Devon County Council

TAVISTOCK-PLYMOUTH LINE REOPENING

Strategic Outline Business Case

Restoring Your Railway: RYR387

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Devon County Council

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Strategic Outline Business Case

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TAVISTOCK-PLYMOUTH LINE REOPENING PROJECT

- Reopening the railway line between Bere Alston and Tavistock to accommodate an hourly Tavistock-Plymouth service stopping at Bere Alston, Bere Ferrers and the west Plymouth stations. This would operate alongside the existing service between Plymouth and Gunnislake; and
- Strong support from Network Rail and the Train Operator who has developed a working timetable that will deliver an hourly service between Plymouth and Tavistock while retaining the current level of service to Cornish communities on the Gunnisake Line.

NEED FOR THE INTERVENTION

- Traffic congestion on the A386 between Tavistock and Plymouth is causing lengthening journey times resulting in lost productivity and constraining economic growth;
- Longer-term impact of productivity loss is the erosion of Plymouth's position as a city for businesses to invest in;
- Without the intervention the A386 corridor is unlikely to make a positive contribution toward net zero commitments and resolve traffic congestion and pollution in the Dartmoor National Park; and
- Communities in West Devon including Tavistock will experience increased time spent commuting with lower journey time reliability, contributing to stress and negatively influence perceptions of quality of life.

SCHEME OBJECTIVES

- Transport connectivity to facilitate local development, as laid out in the Plymouth and South-West Devon Joint Local Plan (JLP)
- Enhanced connectivity encouraging mode shift from car to rail for journeys between Tavistock and Plymouth, addressing congestion on the A386 corridor and tackling the Climate Emergency by supporting lower carbon travel.
- Enhanced access to employment, education and healthcare in Plymouth for Tavistock residents and residents of west Devon and north Cornwall
- Provide an improvement in rail services for the deprived communities of St Budeaux, Keyham and Devonport in Plymouth
- Improve visitor access by public transport to the natural environment, particularly the Dartmoor National Park, Tamar AONB and Cornwall & West Devon Mining Landscape World Heritage Site

KEY IMPACTS

- New rail demand at Tavistock, with rail users experiencing journey time savings compared to car and bus modes;
- User journey time savings for new and existing users at west Plymouth stations; and
- Consequent highway decongestion, particularly along the A386.

KEY FACTS

- 89% of the new to rail passengers at the Tavistock station will be switching from car;
- Tavistock station has a forecast annual passenger demand forecast of 394,000 a year with maturity, comparable to Barnstaple;
- The new station will serve 21,000 residents of Tavistock, Horrabridge, Lamerton, and Mary Tavy;
- New housing developments in Tavistock are forecast to generate 86,000 rail passengers a year; and
- The new train service will generate an additional 32,000 rail passengers a year at existing stations, several of these stations located in Plymouth communities that fall within the 40% most deprived areas in the country.

COST OF THE SCHEME

- The cost of the scheme is estimated to be £57 million and £97 million taking into account inflation and optimism bias (applied as appropriate for this stage of the business case development).

OPERATIONAL VIABILITY

- The scheme will generate more revenue than cost to the rail operator over the assessment period.

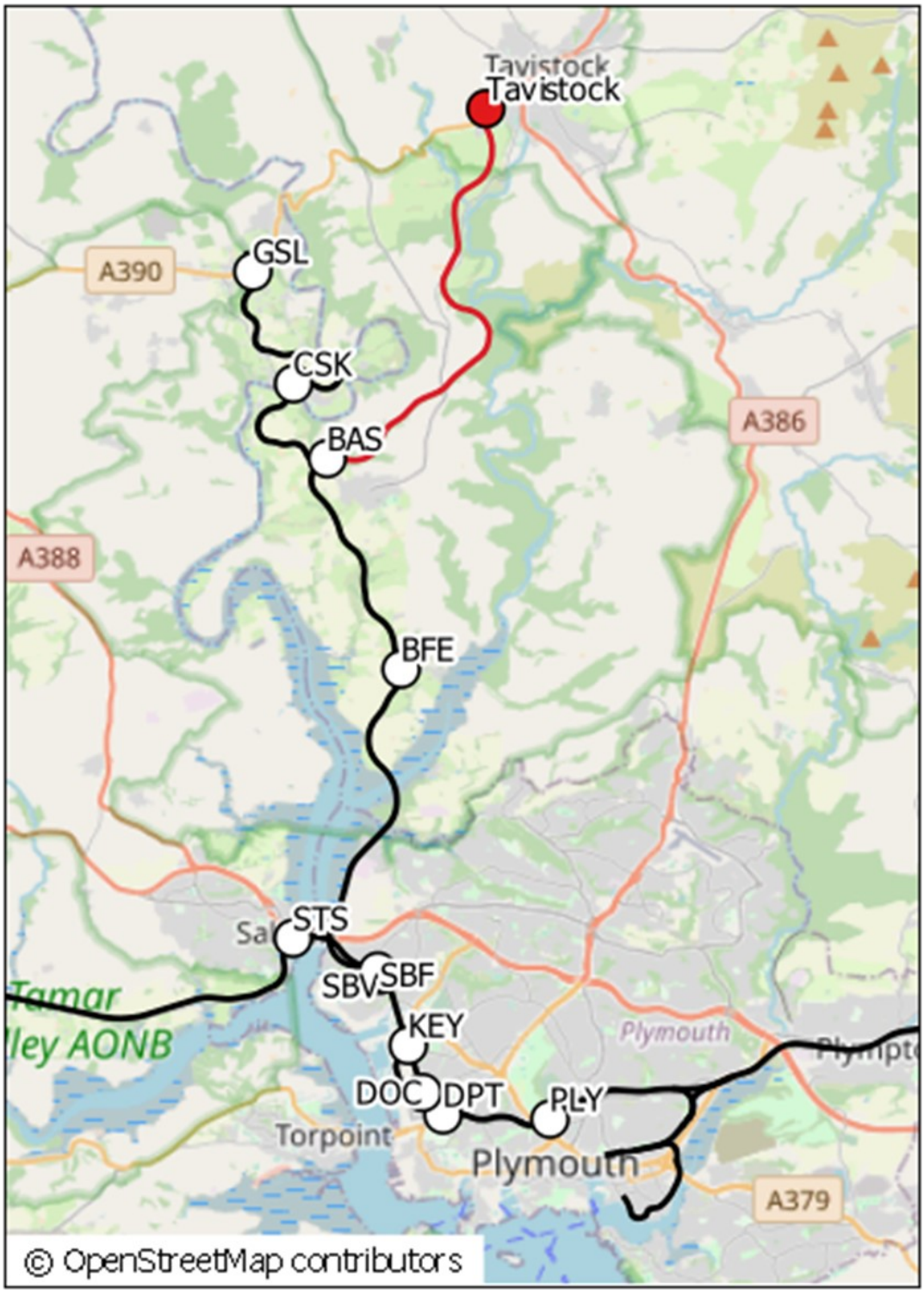
BUSINESS CASE ASSESSMENT

- Appraised over 60-years, providing a Positive Value for Money outcome.

NEXT STAGE:

- Outline Business Case - seeking funding for the next stage of business case development;
- Consenting process: Development Consent Order preparation; and
- Design development: target opening date in the late 2020s.

TAVISTOCK-PLYMOUTH LINE REOPENING PROJECT – LOCATION PLAN



1 INTRODUCTION

1.1 PURPOSE

1.1.1. Devon County Council (DCC) has prepared this Strategic Outline Case (SOBC) as lead promoter and lead stakeholder partner respectively for a Restoring Your Railways (RYR) Ideas Fund application to the Department for Transport (DfT).

1.1.2. The SOBC examines the current connectivity challenges constraining the growth of the City of Plymouth, and in particular its transport links with the adjacent town of Tavistock. Through the examination of a series of potential transport interventions, it submits that a new railway connecting Tavistock to the national network – restoring a linkage severed in 1968 – offers the most viable and value for money solution to this challenge. It recommends that funding is provided to undertake a more detailed development of the options and the production of an Outline Business Case (OBC).

1.1.3. This SOBC has been funded by the DfT and DCC. It has been developed in line with DfT's 'Restoring Your Railway Ideas Fund Strategic Outline Case Guidance', which aligns with HM Treasury's Green Book[1] and DfT's Transport Business Cases guidance [2]. The development of the SOBC has been overseen by a Project Board comprised of key stakeholders – the DfT, Network Rail, Great Western Railway (GWR) and representatives of Devon County Council, Plymouth City Council and the Heart of the South West Local Enterprise Partnership. Technical support has been provided by WSP.

1.2 BACKGROUND

1.1.4. Intervention is required to address poor sustainable transport connectivity between Tavistock and Plymouth. The problem manifests as high dependence on private car use for those travelling between the two centers, increasing highway congestion and air pollution as a result, and serves to constrain social mobility and access to education and employment.

1.1.5. By addressing these issues, the intervention will contribute to the growth and regeneration of the local economy, strengthen social cohesion and contribute towards the decarbonisation of transport.

1.1.6. This business case considers alternative solutions to the transport connectivity problem, including the reinstatement of the railway between Tavistock and Bere Alston. Bere Alston is the nearest station to Tavistock and is served by the Tamar Valley branch line. The line connects Plymouth with the Cornish communities of Calstock and Gunnislake via rural communities in west Devon and the west Plymouth suburbs of St Budeaux, Keyham and Devonport. The two-hourly rail service provides the rural communities with their only public transport option for connections to Plymouth.

[1] HM Treasury (2020) The Green Book: Central Government Guidance on Appraisal and Evaluation.
[2] Department for Transport (January 2013) The Transport Business Cases.

1.1.7. The railway connection between Tavistock and Bere Alston was closed in 1968. Although the track has been removed, structures such as bridges, cuttings and embankments are still in place. The closure of the railway reduced the quality of public transport provision in the corridor and removed Tavistock's direct connection to the national network.

1.3 RESTORING YOUR RAILWAYS IDEAS FUND

1.1.8. In February 2020, HM Government announced a new 'Restoring Your Railway' Fund, in recognition of the importance of better connectivity driving local economic growth, reconnecting communities, regeneration of communities and restoring lost rail connectivity.

1.1.9. Devon County Council (DCC) submitted a bid to the New Ideas Fund in March 2021, seeking support to develop the technical work required to examine the progress the Tavistock station and line reopening proposals to SOBC stage and onto the Rail Network Enhancements Pipeline (RNEP).

1.1.10. DCC has secured via Section 106 up to £11million in developer funding for the scheme, which is due to be paid in phased instalments as the housing development currently under construction progresses. DCC has also carried out a feasibility assessment for the Tavistock – Plymouth line reopening and has secured most of the land to enable its delivery (85%). There still remain discussions to be held with landowners on the remaining land requirements.

2 STRATEGIC CASE

2.1 INTRODUCTION

2.1.1. This Strategic Case describes how an intervention to improve sustainable transport connectivity between Tavistock and Plymouth aligns with the strategic priorities of Devon County Council and those of both local partners and government. It provides the evidence describing the rationale for intervention and demonstrates the logical progression between the problem and the spending objectives. It describes the options considered as part of the Options Assessment Report (OAR) and summarises the findings, presenting the preferred option in detail to inform value for money appraisal in the Economic Case.

2.2 STRATEGIC CONTEXT

DEVON COUNTY COUNCIL'S STRATEGIC PRIORITIES

2.2.1. Devon County Council (DCC) is the promoter and lead stakeholder partner for this application. This section describes its responsibilities and strategic priorities and demonstrates the role of transport – and in particular sustainable public transport – in delivering them.

2.2.2. **DCC's Strategic Plan** for 2021-2025 sets out the Council's priorities to ensure Devon remains the best place to *Grow Up*, *Live Well* and *Prosper*. The Plan is grounded in five long-term challenges – climate change, a growing and ageing population, societal inequality, maintaining trust in local government, and supporting economic recovery, growth, and social mobility.

2.2.3. The Plan's priorities include *Making Devon Greener* by prioritising sustainable travel and transport. It will also support *Economic Recovery and Growth* and *Helping Communities be Safe, Connected and Resilient* by delivering infrastructure which will increase the range of travel choices and improving accessibility to jobs and services, tackling social isolation in rural parts of the County.

2.2.4. The **Devon and Torbay Local Transport Plan 3, 2011-2026** is DCC's statutory LTP (jointly prepared with Torbay Council) setting out how its transport network will meet the strategic priorities of both councils and continue to serve the economy, the environment and society. The LTP consists of a Strategy (containing a series of sub-strategies) and an Implementation Plan, supported by evidence and consultation reports.

2.2.5. The Strategy contains a Market & Coastal Towns and Rural Devon (sub) Strategy, with a vision for Devon's market and coastal towns to be *"better connected to their closest urban area, for the journey to work, access to health care, education, training, leisure and retail"*. Tavistock is listed as one of 28 market towns within the county.

2.2.6. A key element of the Strategy is to improve rail and bus connections from the towns into the main urban areas. A series of targeted capital interventions are listed, having been identified in Local Development Frameworks to assist in delivering new housing, new employment and access to education, training and employment from the towns. A Tavistock to Gunnislake rail link is put forward as providing "an alternative mode and relief of congestion on the A386 corridor to enable new development in Tavistock". Preparation costs for the development of the scheme are included within the LTP's Implementation Plan. The scheme was also included in the 2020 **Transport Infrastructure Plan**, describing proposed capital schemes within the county to deliver growth to 2030.

2.2.7. In 2019, the **Devon Climate Emergency Declaration** was announced by local councils, emergency services, businesses and voluntary organisations in recognition of the need for action to address the increasing impact of climate change on Devon's communities. The goal is to create a resilient 'net zero Devon.' Transport accounts for 31% of Devon's greenhouse gas (GHG) emissions and is the largest emitter of GHG across the county. To reduce the transport sector's significant contribution to emissions, the declaration supported, "travelling less and using improved walking, cycling and public transport infrastructure more often, and using electric and hydrogen vehicles". The Declaration was followed by the **Devon Carbon Plan**, aiming to achieve net zero carbon in Devon by 2050 and the phasing out of non-renewable energy sources and minimisation of greenhouse gases. The Plan supports a "hierarchy of action", prioritising the reduction of the need to travel, and where that is unfeasible the shift to sustainable transport options. Stating a goal of prioritising cycling, walking, shared and public transport, the plan prescribes an action of *"work[ing] with government to improve strategic and branch line rail infrastructure and services, including reviewing the reopening of lines and increasing access to rail and integration with other modes of transport"*

2.2.8. In summary, encouraging greater public transport usage in the Tavistock – Plymouth corridor contributes directly to the objectives of DCC's Local Transport Plan, and by extension would help achieve its wider strategic and environmental objectives. The reopening of the railway to deliver improved public transport provision in the corridor is specifically named in the County's LTP Implementation Plan and its complementary Transport Infrastructure Plan.

2.2.9. West Devon Borough Council are the planning authority for the town of Tavistock and the adjacent rural communities in the Tamar Valley north of the City of Plymouth. The **Plymouth and South-West Devon Joint Local Plan (JLP)** was produced by Plymouth City Council, South Hams District Council and West Devon Borough Council. The Plan has strategic connectivity (SPT8) as a goal for transport in supporting economic growth. The policy supports delivery of improvements to the rail network including rail connectivity between the Plymouth / South-West Devon and the rest of the UK, capacity improvements at Plymouth station to reinforce its role as a gateway and hub for the city, reopening of the Northern Route between Plymouth and Exeter via Tavistock and Okehampton and supporting improvements to local rail connectivity and links between Tavistock and Plymouth and Okehampton and Exeter.

2.2.10. The latter connectivity has recently been improved with the introduction of regular rail passenger services between Okehampton and Exeter. Tavistock to Plymouth is the next step in the delivery of enhance rail services to West Devon which will providing rail services to Tavistock also offer an improved rail service for the large concentration of navel related employment in and around Devonport Dockyard.

2.2.11. Spatial Policy SP5 provides specific development policies for Tavistock. SP5's overarching aim is to improve the well-being and prosperity of the market town, reinforced by the recent Levelling-Up White Paper which also has policies to support the reinvigoration of important rural sub-regional centres such as Tavistock. SP5 makes provision for mixed use development providing additional housing and employment opportunities whilst improving educational facilities and promoting the heritage of the town and its close connection to the Tamar Valley AONB and Dartmoor National Park. To support these development policies, transport connectivity it is stated will be improved including road links to Plymouth and reinstating the rail link between Tavistock and Bere Alston along with bus service improvements. The goal is to provide high quality sustainable transport alternatives for travel between Tavistock and Plymouth.

ALIGNMENT WITH WIDER LOCAL, REGIONAL AND NATIONAL STRATEGIC PRIORITIES

2.2.12. The previous section demonstrates how this proposal would contribute to the strategic priorities of DCC. However, its impact would not be limited to Devon, and the proposal would contribute towards the objectives of neighbouring local areas, the South West region more generally, and the priorities of national government. The composition of the Project Board reflects this, with Plymouth City Council, the Heart of the South-West Local Enterprise Partnership and the Department for Transport all included, alongside industry partners Great Western Railway and Network Rail. The following section describes how the proposal would make this contribution.

Alignment with Local / Regional Policy

2.2.13. A key policy document for the Plymouth area is the **Plymouth and South-West Devon Joint Local Plan (JLP)** produced jointly by Plymouth City Council, South Hams and WDBC described above in relation to DCC's Strategic Priorities. The JLP is also central to the strategic priorities for the city of Plymouth. Spatial Policy SP5 supports improvements to local rail connectivity and links between Tavistock and Plymouth. including reinstatement of the rail link between Tavistock and Bere Alston as part of wider long term project to improve rail connectivity across the Plymouth city region. The JLP sets out the need (PLY47) to provide capacity improvements in the A386 corridor which will include high quality sustainable transport alternatives for travel between Tavistock and Plymouth allied with safe and efficient operation of the A386 and reopening of the Tavistock-Plymouth rail link. PLY4 of the JLP aims to strengthens the strategic role of the Devonport naval base in bringing economic benefits and greater diversification to the regional economy. The Dockyard and supporting industries are a ket part of the local economy employing 11% of the total Plymouth labour market and accounting for over 16% of Plymouth's GVA (2014).

2.2.14. The **Plymouth Local Transport Plan**[3] states that Plymouth's travel to work area, retail and service catchments extend far into Devon and Cornwall and that the regional local authorities collaborate on improving access to and from Plymouth by all modes on the limited number of routes and river crossing points. The LTP states the importance of encouraging the use of sustainable transport modes between Plymouth and Tavistock, acknowledged by the LTP as a significant commuter town for Plymouth. In the West Plymouth area of the Tavistock-Plymouth transport corridor, the LTP identifies a range of improvements to provide a high-quality public transport network linking key growth areas, including Devonport. To this end, a package of public transport improvements in West Plymouth funded by the Transforming Cities Fund, are being implemented to reduce congestion, improve air quality and support economic development through investment in infrastructure to improve public and sustainable transport connectivity on key commuter routes across the city.[4]

[3] https://www.plymouth.gov.uk/sites/default/files/LocalTransportPlan20112026.pdf
[4] https://new.plymouth.gov.uk/st-budeaux-interchange

2.2.15. Plymouth will also be the location for the only **Freeport** in the South-West. Plymouth City Council led a partnership with Devon Country, South Hams District Council, Heart of the South West LEP and private sector partners such as Babcock International on a successful bid to become a freezone, part of the Levelling Up Agenda, which would include a site at Devonport South Yard[5] The Freeport will support the economic aims of the JLP and the Freeport as a whole will provide significant investment in the local economy contributing an estimated £400 million GVA and 3,500 jobs for the Plymouth and South Devon's economy.

