Bude could be brought much closer to the national rail network.

In West Devon, proposals to locate the majority of any new development in the main towns of Okehampton and Tavistock explicitly seek to ensure maximum accessibility by public transport. The Adopted Core Strategy for West Devon aims to reduce possible adverse impacts of development on the strategic road network by improving strategic connectivity where possible

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¹ Source Greater Dartmoor LEAF Local Development Strategy 2015- 2020

through sustainable transport means, by improving resilience of the local road network, and increasing the level of 'self-containment' of the key towns.²

Demographics and housing

The population of West Devon is 53,500. Just under a quarter (23%) are aged 65 or over - a level typical for the South West as whole, the English region with the highest level of retirees. The 20-30 year age group is underrepresented in West Devon, in contrast with Plymouth, the nearest large city, where this age group is notably over-represented. Average earnings by place of work in West Devon are £15,900 and 82% of the working age population is in work.

The 2011 ONS figures show the populations of Tavistock and Okehampton were 12,300 and 7,800 respectively. The previous 2001 data shows the population of Tavistock as just over 11,000 and Okehampton as 6,000, so the past ten years has seen a significant increase, particularly in Okehampton.

Overall, West Devon has seen a strong growth in population of almost 10% between 2001 and 2011, higher than either Cornwall or Plymouth (both in the 6-7% range) and much higher than in the adjoining South Hams District (where population growth was only around 2% over this period).³

Unemployment is low - across West Devon it is 4% for males and 2% for females, 3% overall. Just 1.1% of the population are Job Seeker's Allowance claimants.

Housing needs are continually assessed and new developments are currently proposed in Tavistock and Okehampton, with little expected elsewhere in surrounding villages. Affordable housing is in short supply. With a high ratio between average earnings and average house prices and an expensive rental market, this is believed to be one reason why young people can't afford to stay in the area and, as a consequence, leave.

The housing plan for Tavistock provides for major housing growth on the south west part of the town. It is this housing development of 750 houses that led to the proposition of a section 106 planning agreement to co-fund the re-opening of the railway from Bere Alston to a station at Callington Road, Tavistock. The plan for Okehampton locates new housing (and employment sites) on the eastern side of the town. In both cases, the scope for development in other directions is heavily constrained.⁴

West Devon District Council is currently consulting on "Our Plan for West Devon", which will be the corporate plan for the council up to 2031, including all planning policies: http://www.westdevon.gov.uk/CHttpHandler.ashx?id=12826&p=0

² See website: http://www.connectingdevonandsomerset.co.uk/ Self-containment means providing work and other facilities within a specific place to meet the needs of local residents.

³ See housing needs assessment at http://www.westdevon.gov.uk/CHttpHandler.ashx?id=6757&p=0

Travel to work

There are high levels of self-employment at 26%, with higher than average proportions of people working mainly from/at home in both districts. At the same time there are also high levels of commuting by residents to work, principally to Plymouth (and Exeter) indicating, despite the policy aim, comparatively low levels of self-containment (that is, residents' employment being within-district). Commuter flows from West Devon are most significant to Plymouth, and there is evidence this is growing.⁵

There are notable differences between average annual earnings of residents in employment (which are above Devon average) and workplace earnings (below Devon average), suggesting that those with higher qualifications and earning power are commuting out to work, while those commuting into West Devon to work are in lower paid employment. A significant number of doctors employed at Plymouth's large Derriford hospital, for example, live in Yelverton and Tavistock. Low wage levels also have a significant impact on people's ability to afford housing, with consequent effects on mobility of labour.

Public transport use is very low for journeys to work: in West Devon 1% of the population takes the train and only 2% bus; from Okehampton, the statistics are none by rail and just 1% by bus; in Tavistock 1% rail and 3% bus (according to the 2011 census). Work at home/cycle/walk to work accounts for 32% for those employed across West Devon as a whole, a proportion that is lower in Tavistock at 27% and higher in Okehampton (38%). Households without a car account for 13%, and 43% households have one just vehicle in West Devon.

Dartmoor National Park

Dartmoor National Park Authority (DNPA) is a special purpose local authority created under the Environment Act 1995. Its two key objectives are:

- to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park
- to promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public.

Tourism on Dartmoor is worth more than £100m a year to the local economy and supports nearly 2000 full-time jobs.⁷

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⁵ *Ibid*, Housing Needs Assessment

⁶ Source: 2011 census data

⁷http://www.nationalparksengland.org.uk/__data/assets/pdf_file/0010/336565/Sustainable-Tourism-in-UK-National-Parks.pdf



Postbridge, Dartmoor. Source: National Parks England

Creating a second railway route across Devon will clearly impact on the north side of Dartmoor. The DNPA is therefore keen to engage with the proposal to understand how this line will fit into the bigger picture of how people access Dartmoor, and whether it forms part of a modal shift in transport use.

While the authority appreciates the obvious benefits that improved connectivity will bring to Dartmoor, it is aware that there are lots of unknowns that may impact negatively on the area. It has recently commissioned a study that will help to show the impact of the line on tourism, the ecology of Dartmoor, and access to and enjoyment of the natural environment.

Dartmoor is little different from the overall position with England's National Parks, where 95% of visitors arrive by car. Rail services to Okehampton and Tavistock could open up the opportunity for more services akin to the *Haytor Hoppa* (Bus Service 271) which runs from Newton Abbot railway station on summer Saturdays as a way to explore Dartmoor.

DNPA is keen to explore the opportunities a new line may bring for improving physical infrastructure for cycling, including better linkages to the national network and rolling stock that can accommodate bikes in numbers, as well as marketing opportunities for the park. Other wider economic opportunities of interest are the potential to reinstate Meldon Quarry to the end of its natural life, and then redevelop the site in an appropriate way, perhaps using its recreational potential.

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⁸ Source: National Parks England (2012)

Education and training

Educational attainment levels are relatively high in West Devon residents are well qualified - well above both the Devon and England averages for NVQ4+ qualifications.

Okehampton has a large college with more than 1300 pupils serving a wide rural catchment as well as the town itself. In 2014, 63% of pupils achieved 5 A*-C GCSEs (or equivalents) including English and maths GCSEs. There are only 50 pupils in sixth form, and so students aged 16+ need to travel to Exeter. Exeter College is well served by Exeter Central station.

Tavistock Community College, serving Tavistock and the surrounding rural area, has 1250 pupils. In the same year, 53% of pupils achieved 5 A*-C GCSEs (or equivalents) including English and maths GCSEs. In the admissions policy, parents are advised to consider how their child will get to college and not to rely on lifts/car shares, with public transport said to be always available.

Training is provided through a diverse set of arrangements and is considered to be problematic in an area of dispersed rural communities. So when researching why, for example, young carers aren't accessing the training and support to which they are entitled, the main reason given was lack of transport services to get to the places where training is offered. An interesting example of this type of problem comes from a business based in Holsworthy, in the wider rural catchment to the north-west of Okehampton, as summarised in the panel below.

"Due to the limited availability of training in the West Country, we send employees to Bristol, London, Birmingham, Manchester and Gloucester for training, which invariably has to be done by car... Implementing an apprenticeship programme has been impossible to date as:

- training is predominantly available in Exeter, Barnstaple and Plymouth
- attendance at college can be for 2-3 days full or part-time which can be a huge strain on young adults having to travel 90 minutes each way before and after attending classes
- accessing suitable buses can be difficult or near impossible
- maintaining this level of travel and attendance is difficult, leading to a higher drop-out rate
- due to the significant amount of time spent travelling, they then have limited time for studying at home or for acquiring work to supplement their income
- many do not even consider this option as travel is too off-putting
- many employers will not consider offering apprenticeships due to the expense and fear of committing time and money to someone who may drop out of study due to travel fatigue."¹⁰

¹⁰ Tina Collins, Finance Office and HR Manager, Harpers Home Mix Ltd, Holsworthy, November 2014

⁹ From the Bright Futures Project carried out by North Devon Plus on behalf of Torridge Voluntary Services (TTVS)

As a consequence, it was suggested to us that many youngsters move away for study and then do not return.

Health

In Devon as a whole, a combination of an ageing population, higher levels of rural deprivation compared with the national average, and greater distance from health and social care services and amenities, contribute to higher levels of social isolation. Indeed, especially for the elderly, where moving home is often not an option and car use becomes impossible, social isolation can intensify with the continuing loss of public transport provision as financial support for bus services is cut. This in turn is known to affect health and well-being and social care costs are driven upwards, meaning that savings in public transport budgets can be a false economy.