2.2.16. The **City of Plymouth Climate Emergency Action Plan** (2022) sets out a raft of initiatives to reduce transport carbon emission including measure to encourage the uses of sustainable transport modes such as the St Budeaux Transport Interchange part of a wider programme of active mode improvements in west Plymouth.

2.2.17. The **Heart of the South-West Local Enterprise Partnership** (HotSW LEP) is responsible for working across the public and private sectors to support economic growth in Devon and Somerset. The LEP has identified structural issues affecting the performance of the South-West regional economy, most notably the productivity gap compared to the average for England. In 2018, the LEP published a Productivity Strategy supporting strengthening the capacity, resilience and usability of rail links to connect places and opportunities improving both intra and inter-regional connectivity.[6] The Strategy also noted that "poor transport links to education and work opportunities are a barrier to social mobility" and that key infrastructure such as transport has "historically been a significant barrier to productive business".

2.2.18. The Productivity Strategy was followed by a Local Industrial Strategy (2019) which has a strategic objective to future-proof infrastructure to support long term prosperity and clean growth.[7] Transport systems are to be future-proofed, 'to create fast, resilient and clean networks'.

2.2.19. The Covid-19 pandemic has served to compound this productivity gap. The LEP has published the document 'Build Back Better' which offers a roadmap for economic recovery from the Covid-19 pandemic. This roadmap highlights that urban, rural and coastal communities will recover at different rates and over different timescales.

[5] https://www.plymouth.gov.uk/newsroomtags/freeport

[6] HeartoftheSouthWestProductivityStrategy.pdf (heartofswlep.co.uk).

[7] Hear (heartofswlep.co.uk).

2.2.20. Tavistock is a gateway town for the Dartmoor National Park. The Dartmoor National Park Management is delivering a Dartmoor Recreation Strategy which promotes working with town hubs to increase economic benefit to the region and encourage use of more sustainable onward travel by visitors. The **National Park's Green Transport Strategy** aims to develop and promote bus services around Dartmoor linking settlements and rail links to help tackle the negative impacts of private cars on the sensitive landscape and local communities.[8] Providing a restored rail connection and station in Tavistock served by connecting bus services will be aligned with this strategy for offering enhanced sustainable transport access to the National Park.

2.2.21. The **Peninsula Transport Board** (PTB) is a partnership created to transform transport and boost economic growth across the South-West. The PTB consists of Cornwall Council, Devon County Council, Plymouth City Council, Somerset County Council and Torbay District Council, the Heart of the South West and Cornwall and the Isles of Scilly Local Enterprise Partnerships, National Highways, Homes England and Network Rail. The **PRTF 'Closing the Gap'** policy document sets out policies for a future strategic rail network for the region. The restoration of the Tavistock – Bere Alston railway infrastructure and operation of services to Plymouth is identified, stating "phased development of rail links serving Exeter and Okehampton, and Plymouth and Tavistock will deliver improved travel to work connectivity". Restoring rail connectivity between Tavistock and Plymouth is a key priority This 2nd phase is set in the context of the reopening of the Northern Route Phase 3 connecting Okehampton with Tavistock. The PRTF Medium Strategy 2024 to 2029 is very well aligned with the Tavistock-Plymouth line reopening supporting the introduction of passenger services between Plymouth and Tavistock.

2.2.22. The first step in the development of this transport strategy was the Economic Connectivity Study published in July 2020. This study identified five trends expected to impact on the ways people connect and travel in the Peninsula: decarbonisation, flexible lifestyles, the world of work, digitalisation and urbanisation. The population of the Peninsula is forecast to grow by around 12.5% between 2016 and 2040. A growing population is likely to be linked to an increased demand for travel as travel behaviour returns to stability post Covid-19 pandemic. A critical challenge is to ensure that on the one hand the future external costs to the environment of increased transport demand, including CO2 emissions, are reduced, and on the other hand create a supporting transport infrastructure, with rail a key facilitator enabling improved productivity, economic regeneration and high-quality lifestyles for residents.

2.2.23. Peninsula Transport has stated that over 70% of the visitors to the South-West originate outside the region, highlighting the potential value of offering integrated public transport access to Dartmoor and other major tourist sites via the new railway station in Tavistock.

[8] https://www.dartmoor.gov.uk/__data/assets/pdf_file/0025/98611/Dartmoor-National-Park-Management-Plan-2020-2025-consultation-draft-WEB.pdf

2.2.24. The DfT Investing in the South-West (2019) document details the transport investment that government is making in the south-west and how it will help the region grow and prosper. The document recognised regional aspirations for an Okehampton to Plymouth rail link to support access to employment and the role of the Transforming City Fund schemes in Plymouth to improve transport connectivity within the city through development of park and ride sites, bus priority and cycle priority measures. Investing in the South-West identifies this funding as a means of changing travel behaviour with greater use of "public transport and active travel modes, supporting the increase of bus patronage by 50% and doubling footfall at Plymouth station, as well as supporting the delivery of over 26,700 homes and up to 20,000 new jobs across the area covered by the Plymouth and South-West Devon Joint Local Plan".

Alignment with National Policy

2.2.25. The Levelling Up the United Kingdom White Paper was published by the Government in February 2022. The White Paper sets out twelve missions for the Levelling Up of the UK, one of which is to raise the standard of local public transport significantly closer to the standards enjoyed in London by 2030. Connectivity between economic centres is part of the policy programme within the White Paper.

2.2.26. The UK has set a legally binding target to bring greenhouse gas emissions to net zero by 2050. Build Back Greener, the Government's 2021 Net Zero Strategy, makes a commitment to increase the share of journeys made by public transport, alongside walking and cycling, and to deliver a Net Zero railway by 2050. Accelerating this shift is a strategic priority of the DfT's Transport Decarbonisation Plan. The Plan states that 'public transport and active modes will be the natural first choice for our daily activities. We will have a cohesive, widely available net zero public transport network designed for the passenger.' The Plan states that investment will be made in the railway network to deliver on mode shift with stations developed as mobility hubs. This in turn supports delivery of the National Infrastructure Strategy, which sets out Government's commitment to invest to boost cities and towns through infrastructure improvements, and better connect the nations of the UK.

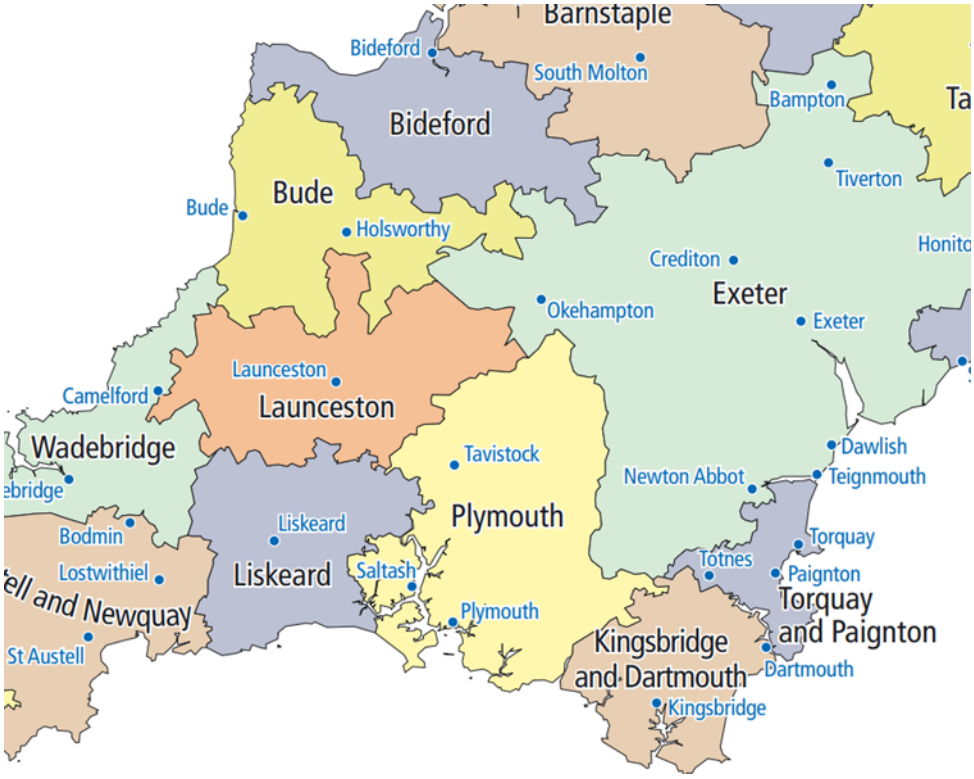
2.2.27. The Williams-Shapps Plan for Rail makes a series of commitments to passengers, including plans to grow the network through investment in services and infrastructure. The Plan commits to the establishment of Great British Railways (GBR) to own and operate the infrastructure and services. A priority for GBR will be supporting levelling-up, housing development, the environment and economic regeneration.

2.3 Scheme Context & Existing Transport Connectivity

2.3.1. The Tavistock to Plymouth transport corridor - defined as lying between the Gunnislake railway line and A386 corridor - encompasses the north western communities within City of Plymouth and more rural settlements in West Devon. As such, it is a demographically diverse area including the prosperous market town of Tavistock on the edge of Dartmoor and some of the most deprived areas in the South-West of England (the Plymouth suburbs of St Budeaux and Devonport). Other settlements in the corridor include Bere Alston, and Yelverton. The 2011 Census indicates that the population of the main settlements in the corridor was around 280,000 people, the majority living in the city of Plymouth (264,000).

2.3.2. The economy of the corridor is dominated by Plymouth in the south. The city has a travel to work catchment extending outwards across West Devon and South Hams, as illustrated in Figure 2-1 below. The defence sector has been a longstanding pillar of the local economy and remains a regionally significant driver of employment. In recent years, marine science and advanced manufacturing have also emerged as important high-value sectors. Derriford Hospital, which serves the whole South West peninsula, the University of Plymouth and Plymouth Marjon University are also major employers in the city. The St Budeaux and Devonport areas are still dominated by the defence sector with the Dockyard having recently secured £2bn investment as part of plans to upgrade the UK's Royal Navy facilities and fleet.

Figure 2-1 - Plymouth Travel to Work Area, 2011



Source: geoportal.statistics.gov.uk

2.3.3. Tavistock is a market town situated approximately 12 miles north of Plymouth. The town has a population of 12,500 (2011 Census), with 30,000 in the surrounding area. The local economy serves the town and the surrounding rural area of West Devon with local services, including education, retail and amenities. Tavistock College is a key employer in the town. The town is also home to a significant number of commuters travelling to work in Plymouth. The local economy is also supported by the leisure sector. Tavistock is known as a gateway to the Dartmoor National Park, Tamar Valley Area of Outstanding Natural Beauty (AONB), as home to the Cornwall and West Devon Mining Landscape World Heritage Site, and other Conservation Areas and Sites of Special Scientific Interest. The smaller settlement of Bere Alston on the Bere Peninsula serves local rural communities with basic services.

2.3.4. Tavistock provides a pool of labour for Plymouth with many often higher-skilled workers choosing to live in the town and commute into Plymouth. Whilst this has had beneficial impacts for the local economy in terms of consumer expenditure in the town's services, there have also been less beneficial consequences, with less affordable housing and increasing traffic congestion.

2.3.5. Current transport connectivity between Tavistock and Plymouth is provided exclusively by the road network with the A386 providing the most direct route to Plymouth. Public transport connectivity is provided by the commercial bus network, in particular the Tavistock-Plymouth bus route provided by Stagecoach South West, which operates four services per hour between the town and Plymouth city centre. Cycling connectivity for the leisure market is provided by the Devon strategic cycling network.

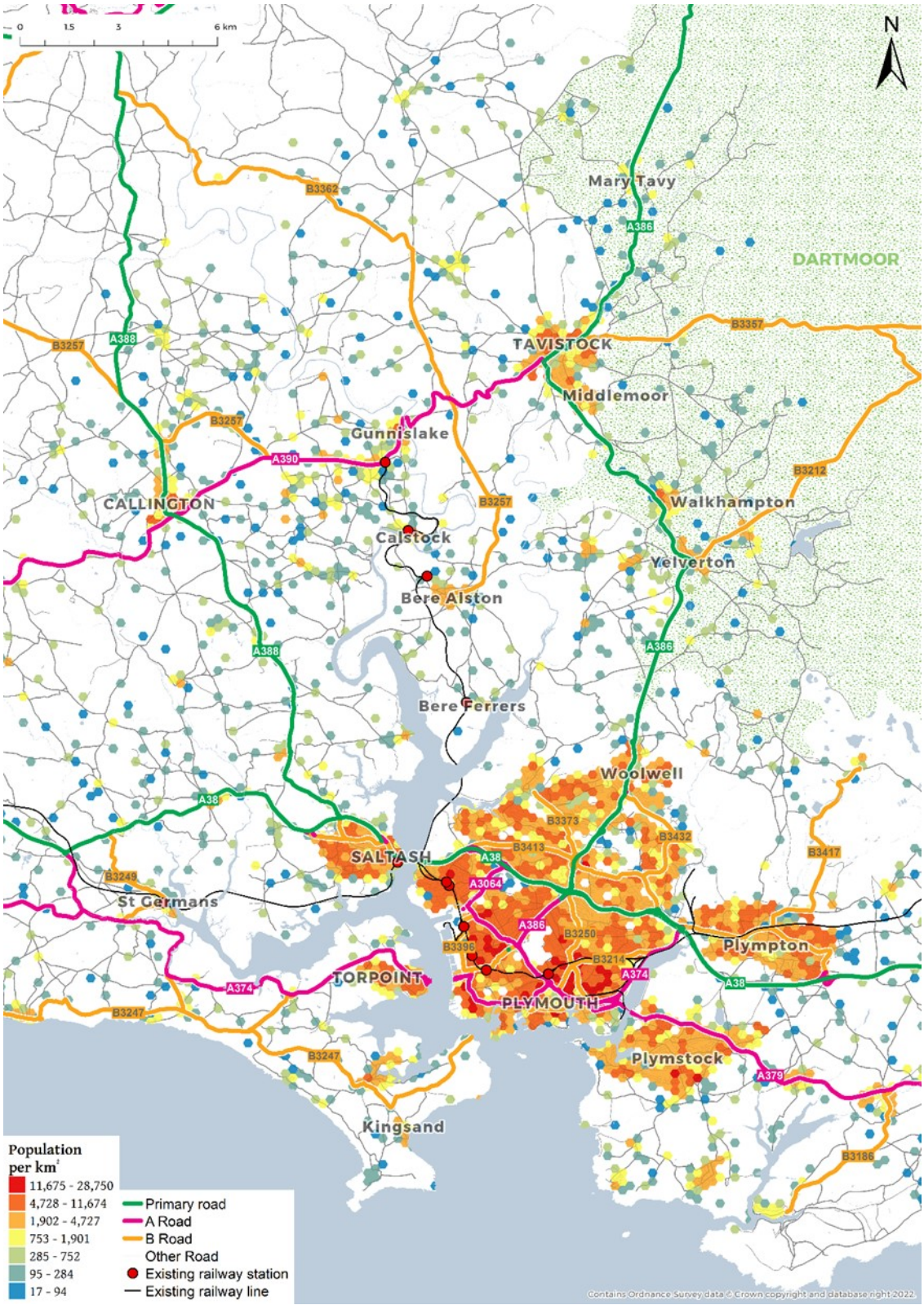
POPULATION DEMOGRAPHICS

2.3.6. The population distribution in the scheme corridor is shown in **Figure 2-2**.

2.3.7. Plymouth has the highest levels of population density with very high population density within 1 kilometre of Plymouth Central, Devonport, Dockyard, Keyham and St Budeaux stations highlighting the potential for a strong rail travel market provided a quality train service is offered.

Tavistock is characterised by medium density residential housing, typical of a market town. The smaller communities between Plymouth and Tavistock are of lower density.

Figure 2-2 – Population density in the Plymouth – Tavistock corridor



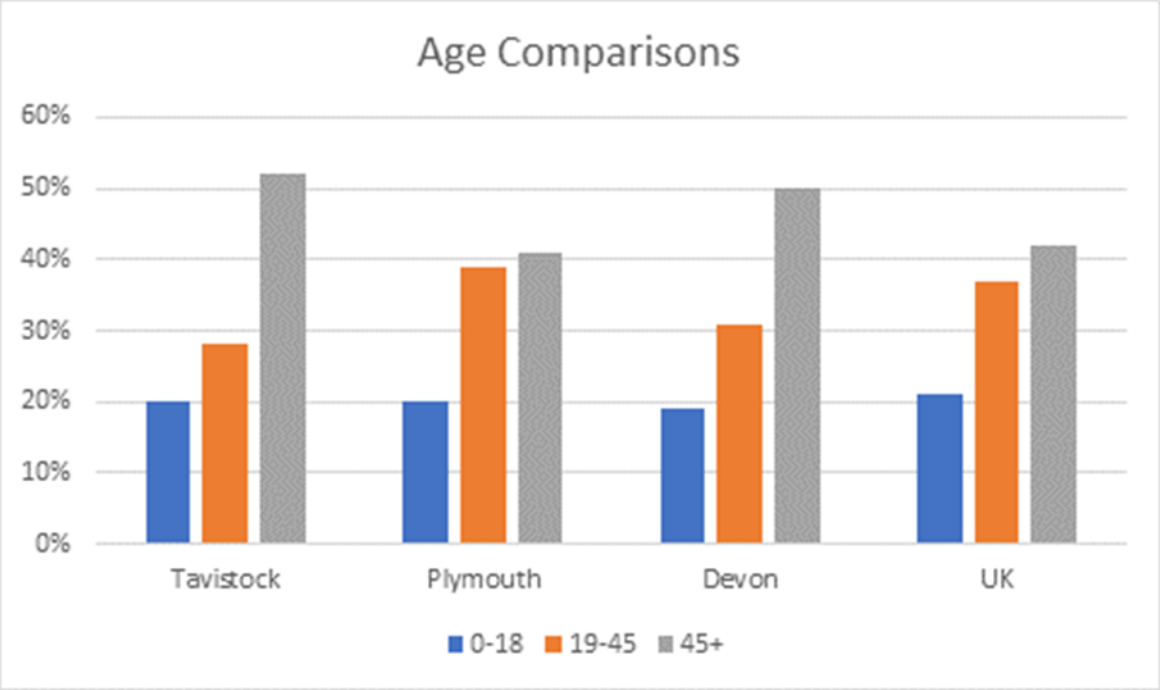
Age Profiles of the Population

2.3.8. Tavistock has an older population with over 50% of its residents being 45 or over. This is typical of Devon and is significantly higher than the national average. This is shown in Figure 2-3.

2.3.9. In contrast, Plymouth has a more balanced age demographic 39% of the resident population in the 19-45-year-old age group. This trend is likely to reflect the role of Plymouth as the regional centre of employment and activities and amenities drawing in younger age groups from surrounding settlements such as Tavistock.

2.3.10. This skew towards an older demographic profile places greater emphasis on access to healthcare, particularly for those who cannot rely on private car travel. It also potentially reflects the aforementioned housing affordability challenges and the lack of fast, reliable transport connectivity, both factors which makes retaining younger people and young families in Tavistock and the surrounding communities more challenging.

Figure 2-3 – Age Group Breakdown



Source: 2011 Census

2.3.11. To provide details of the composition of the population by economic type, Experian Mosaic UK consumer data was assessed which provides an analysis of the demographics, lifestyles and behaviour of all individuals and households in the UK.

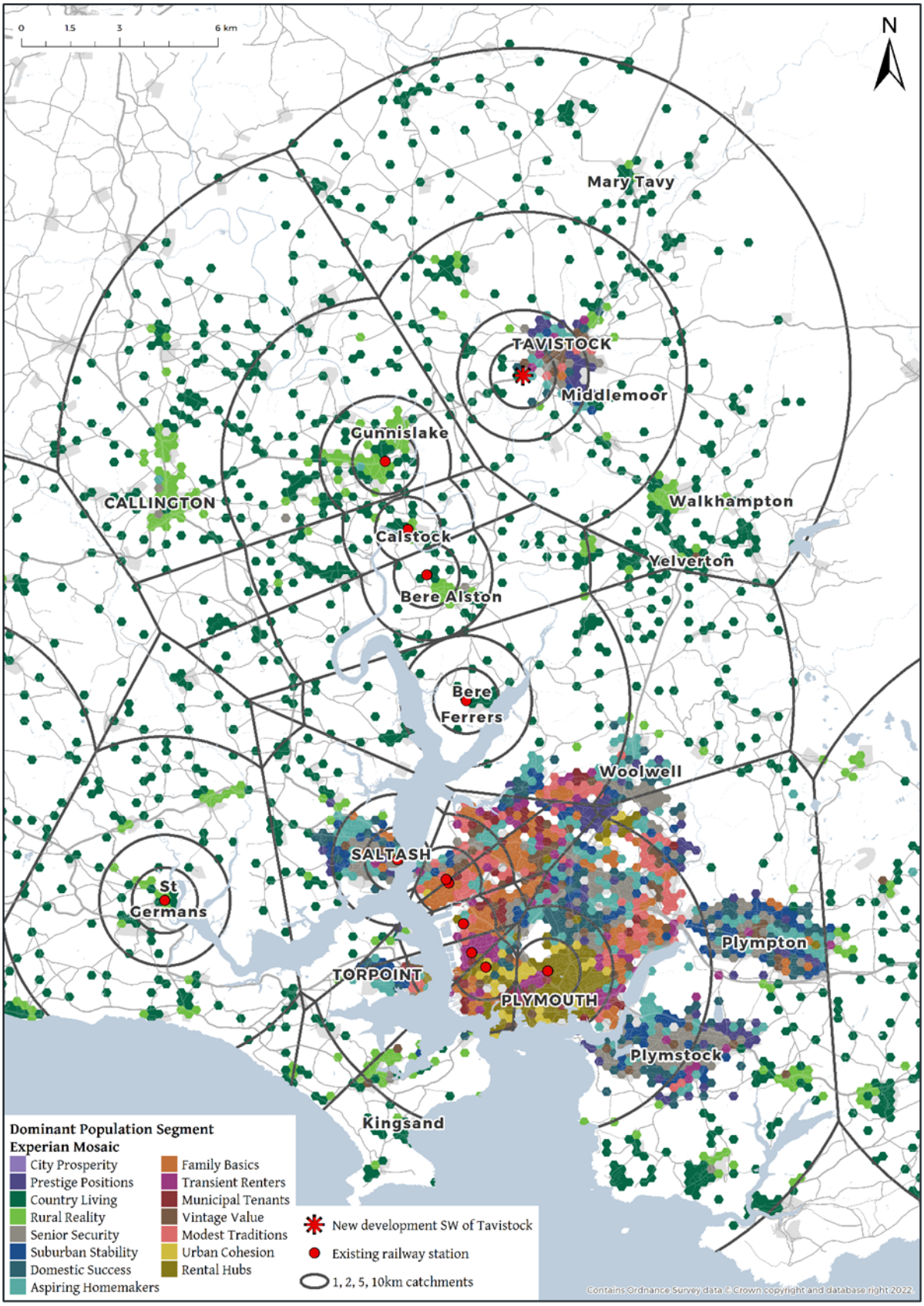
Table 2-1 – Experian Mosaic Population Groups

	Group	Definition
	City Prosperity	High status city dwellers living in central locations, pursuing careers with high rewards
	Prestige Positions	Established families in large detached homes living upmarket lifestyles
	Country Living	Well off owners in rural locations enjoying the benefits of country life
	Rural Reality	Householders living in inexpensive homes in village communities
	Senior Security	Elderly people with assets who are enjoying a comfortable retirement
	Suburban Stability	Mature suburban owners living settled lives in mid-range houses
	Domestic Success	Thriving families who are busy bringing up children and following careers
	Aspiring Homemakers	Younger households settling down in housing priced within their means
	Family Basics	Families with limited resources who have budget to make ends meet
	Transient Renters	Single people privately renting low cost homes for the short term
	Municipal Challenge	Urban renters of social housing facing an array of challenges
	Vintage Value	Elderly people reliant on support to meet financial or practical needs
	Modest Traditions	Mature homeowners of value homes enjoying stable lifestyles
	Urban Cohesion	Residents of settled urban communities with a strong sense of identity
	Rental Hubs	Educated young people privately renting in urban neighbourhoods

2.3.12. The population resident within the catchment area of the Tamar Valley Line (Gunnislake Line) in west Plymouth (St Budeaux, Keyham and Devonport areas) are less affluent transitory consumer groups. These are lower income households 'living within their means', and less likely to have access to a car and be more reliant on public transport. A such they are more likely to respond positively to improved availability of public transport services for commuting and access to education and healthcare services.

2.3.13. Although Tavistock is generally a fairly prosperous community of home-owning residents, the town is located in West Devon which has some of the lowest average wages in the UK. Section 2.7.6 below provides a number of economic indicators showing the need for levelling up in West Devon. Tavistock appeals to people wishing to live in an attractive market town which is within commuting distance of often higher-skilled employment in Plymouth. This population group in particular will be affected by the traffic congestion on the A386 eroding the lifestyle benefits of Tavistock as a commuter town.

Figure 2-4 - Dominant Population Segments (Experian Mosaic)



PLANNED FUTURE GROWTH

2.3.14. The Plymouth and South-West Devon Joint Local Plan (JLP) forms part of the strategic planning process for Plymouth and South-West Devon with a planning horizon of 2034. Tavistock is forecast to accommodate over 1,100 new homes and 18,600 of new employment space. As can be seen 600 new homes are planned at Callington Road, the proposed site for the new Tavistock railway station. The JLP housing allocations for Tavistock are shown in Table 2-2.

Table 2-2 - JLP housing allocations for Tavistock

Policy Number	Name	Type of Development
TTV16	Callington Road	600 homes including a new railway station
TTV17	Plymouth Road	300 homes & 18,600sqm employment
TTV18	Pixon Lane	Employment unknown
TTV19 (others)	(1) New Launceston Road (2) Butcher Park Hill (3) Brook Lane (4) The Trendle	148 homes 110 homes 23 homes 12 homes
Total		1,193 homes 18,600 sqm of employment

Source: Plymouth and South-West Devon Joint Local Plan

2.3.15. Allocations in Bere Alston are located around Woolacombe Road to the east of the village. TTV24(1) is for 30 homes and TTV24(2) is for 20 homes.

2.3.16. Figure 2-5 shows the development allocations in Tavistock as set out in the JLP.

2.3.17. In Plymouth, housing development is focused on north-east Plymouth around the Derriford area. Policy PLY44 (Woolwell urban extension) includes provision for 2,000 new homes. As shown in Figure 2-10 this development is located in the north Plymouth urban fringe and is likely to contribute to traffic growth on the A386. In the city centre, growth is focused on mixed use development. There is also a large employment area focussed on the Dockyard area in Devonport including the £2bn redevelopment of Devonport Dockyard – centre of the city's marine industries employing around 6,000 people – and the 35ha Oceansgate Enterprise Zone. These developments will generate additional travel demand potentially increasing congestion levels on the Plymouth road network, and particularly the Woolwell urban extension on the A386 corridor.

Figure 2-5 - Allocated Development - Tavistock[9]

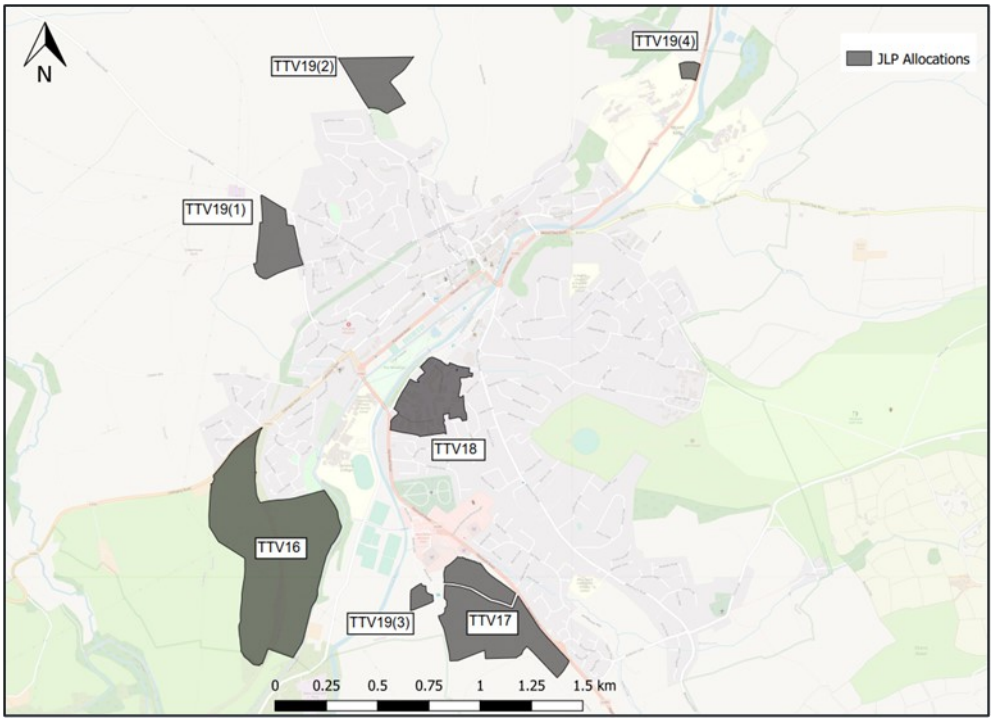
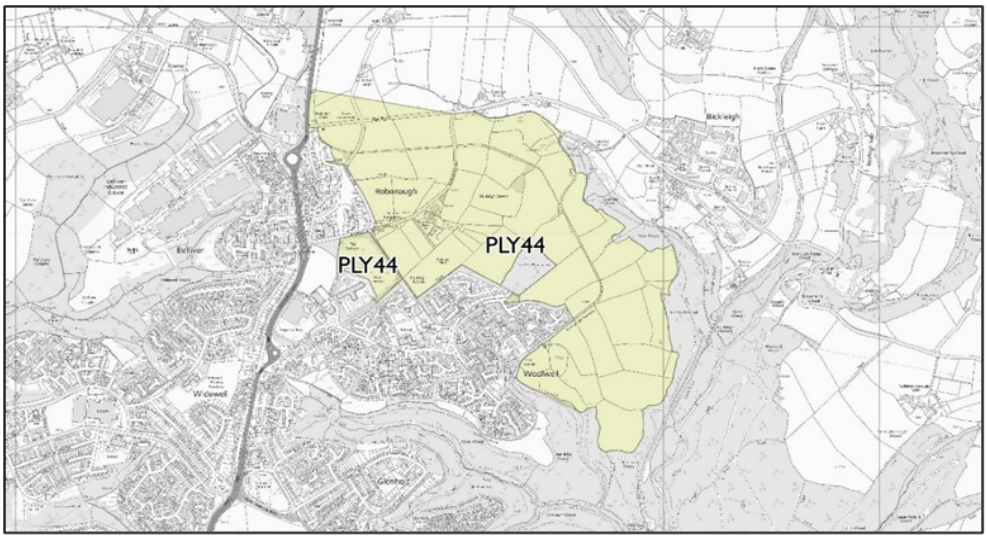


Figure 2-6 - PLY44 - Woolwell Development



[9] Plans produced by WSP using QGIS

EXISTING TRANSPORT CONNECTIVITY

Road Network

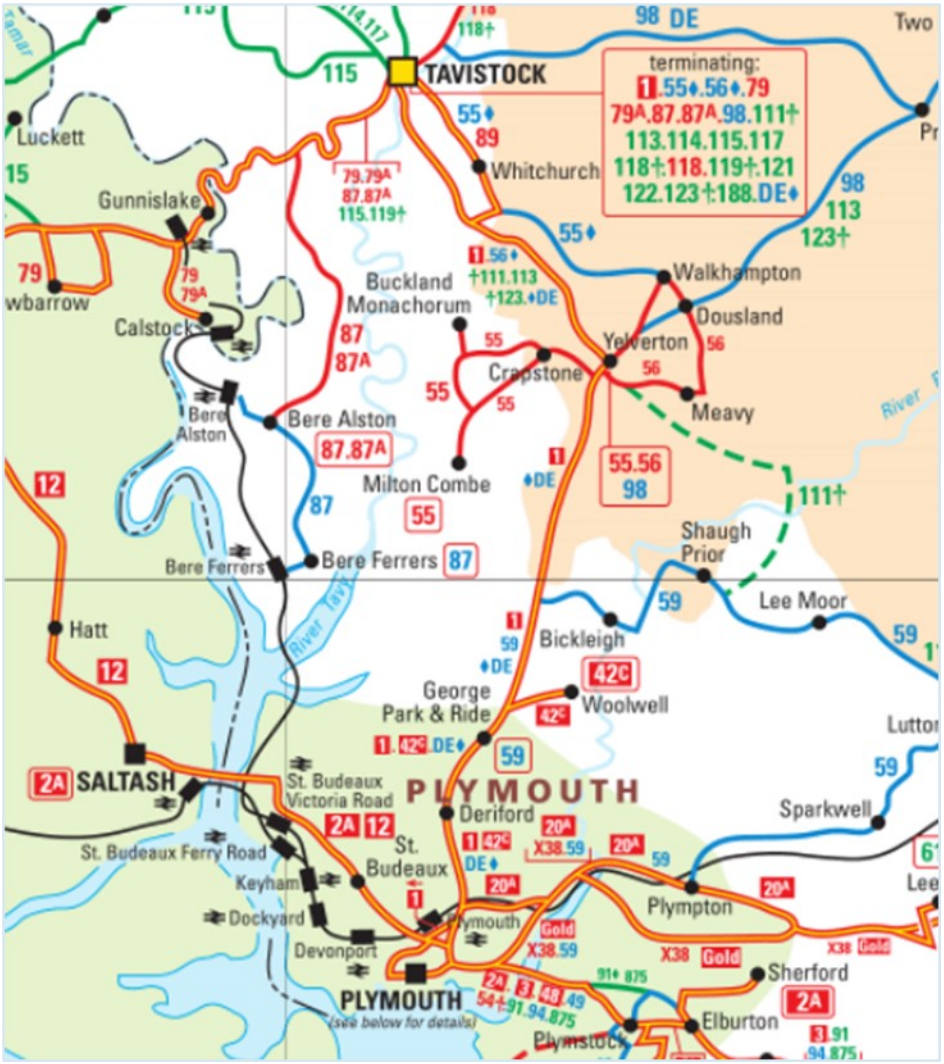
2.3.18. The primary highway route between Tavistock and Plymouth is the A386. The full route runs north-south across Devon, between Plymouth city centre and Bideford. The A30 Exeter – Penzance highway intersects the A386 at Meldon, around 12 miles north of Tavistock. Between Tavistock and Plymouth, the route is single carriageway, and experiences congestion at bottlenecks which increases journey time on the corridor, particularly at peak times.

2.3.19. A significant section of the A386 between Tavistock and Plymouth is within the boundary of the Dartmoor National Park, making capacity enhancement complex, costly and undesirable due to its impact on the natural environment.

Bus Services

2.3.20. The bus route network in the transport corridor is shown in Figure 2-7.

Figure 2-7 - Tavistock-Plymouth Corridor Public Bus Network



2.3.21. Between Plymouth and Tavistock, the Stagecoach South West Route 1 bus service runs approximately every 15 minutes between 05:20 and 21:00. The scheduled journey time in the morning peak hour is 65 minutes. A summary of the service is shown in Table 2-3. Most journeys terminate in Plymouth at North-East Road, however some services are extended to Royal Parade, an additional 5 minutes journey time. The service has 5 principal intermediate stops including Derriford Hospital and Yelverton.10 In total there are 48 stops on the route.

Table 2-3 - Plymouth to Tavistock Bus Services

Bus Number (Operator)	Route	First Service	Last Service	Daily Frequency
1 (Stagecoach South West)	Tavistock Bus Station – Plymouth North Road East / Plymouth Royal Parade	05:20	21:00	Approximately every 15 mins.
1 (Stagecoach South West)	Plymouth North Road East / Plymouth Royal Parade - Tavistock	06:10	22:26	Approximately every 15 mins.

Currently, the only bus service between Tavistock and Bere Alston is Route 87 / 87A. The frequency and timings of this service are shown in

2.3.22. Table 2-4. In the morning, the service offers a single peak hour connection with Tamar Valley Line (Gunnislake Line) trains at Bere Alston (5-minute interchange time). There is no evening service or Sunday service. The next train connection requires a wait of nearly two hours at Bere Alston station.

2.3.23. The current bus service does not stop at Bere Alston station between 0755 and 1535, although there is a stop at Bere Ferrers which provides some additional connectivity. However, the irregular timetable and interchanges at Bere Alston / Bere Ferrers is unattractive to passengers.

[10] https://tiscon-maps-stagecoachbus.s3.amazonaws.com/Timetables/South%20West/January2021/1_030121.pdf

Table 2-4 - Bere Alston - Tavistock Bus Services

Bus Number (Operator)	Route	First Service	Last Service	Daily Frequency
87/A (Stagecoach South West)	Tavistock Bus Station – Bere Alston	07:20	18:30	Approximately every hour at peak times –
87/A (Stagecoach South West)	Bere Alston - Tavistock	07:41	18:54	Approximately every hour at peak times

2.3.24. In Plymouth, improvements to bus services and facilities are being implemented by Plymouth City Council. Funding by the Transforming Cities Fund is improving connectivity across the city.