Levels of homelessness in the South West are higher than any other English region outside London, which also has implications for health, precipitating a range of physical and mental health conditions. ¹¹ One in 10 children in Devon is living in poverty.

The voluntary sector is still relatively strong in West Devon and so older people do still get free transport to hospitals - although this facility is being slowly reduced.

Most people from Tavistock are sent to the large hospital in Derriford (on the north side of Plymouth, so convenient for road access (but not future rail access) from West Devon). This was built in 1980 and is the largest hospital in the south west region. The Royal Devon and Exeter Hospital in Exeter is the acute hospital that most people from the Okehampton area use. However, Exeter Central and Exeter St David's stations are about three miles from both the Heavitree and Wonford Hospital sites, so the main hospital sites are poorly located for future access by train. Okehampton Community Hospital has in-patient beds for elderly/rehabilitation, and a comprehensive out-patient facility.

The local economy and its development

The top employment sectors are retailing, public sector services, tourism, construction and manufacturing. Employment growth predictions could see jobs increase by 1,500 in West Devon over the period to 2025. Economic modelling predicts employment and growth in value added might be seen in the next ten years in sectors including construction, accommodation and food, and business and finance.¹²

¹² Facilitating Economic Growth in South Hams and West Devon, JOHT Resources Ltd, May 2014. See http://www.westdevon.gov.uk/CHttpHandler.ashx?id=10899&p=0

¹¹ Joint Health and Wellbeing Strategy for Devon 2013-2016

The proportions of the workforce engaged in the main sectors of the West Devon economy are:

- wholesale and retail (18%)
- accommodation and food services (15%)
- health and social work (15%)
- education (11%)
- manufacturing (9%)
- construction (6%)

The UK Competitiveness Index defines competitiveness as "the capability of an economy to attract and maintain firms with stable or rising market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it". It is used as an indication of economic performance and some measure of innovation at the business level. Comparison between the benchmark figures in the 2010 and 2013 Competitiveness Indices suggests that West Devon remains virtually unchanged, below the UK average but in the second to top quartile of local authorities nationally.

With low wage rates and significant levels of commuting out of the area to work, high skills levels among residents in work, and below national average unemployment levels, there are policy questions to address about the balance between pursuing jobs and/or productivity. The economic strategy developed by West Devon, acting together with the adjoining South Hams district authority, seeks to support both economic aims, giving an emphasis to productivity, to raising wages and to economic gross value added.

Four sectors for potential employment growth in Devon have been identified: construction and property, distribution and logistics, business services and creative media. The Heart of the South West Local Enterprise Partnership (LEP) development strategies include sectors such as agri-tech and marine. Targeting growth by sector can be a driver of employment and of productivity growth, but a sector focus is not the only approach and the LEP also felt a need to support development across the spectrum of business activity areas.

An online survey of businesses in South Hams and West Devon was carried out in 2011/12 by the Diverse Regeneration (DR) Company, which is based in Okehampton. Responses from 356 businesses provide valuable insights into the key issues affecting business growth including:

- the majority of respondents indicated they are aiming for moderate/significant growth over the next three years (60%)
- access to finance is seen as the strongest constraint on growth and development (by 60% of respondents) followed by distance from markets (30%) and access to broadband

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¹³ DR Company Business Survey for West Devon and the South Hams

• recruitment is seen as a particular threat to business growth with issues of lack of experience and lack of skills cited (79% of businesses who sought to recruit in 2011).

The Strategic Economic Plan developed by the Local Enterprise Partnership indicates that:

- Exeter is emerging with a cutting edge in enviro-technology and modelling (building on the Met Office supercomputer and university strengths in agri-tech, water security, mathematical modelling and advanced materials)
- Plymouth has strengths in the marine sector through the Marine Institute, Interdisciplinary Marine Laboratory, SW Marine Energy Park and its facilities (working to develop 9,200MW of marine energy and offshore wind by 2020) - a centre for the Marine Cluster, core to the Plymouth and South West Peninsula City Deal.

These locations were seen as destinations for commuting of working age residents from West Devon (Plymouth being by far the main destination). There was seen to be an opportunity to explore links into these developing sectors to bring some economic benefit from these areas into West Devon. At county level, the critical economic issues were identified as including:

- below average jobs in the knowledge economy (e.g. below 40% in West Devon compared to 53% nationally), yet some major knowledgebased assets in the county - e.g. University of Exeter
- towns and rural communities in more peripheral areas are falling behind, leading to economic malaise
- an ageing population challenging the demand for and provision of goods and services
- environmental challenges including that of road-based transport¹⁵.

The West Devon Core Strategy (adopted in 2011) identified supporting economic activity as a key issue, with strategic objectives including attracting high quality employment opportunities and an aspiration to grow new sectors through utilising the resident skills base. Most employment land is targeted in the two main towns of Okehampton and Tavistock.

The East of Okehampton Masterplan, adopted in January 2014, relates to strategic housing and employment land allocations. It notes the good relationship of these sites to the A30. Several large employers have been lost in the area through the recession, so the Masterplan seeks to support economic growth. Development principles include the importance of flexibility to be able to respond to changing economic circumstances and flexible working practices. Two employment sites are included - one on which Okehampton Business Centre is located, and a second south of the

¹⁴ First Draft Strategic Economic Plan 2014 - 2030, Draft Submission December 2013, HoSW LFP

¹⁵ Devon County Council Strategy for Growth 2013 - 2020

railway line for B1, 2 and 8 uses. The latter is suitable for larger businesses, particularly if they require/generate significant lorry and HGV movements.

A recent business survey carried out across South Hams and West Devon shows that the overall picture in terms of economic growth is improving; although this area historically lags behind the rest of the UK, businesses noted increased confidence. In particular, although turnover is up, profitability hasn't recovered, particularly in Tavistock. Much of the economic activity in both towns is seasonal and based around low paid and part-time work, which makes the local economy vulnerable. Retail premises vacancies are higher in Tavistock than Okehampton. ¹⁶

The Diverse Regeneration Company Business Survey (2015) was carried out with more than 300 small and medium sized enterprises in the area - generally small well-established businesses. Their evidence is that in West Devon there are not as many start-ups as the national average but those businesses that are start-ups are more likely to succeed). This survey showed that poor public transport links were identified as a causal factor in their difficulty in finding recruits for vacant positions by 53% of those interviewed in West Devon.¹⁷

A historical social perspective

It is possible to add a historical perspective. The effects of closing the Exeter - Okehampton passenger service in 1972 (the service onwards to Tavistock and Plymouth had ended several years earlier) has been examined in a unique and important piece of research, one of ten case studies of railway line closures. Although this work was carried out 35 years ago - and of course much has changed since - it shows us what the line was used for when it was open (albeit at a time when there were no later evening or through/longer distance services) and what adjustments people had to make when the line closed.

Back in 1972, the Okehampton rail service was used mainly for shopping and leisure purposes; only 8% of those interviewed reported making journeys to work or school. Nearly two-thirds used the service to visit Exeter and nearly three-quarters of the sample also used the line to travel to wider destinations on the national rail network.

The effect of service withdrawal was deeply felt - 51% of Okehampton line users said they were very upset at the time (and 37% were still "very upset" six years later): one respondent told the researchers "we feel we have lost our way to the world". But only 11% of journeys made formerly by train ceased to be made; the majority continued by other means, split broadly

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¹⁶ This paragraph based in discussions with the Economic Development Office, West Devon Council, April 2015

¹⁷ http://drcompany.co.uk/businesssurvey/

¹⁸ The Social Consequences of Rail Closures, Mayer Hillman and Anne Whalley, Policy Studies Unit, PSI report number 587, April 1980

equally between car and bus. While the bus service was considered slower and inferior on nearly all grounds, 56% people felt it offered better access than the rail from the station at Okehampton (and only 14% felt the opposite). Use of the express bus between Okehampton and Exeter grew fourfold over the five years following closure - although this statistic will also pick up longer distance bus trips, and this was the time when the A30 was significantly improved, speeding up journeys.

A significant use of the rail service was for what was classified as "medical" travel - 35% of those interviewed used the line for this purpose among others. A third of these journeys were no longer made (by other transport modes) when the rail service was withdrawn.

Summary

West Devon portrays many of the characteristics of rural England as well as having its own unique attributes. Incomes are modest. The key towns have survived the recession but not without some significant employment losses. The resilience of the area is reflected in a diverse employment base, with tourism a significant feature.

Population has grown strongly over the periods 2001 - 2011. As is generally the case across SW England, a high proportion of the population is in the 60+ age group and the 20-30 age group shows clear and continuing signs of the effects of a lack of opportunities and outflow to other places, including the nearby cities.