Rail Services

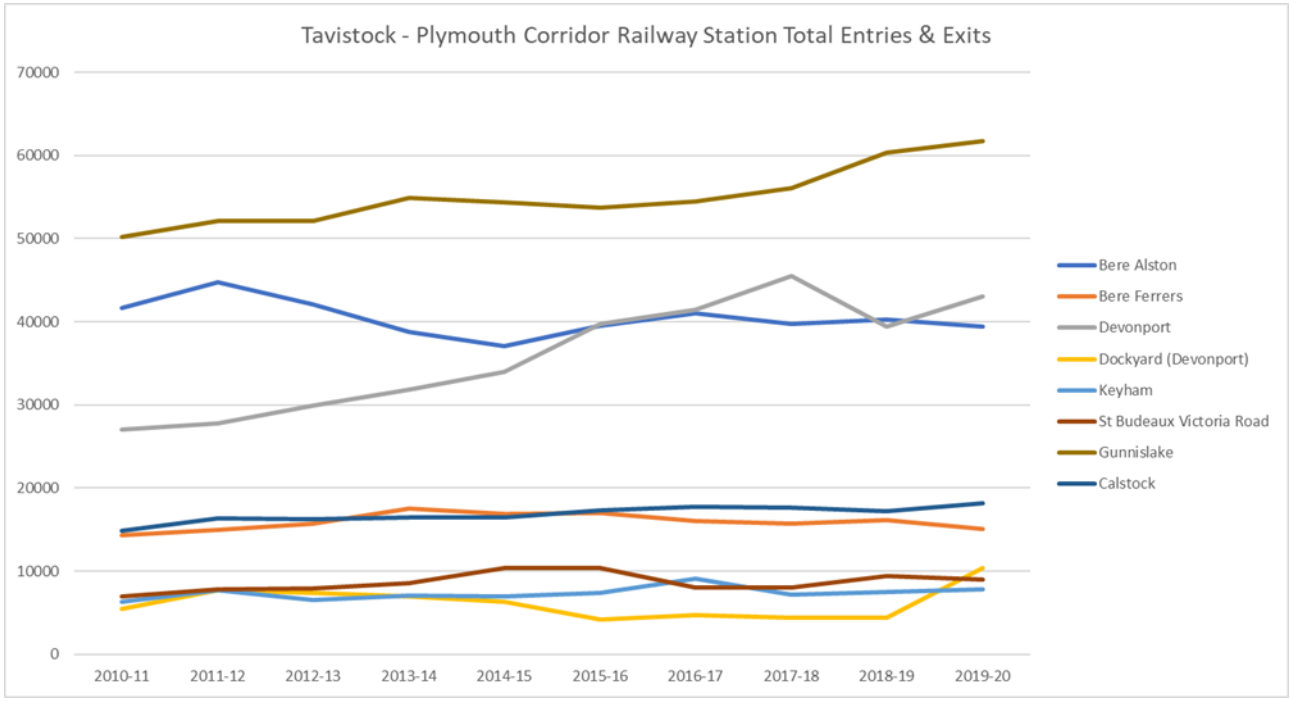
2.3.25. The Gunnislake branch line connects Plymouth with rural communities along the Tamar Valley. Services operate between Plymouth and Gunnislake via stations in urban west Plymouth (Devonport, Dockyard, Keyham, St Budeaux Victoria Road), Bere Ferrers, Bere Alston and Calstock (Cornwall). The former alignment to Tavistock branched off the Tamar Valley / Gunnislake line at Bere Alston. The frequency of services is shown in Table 2-5. One journey from Plymouth to Gunnislake does not stop at Bere Ferrers.

Table 2-5 - Bere Alston - Plymouth Train Services

Route	Journey Time	First	Last	Daily Frequency
Bere Alston – Plymouth	24 minutes	06:03	22:43	9 services per day
Plymouth – Bere Alston	24 minutes	04:57	21:30	9 services per day

The usage of railway stations on the Tamar Valley Line in the 10-year period between 2010 and 2020 is shown in **Figure 2-8**.

Figure 2-8 – Annual Rail Usage at Tamar Valley Line Stations, ORR Station Entries / Exits



2.3.26. Whilst footfall at Gunnislake and Devonport has grown over the previous decade, growth elsewhere has been largely flat. Footfall at the suburban stations in Plymouth is notably lower than comparators in Cornwall, Exeter and Bristol, as set out in **Table 2-6** below.

2.3.27. The table also serves to highlight the relationship between service provision and usage. In each comparator, station footfall aligns to the level of service. Although there will be other contributory factors, the sample of comparator stations is broad enough to normalise the impacts of population characteristics, employment and other factors.

Table 2-6 - Annual Footfall: Plymouth Suburban Stations vs South West Comparators

Suburban stations	Catchment Characteristics	Train Service pre-covid	2019-20
Cornwall			
Saltash	Residential area, town centre nearby	0.5tph off peak/1tph peak until 2019. 1.5tph off peak and 2tph peak launched in Dec 2019	85,396
Penryn	Residential area, college/university nearby	2tph, prior to May 2009 1tph	247,760
Penmere	Residential area	2tph, prior to May 2009 1tph	199,352
Falmouth Town	Residential area, town centre nearby	2tph, prior to May 2009 1tph	222,028
			Average: 188,634
Plymouth			
St Budeaux Ferry Road	Residential area	6 per day each way	2,348
St Budeaux Victoria Road	Residential area	0.5tph	8,928
Keyham	Residential area but Devonport dockyard very nearby	0.5tph with peak extras	7,808
Dockyard	Residential area but Devonport dockyard very nearby	0.5tph with peak extras	10,368
Devonport	Residential area but Devonport dockyard very nearby	0.5tph off peak/1tph peak	43,046
			Average: 14,500
Exeter			
Exeter St Thomas	Residential area but also neighbourhood centre with retail and food	1tph off peak/2tph peak	224,132
St James Park	Residential area	1tph off peak/2tph peak	96,282
Polsloe Bridge	Residential area	1tph off peak/2tph peak	119,048
Digby & Sowton	Residential to one side and large employment and industrial use the other side	2tph	624,496
Pinhoe	Residential area on outskirts of city	1tph since Dec 2013, prior to that 0.5tph off peak/1tph peak	130,044
			Average: 238,800
Bristol			
Parson Street	Residential area	1tph off peak/2tph peak	173,832
Bedminster	Residential area	1tph off peak/2tph peak	104,050
Lawrence Hill	Residential and mixed use area	2.5tph unevenly spaced since 2008, prior to that assumed 1.5tph	190,118
Stapleton Road	Residential area	2.5tph unevenly spaced since 2008, prior to that assumed 1.5tph	205,224
Montpelier	Residential area	1.5tph since 2008, prior to that 0.5tph off peak/1tph peak	129,556
Redland	Residential area	1.5tph since 2008, prior to that 0.5tph off peak/1tph peak	120,642
Clifton Down	Residential area but also neighbourhood centre with retail and food	1.5tph since 2008, prior to that 0.5tph off peak/1tph peak	727,774
Avonmouth	Small residential area but close to Avonmouth docks and variety of industrial use	1.5tph since 2008, prior to that 0.5tph off peak/1tph peak	127,142
Patchway	Residential one side, engineering/manufacturing the other side of station including direct access into Rolls Royce plant	1tph with limited peak extra	82,198
			Average: 206,726

The Dartmoor Line

2.3.28. Rail connectivity in Devon has recently been improved with the Dartmoor Line reopening for regular passenger services in November 2021. The Dartmoor Line provides a significant improvement in public transport connectivity between Okehampton and Exeter with a journey time of 35 minutes to Exeter St Davids and 40 minutes to Exeter Central. Reopening of the Dartmoor Line will increase accessibility of Okehampton and Dartmoor for visitors. Tavistock provides an alternative western access hub to Dartmoor but now trails its northern neighbour in terms of sustainable transport connectivity. Reconnecting Plymouth with Exeter via Tavistock and Okehampton is a longstanding local aspiration, which would provide an alternative to the South Devon Main Line as well as improving access to the National Park.

Covid-19 impacts on rail usage

2.3.29. The Covid-19 pandemic substantially affected rail passenger numbers across the rail network, with a significant decrease in usage following the introduction of public health restrictions and guidance in March 2020. Whilst the pandemic significantly impacted economic activity and travel behaviours, demand for rail services in the South West is recovering strongly, particularly for the leisure market.

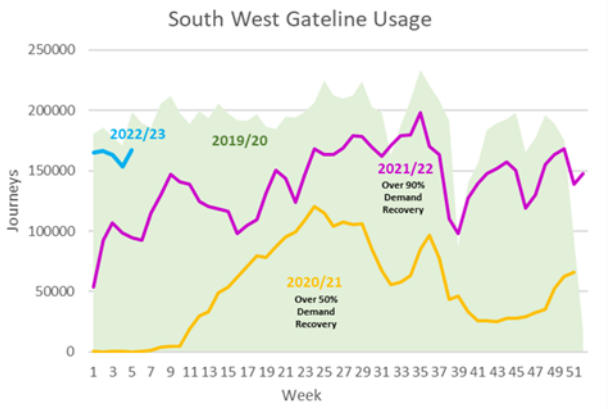
2.3.30. GWR have undertaken their own analysis of the recovery of rail demand regionally. Gate line survey analysis undertaken by GWR suggests that recovery to pre-pandemic demand levels could occur much sooner in Devon than forecast for the wider network through a combination of fewer home workers and greater proportion of leisure trips.

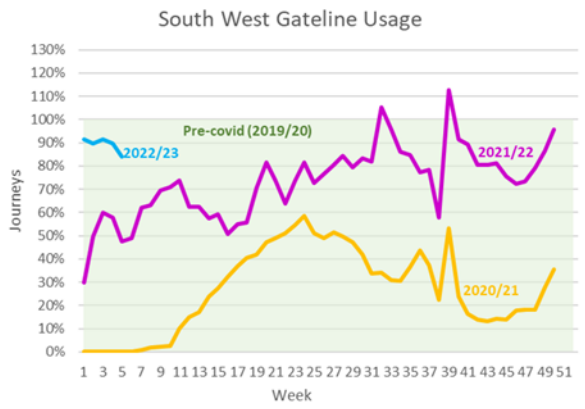
2.3.31. **Figure 2-9** shows gate line footfall data for South-West stations. Gate line data is a more accurate reflection of rail usage than ticket sales which is more difficult to use to estimate actual passenger journeys. It should be noted that the gates at Plymouth station were removed for a period during the summer of 2021 for reconstruction, which explains the apparent loss of footfall in the Plymouth footfall data.

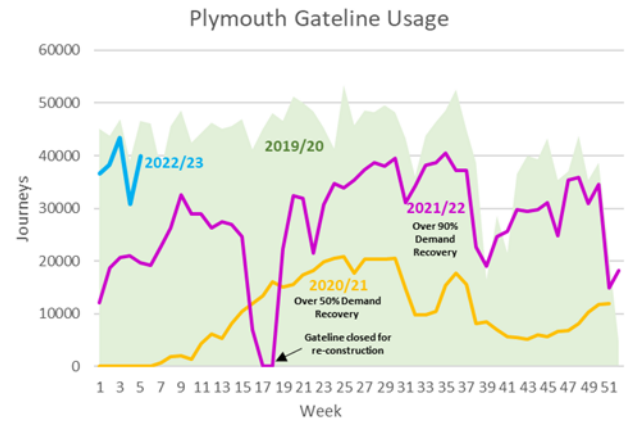
- The average gate line footfall data for the first five weeks of year 2022/2023 shows the following;
- South-West stations data shows that rail passenger demand was at 89% of pre-pandemic 2019/20220 levels;
- Plymouth station data shows that rail passenger demand was at 85% of pre-pandemic 2019/2020 levels; and
- Exeter Central data shows that rail passenger demand was at 108% of pre-pandemic 2019/2020 levels.

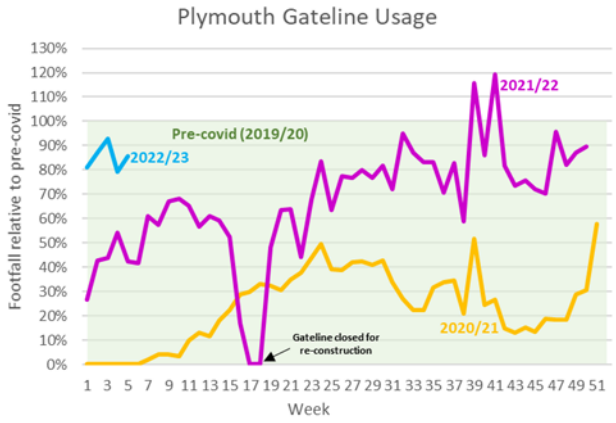
2.3.32. The South-West recovery in rail demand is strong and supports the case for assuming higher growth in rail demand going forwards, driven by the post-pandemic rebound and a strengthening in demand for leisure trips. This is further supported by recent ticket sales data for the reopened Okehampton Line to regular passenger services which shows that longer distance leisure-based trip-making is a significant contribution to overall rail demand and particularly to average revenue yield (**Figure 2-10**).

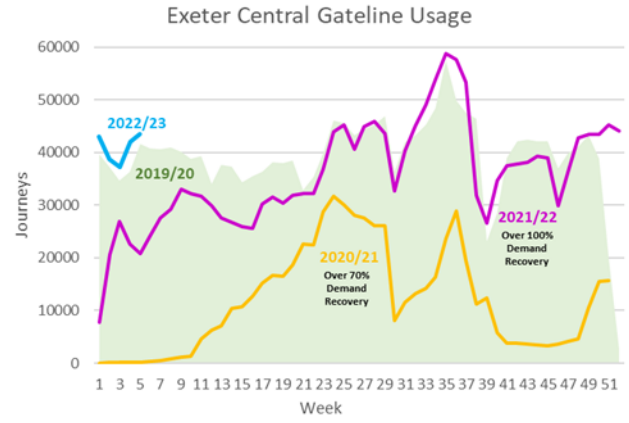
Figure 2-9 – Recent trends in station gate line data in the South-West (absolute journeys and as a percentage of pre-pandemic levels)

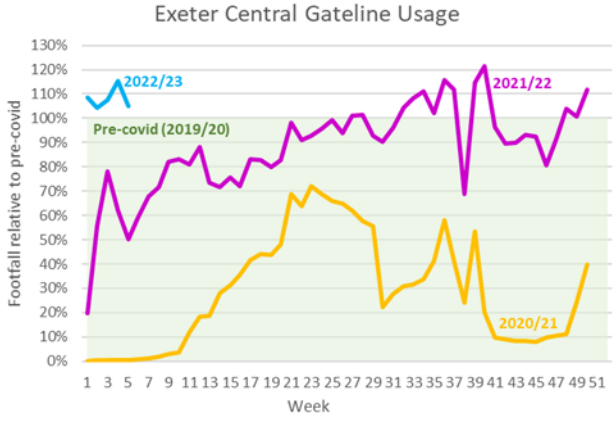






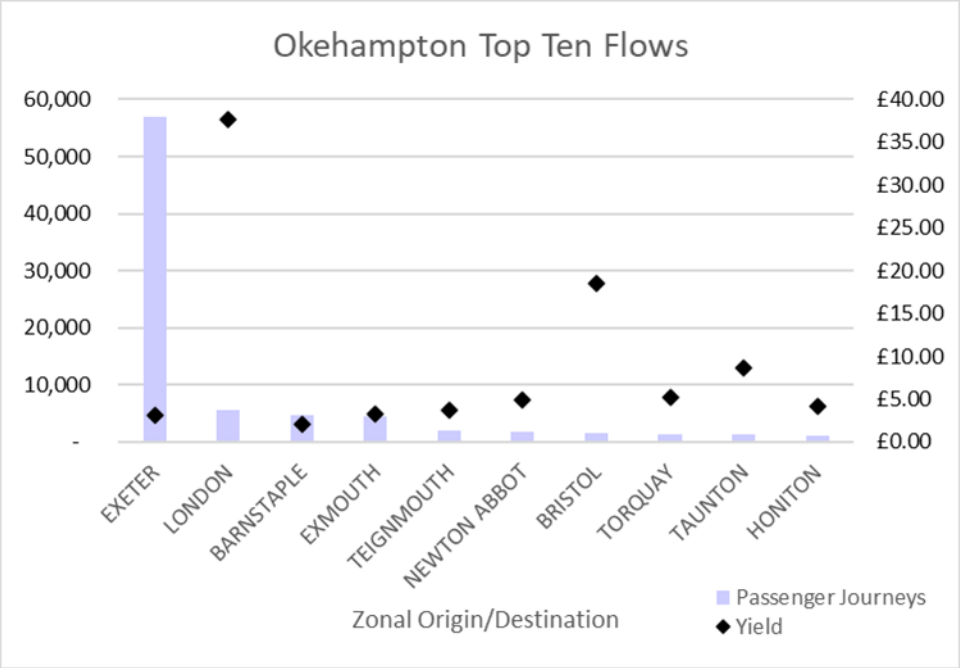






Source: GWR

Figure 2-10 – Okehampton Line: Top Ten Flows Since Line Opening in October 2021



Source: GWR

Cycle Network

2.3.33. In addition to the motorised modes of transport, there is some cycling connectivity on the corridor between Tavistock and Plymouth with National Cycling Network (NCN) Route 27 running close to the A386, some sections are off-line in the Clearbrook area, but the majority of NCN27 is online on the A386. The average cycling journey time between Tavistock and Plymouth city centre is around 1 hour 40 minutes. Such a journey time means cycling is feasible as a recreational mode for travel between Tavistock and Plymouth, but far less attractive for regular commuting. Also, the need to share road space with other road users on the congested A386 and resulting safety issues is a disincentive to cycle.

2.4 ENVIRONMENTAL CONTEXT

CLIMATE CHANGE EMERGENCY

2.4.1. The Climate Change Act was amended in 2019 through secondary legislation which included a target to achieve net zero emissions by 2050 by looking at ways to decarbonise transport services through reduction in private car use, and shift in travel behaviour to more sustainable modes.

2.4.2. In 2019, the Devon Climate Emergency Response Group (DCERG) including local authorities within Devon, as well as other large stakeholders within the region, declared a Climate Emergency. An evidence-led Devon Carbon Plan was developed setting the agenda for a transition to a Net Zero Carbon future. An interim Plan has been released for consultation. Devon County Council is a member of the DCERG and has also produced a carbon reduction plan.

2.4.3. Plymouth City Council declared a climate emergency and has prepared a Climate Emergency Action Plan (2019) which sets targets for the decarbonisation of transport. The Action Plan states that it is, “imperative that our transport network provides viable, attractive alternatives to the private car in order for the increased travel demand to be managed in line with our efforts to reduce carbon emissions”.

2.4.4. In order to combat the climate emergency and reduce emissions it is important that transport connectivity improvement schemes are considered which are not highway focused and encourage use of sustainable transport modes. Congestion on the road network has a negative impact on the environment. Localised improvements in highway operation are preferred as part of a multi-modal package of enhanced connectivity measures. The funding for an enhanced George park-and-ride facility is an example of this overarching strategy of encouraging more multi-legged transport trips where a combination of modes is used (in this case car and bus services).

2.5 NEED FOR INTERVENTION

2.5.1. Patterns of growth in the South-West Peninsula have seen a steady trend towards concentration of activity at major settlements such as Plymouth and Exeter, together with expansion around sub-regional towns linked to the economies of the larger major regional centres. Alongside these patterns of spatial activity, there has been a growing recognition that the demand for travel cannot be accommodated by unconstrained car use which creates congestion on the highway network and reinforces the social exclusion experienced by those without access to a car. Sustainable transport connectivity is required to meet a raft of national, regional and local policies.

2.5.2. To address this, there is a need to improve sustainable transport connectivity providing an improved user experience within the Tavistock to Plymouth corridor.

2.5.3. The need for intervention is multi-faceted, but can broadly be summarised as:

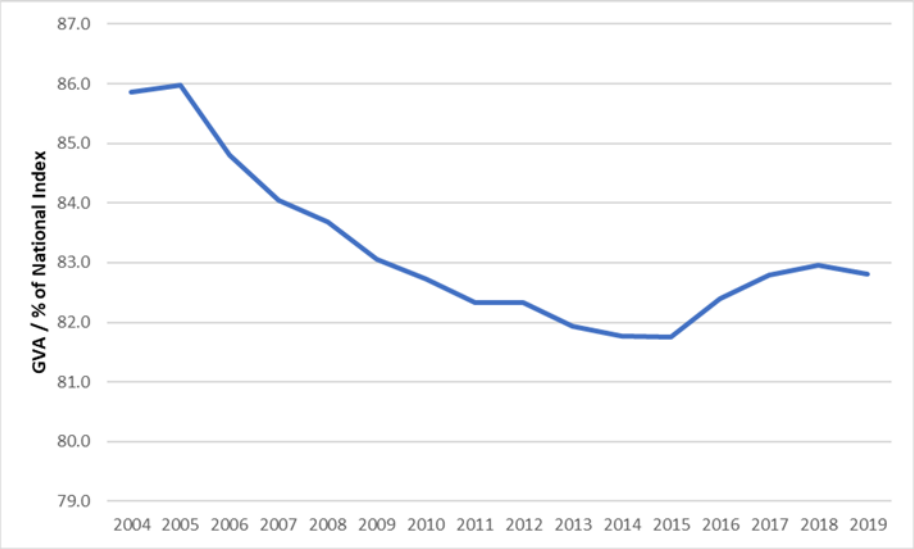
- Improve transport connectivity to facilitate local development as a catalyst of growth and productivity;
- Contributing towards the decarbonisation of transport in the A386 corridor;
- Enhanced access to employment, education and healthcare in Plymouth for Tavistock residents and residents of west Devon and north Cornwall;
- Provide an improvement in rail services for the deprived communities of St Budeaux, Keyham and Devonport in Plymouth; and
- Improve visitor access by public transport to the natural environment, particularly the Dartmoor National Park, and reduce the erosion and disturbance to nature caused by air and noise pollution.

2.5.4. Each of these needs is described in further detail below.

IMPROVE TRANSPORT CONNECTIVITY TO FACILITATE LOCAL DEVELOPMENT AS A CATALYST OF GROWTH AND PRODUCTIVITY

2.5.5. The Heart of the South-West LEP has identified structural issues affecting the performance of the South-West regional economy. There is a productivity gap compared to the average for England. In 2019, the GVA per hour in the South-West was only 82% of the UK average despite some relative growth in GVA per hour in recent years. This is shown in Figure 2-11 and Figure 2-12. It is also significant that the lowest average wages in the UK are in Devon.[11]

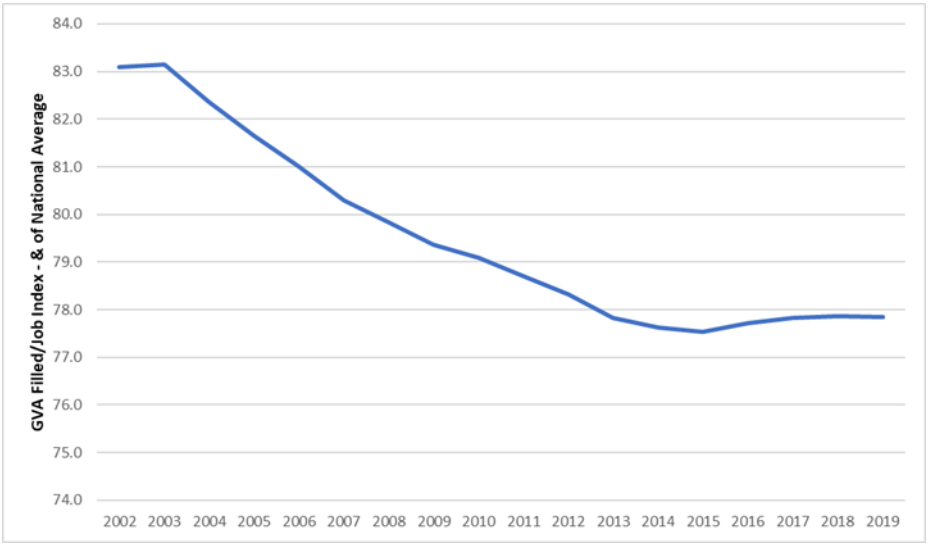
Figure 2-11 - Heart of the South-West GVA/Hour - Per Cent of National Average



Source: ONS & Heart of South-West LEP

[11] Team Devon COVID-19 Economy and Business Recovery Prospectus - Coronavirus (COVID-19)

Figure 2-12 – Heart of the South-West GVA/Filled Job – Per Cent of National Average



Source: ONS & Heart of South-West LEP

2.5.6. The Devon economy significantly underperformed the national economy, with GVA in 2019 only 77% of the national average.[12] In spring 2020, the DCC Devon Economy Service Briefing, August 2021, reported that Devon was rated as 'red' by Government reflecting the exposure of the Devon economy to the negative effects of the pandemic particularly in the leisure sector, and low productivity and labour market shortages.[13] Devon County Council compiled an economic vulnerability index to assess the impact of the pandemic on local neighbourhoods. This index for 457 neighbourhoods in Devon shows that three Tavistock neighbourhoods are amongst the most economically vulnerable in the county, namely Tavistock Central (41st), Tavistock South (123rd) and Tavistock South-West (146th).

2.5.7. The UK Competitiveness Index (UKCI) ranks local authority areas according to the 'development and sustainability of businesses and the economic welfare of individuals'. The UKCI assesses the extent to which the local economy can attract companies with stable or rising market share in their activities whilst maintaining stable or increasing standards for residents. The UKCI 2019 rankings show West Devon is ranked 343 out of 379 of all local authorities in the UK.[14] Over the period 2018 to 2021 West Devon has been in the twelve largest ranking fallers highlighting a trend of lower economic competitiveness. This indicates that there is a clear need to consider initiatives to increase local productivity.

[12] West Devon Member Briefing December 2021, Devon's Economy – Covid19 Recovery Update https://democracy.devon.gov.uk/documents/s36778/Devon%20Economy%20Briefing%20data%20analysis%20August%202021.pdf

[14] http://cforic.org/wp-content/uploads/2021/11/UKCI-2021.pdf

2.5.8. Plymouth is the focal point of economic activity for the region and has the potential to act as a catalyst of productivity growth. However, the current economic indicators for the city show underperformance. Retail vacancies in the city are around 18%, significantly above the UK average of 14%. The UKCI 2021 ranking of the comparative competitiveness of UK cities ranked Plymouth 44th out of 47 cities.

2.5.9. Plymouth City Council's Plymouth Plan has a key objective of driving the city's prosperity and growth by attracting inward investment in the marine and advanced manufacturing industries and encouraging transformative change in the local economy.[15]

2.5.10. Catalysts for this growth include the £2bn redevelopment of Devonport Dockyard – centre of the city's marine industries employing around 6,000 people – and the 35 hectare Oceansgate Enterprise Zone. Further, Plymouth is to become a Freeport, one of eight nationally. This status will represent a major boost to the local economy and is forecast to generate 3,500 jobs and an expected increase in GVA of £400m for the Plymouth and south Devon economy.

2.5.11. To ensure that these growth catalysts can fulfil their potential, their prospective labour pool must be both extensive and contain the right mix of skills to meet business needs. Strategic transport connectivity is therefore crucial to reversing these trends by integrating outlying and often-rural communities more strongly with Plymouth's diversifying and expanding economy. By extension, this will support the missions set out in the Levelling-Up White Paper including well-being, improving access to the job market and better paid employment (in Plymouth).

Babcock International

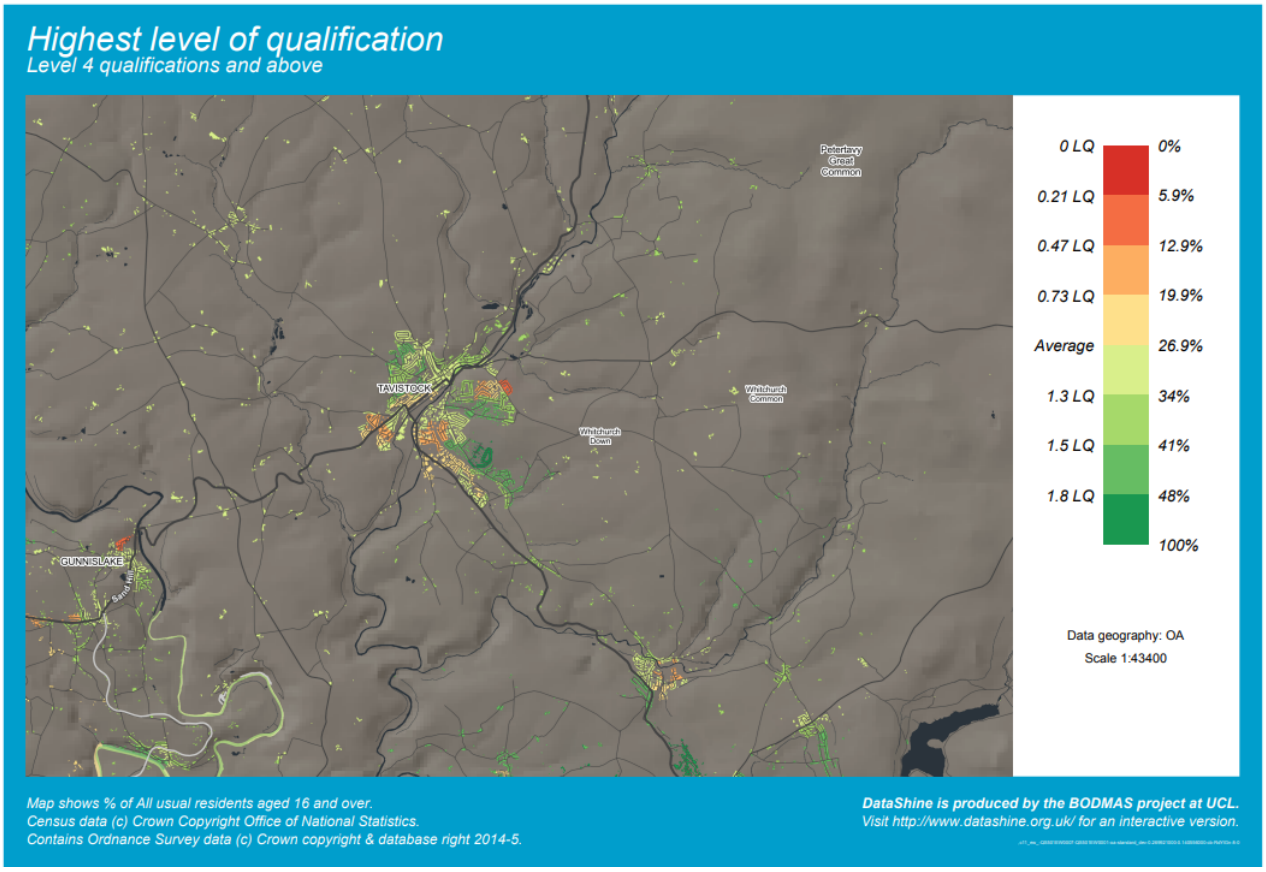
2.5.12. Babcock International Group is one of the largest employers in west Plymouth. The company is a key business in the marine defence sector and is redeveloping its site at Devonport. Babcock have provided DCC with data to inform this Strategic Case. The issues set out here are seen as reflective of those experienced by other employers in key sectors. The ability of major employers such as Babcock to expand will be critical if Plymouth's growth and productivity potential is to be realised.

Key to this growth will be the ability of employers in high value sectors to attract highly skilled employees. Tavistock has a highly qualified population with large concentrations of residents with qualifications at NVQ4 level or higher.

2.5.13. This places emphasis on transport connectivity between Tavistock and key employment sites in Plymouth.

[15] The Plymouth Plan | GRO1 - Creating the conditions for economic growth

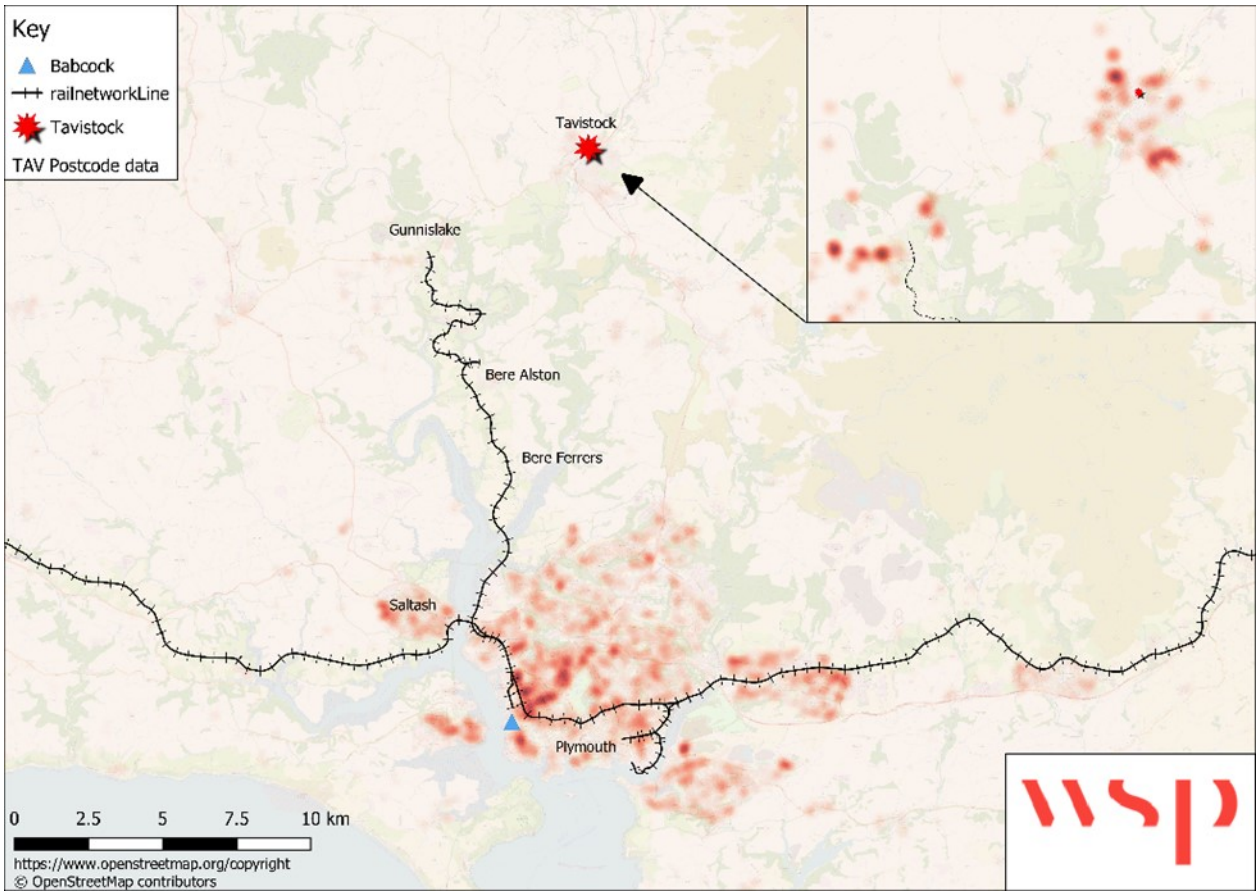
Figure 2-13 –Educational Qualifications NVQ4 or Greater Babcock carried out a travel survey of employees (2,400 respondents) to understand current travel characteristics and future needs for journey to work transport needs.



Source: Datashine analysis of 2011 Census

2.5.14. Figure 2-14 illustrates the place of residence of employees responding to the survey.

Figure 2-14 –Place of Residence of Employees, Babcock Travel Survey, 2022

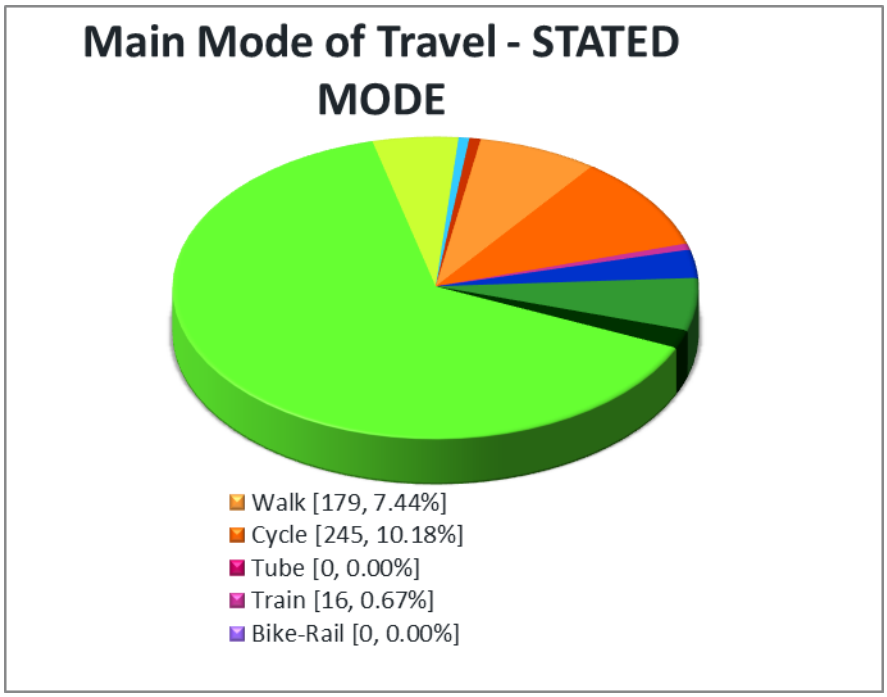


Source: WSP based on Babcock International Group source data, 2022

2.5.15. The map illustrates that Tavistock is an important place of residence with over 1,600 employees living in the vicinity. This validates that highly skilled employees will travel longer distances to reach higher value jobs.