This is an area with a low population density, and there are two compact towns (Tavistock and Okehampton) on which facilities and amenities are strongly centred. With due regard to sustainability issues, development is planned for these two towns rather than across the rural area.

In terms of access to major hospitals, higher education and higher-paid job opportunities, there is a dependence on the cities of Plymouth and Exeter. Already commuter trip lengths in West Devon are very high. As road congestion increases, there is likely to be a growing problem of congestion and extended journey times.

Public transport corridors are very clearly defined. Bus services are run, very largely, on a commercial basis (although early and late services currently are sponsored by Devon County Council), from Okehampton to Exeter and Tavistock to Plymouth (and, at lower frequencies, between Okehampton and Tavistock). Use of bus for journeys to work is very low, although is much more significant for access to higher education. Limitations on bus service provision is seen by businesses as a real short-coming - along with a set of other factors - making it harder to obtain recruits.

Given the economic aims set at various levels, locally and regionally, introduction of a rail service is likely to have significant effects - generally

positive but with a risk of unintended consequences, too. One of the factors to be considered is the generally uplifting effect rail would have on demand - so on house prices, for example - which might exacerbate some of the challenges West Devon faces. But in other respects, it is quite clear that additional demand would be just what the local economy needs.

4. Attitudinal research

Generally the consensus of politicians, businesses, the Devon Rail Partnership and the general public is that, if re-opened, the rail line would bring significant benefits to both towns and to the surrounding rural areas where transport links are currently very poor.

The re-opening of the line between Bere Alston and Tavistock has been pencilled into the council's local plan since 2006 as a modest commuter line (serving the new housing development to the west of Tavistock). Recent consideration of the full Exeter to Plymouth line has thrown additional challenges at this project as the infrastructure required is so much more significant. The Okehampton - Exeter line re-opening has been an ambition for Devon County Council for even longer.

Existing attitude research we have examined relates primarily to the two prospective re-openings at either end of the planned northern Plymouth - Exeter route. Its relevance lies not so much in terms of responses to direct questions about prospective use of a new railway (which is inevitably several years' hence) but much more in providing helpful insights into current travel behaviour and perceived problems.

The research addresses the views and needs of the local population; it does not include visitors, or those that might like to visit the area. With growing numbers of households in cities without a car, the advantages of creating access by rail to this part of Devon (and Cornwall) could be of growing significance.

Views of older and younger people

The transport lead for Devon Senior Voices made the point to us that the detail of the rail service timetable is critical. In the case of lyybridge station (between Plymouth and Totnes), re-opened in 1994, services ran too late in the morning and were too patchy to offer a viable commuter service. While services improved and usage reached a peak of 86,000 (per annum) in 2008, they have since fallen back to 66,000.

Young people on less than the minimum wage can get a subsidised bus pass on a "travel to learn" scheme. A spokesman for Young Devon told us that the biggest issue is that any new transport must be integrated into existing bus services: for young people living in rural areas, getting to Tavistock and Okehampton in the first place is a key issue. He too mentioned the example of when the new station was built in Ivybridge:

- there was no ticket machine (so young people kept getting fined)
- trains did not link to bus services in the town
- the morning train didn't get to Plymouth until quite late so was no good for getting to work at 8.30am.

So an affordable fare system would be very important for young people, especially those accessing jobs for the first time.

Okehampton

A survey was undertaken by the Town Council in February/March 2008 to establish the views of residents on the possible reintroduction of a passenger railway service to connect with the national rail network.

The questionnaire was designed for residents to complete themselves and return to the council offices. Members of the public were able to request copies of the questionnaire from the council offices. Conclusions had to be drawn with caution given the self-selecting nature of the sample.

A total of 312 valid responses were received, of which 96% lived in Okehampton. The residents were fairly equally divided between male and female. The average age of the residents was 51 years, with two-thirds falling between the ages of 33 and 69 years old.

Okehampton residents' preference for the frequency of trains each day was for an hourly service (45%) or two hourly (38%) to Exeter. The most popular projected departure time from Okehampton was 7.00am, representing 44% of residents' responses. Respondents expressed a preparedness to pay a 10% premium over bus fares for the return journey to Exeter.

"As the line is already in place it would seem a very practical idea. Also [it] would ease traffic on the A30 during peak travel and holiday season".

"It would be fantastic not to have to worry about traffic jams, carbon footprint and trying to find somewhere to park. Blood pressure would return to normal and travel would be a pleasure not a chore - please bring us a service."

"I believe a regular rail link should be re-established whether or not new development takes a place in Okehampton. Sadly, it will take more than a few extra trains to alleviate the congestion that will be caused if these hundreds of houses proposed are built."

"I cannot work in Exeter due to the bus timetable, nor am I on time to catch a train from Exeter St David's to my various work places, for example the 8.25 train to Salisbury or Dorchester, highly impossible, therefore early trains from Okehampton would be helpful with connections."

Those travelling from Okehampton for business lost time with their clients, and some missed appointments because of late or cancelled bus services. Others were discouraged from driving to the station because of traffic congestion and then risk being unable to park.

"We live at Belstone and our eldest son has recently started studying at Exeter College, where he is studying sport - he also has a Sunday job at Sport Direct in the city centre.

"He currently travels to college by bus, catching the Western Greyhound 510 from Tongue End. The bus is used by a large number of local students who attend Exeter College and there have been problems where the bus company have only made available a single decker bus, rather than the double decker that has been needed to accommodate all the passengers.

"On a number of occasions this term our son has been unable to catch the bus home as again the capacity of the bus allocated to the service has been too small to accommodate all the passengers and our son has had to wait for over an hour to try to get on a later service."

It is estimated that more than 70 young people just from the town of Okehampton attend schools in Exeter on a daily basis, with additional students at Exeter College travelling from North Cornwall. A statement from a lecturer at Exeter University illustrates travel problems as experienced by one family living in the area.

"I am a lecturer at Exeter University and I plough up and down the A30 four times a week. The journey itself is a daily 50 mile round trip but the most significant problem is parking at the university. Many of my classes are in the afternoon and evenings but if I arrive later than 9.00 in the morning finding parking on campus is often impossible.

"My varied timetable also makes car-sharing almost impossible. A train from Okehampton to Exeter would totally change my working life. The saving financially would be considerable and the environmental benefits are obvious. A further consideration is the journey many of the local sixth form children have from Okehampton and the surrounding villages to Exeter College. Our daughter spent many a frustrating evening waiting for buses that were late or too full to get on and a train service would have improved her last two years at school considerably."

West Devon, Torridge and North Cornwall offer limited opportunities for employment outside low paid service jobs and farming which is now less labour intensive. Okehampton is an expanding town and it is unlikely that the local labour market will be able to absorb the expected growth in the working-age population.

The problem of providing employment is made harder by the time-consuming bus services from Okehampton, with travel times of between 55 minutes and 1 hour to Exeter and between 1 hour 50 minutes and 2 hours to Plymouth.

The lack of a fast and efficient rail service between Okehampton and the two major cities of Exeter and Plymouth remains a major obstacle to the business traveller. Business and professional people are attracted to the area for the rural lifestyle, but soon discover that working from Okehampton and the surrounding villages is problematic. Travel for regular meetings in London and abroad is difficult because of the time taken. An example given was when the family car is parked for several days in Exeter while on a trip to abroad.

"For the last twenty years I have been an author full time. Since moving to South Zeal 16 years ago, I have seen the services degrade rapidly. Where once there were many buses at all hours, now there are very few. I regularly need to travel to London and beyond.

"This year I've had three events in America and Canada alone. However my family has one car. Either I have to drive to Exeter and leave the car there, depriving my family of a vehicle, or my wife must drive me to St David's so that I can catch a train."

Okehampton does not benefit from tourism as much as it should as the gateway to northern Dartmoor. Those businesses involved in tourism want the town to become more accessible and recognise the economic disincentive of the cost and time penalty of road travel. There is a loss of business to the area because of the lack of a national railway line, a point made clear by a local business involved in tourism.



Source: geography.org.uk

"We hire VW campervans for holidays in Devon & Cornwall. Each season we see many customers arrive in Exeter by train. As they are carrying lots of luggage the bus is not a popular option. Most will take a taxi into Okehampton, which can be quite costly (£40 - £75) per journey. While 15% of our hire customers choose this form of transport I cannot estimate how many potential bookings we have lost because public transport links are disjointed and the alternative taxi option is expensive."

The wider catchment

In a survey of West Devon, Torridge and North Cornwall (broadly, the eastwest Okehampton - Bude corridor) carried out by Michael Ireland of Destination Okehampton in 2011, Exeter ranked as the first choice destination for respondents, with 81.5% visiting on a regular basis. Barnstaple was second, with 51% visiting regularly. Plymouth was ranked in third place with 36%.