2.5.16. The survey also collected travel mode share data, which is presented in Figure 2-15. The survey illustrates a dependency on car usage for travelling to work, being used by 70% of employees. Public transport is used by less than 5% of all employees.

Figure 2-15 – Babcock Employee Travel Survey, 2022

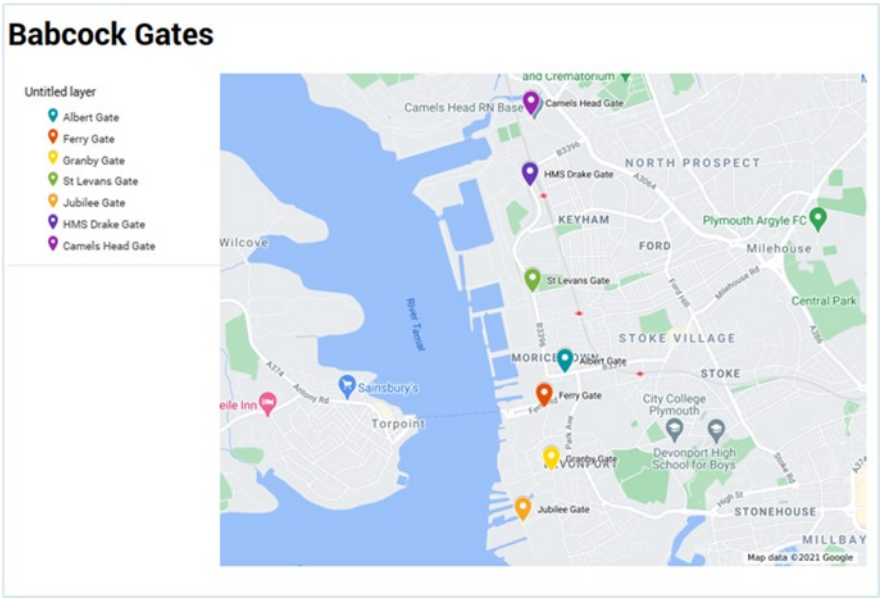


Source: Babcock International Group, 2022

2.5.17. Despite the proximity of railway stations to Devonport's access gates (shown in Figure 2-16), the employee survey showed that a very small proportion of employees currently use rail for journey to work trips.

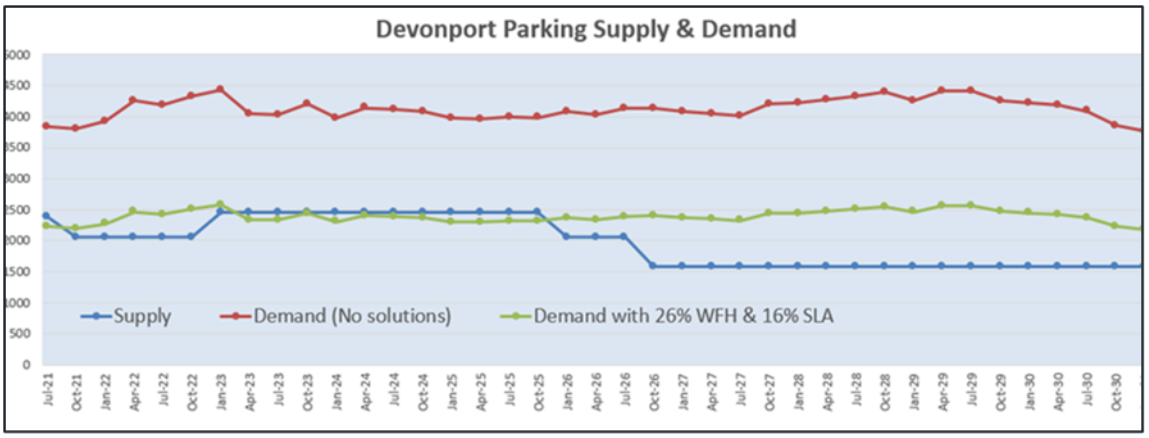
2.5.18. Current rail service provision is a constraint. Most journey to work arrivals in the 6-8am period are only served by two services (given the two-hourly service pattern). Nearly half of Babcock employees surveyed would consider using an enhanced rail service calling at the nearby stations of Devonport and Keyham for journeys to work if there were improvements to the rail service.

Figure 2-16 – Devonport Dockyard Gates



2.5.19. A feature of the planning application for Babcock's site expansion is the reduction of car parking provision. This will result in significantly fewer parking spaces being available for employee use. As shown in Figure 2-17, Babcock's projected demand for car parking greatly exceeds the available provision, even allowing for increased working from home. Reducing the current dependency on car travel will be critical to address this capacity gap. Whilst this could be achieved via targeted walking and cycling initiatives for those employees in the immediate vicinity of the site, improved public transport connectivity will be required to offer an attractive alternative for employees living further afield – such as those in Tavistock.

Figure 2-17 – Babcock Devonport Site: Parking Supply v Demand



Source: Babcock International Group, 2022

2.5.20. In summary:

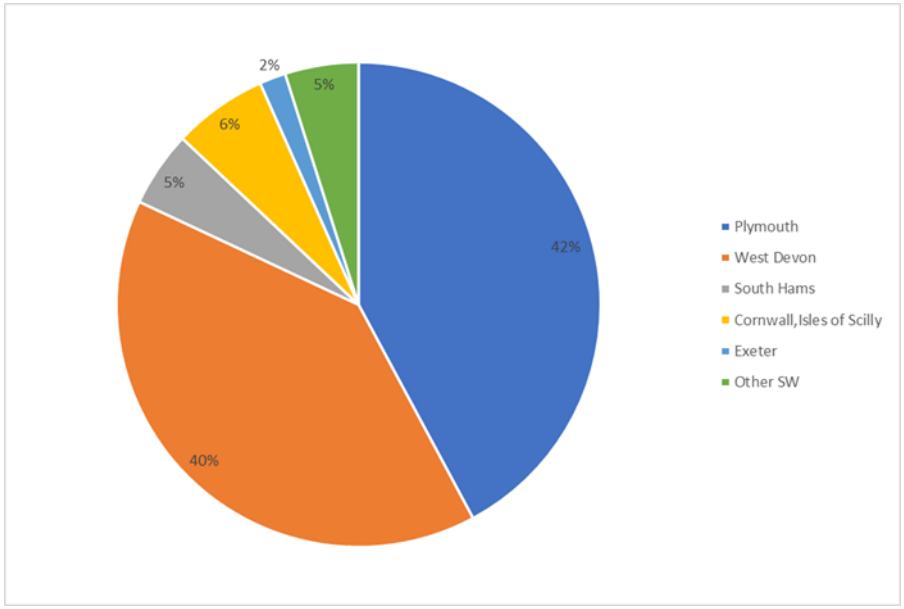
- Major employers in high value specialist sectors, such as Babcock, have the potential to be a catalyst for regional productivity growth;
- These employers require highly skilled employees, who often reside long distances from their site of employment;
- There is high car dependency for these trips currently, which is unsustainable given proposals to expand the Devonport site at the expense of employee car parking;
- This car dependency is despite the Devonport site's central location in Plymouth and its proximity to a number of rail stations; and
- Employee feedback points to the paucity of service as a contributory factor behind very low rail (and public transport more generally) mode share.

2.5.21. Babcock are supportive of transport interventions which reduce this dependency on the car for travel to work and are striving to reduce the car mode share of journey to work travel. Interventions by transport providers to increase the usage of public transport as a journey to work mode are strongly supported by the company.

CONTRIBUTING TOWARDS THE DECARBONISATION OF TRANSPORT IN THE A386 CORRIDOR

As illustrated earlier, Plymouth is the primary attractor for trips made by Tavistock residents for work, leisure and healthcare. Place of work data extracted from the 2011 Census (shown in Figure 2-18) shows that Plymouth accounts for 42% of trips made by Tavistock commuters – more than local trips within West Devon which would include Tavistock itself.

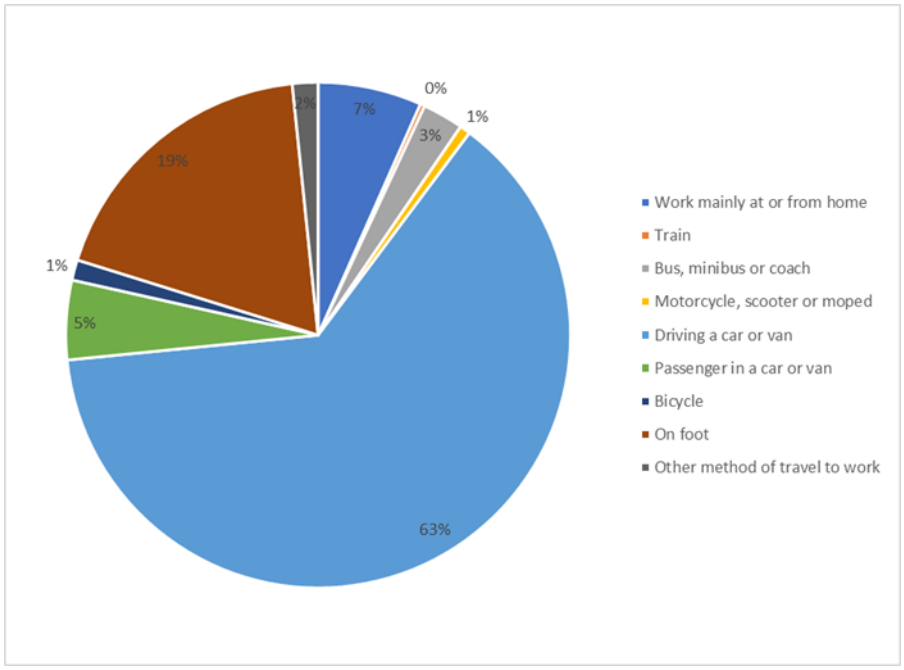
Figure 2-18 – Tavistock Place of Work, 2011 Census



Source: 2011 Census

2.5.22. The Census illustrates the reliance of Tavistock commuters on the car. 63% of all commuting trips are made by car. This is shown in Figure 2-19.

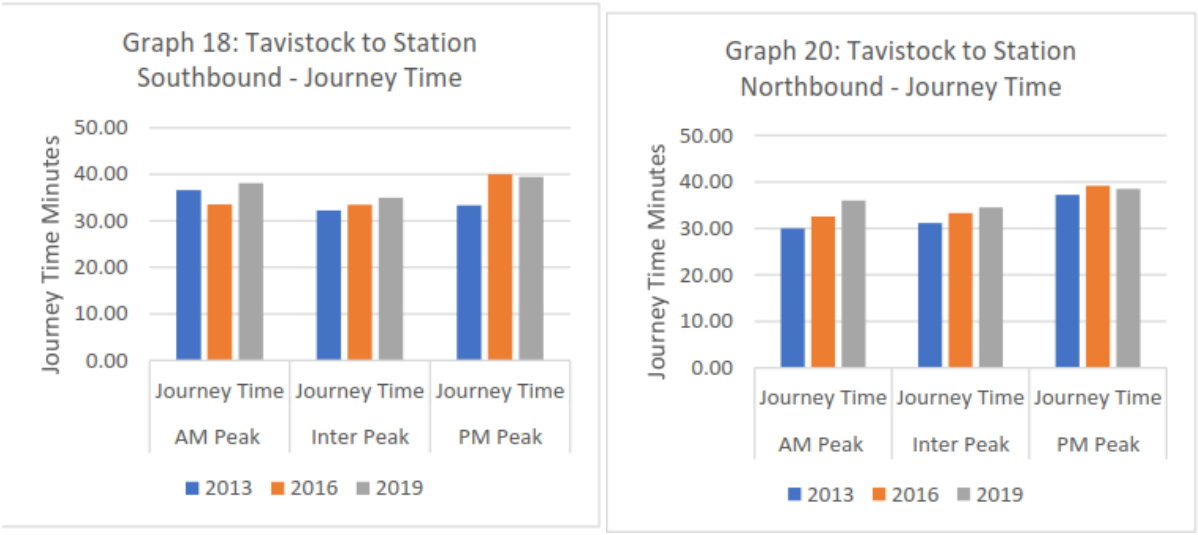
Figure 2-19 – Tavistock Census Journey to Work, 2011 Census



Source: 2011 Census

2.5.23. Car travel between Plymouth and Tavistock is highly dependent on the A386 road link. Traffic count data and journey time surveys 2013-2019 show that travellers on the A386 have experienced increased journey times over time due to traffic congestion. Figure 2-20 shows the increase in journey times.

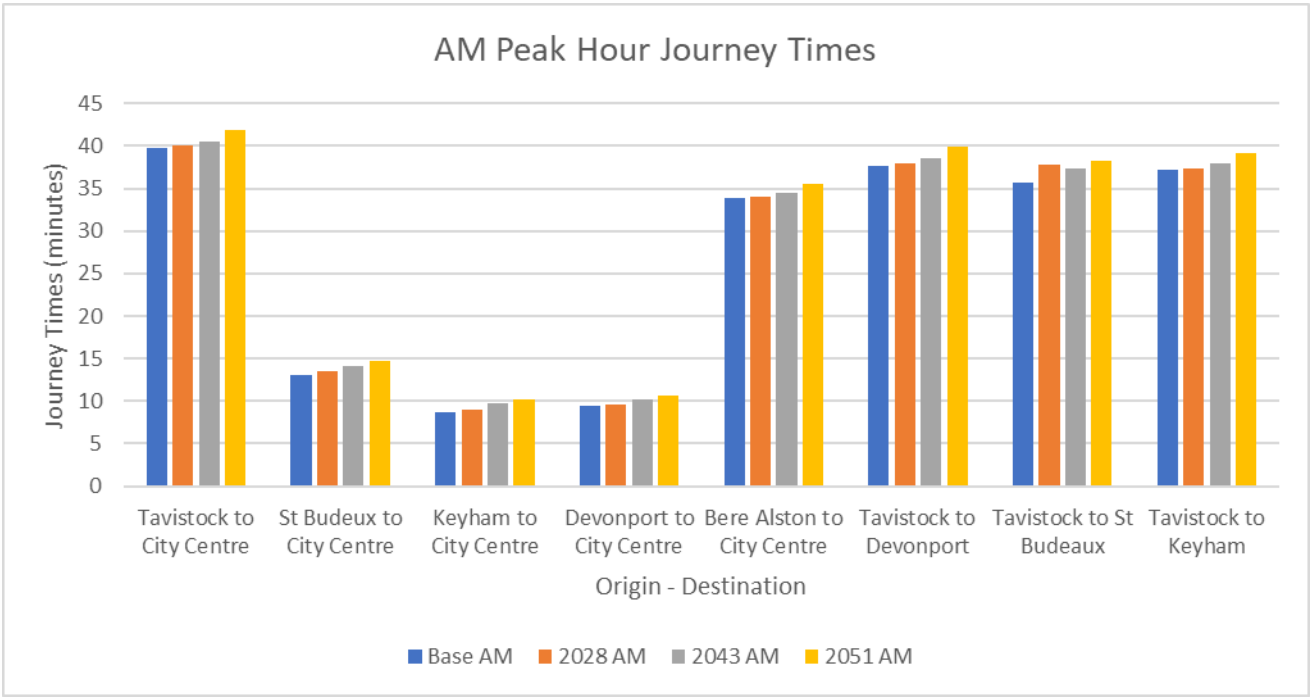
Figure 2-20: Journey Times - Tavistock - Plymouth Station



Source: DCC Analysis of Trafficmaster data

2.5.24. An assessment of forecast AM peak hour journey times to Plymouth indicates that lengthening journey times will occur for Tavistock, St Budeaux, Keyham and Devonport to Plymouth city centre. The forecasts were produced from the Plymouth City Council traffic model.

Figure 2-21 - AM Peak - Key origin and destination journey times



2.5.25. During the AM peak, journey times are forecast to increase during each of the forecast years, with Tavistock to St Budeaux experiencing the most increase. Journeys between Devonport and the city centre experienced the least journey time increase.

2.5.26. Congestion creates carbon emissions which are increasing due to the increased commuter flows into Plymouth. Productivity is also deteriorating as journey times increase. Devon County Council has sought to mitigate these negative impacts by encouraging new developments to be located where potential access to public transport is greatest. Tavistock is one of these centres identified by DCC for promoting the use of sustainable transport modes to provide an enhancement of transport connectivity.

2.5.27. New housing developments in Tavistock, necessary for the future prosperity of the town, will include many workers employed in Plymouth. The existing transport connectivity acts as a constraint on this development. The A386 is a largely single carriageway road with limited scope to increase capacity without significant investment in widening. Provision of additional capacity would be unaligned with the Interim Devon Carbon Plan aims for achieving carbon emission reductions targets for the transport sector. Strategic connectivity for Tavistock would be difficult and costly to achieve through road improvements.

The impact on air quality

2.5.28. An Air Quality Management Area (AQMA) has been declared on the main routes through Plymouth, including the A386 Tavistock Road. Since implementation of the AQMA (2014) pollution levels in Plymouth have improved, but there continues to be a need to improve air quality by reducing dependency on the car on the main routes in to and out of Plymouth by providing improved sustainable transport connections.

The impact of congestion on bus travellers

2.5.29. Whilst the A386 is predominantly used by car commuters travelling to work in Plymouth, the regular public bus services operating between Tavistock and Plymouth are also dependent on the A386 travelling conditions.

2.5.30. The bus journey times are often subject to traffic congestion resulting in reliability issues. Journey times by bus between Tavistock and Plymouth are around 10 minutes longer in the AM peak on school days compared to off peak times, which reflects road capacity constraints during peak times.16 The timetable journey time between Tavistock and Plymouth city centre (Royal Parade) is 68 minutes. This compares with a car travel time variability of 35 to 55 minutes also on the A386. Trafficmaster travel data indicates an average peak hour journey time of around 40 minutes.

The rail alternative

2.5.31. Tavistock's nearest connections to the railway network are at Gunnislake and Bere Alston. To reach either railway station requires either a journey leg by car journey or a trip using the local bus service.

2.5.32. Travel from Tavistock to Bere Alston station is around 15 minutes by car, and around 10 minutes to Gunnislake. However, car parking is limited at both Bere Alston (14 spaces) and Gunnislake (34 spaces) and minimal accessible spaces are provided.

[16] https://mg.swdevon.gov.uk/documents/s22435/FINAL_A386Appx.pdf

2.5.33. Total journey time by public transport (bus and rail) via Bere Alston station is a minimum of 51 minutes and a maximum of 142 minutes. A bus ride from Tavistock to Bere Alston is 21 minutes An allowance for interchange is assumed of 5 minutes for the best connecting time, although some bus services do not serve Bere Alston station directly and require an 800 metre walk from the centre of Bere Alston. The train journey time between Bere Alston and Plymouth station is 25 minutes. The two-hourly frequency of the rail service means that there are only a limited number of connections which enable this end-to-end journey time to be achieved.