Outside the south west region, London ranked highly as a destination of choice, with almost one-third (29%) visiting the capital regularly.

Summary of travel in the wider catchment

- 1. 89% of respondents use the car as a first choice for journeys.
- 2. 72% pay to park at their destination.
- 3. Exeter ranks as the first choice destination for respondents with 81% visiting on a regular basis.
- 4. As a percentage of all journeys, 56% were for shopping and leisure.
- 5. The three most important requirements for a rail service to Exeter were a journey time that is comparable with the car or bus, the cost of the fare and free parking at Okehampton station.

Of the settlements across the wider catchment, only in Hatherleigh was there a positive response to the idea of commuting by rail from Okehampton, with 35% willing to use the train to travel to work. In sharp contrast, all other settlements showed no aspiration to use the train service to travel to work.

A different picture emerged when respondents were asked about trips for shopping and leisure using a train service to Exeter, with a much broader level of interest and support.

Business travel

For only one town, Tavistock, can the journey time to collect clients from the railway station be achieved in less than half an hour (because of its proximity to Plymouth). Two-thirds of respondents were travelling a minimum of 34 miles to collect clients and a maximum of 87, with the average being 60 miles. The latter figure represents the return mileage to and from Exeter St David's station from Okehampton. The survey findings demonstrated that time travelling to and from a mainline station is a significant cost to businesses and their clients, irrespective of location.

"Many more school groups would visit, school further away don't come here because of the long journey by bus. Transferring from train to bus in Exeter just isn't practical." [Adventure Okehampton]

"Currently the only mode of transport into Tavistock is by car and no other real options are available. Being located by Dartmoor we would benefit further from the tourist trade should this line be opened. The road network around Devon and Cornwall during the summer months is historically extremely busy and this line would ease the burden on already congested roads." [Morrison's Supermarket, Tavistock]

"Reinstatement is crucial in the revival of Okehampton. The local economy is depressed and the town of Okehampton does not attract tourists. This in turn has a negative effect on our retail sales and tourist visitor numbers because less people stay in the area. Plus we have found it very difficult to find local customers as no one has the money. So the rail reinstatement is all about rural regeneration opportunities." [Vineyard owner, Okehampton]

In a survey carried out by the DR Company for a number of local authorities, businesses in West Devon believed that opening a second (Northern) route between Plymouth and Exeter would be beneficial (65% agreed or strongly agreed). 19 The same source found that better access for staff (56% positive) and better access to markets (47% positive score) were key factors.

Tavistock

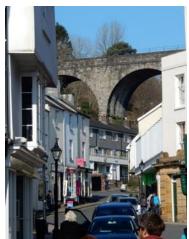
Perceptions of the residents of Tavistock were analysed in a very recent dissertation with regard to the proposed reopening of the railway line to Bere Alston and Plymouth, which is to be partially funded by housing development. 20 These perceptions were established following a survey which was delivered and collected by hand to one in six houses across the town, supplemented by a small number of in-depth interviews. This is a large sample.

The survey drew a very high response rate (39%) which provides a clear and statistically reliable picture of attitudes in Tavistock - both to the reopening of a rail connection with Plymouth and also to the prospective (and related) 750-house development.

¹⁹ DR Company Business Survey of 2014

²⁰ An Analysis of Public Perceptions Toward the Proposed Tavistock to Bere Alston Railway Reopening, Isabelle Coombes, February 2015, Geography BA (hons), Plymouth University (unpublished)

The survey followed an earlier study by Devon County Council that had found 63% of residents were in favour of re-opening the rail connection, but which had an unrepresentative sample with half of survey respondents being aged over 60 and only 2% below the age of 29.



Tavistock, March 2015

Encouragingly, the new research showed that the rail project was well regarded, indeed, more positively than the earlier survey, with 73% of respondents in favour of the rail reopening scheme and with many positive attributes of the scheme identified. But what was also clear was that respondents felt less positively about the scale of the associated housing scheme, and had concerns over pressures on infrastructure, including on traffic.

Devon County Council had presented the rail re-opening project as the "chosen intervention to mitigate the development impact and to support the growth in the town", that would, *inter alia*, help to minimise traffic on the A386.²¹ This is quite proper coordination of infrastructure development in transport and housing, but it does mean that locally the two components have been presented as, and are likely to be regarded as being, inseparable.

A breakdown of the level of support for the railway scheme is shown in a diagram taken from this research below. Around 20% of respondents are opposed to rail re-opening.

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²¹ Devon County Council (2014) *Tavistock to Bere Alston Rail Appraisal Specification Report*. Available at: http://www.devon.gov.uk/tavistock-rail-asr.pdf

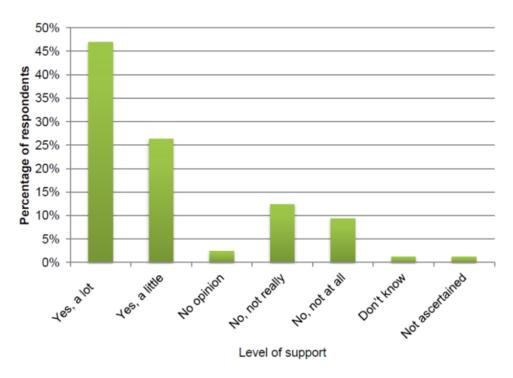


Figure 11: How far respondents are in favour of the railway reopening project?

Source: Isabelle Coombes, February 2015 (unpublished)

The reasons underlying this spread of public attitudes is shown in the table below, also taken from the study. Whilst most (63%) respondents felt that congestion on the main Tavistock - Plymouth road (A386) would improve, 17% felt congestion would worsen, presumably reflecting the effect of the related housing development.

Table 1: The percentage of respondents considering how far each of the above factors to be affected with the coming of the railway

	Greatly Improved	Slightly Improved	Not Affected	Slightly Worsened	Greatly Worsened	Not Ascertained
Future travel sustainability	34.5%	37.6%	15.2%	4.2%	1.8%	6.7%
A386 Congestion	20.6%	42.4%	16.1%	4.8%	12.1%	3.9%
Leisure, education and retail access	26.4%	37.6%	21.5%	6.4%	3.3%	4.8%
Tavistock's link to the national rail network	57.0%	29.4%	7.9%	0.6%	1.2%	3.9%

Source: Isabelle Coombes, February 2015 (unpublished)

The survey allowed the data to be mapped spatially. This revealed increased positivity as distance from the proposed development site increased, as shown in the diagram below which illustrates the views of those living in three distance bands from the station site: zone 1 up to 900m; zone 2 900-1800m away; and zone 3 1900-2700m away. Overall, the most frequent negative concern was the impact of extra housing (34% of respondents).

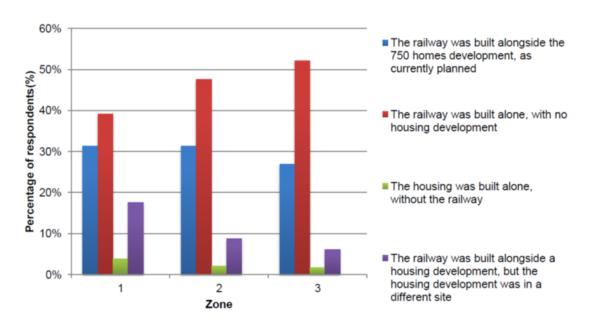


Figure 22: Percentage of respondents in each zone who would prefer each hypothetical scenario.

Source: Isabelle Coombes, February 2015 (unpublished)

What this diagram shows is that a majority of those living furthest from the planned station/development would rather have the benefit of the new railway without any housing development. This was in fact the preferred scenario in each of the three zones. In zone 1, within 900 metres of the station site, although 39% still prefer this scenario (no houses), a higher proportion (31%) prefer the combined plan as proposed. The scenario of the housing being built "somewhere else" was supported by 18% of those in zone 1, but was a less popular outcome for those living further away. There was little support across the three zones for the idea of building the housing without the railway. Yet under the National Planning Policy Framework (NPPF), unless the impact of the (housing) development is judged to be severe, concern over impacts on traffic is an insufficient reason to refuse planning permission.

The research also demonstrated that there was support for the much more recent prospect of a full line re-opening to Exeter as well as Plymouth: this attracted a majority of support too. The rail service to Plymouth was expected to be routinely used by 5% of respondents, but the location of Plymouth station was seen as being useful for only around half of those interviewed. More encouragingly, the location of the station in Tavistock did not seem to deter expected users from right across the urban area.

Summary

The communities that would be served by a re-opened railway in West Devon are generally very positive about it. It would particularly benefit journeys to work, journeys for education and training and business travel.

Currently, the relative remoteness from railheads adds to the costs of businesses located in West Devon.

The importance of the detail of service timetables, fare levels and the need for bus-rail coordination were all noted. It was acknowledged that the trend of commuting into Exeter and Plymouth was likely to continue upwards.

The wider catchment is likely to yield a market for leisure/day out/shopping travel, especially to Exeter (although travel to London is also a feature of this area). But only Hatherleigh, of the settlements in this wider area, was seen as likely to produce a rail commuting market (through Okehampton to Exeter) of any consequence.

For both Okehampton and Tavistock, there is a concern about the impact of additional housing provision and, from listening to people in West Devon, we are clear that this is a general concern about the pressures that development may bring to infrastructure and services. The implication is that a new facility - such as rail connectivity - may be regarded as a mixed blessing. It would bring more demand locally and help local businesses, including the tourism sector, and would provide a very welcome facility for residents to access Plymouth, Exeter and the wider national rail network: a genuine amenity. But insofar as it is seen as adding to pressure for more housing, or to existing services such as health and to local traffic levels, it is not so popular.

The conclusion to be drawn is that there is a need for thoughtful comprehensive planning to ensure that development associated with the rail re-opening meets local needs and that the case for local housing development is articulated more clearly. The reality is perhaps that the housing development will likely happen anyway; the question is whether the mitigating benefit of the restored rail service will happen too.

5. Re-introducing a rail service

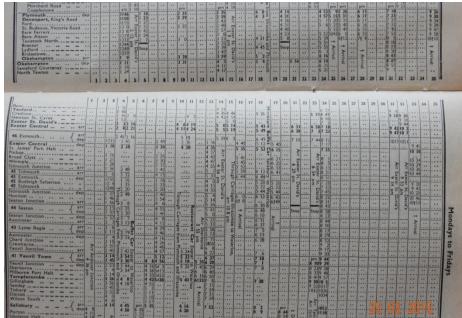
The history

The Exeter-Okehampton-Tavistock-Plymouth railway was built by the L&SWR company in the 19th century. It provided an alternative route to Plymouth around the north side of Dartmoor for the L&SWR to compete against the GWR which had followed a southerly route. With branches, the Exeter-Okehampton section also provided a means of accessing North Cornwall.



Source: BBC

Latterly, the railway was a "secondary main line" providing for a mix of local passengers services, with some services that started/finished at London Waterloo, a daily service between Plymouth and Portsmouth/Brighton and freight. While the route alignment was double-track throughout and allowed for reasonably fast speeds - 85 mph over much of the section east of Okehampton, for example - it was largely regarded as a back-up route, rather than the main connection for Plymouth (and Cornwall).



Extract: Summer 1963 weekday timetable

Largely closed to passengers in 1968, the two ends of the route were retained - from Exeter to Meldon quarry west of Okehampton and from Bere Alston (south of Tavistock) to Plymouth (the latter forming the Gunnislake branch).



Bere Alston, on the Gunnislake branch

While Okehampton has had a summer Sunday tourist train service, provided by First Great Western and sponsored by Devon County Council in recent years, Okehampton and Tavistock and the other minor stations on the line (Brentor, Lydford, Bridestowe, Sampford Courtney, North Tawton and Bow) have otherwise been without a passenger services for close to 50 years. The net effect is that this is one of the largest areas of the country without rail services.

Ownership

The Okehampton - Coleford Junction (just west of Yeoford) line remains in the ownership of British American Railways, although its function as a means of accessing Meldon Quarry ceased in 2011, when the quarry was mothballed by its owner Bardon Aggregates. A local heritage railway uses Okehampton station (owned by Devon County Council) as the base for a limited seasonal service in recent years.



Okehampton station, March 2015

The line between Meldon Quarry and Lydford has been converted into the *Granite Way* - a cycle route - by Devon County Council which owns it. There are various land ownerships between Lydford and Bere Alston. Devon County Council is leading a plan to re-open the Tavistock - Bere Alston section and owns the relevant track bed.

Re-instatement challenges

In effect there is 15 miles of "missing railway" between Tavistock and Meldon which, along with the section to Bere Alston, would create a 58-mile long alternative route between Plymouth and Exeter. But reinstatement is never straightforward and a number of specific challenges will need to be addressed.

First, it needs to be recognised that the standards to which a railway would be constructed today differs in a number of respects from those adopted in the 19th century. Perhaps the most critical of these are:

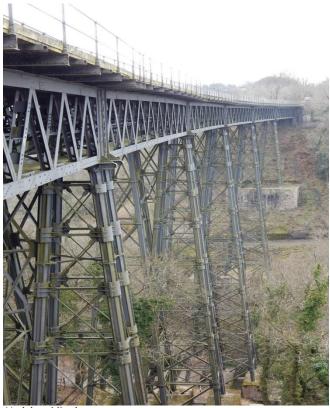
- the need to create an infrastructure resilient to climate change factors (which means a greater attention to drainage and earthworks, as well as to flood risk)
- a reluctance to create new level crossings whether for foot traffic or general wheeled traffic, because of their safety risks
- new standards for stations on platform heights and lengths and access in general as well as for the mobility impaired
- new systems of train control (signalling)

The route is remarkably intact in terms of structures which are largely of granite construction and quite probably in a good state for re-use. Others have been lost - including the bridge across Callington Road at Tavistock.



Callington Road and railway bridge abutments at Tavistock

The most significant single reinstatement issue is likely to be at Meldon where the viaduct is (unusually) of iron construction. Until a full survey is undertaken, it is not clear whether this viaduct could be strengthened and brought back into railway use or whether it would need to be replaced by a parallel structure.



Meldon Viaduct

Second, there are some properties - in general residential - that have been built on the line of route since its closure. Several houses have been built on the line of route in Tavistock, and since the right-of-way needs to be reused, they unavoidably would need to be demolished.

Finding a new route through Tavistock can be ruled out.



Railway viaduct at Tavistock

There are also former railway properties that have been restored - often to very high standards that will need to be protected from an adjacent operational railway.



Tavistock North station, March 2015



Brentor Station, March 2015

Third, there are other current uses for the rail right-of-way that need to be considered. The Granite Way is a valued recreational (primarily cycle-based) resource, that forms part of national cycle route 27 and which, over 6 miles between Meldon and Lydford, lies on the track bed of the former railway. There would need to be consideration to how its amenity value can be retained. Options might include creating a new route alongside the restated railway or creating a new cycle route - say from Meldon Junction over the former North Cornwall railway line to Halwill Junction and potentially beyond.



The Granite Way west of Meldon Viaduct

Elsewhere the right of way is unused and over much of the section between Lydford and Tavistock it runs alongside a second (GWR) line, in effect creating some flexibility on the chosen alignment for reinstatement.



Track bed of the two parallel railways near Mary Tavy

Stations and access

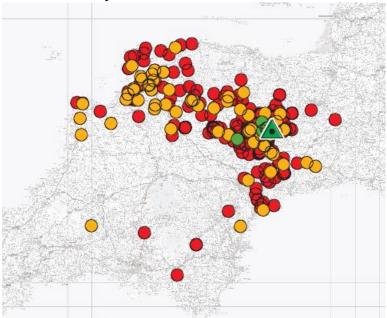
The original railway served a number of local villages, but there is little prospect that recreating stations or halts for them would make any sense. Indeed, Tavistock and Okehampton are relatively small places for consideration of investment to create a new rail service: they are in effect potentially benefiting from the network resilience value a northern route creates. And each place would get the advantage of connectivity both southwards to Plymouth as well as eastwards to Exeter and beyond. The outlying villages need to be served by bus services that connect effectively with railway stations at Okehampton and Tavistock.

But any new development also needs to provide for access by car (both park and ride and kiss and ride) and cycle use - and to a far greater extent than was the case when the line closed in 1968. In turn, this requires making some clear decisions on station location because in both Tavistock and Okehampton there are alternatives to be considered alongside the more obvious choice of reinstating services at the original station sites. Neither town is large enough to support two operational stations.

The selected stations need to be considered as the new gateways for each town. Visitor information, meeting facilities and free wi-fi all need to be considered as part of a means to create a valued local hub.

The scope for park and ride in Devon has been well established through the Tiverton Parkway experience. Its catchment is very wide, illustrating the advantage of offering a way to access rail without needing to negotiate congested urban roads to reach city centre stations. Interestingly, however, it attracts little custom from West Devon.