Comparing journey times

2.5.34. To illustrate the impact of poor sustainable transport connectivity on relative attractiveness, a simple journey time comparison was carried out. The comparison assumed trips originating in Tavistock and terminating in the key employment site at Devonport and in Plymouth City Centre. Table 2-7 provides a summary of the journey times between Tavistock and Plymouth by mode.

Table 2-7 - Comparison of Mode Journey Times Tavistock and Plymouth

	Car	Bus	Rail/Bus (via Bere Alston)
Tavistock – Devonport	35-60 mins	90 mins (Route 1 / Route 101)[1]	46 – 137 mins[2]
Tavistock – Plymouth City Centre	30-55 mins	62 mins (Route 1, Royal Parade)	51 - 142 mins

Sources: Bus journey times from stagecoach.com

Notes 1: Interchange at Derriford Hospital, 2: Includes Bere Alston bus-rail transfer time;

2.5.35. This comparison illustrates the challenge of securing mode shift for trips between Tavistock and Plymouth. Car journey times, whilst being lengthy relative to distance and increasingly impacted by highway congestion on the key A386, are still significantly quicker than sustainable alternatives. Bus trips, despite being relatively frequent, rely on the same key highway route and are impacted by the same highway congestion caused by high car reliance, meaning journey times will always be slower. The low level of rail service and lack of direct connection to the network makes rail travel via Bere Alston significantly longer than either of the highway-based alternatives.

2.5.36. Achieving local and national carbon reduction targets will require moving away from the existing reliance on private car as main mode of transport for commuting between Tavistock and Plymouth. There are currently some 1,000 Tavistock residents commuting daily by car to Plymouth contributing to carbon emissions, noise and air pollution. In Plymouth, transport accounts for around one quarter of the city's CO2 emissions and around two thirds of these CO2 emissions is generated by car travel. Traffic congestion has also resulted in poor air quality in Plymouth and an AQMA has been declared since 2014 on the A386 Tavistock Road.

2.5.37. In meeting the need for enhanced transport connectivity between Tavistock and Plymouth, there will need to be a shift towards sustainable transport modes. The option assessment for this SOBC evaluates a highway alternative incorporating some minor junction improvements (there is little scope to undertake further improvements due to environmental impacts and cost), but it is recognised that this will in the short to medium term fail to address the need to reduce transport related carbon emissions and affect the successful achievement of the cardon reduction targets.

ENHANCED ACCESS TO EDUCATION AND HEALTHCARE IN PLYMOUTH FOR TAVISTOCK RESIDENTS AND RESIDENTS OF WEST DEVON AND NORTH CORNWALL

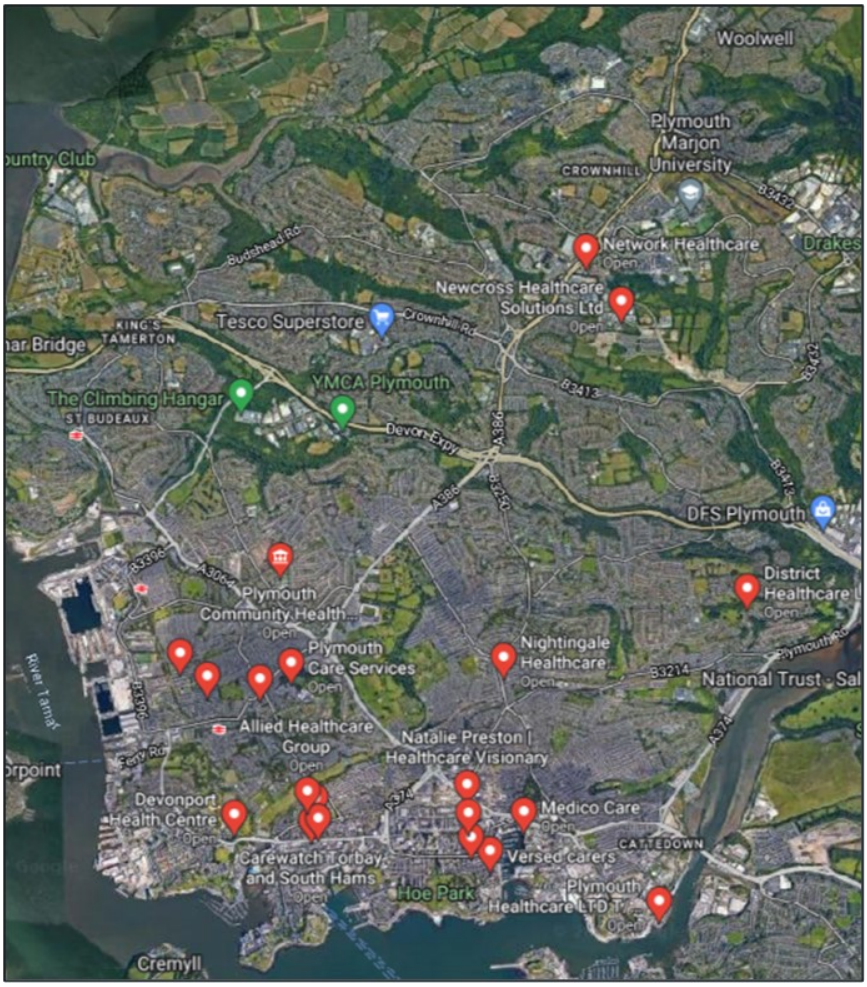
2.5.38. Alongside journey to work trips, transport connectivity improvements are required by Tavistock residents for access to a broad range of services. Tavistock and neighbouring communities in the Tamar Valley and north Cornwall rely on services which are predominantly located in Plymouth.

2.5.39. Plymouth has education facilities including two universities (Plymouth University and Plymouth Marjon University) and a higher education college (City College Plymouth) which attract students from across the region. As a result, the city has a large student population comprising both residents and those commuting into the city.

2.5.40. The city is also a major healthcare provider with Derriford Hospital, NHS Plymouth and Mount Gould Hospital all serving an area covering Plymouth, West Devon and north Cornwall.

2.5.41. The distribution of healthcare services in the Plymouth area is shown in Figure 2-23. The majority of healthcare services are close to Plymouth railway station or west Plymouth suburban stations or are accessible from by connecting buses from the railway stations.

Figure 2-22 – Accessibility to Plymouth Healthcare Services



Source: Google Maps

2.5.42. Whilst Derriford Hospital in north Plymouth is connected with Tavistock by the A386 there are also clusters of healthcare facilities in the city centre and to the west in the Keyham and Devonport areas. However, accessibility to Plymouth city centre healthcare services from Tavistock requires travel into the city along the traffic congested A386 Tavistock Road corridor.

2.5.43. Journey times can be over 50 minutes to Plymouth city centre from Tavistock. Journey times are longer still for Tavistock residents travelling to west Plymouth, particularly for those travelling by public bus services where an interchange is required at the Derriford Hospital bus interchange.

2.5.44. The Levelling-up White Paper has a mission to increase the number of people completing high quality skills training, particularly in the lowest skilled areas of the country. Whilst Tavistock has above average educational qualifications, there are areas of the town in the south and south-west which have below average educational qualifications (educational attainment of NVQ4 or greater).

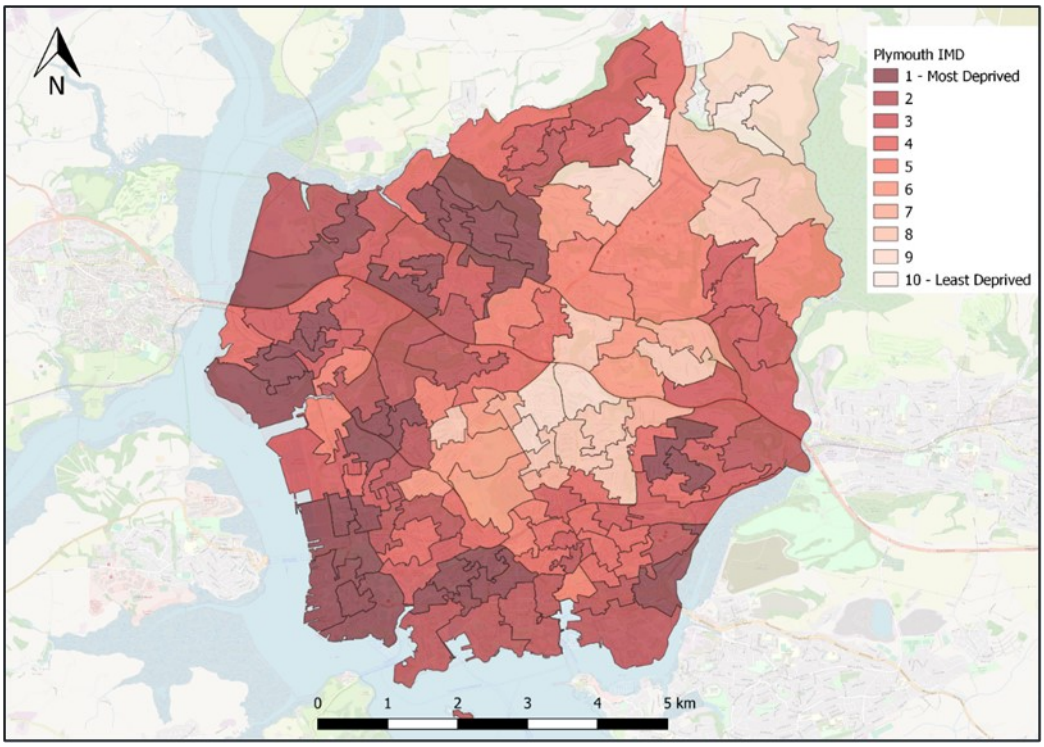
2.5.45. Improved accessibility to Plymouth higher education institutions is needed for these areas of the town which are also contiguous with areas considered economically vulnerable. These areas residents typically have lower incomes, are younger and have less access to a car. Residents are more likely to be reliant on bus services operating on the congested A386 to access higher

education in Plymouth, particularly the University of Plymouth in the city centre. Unreliability of journey times is disruptive for students' curriculums.

PROVIDE AN IMPROVEMENT IN RAIL SERVICES FOR THE DEPRIVED COMMUNITIES OF ST BUDEAUX, KEYHAM AND DEVONPORT IN PLYMOUTH

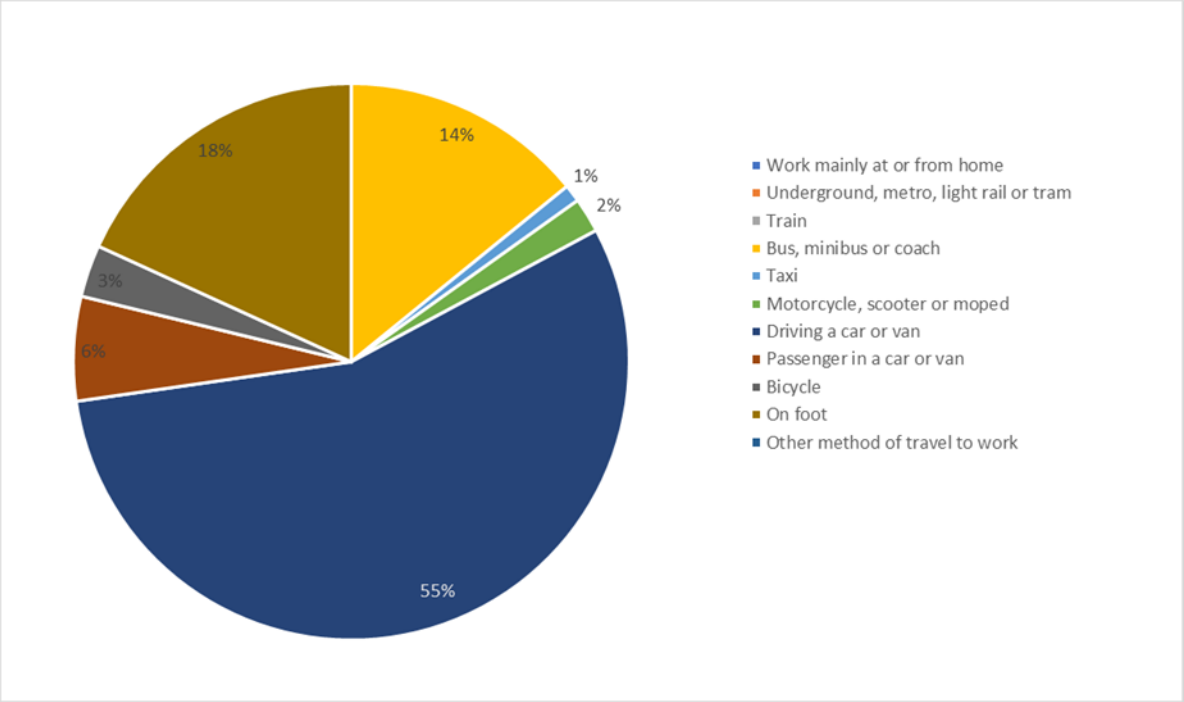
2.5.46. West Plymouth is an area of high deprivation, as shown in Figure 2-23. Many parts of St Budeaux, Keyham and Devonport are within the category of the 10 per cent most deprived communities. Car ownership levels are low with many residents' dependent on public transport. Whilst the redevelopment of the Devonport Dockyard and the Freeport plan represent a transformative change in the local economy, there is a need to provide an accessible affordable alternative transport system to the car for residents.

Figure 2-23 – Plymouth Index of Multiple Deprivation



2.5.47. 2011 Census travel to work data (shown in Figure 2-24.) shows that within Plymouth, travel to work by car is the most used with over 60% using car (driver or passenger). Public transport usage accounts for only 14% of trips, with these almost exclusively being made via bus. Rail use is negligible despite the relatively high number of stations located across west Plymouth.

Figure 2-24 - Travel to Work Modes in Plymouth, 2011 Census



2.5.48. In an attempt to address high car dependency, Plymouth City Council has defined a series of public transport interventions within its Transforming Cities Fund (TCF) allocation. A public transport and active mode interchange at St Budeaux will be delivered, along with better walking and cycling connectivity between St Budeaux and Devonport Dockyard and to other parts of the city by providing more bus priority measures and dedicated cycle paths.

2.5.49. The JLP identifies the need for developing sustainable linked communities and a need to shift travel demand to sustainable modes. Improving the First Mile Last Mile (FMLM) accessibility to the public transport system is needed. In west Plymouth, this need is identified by Plymouth City Council with St Budeaux being identified as a mobility hub. There is also a need for extending the coverage of mobility hubs to include Devonport and Plymouth railway station.

2.5.50. In conjunction with these interventions there is a need to improve the quality of the rail service calling at the stations in the West Devon corridor on the Tamar Valley / Gunnislake Line. A collaborative approach is being developed with the rail operator and local bus operators.

IMPROVE VISITOR ACCESS BY PUBLIC TRANSPORT TO THE NATURAL ENVIRONMENT, PARTICULARLY THE DARTMOOR NATIONAL PARK, AND REDUCE THE DISTURBANCE TO NATURE CAUSED BY AIR AND NOISE POLLUTION.

2.5.51. Tavistock and the surrounding area of West Devon serve as base locations for visitors enjoying the county's natural environment.

2.5.52. The largest attraction is the Dartmoor National Park which attracts over 7.8 million visitors a year. Of this total, it is estimated that that local visitors from Plymouth contribute 1.4 million visitor trips (2014) which is forecast to increase by 12% by 2039.17 Although there is no breakdown for visitors passing through Tavistock, this is likely to be a significant proportion given weekend leisure travel by Plymouth residents. Tavistock is also well-placed to serve as a base for visitors to the Cornwall and West Devon Mining Landscape (UNESCO World Heritage Site) and the Tamar Valley Area of Outstanding Natural Beauty.

2.5.53. As the overwhelming number of visitors to Dartmoor National Park travel by car (93%), there is expected to be an increase in traffic congestion and air pollution including on the A386.

2.5.54. This function provides leisure income, with the leisure market a significant contributor to the Tavistock economy. The leisure economy has undergone significant stress during the pandemic. A Covid-19 Business Impact Survey carried out in Devon in July 2021 found that the tourism sector anticipated lost turnover of some 34% with negative sentiment expressed regarding future prospects.18.

2.5.55. The Dartmoor National Park's Green Transport Strategy aims to develop and promote bus services around Dartmoor linking settlements and rail links. 19 Without an improvement in sustainable transport connectivity, Tavistock will not be able to fully benefit from the potential growth in the local economy from the increased numbers of visitors to the National Park. The success of improved sustainable transport connectivity will require integration of public transport services to enable an end to end journey offering better access through Tavistock to the National Park. Also, without improved sustainable transport connectivity the National Park's most popular sites will experience increasing environmental stress due to the levels of cars and car parking.

2.5.56. Recognition of the need to address sustainable transport connectivity is evident from the Dartmoor Recreation Strategy developed by the National Park authorities which promotes working with town hubs to increase economic benefit to the region and encourage use of more sustainable onward travel by visitors. Improved sustainable transport connectivity will attract more visitors by firstly offering travellers without access to a car better sustainable transport options, and secondly car users dependent on the A386 will have an attractive sustainable alternative. Improving sustainable transport connectivity to Tavistock's role as a gateway to the Moor by sustainable transport will also provide local economic benefits from increased visitor spending in the town.

[17] https://sweep.ac.uk/wp-content/uploads/SWEEP-DNPA-Dartmoor-Recreation-Futures-Report.pdf

[18] https://democracy.devon.gov.uk/documents/s36778/Devon%20Economy%20Briefing%20data%20analysis%20August%202021.pdf

[19] https://www.dartmoor.gov.uk/__data/assets/pdf_file/0025/98611/Dartmoor-National-Park-Management-Plan-2020-2025-consultation-draft-WEB.pdf

2.6 IMPACT OF NOT CHANGING

2.6.1. The impact of not changing will be experienced through multiple lenses – economic, environmental and societal.

ECONOMIC IMPACTS

2.6.2. As illustrated by the Babcock case study above, economic regeneration and growth are supported by transport connectivity. The impact of not improving transport connectivity between Tavistock and Plymouth will be to constrain economic growth.

2.6.3. As evidenced earlier, traffic congestion on the A386 is causing journey times to lengthen over time. As has been shown using traffic forecasts data from the Plymouth traffic model, journey times are forecast to increase further due to new development in Tavistock, north Plymouth and the urban fringe in South Hams exacerbating traffic conditions for Tavistock commuters even with planned local highway network improvements in Plymouth. This congestion also serves to increase bus journey times and contribute to journey time unreliability.

2.6.4. Longer journey times for car and bus users will result in lost productivity. These loses are being experienced now and will increase over time without intervention.

2.6.5. The longer term impact of productivity loss is the erosion of Plymouth's position as a city for businesses to invest in. As illustrated with the Babcock example, businesses in high value, high productivity specialist sectors are reliant on highly skilled employees. Market towns such as Tavistock have high concentrations of highly qualified residents, attracted by good quality housing stock and general quality of life. As Tavistock becomes "further away" from Plymouth due to lengthened journey times, the ability of Plymouth employers to attract the right blend and volume of staff diminishes.