Tiverton Parkway catchment



Source: Mid Devon Transport Group for South West England Regional Development Agency, Devon County Council and First Great Western, 2009. Note: green triangle is station site; green discs are cycle users; red and orange distinguish different survey return methods. Surveys carried out November 2008

It has been suggested that a park and ride facility could be located either to the east or west of the existing Okehampton station, where there is readier access to/from the A30. Tiverton Parkway has succeeded because it has large nearby towns and good direct long distance (fast, regular) services.

The site that has been identified to the west of Okehampton at Sourton (population: 400) could serve as a railhead for the wider rural catchment for travel into both Exeter and Plymouth. It is located four miles west of Okehampton at a natural "pivot point" in the main road network, where the north-south A386 joins the east-west A30. The bi-directional rail market potential (to Exeter and Plymouth) would help balance demand in the morning and evening peak periods. Cycle access would also be worth considering. If a station at Sourton were to be served by high quality cycle routes, it could become a useful leisure hub and the source of a new style of sustainable commuting: by safe, longer-distance cycle access to the rail network. But unless this or another such scheme is developed that would stimulate day-long demand, additional stations such as at Sourton might have limited off-peak demand and run the risk of detracting from the overall merit of re-opening the line.

Summary

The availability of a largely intact track-bed is a considerable advantage. The use of granite for many of the original line's structures and the fact that the central section of line that needs to be re-created lies on a granite (and on red sandstone) geology rather than a clay-based soil sub-structure is helpful.

But there are some significant challenges. The costs of creating a railway to today's standards are significant, and they include a need to purchase some privately owned properties, compensating their owners appropriately. On the other hand, much of the route is in railway or local authority ownership, and the connections into the cities at either end of the route are intact.

A single station site should be selected for each of Tavistock and Okehampton. They would be served along with Bere Alston and Crediton by a new service for West Devon linking with both Plymouth and Exeter. Each station needs to be able to provide for access by bus, car, taxi and cycle and to offer the scope to become a valued gateway for the local community.

6. Investment appraisal

Network Rail has carried out business case appraisals of the northern route as part of its preliminary assessment of how best to provide resilience in the wake of the Dawlish sea wall wash-out of 2014. It is not the intention here to consider how this option compares with others as a response to the Dawlish question. Nor is it intended to update the appraisal that has been carried out: Ministers have already announced that further studies will be carried out this year. But the question of investment appraisal in the round is important: it will determine whether this project proceeds. And so far the question of impact on the local area has not been considered.



"Sea over-topping" at Dawlish

The Network Rail West of Exeter Route Options Study (published July 2014) and developments since have led to a conclusion that the existing main line via Dawlish and Teignmouth can be made sufficiently resilient. This means that when considering a northern route, it needs to be regarded as a second line, and not as an alternative to be considered in place of the route via Dawlish and Newton Abbot.

Nevertheless, it has to be expected that even a route made "sufficiently resilient" may be subject to periodic (hopefully short) closures - for instance, in the case of the route via Newton Abbot because of the continuing challenge of maintaining railway embankments and cuttings on a clay soil base, as well as the risk of sea "over-topping" at Dawlish. A second route has added value in such circumstances that needs to be taken into account in any appraisal.

Other options considered in the July 2014 study²² offer potentially up to 6 minutes time savings against the existing line via Dawlish, but come with multibillion pound price tags. This possible time saving is modest against the long term Peninsula Rail Task Force objective of cutting 45 minutes off Plymouth - London journey times. Faster services to London primarily require investment east of Exeter where the benefits can be shared across all of Devon and Cornwall.

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²² www.networkrail.co.uk/WestofExeterRouteResilienceStudy.pdf

When it comes to appraisal of the northern route, a wide set of benefits needs to be considered:

- 1. The *added value to the south west peninsula* of a second line through improved resilience in the event of disruption to the existing line via Newton Abbot due to:
 - engineering works
 - accidents at crossings/ with pedestrians/ suicide attempts
 - weather-related disruption
 - signalling/ train breakdowns.

There is an economic value in ensuring that the whole peninsula is not cut off each and every time such events occur. It is this wider economic effect rather than simply the question of Network Rail compensation payments that needs to be assessed.

- 2. The *benefit to the local economy*, from the second line, given the large area it would serve (West Devon and beyond into the wider catchment of North Cornwall and North West Devon), and in particular the strengthening of the economies of Tavistock and Okehampton, which are the only places where sustainable development of housing and other facilities to meet community needs can be provided on any scale in West Devon.
- 3. The *enlargement of the Plymouth journey-to-work area* to include North Cornwall and much of North West Devon that would be a result of opening the line. Access from these areas to Plymouth is constrained by the slowness and limited capacity of the A386. The current Plymouth journey-to-work area is substantially linear along the current railway and A38 road; a reopened northern railway line would extend it to enable commuting to expand sustainably from the north, expanding the area of influence of the city from a corridor to a wider area.
- 4. The *enlargement of the Exeter catchment both* in terms of travel to work/education and more widely for day out/shopping, again serving a wide area of West and North West Devon and North Cornwall.
- 5. Meeting the strategic needs of the naval dockyard in Plymouth, with a nuclear capability and the largest naval dockyard in Europe, and a potential for being the future English strategic operational nuclear submarine base.
- 6. Helping to meet Network Rail and Government's aim to *improve* rail freight capacity. The LEP told us that there is identified demand for at least a regular daily half-train load. But as is the case elsewhere, the freight distribution and logistics sector is reluctant to

commit to rail in the absence of alternative suitable routes and where resilience of service cannot therefore be assured. The potential value of the second line in opening the possibility, for instance, for domestic²³ and port-based intermodal traffic (typically containers) for the south-west, should also be given consideration.

The second of these factors is the primary focus of this study. The appraisal of options considered last year by Network Rail to examine how best to create resilience in the network west of Exeter did not consider, however, local service provision. It produced a cost benefit result (of 0.14) based entirely on an assessment of the effects of being able to use a re-opened northern route for through, non-stopping trains on those few occasions when the Dawlish route was presumed to be closed because of sea over-topping at Dawlish. What should have been just one of the categories of benefit was the only one taken into account. Even then, the wider impacts of loss of connectivity for the south-west economy were not estimated. Unsurprisingly, on this basis, it had a very poor cost benefit showing.

An updated business case

Ministers have endorsed the establishment of a south-west Peninsula Rail Task Force to respond to the three-point plan of the SW Connectivity Study and also to address the question of the potential re-opening the inland rail route between Exeter and Plymouth.²⁵

There are good reasons to suppose that a more realistic business case can be developed based on more detailed study. Key factors are likely to be:

- 1. Careful development of the "counterfactual" the likely situation without a rail service. This needs to include consideration of currently planned local government expenditure cuts: there is a risk that Devon would have no funding available to support bus services by (say) 2020. Peak period bus services are expensive to provide; commercial services might continue between Okehampton and Exeter and Tavistock and Plymouth during the day, but these will most likely not meet the needs of commuters, business or other longer distance travellers. Evening services in particular need revenue support. The without-investment case needs to reflect the most likely scenario for bus service provision in the decades ahead.
- An examination of the full economic loss to the West Country of losing its only rail connection at times of severe weather disruption.

²⁴ See <u>www.networkrail.co.uk/...and.../west-of-exeter-route-resilience-study/</u> published July 2014

https://www.gov.uk/government/news/long-term-economic-plan-for-the-south-west-unveiled

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²³ An example of the type of traffic that might be provided is the *Tesco Express* flow from Daventry to Wentloog (Cardiff).

- 3. A reduction in capital cost by reducing the specification from a high-speed (up to 125 mph) double track railway to one which has somewhat lower maximum line speeds (perhaps 90 mph), and is single track with dynamic (i.e. lengthy) passing loops. This would ease Network Rail concerns over achieving access for maintenance and could reduce the capital cost from an estimated £870m to around £650m (with 66% risk/contingency). A further possible obvious cost saving would be the closure of Crediton Signal Box and the prospect of a radio transmission based control system for both the Barnstaple and Okehampton lines. This would eliminate token exchange at both Crediton and Eggesford and also open the prospect of a more frequent service between Exeter and Barnstaple to cope with ever-increasing demand from this north Devon railhead.
- 4. A re-specification of the planned train service to achieve lower operating costs and much higher revenues and benefits:
 - a. By omitting the lightly used local stations south of Bere Alston, through journey times could be reduced by 8-9 minutes (these stations would continue to be served by Gunnislake trains).
 - b. By operating the service as an extension of South West Trains (SWT) services that terminate at Exeter St David's, the additional fleet requirement could be halved and revenues would likely be much higher with direct access to Exeter Central as well as St David's and, of course, with the provision of a direct through service to London. Comparison of station usage and their population catchments in the West Country suggest that demand levels would increase roughly threefold with this revised service offer, and benefits would also increase in proportion.
 - c. By integrating the new service at the key hub stations in Exeter and Plymouth, and potentially adopting the Swiss-style connecting timetable philosophy (for rail and bus services) considered recently by Network Rail in the context of East Anglia's rail services. ²⁶

The revised specification would still offer a diversionary route capability in times when it is needed (assumed to be, on the basis of past experience, once in each ten year period). Additional (say, once daily) Cross Country and Great Western route services might also be added in, to provide the necessary driver route-learning experience for times when a diversionary service needs to be operated - and these services would of course bring

 $^{^{26}\} http://www.networkrail.co.uk/publications/long-term-planning-process/improving-connectivity/$

further added value to Tavistock and Okehampton, assuming station calls are made.

The revised specification is also consistent with creating a route suitable for freight (either as a main or diversionary route). Contrary to what has been suggested by some, the northern route is not slow - there is almost no time penalty to Plymouth, and only a minor one for Cornwall. The theoretical non-stop Exeter - Plymouth journey time for a Class 220/221 Voyager is estimated to be 53 minutes (only four minutes longer than the similar non-stop time via Dawlish and 2-4 minutes quicker than the journey time achieved in practice with intermediate station calls at Totnes and Newton Abbot).

The proposition of extending the SWT service to Plymouth via Okehampton and Tavistock is of course only one option. It has the merit of creating through journey options. It offers a (slower) but direct route to London - in general at a lower price than the route via Reading. This means it helps extend customer choice in the West Country and its characteristics may well suit a catchment that has an elderly age profile and relatively low income levels. It should increase the likelihood of non-car-based tourism visits. And we know that while 7% of those sampled following line closure had used the wider national rail network before the closure of local the local service, this proportion fell to just 2% after the local service was withdrawn. With capital costs reduced by 25%, operating costs potentially decreased by 33% and demand, benefits and revenues up by a factor of three, the previously estimated benefit cost ratio (BCR) for a local service of 0.8 is likely to be increased to a ratio well above 2:1.

This, it needs to be recognised, is simply the business case for operating a local service assuming that the line is reinstated. The appraisal of line reopening itself needs to fully reflect the six elements identified above rather than narrowly follow standard Department for Transport WebTAG (Transport Appraisal Guidance). The contribution of a viable local rail service is just one factor in an appraisal that needs to look properly at the consequential effects of transforming accessibility to/from this part of rural Devon.

Assessing the impacts on the local area

This study has considered in the main the effects of a rail service on the rural area of West Devon, its two key towns and the wider catchment beyond, including north and east Cornwall. But it is also clear that there are significant local benefits accruing to the cities of Plymouth and Exeter that need to be assessed. Since these involve extend travel to work areas, consideration in appraisals needs to be given to the agglomeration benefits that would arise.

In relation to West Devon, the benefits centre on the two towns and their rural hinterlands. As has been made clear in Chapters 3 and 4, the impacts

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²⁷ Op cit, The Social Consequences

locally are likely to be complex. It would be helpful if these can be examined - with quantification, where possible - to develop a narrative for the business case. This way the risks around investment can be properly understood.²⁸ The appraisal of impacts locally should include consideration of at least the following:

- 1. The additional demand that would be generated in West Devon, including through the visitor economy.
- 2. The likely impacts on existing businesses' performance, growth and productivity, and the potential to attract new businesses to establish in the area.
- 3. The increased potential for commuting to Exeter and Plymouth and the consequences this would have for housing demand and local services as well as the locally derived benefits from higher paid jobs.
- 4. The potential impact on skills levels from greater access to higher education and training and the impact on local income levels and productivity.
- 5. The increased potential to retain younger people (especially in the 20-30 year age range) within West Devon.
- 6. The impacts on the road network and congestion levels along the A30 and A386 corridors.
- 7. The scope to include in the project definition appropriate bus feeder services noting that while these will generally require subsidy there are good examples of community transport linking to rural stations.²⁹
- 8. The wider economic benefits of significantly reducing the peripherality of West Devon (and North Cornwall) for which there is a good established evidence base from research by the University of the West of England for the South West Regional Development Agency.³⁰

Evidence on the importance of the approach taken to appraisal comes from the proposed Wisbech reopening has been the subject of recent investment appraisals. The standard appraisal of that scheme yielded a BCR of 1.4:1, whereas the more detailed assessment, which drew the net more widely

²⁹ See, for example, the Coggeshall community bus case study in CPRE's Transport Toolkit: http://transporttoolkit.cpre.org.uk/case-studies/coggeshall-community-bus.html ³⁰ Parsons Brinckerhoff, for the *Peninsula Rail Task Force*, Productivity and Wider Economic Impact Study, December 2014. This updated earlier work by the University of West of England that showed that across the West of England, productivity declines by approximately 6% for every 100 minutes travel time from London.

²⁸ This suggestion follows the conclusions in 'Investing in City Regions: the case for long-term investment in transport', Volterra and Partners, November 2014.

over the benefits (particularly in terms of access to jobs that a rail link would enable), came up with a BCR range of 2.3:1 or higher.³¹

It is evident that in the case of both Okehampton and Tavistock there is a relationship between rail service provision and housing (and other) development - indeed, the relationship is explicit in the Tavistock case. It follows that the normal assumption in transport economic appraisal that land use does not change is inappropriate. The population of the two towns will be higher if the railway service is opened, and it would be misleading to presume otherwise. The research with Tavistock residents shows that the wider public is well aware of this linkage. Any new appraisal has to take this factor into account.

Phasing of Implementation

The project lends itself to a two-stage implementation approach, with the first stage comprising two components.

The business case for re-opening the Bere Alston - Tavistock section of route will go to the Local Transport Board for consideration later this year. It is not yet funded, and it is expected that funding will be sought by Devon County Council though a Growth Deal bid. Its opening in service could be by 2020/1 and the design of the route and station at Tavistock will need to be able to accommodate a subsequent northwards extension.

The opportunity arises to provide a regular year-round Okehampton service from Exeter at the same time (2020/1) - and this would require the combined support of Devon County Council and DfT. This would help build the market for the full scheme and help ensure progress is made with housing and other development and regeneration in Okehampton. Changes to the bus services will be needed at this time too.

The second stage would then follow with the full line including the Tavistock - Okehampton section opened in 2019 -2024 (Control Period 6 for Network Rail). This timing fits well with the Industry Planning process (IIP); Route Studies which identify investment choices need to be completed by June 2016 and funding determinations would then follow. Planning consents would need to be progressed in parallel.

http://www.cambridgeshire.gov.uk/download/downloads/id/2623/march_wisbech_rail_study_stage_2 and

http://www.cambridgeshire.gov.uk/download/downloads/id/2622/march_wisbech_rail_study stage_3

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Summary

To date, the focus of economic appraisal work has been to consider this line as an alternative to that via Dawlish when that line is disrupted. As such, the local social and economic value for connectivity to Okehampton and Tavistock has not been addressed, and that needs to be put right in the studies ahead. We have argued that a conventional appraisal is very likely to misrepresent the impact of rail re-opening by failing to take into account the demographic and economic changes it will inevitably bring.

The way in which the value of a local rail service can be maximised has been described, and the example of the benefits of it being developed as an extension of the existing South West Trains service from Waterloo to Exeter St. David's - as one possible approach - has been outlined, with the prospect of a transformational effect on the business case for the service.

We have also put forward a range of factors that need to be considered when an updated appraisal is undertaken later this year to examine the investment case in the infrastructure necessary to support local, diversionary and freight services. These extend beyond the factors normally considered in transport benefit cost appraisal and take account of factors such as agglomeration economics and the effects of land use changes that are conjoined in the case of this particular rail project.

Additional factors to be considered in appraisals

- 1. The *added value to the south west peninsula* of a second railway line through improved network resilience, taking into account the full wider economic value in ensuring that the whole peninsula is not periodically cut off from the rest of the country.
- 2. The *benefit to the local economy*, given the large area it would serve (West Devon and beyond into the wider catchment of North Cornwall and North West Devon), and in particular the strengthening of the economies of Tavistock and Okehampton.
- 3. The *enlargement of the Plymouth travel-to-work area* to include North Cornwall and much of north west Devon that would be a result of opening the line.
- 4. The *enlargement of the Exeter catchment both* in terms of travel to work/education and more widely for day out/shopping.
- 5. Meeting the strategic needs of the naval dockyard in Plymouth.
- 6. Helping to meet Network Rail and Government's aim to *improve rail freight* capacity and the enhanced potential to attract intermodal flows to the South West.

The appraisal needs to elucidate how the various impacts on travel behaviour and its consequences for the economies at city, town and rural hinterland will likely interact. A bespoke scenario analysis would be appropriate.

7. Conclusions and wider implications

Case study conclusions

This research shows that:

- 1. There is strong support for the full line to be re-opened.
- 2. Currently there are significant impediments to local businesses, to the development of tourism, and to the broader economic development of West Devon (and North Cornwall/NW Devon) caused by the absence of a rail service.
- 3. The impacts of rail service re-opening on the local and regional economy are likely to be significant and on balance positive. The relative remoteness from railheads adds to the costs of businesses located in West Devon.
- 4. The economic relations between the wider rural areas and the key towns of Okehampton and Tavistock and the connections with the cities of Exeter and Plymouth are complex. They need to be considered in any investment appraisal that recognises that there will be changes for instance, in housing and population and in income levels, earnings and productivity of local businesses arising from rail service provision.

A new northern route would provide a resilient rail network

It would provide a second route between Plymouth and Cornwall (to the west) and Exeter and the wider national rail network (to the east). Currently, this connection is provided by a southern route that follows the coast between Newton Abbot and Exeter and is subject to damage from the sea.

The Peninsula Rail Task Force, within its three point plan, is seeking implementation of the full Plymouth - Tavistock - Okehampton - Exeter reopening during the period 2019-2024. Nothing in our research suggests this is an unrealistic aspiration, and the contribution to the wider economy from improving network and service resilience is substantial.

While the coast route can be made sufficiently resilient, it will most likely suffer some periods of enforced closure in the decades ahead. Sea overtopping at Dawlish is forecast to be a more, not less, common occurrence, and, without an alternative route, Plymouth, Torbay and Cornwall will be cut off from the rest of the national rail network when this happens.

The northern route appears to be the least costly way that a second line could be created that could meet today's standards of resilience against flooding and other risks.

³² Sea level change and transport infrastructure: the case of the coastal railway at Dawlish, England. D. Dawson, J. Shaw and W. Roland Gehrels, 2014

To create a suitable diversionary route, consideration has been so far been given to creating an intercity standard line. The question of local service provision to the two intermediate towns of significance, Tavistock and Okehampton, has been ruled out in the belief that local services would not be economically viable. We have concluded, however, that a local service with some adaptations to the current specification could be economically viable.

With suitable investment, appraisal and consultation, a new line could go some way to addressing the impediments to local business and tourism caused by the absence of a rail service, as well as providing a chance to maintain the sustainability and vibrancy of existing communities through supporting the provision of new housing that includes affordable homes.

A new line has public and political support

A new line has the support of Devon County Council, which has been pursuing a scheme to re-open the line northwards as far as Tavistock for some time and has hopes of doing so by 2018. Crucially, it also has the strong support of local people. The communities that would be served by a re-opened railway in West Devon are generally very positive about it. As communities in West Devon and North Cornwall are currently far from railheads, it would particularly help journeys to work, journeys for education and training, and business travel.

Affordable housing and access to stations are critical for sustainability

Sustainable development is an important factor that lies behind the choices ahead. West Devon District Council has plans for housing development in both Okehampton and Tavistock - in the latter case, very substantially based on a planned 750-home scheme by Bovis Ltd that is closely linked to the idea of reopening the rail link to Tavistock. The scale of these developments is significant: they will increase urban populations by more than 10% in each case.

As these proposals contain affordable housing quotas, they should help address a crucial problem of people in the 20-30 age group leaving the area through a combination of: a lack of local job opportunities; difficulty accessing jobs in the much bigger growing labour markets of Exeter and Plymouth without moving or leaving home; and the inability to afford the type of housing accommodation on offer.

Planning the introduction of the new rail service for Okehampton and Tavistock alongside new affordable housing offers the opportunity to address housing need in West Devon and redress the drift towards an everaging population base. In seeking to combine the two, the district and county councils recognise that this kind of sustainable development is far preferable to a more dispersed pattern of development.

Decisions need to be made on station locations. In both Tavistock and Okehampton there are choices. Neither town is large enough to support two stations. It is crucial that in any decision the question of access - by bus, cycle and car - is considered sufficiently. Making the new railway stations sustainable travel hubs, with special attention given to creating high quality cycle networks and facilities at the stations themselves, should be explored.

Investment Appraisal

The social and economic consequences of transport investment on both the immediate and wider area are easy to overlook, but, as has been illustrated here, it is necessary to give proper consideration to them.

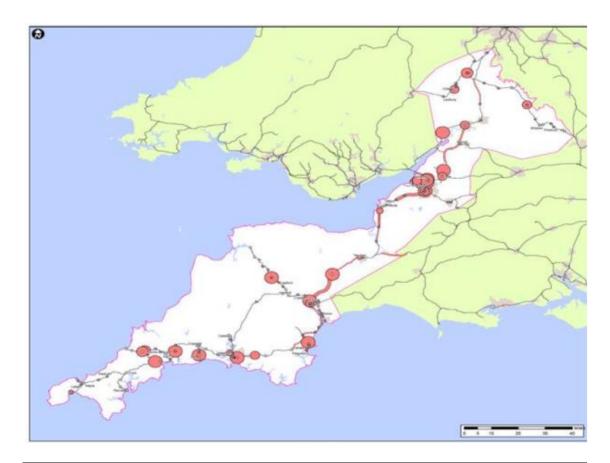
We have explored the ways in which the economics of a local rail service in the northern corridor can be improved if it is connected across Exeter, providing access both to the fast Great Western line services at Exeter St. David's and to the city centre (at Exeter Central) - and onwards to London Waterloo. The recreation of a second route between London and Plymouth is not an exercise in nostalgia but a means of maximising the value of line re-opening and providing meaningful customer choice. Such a service could be supported by a largely single track railway with dynamic passing loops and this might have a capital cost of around £650m (including 66% risk/contingency).

Implications from the case study for wider national rail network policy

There are three particular respects in which we believe this case study may have wider implications for the national rail network.

1. A route well connected at either end is more likely to be successful and of value than a stub-end branch line

The need for diversionary routes is not unique to south west England. Substantial parts of the national rail network are subject to weather and flood-related disruption. The cutting-slip at Harbury in early 2015 led to the closure of the Oxford - Birmingham railway for 6 weeks, for example. Network Rail is tackling a wide number of flood and other weather-related problems across its network in the south west, as illustrated below. Earthworks constructed in the 19th century are vulnerable to periods of heavier and greater rainfall, which is an emerging characteristic of Britain's weather in this period of climate change. The especially wet summer of 2012 led to many problems. The likelihood is that embankment and cutting slips will increase in future and Network Rail has route-based extreme weather contingency plans to address these issues.



Map of south west rural railway showing adverse weather locations. Source: Network Rail

Circles: Delay causing incidents due to weather (size of circle is proportionate to amount of delay)

Colours: Red - Extreme weather event

Yellow - Adverse weather event Green - Normal weather event

In some cases, good diversionary routes already exist so that the national network of services can be retained albeit in an adapted form, maintaining connectivity to key locations. In others, the situation would be more damaging, as was the case with the Dawlish line closure.

Given the substantial economic costs involved, the ability to create usable diversionary routes is likely to be a factor in deciding whether to invest in new railways - with the benefits of providing accessibility to new locations en route.

2. Sustainability must be at the heart of transport infrastructure investment

Some very important social issues - such as a lack of affordable housing, poor access to higher education and training and growing road congestion - will naturally arise in other areas. So too will the potential role of rail in providing access to rural areas and National Parks for recreational purposes.

Sustainability will and should be a core consideration of transport investment elsewhere.

It is also worth considering the wider set of connections that a new rail route can offer. As this case illustrates, there would be merit in treating bus feeder routes and cycle facilities as part of the investment case rather than as a separate question.

3. New rail services could mitigate some of the problems faced by rural areas

Provided that the stations support existing urban areas where sustainable expansion is planned, and where it is properly integrated into the existing public transport network, then new rail services can enhance connections to and from rural areas.

The railway line should serve urban areas directly - and not from some distance away, which was the unfortunate circumstance leading to many branch line closures. Stronger towns can support more vibrant rural communities and reduce the risk of sprawl and incursion into green space. The Department for Transport is in the process of updating the way it values transport appraisal. If rural areas are not to lose out, it is critical that their needs and characteristics and the wider social effects of transport investment identified here are included in the new process.

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