2.6.6. The continued prosperity of Tavistock is therefore linked to accessibility to Plymouth employers. Transport connectivity challenges constrain the growth of the town now, as new development cannot be fully brought forward due its impact on the highway network. This in turn makes it less affordable for lower wage residents. Over a longer timescale this could see residents choosing to relocate away from the town in search of more affordable housing and better connectivity with employment and services. Both these short and long term consequences will impact negatively on the economy of Tavistock.

ENVIRONMENTAL IMPACTS

2.6.7. Highway congestion impacts on the environment via a number of mechanisms. Carbon emissions are experienced globally through changing climatic conditions which result in more extreme weather conditions and rising sea levels. As described earlier, the UK government has committed to reducing the country's carbon emissions to net zero by 2050. The Devon Climate Emergency Declaration and Carbon Plan make local commitments to ensure the county decarbonises its economy to the same timescale.

2.6.8. Achieving net zero will require ambitious intervention in the transport network. The removal of petrol and diesel cars will make a large contribution, but it must be aligned to a significant shift from private car journeys to more sustainable modes of travel. For longer journeys where active travel is not viable – such as between Tavistock and Plymouth – this will require mode shift to public transportation.

2.6.9. There is a relatively frequent service connecting Tavistock to the city, however this is impacted by highway congestion on the A386, meaning journey times will become longer and less reliable without intervention. In turn, this will make it challenging to attract users from private car, particularly for time critical journeys for employment and education. Without intervention therefore, it will be challenging for this corridor to make a positive contribution toward local and national net zero commitments and is more likely to place additional pressure on achieving modal shift elsewhere.

2.6.10. Other environmental impacts are experienced more locally, through poor air quality and issues such as noise pollution. An AQMA is already in place on the A386 in its urban setting within Plymouth. This means that particulate emissions currently exceed legal limits. Plymouth City Council have made progress towards reducing these emissions through targeted interventions within the city, however with a growing population and increasing congestion, it will become increasingly challenging to reduce and maintain legal levels of air pollution along the corridor.

2.6.11. Further north, the impact of particulate emissions on the sensitive natural environment of Dartmoor National Park can be acute, even where these are within legal limits. The A386 highway runs immediately adjacent to the National Park boundary and serves as the only access for Park visitors – which are sought to increase as pandemic recovery continues.

2.6.12. The same is true of noise pollution, which impacts on sensitive receptors in the urban environment such as schools and hospitals (Derriford Hospital is situated immediately adjacent to the A386) and can serve to spoil the natural environment in West Devon and Dartmoor.

SOCIETAL IMPACTS

2.6.13. The economic and environmental impacts of not changing, described above, will all have consequential societal impacts. Increased time spent commuting, particularly with lower journey time reliability, contribute to stress and negatively influence perceptions of quality of life. The inability to access affordable housing or high quality employment without having to relocate breaks family bonds and erodes social fabric. A worsening environment, whether through increasing levels of noise, harmful air or spoilt natural environment all adversely affect living standards and health outcomes.

2.6.14. There are also direct negative social impacts. As stated previously, the rural communities in West Devon, including market towns such as Tavistock, rely heavily on healthcare, education and leisure facilities which are concentrated in Plymouth. An ageing population, as is already emerging in Tavistock, places increased emphasis on these facilities being accessible, particularly for those without access to private car. The longer term impacts of worsening transport connectivity include the need to relocate closer to healthcare facilities later in life and the increased reliance on unpaid care – simultaneously reducing workforce productivity as working age residents care for elderly relatives.

2.6.15. Worsening transport connectivity also reduces access for Tavistock residents to education and training in Plymouth. Younger residents are less likely to have access to private car travel and rely more on public transport. As public transport connectivity worsens, more Tavistock and West Devon residents may perceive regular travel to/from Plymouth as unviable, necessitating relocation or narrowing opportunities for those unable or unwilling to relocate.

2.6.16. Earlier sections of this Strategic Case also highlighted the deprivation currently experienced within communities in west Plymouth. Urban deprivation often aligns with poor social mobility and healthcare outcomes, and places great emphasis on the provision of high quality, affordable public transport to maintain access to opportunities. Plymouth is currently a car-dependent city, with over 60% of commuting journeys being made via some form of private motorised transport. This suggests that residents currently perceive public transport provision as insufficiently attractive to offset the negative elements of car travel such as congestion and costs incurred via parking, fuel, maintenance, and financing.

2.6.17. Plymouth City Council is investing in its bus network via targeted intervention in infrastructure, delivered via Transforming Cities Fund and other mechanisms. Even without further intervention, it is likely that this will contribute toward increased mode share for public transport. However, rail station footfall data and mode share data both suggest that the city's rail network is not fulfilling its potential to contribute to sustainable travel across west Plymouth. There are currently no committed service or infrastructure improvements which would change this position.

2.7 SMART STRATEGIC OBJECTIVES

2.7.1. The SMART spending objectives are shaped by the policy context and the identified problems that the intervention is seeking to address described above, and therefore establish the basis for the development of the intervention. Ultimately, they will be used to evaluate the success of the outturn scheme and are therefore set with respect to the DfT guidance on SMART objectives.

2.7.2. In line with DfT guidance, a hierarchy of objectives has been established:

- Strategic ambitions (Impacts) – which the intervention contributes to;
- Scheme (Intermediate) objectives (Outcomes) – which the intervention needs to deliver for the strategic ambitions to be realised; and
- Operational objectives (Outputs) – desirable outputs to achieve the intermediate objectives.

2.7.3. The strategic ambitions support the policy aims to improve connectivity to services and amenities, reduce carbon emissions through mode shift, improve air quality, reduce road congestion, support economic growth and improve the transport experience of users. Table 2-8 sets out the policy aims and strategic ambitions.

Table 2-8 - Scheme Policy Aims and Strategic Ambitions

Policy Aims	Strategic Ambitions
Support sustainable employment and housing growth in Tavistock and west Devon to deliver on the Levelling-Up White Paper missions	Enhanced connectivity supporting economic growth and sustainable development, particularly for longer distance commuting between Tavistock and Plymouth
To develop sustainable transport modes which will contribute to the delivery of carbon net zero reducing reliance on the A386	Reduced congestion with improvement in carbon emissions and air quality
To provide improved transport integration to improve the quality of life for local communities, particularly in west Plymouth	Improved social cohesiveness and social mobility

Policy Aims	Strategic Ambitions
To offer alternative transport choices which provide enhanced accessibility to improved sustainable transport options	Improved social cohesiveness and social mobility
To offer alternative transport choices which provide enhanced accessibility for residents and visitors, particularly to the Dartmoor National Park & have a positive environmental impact by reducing erosion by vehicles at popular park locations	Improve the experience of transport users and mitigate adverse environmental impact of excessive car use

2.7.4. Key documents referenced:

- Levelling Up White Paper, 2022
- National Planning Policy Framework, 2019 & 2021
- Decarbonising Transport: A Better Greener Britain (2021)
- Build Back Better Plan (2021)
- Williams-Shapps Plan for Rail (2021)
- Rail Network Enhancement Pipeline, 2018
- Bus Back Better, The National Bus Strategy for England, 2021
- Peninsula Rail Taskforce (PRTF) 'Closing the Gap'
- Plymouth, South Hams and South-West Devon Joint LTP (2014-2034)
- Peninsula Transport Board, Economic Connectivity Study, 2020

2.7.5. The strategic ambitions covering economic growth, carbon net zero, accessibility, inclusiveness and social well-being are in turn captured in scheme and operational objectives with proposed measures of success. Table 2-9 shows the scheme operational objectives and measures of success.

Table 2-9 – Scheme, Operational Objectives and Measures of Success

Strategic Ambitions	Scheme Objectives	Measures of Success
Enhanced connectivity supporting economic growth and sustainable development, particularly for longer distance commuting between Tavistock and Plymouth	Transport connectivity to facilitate local development, as laid out in the Plymouth and South-West Devon Joint Local Plan (JLP)	Generating additional trips between Tavistock and Plymouth by sustainable modes A significant proportion of travellers being new, and not simply abstracted and/or displaced.
Reduced congestion with improvement in carbon emissions and air quality	Enhanced connectivity encouraging mode shift from car to rail for journeys between Tavistock and Plymouth, addressing congestion on the A386 corridor and tackling the Climate Emergency by supporting lower carbon travel.	A reduction in weekday car trips on the A386 and associated reduction in highway-kilometres travelled on the A386 Reduction in carbon emissions linked to reduction in highway kilometres travelled
Improve the experience of transport users and mitigate		

Strategic Ambitions	Scheme Objectives	Measures of Success
adverse environmental impact of excessive car use		
Improved social cohesiveness and social mobility	Enhanced access to employment, education and healthcare in Plymouth for Tavistock residents and residents of west Devon and north Cornwall Provide an improvement in rail services for the deprived communities of St Budeaux, Keyham and Devonport in Plymouth Improve visitor access by public transport to the natural environment, particularly the Dartmoor National Park, Tamar AONB and Cornwall & West Devon Mining Landscape World Heritage Site	Improve journey times between rural communities in west Devon, deprived urban communities in west Plymouth and employment areas in Devonport and Plymouth city centre Generating new trips on sustainable modes from origin points beyond the immediate Plymouth-Tavistock corridor

2.7.6. DCC's key strategic objectives for the scheme are aligned with the need for intervention identified in Section 2.7 and the Impact of Not Changing in Section 2.8, as follows:

- Improve transport connectivity to facilitate local development as a catalyst of growth and productivity;
- Contributing towards the decarbonisation of transport in the A386 corridor;
- Enhanced access to employment, education and healthcare in Plymouth for Tavistock residents and residents of west Devon and north Cornwall;
- Provide an improvement in rail services for the deprived communities of St Budeaux, Keyham and Devonport in Plymouth; and
- Improve visitor access by public transport to the natural environment, particularly the Dartmoor National Park, and reduce the erosion and disturbance to nature caused by air and noise pollution.

2.8 STRATEGIC ASSESSMENT OF INVESTMENT OPTIONS

2.8.1. The option selection process has been applied to ensure a systematic and robust approach is undertaken to identify the preferred option(s) for further scheme development. The approach uses a multi-criteria assessment framework (MCAF) based on the guiding principles of:

- Proportionality, in addressing the scope of criteria identified in HMT and DfT guidance without exhaustively considering every potential impact;
- Proportionality, in recognising the extent of option development and the level of information available to base assessments on;
- Providing a comparative assessment of options;
- Identifying the trade-offs between options ; and
- Clearly setting out the assessment findings.

2.8.2. The MCAF provides a proportionate and staged sifting process to enable decision makers to effectively and efficiently reduce the number of options under consideration and in doing so identify those that are most likely to meet the requirements for the scheme. The MCAF addresses three themes: suitability, acceptability and feasibility.

2.8.3. Each assessment theme provides a gateway at which options can proceed to the next assessment theme or be parked if they are assessed to have 'critical failures', namely are inconsistent with the strategic objectives and priorities for the scheme or cause large adverse economic, social or environmental impacts or are unrealistic to implement.

2.8.4. The nature of the options considered at each assessment stage evolves through the process building on the previous stage, as illustrated in Table 2-10.

Table 2-10 – MCAF Themes and Stages

Theme	Stage	Key Question
Suitability	Route Options	Will the option provide the 'right' solution?
Acceptability	Operating Concepts	Will the impacts of the option be sustainable?
Feasibility	Scheme Options	Can the option be delivered?

LONG LIST OF OPTIONS

2.8.5. Initial consideration was given to options encompassing all modes of transport. Options based on highway improvements and active mode improvements were reviewed and discounted based on a failure to satisfy the strategic objectives and viability respectively. Options progressed for further assessment are therefore based on public transport improvements. The paragraphs below provide the application of the procedure for the strategic assessment of the options. Further details are provided in the Option Assessment Report.

HIGHWAY OPTIONS

2.8.6. The A386 is the sole direct highway connection between Tavistock and Plymouth with most of the route being single carriageway. Only at Roborough roundabout to the north of Plymouth is A386 Tavistock Road dual carriageway and therefore the network can experience congestion at peak times. Within Plymouth, urban traffic congestion exacerbates the delays to journeys and accentuates the unreliability of arrival times at workplaces.

2.8.7. The City of Plymouth continues to promote schemes along the A386 and elsewhere in the city which aim to relieve key bottlenecks. However, highway improvements are limited to north of the city around Derriford / Woolwell. Plymouth completed the Derriford Transport Scheme in 2018 which included junction capacity improvements along with extensive bus priority, walking and cycling infrastructure, and the £60m Forder Valley Link Road / Interchange offers an alternative route to A386 between Manadon and Derriford. These improvements however do not provide direct improvements for road-based journeys from Tavistock for the city centre and Dockyard areas.

2.8.8. There are significant proposed future development sites on Plymouth's Northern Corridor (4,235 new homes and a significant number of jobs, as set out in the Plymouth and South West Devon

Joint Local Plan); this includes 2,000 new houses at the Woolwell Urban Extension (WUE), accessed from the A386. The evidence base supporting the development of the Joint Local Plan shows that improvements to the transport network, for both highway capacity and sustainable transport links, are required to allow the WUE development to come forward. The Woolwell to the George Transport Scheme20 is the latest in a programme of transport improvements on the A386 Northern Corridor to allow continued growth in sustainable travel.

2.8.9. A highway alternative would need to offer a significant improvement in capacity and delay reduction along the whole A386 road corridor to contribute significantly to the scheme objectives. However, implementation of such a corridor-wide improvement is very difficult to deliver. Firstly, proximity to the Dartmoor National Park severely constrains road-widening and/or realignment as these would have significant environmental impacts. Indeed, the A386 passes through the boundary of Dartmoor National Park between Roborough Down and Grenofen.

2.8.10. DCC undertook a pre-feasibility study to consider how highway improvements on the A386 would mitigate development impact and improve journey times[21]. The following schemes were considered but discounted:

- Large scale schemes such as reconfiguration of the network and large bypasses would not be deliverable due to significant environmental constraints; and
- Small scale schemes such as Grenofen and Yelverton bypasses are costly (between £10-15 million each) and would not provide significant benefits (~2.5 minutes of journey times saved during peak hours). As with larger schemes there are still environmental constraints as well as land acquisition issues.

2.8.11. As such, any highway option is likely to be constrained geographically to the Plymouth urban area. Whilst any such option could be designed to address local congestion pinch points, it would not materially affect longer distance car trips to and from Tavistock or the surrounding communities. A386-focused improvements would also not improve connections to the wider West Devon area in the Tamar Valley, nor within the deprived communities in west Plymouth.

2.8.12. Further, the carbon impact of any road-based option would make it inconsistent with the aims of the government's Net Zero commitments, Plymouth City Council, West Devon Borough Council and Devon County Councils' zero carbon plans and is counter to the DCC objective for the scheme to; Encourage modal shift for journeys between Tavistock and Plymouth.

2.8.13. As a result of this assessment, a highway improvement alternative was excluded from the list of options for further assessment.

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20 https://www.plymouth.gov.uk/parkingandtravel/transportplansandprojects/currenttransportprojects/woolwellgeorgejunction

21 A386 Tavistock to Plymouth Corridor Study

2.8.14. There is a limited travel market for cycling on the A386. In the study area, cyclists are mostly leisure users due to the proximity of Dartmoor National Park which is accessible by Drake's Trail.

2.8.15. Drake's Trail currently connects Plymouth to Yelverton via Sustrans NCN Route 27 and non-continuous cycle routes are provided between Yelverton and Tavistock. Currently it takes over two hours to cycle between Tavistock and Plymouth using Drakes Trail. This journey time is approximately half an hour faster along the A386 but is not fully segregated.

2.8.16. Devon County Council is assessing options for improvements to the Drake's Trail cycle route which will create more off-line segregated cycle paths in the A386 corridor. Two options are currently proposed as described below. There is currently an ongoing public consultation on the options.22.

2.8.17. Option A for routing of a multi-use path includes diverting from Drake's Trail at Clearbrook Leat car park in a south westerly direction for approximately 1km before connecting with the A386 and continuing adjacent to the road into Plymouth. The multi-use path will require some land take from Dartmoor National Park, Maristow Estates and Dartmoor Diner.

2.8.18. Option B also routes in a similar direction to Option A, however, follows the existing footpath adjacent to Plymouth Leat making the route predominantly off road before connecting with the A386 close to New Road.

2.8.19. Improvements to active travel infrastructure on the corridor between Tavistock and Plymouth could in theory reduce car dependency. During the Covid-19 pandemic it was recorded that cycle trips locally increased by 153% on the Exe Estuary Trail between Exmouth and Lympstone, 63% at Dawlish Warren, 36% at Meldon Viaduct, 53% on the rural sections of the Tarka Trail and 43% at Fremington Quay near Barnstaple.23 This suggests that there is potential to retain and further increase leisure trips in the region by improving cycling infrastructure. Through this, there may be knock on impacts to people's travel choices and behaviours if they enjoy cycling for leisure and choose to try this mode for commuting purposes.

2.8.20. However, the potential growth in cycle travel demand even with the Drake's Trail cycle improvements is limited. Less than 1% of A386 journeys are by bicycle and the demographics show ageing populations in Tavistock and Yelverton. This population segment is less likely to choose cycling as an alternative mode to the car. Cycling and active travel measures are also usually targeted at shorter journeys and the uptake in active travel is likely to be even less significant due to the distance of over 20km between Tavistock and Plymouth, which equates to a journey time of around two hours. As with the highway improvement option, cycle infrastructure improvements are focused on the A386 north of Plymouth, which would do little to improve connectivity with Bere Alston or to the more deprived areas to the west of Plymouth. Cycle infrastructure improvements are most suitable for localised improvements, and in order to meet the objectives a more transformative

[22] https://www.devon.gov.uk/news/have-your-say-on-proposed-extension-of-multi-use-trail/
[23] https://www.devon.gov.uk/news/increased-use-of-walking-and-cycle-trails/

option is needed which can better connect key settlements in the region, including opening up travel options for the wider West Devon area.

2.9 OPTION ASSESSMENT

2.9.1. The options taken forward for assessment are based on improvements to public transport provision between Plymouth and Tavistock. The options assessed were, as follows:

- Bus alternative;
- Heavy rail alternative;
- Guided busway alternative; and
- Very Light Rail alternative.

2.9.2. In addition to these alternative modal options, an option was developed identifying the opportunities for lower cost improvements to the existing rail service on the Tamar Valley line. It is recognised that these options in providing an improved rail service for Bere Alston will have an adverse impact on operations for Gunnislake and Calstock passengers and will only partially address the Tavistock-Plymouth Line Reopening scheme objectives.

2.9.3. The list of options are summarised in Table 2-11 and explored in more detail throughout this section. Apart from the bus alternative, the other three alternative options represent technologies for implementing a segregated fixed link transport connection between Tavistock and Bere Alston.24.

2.9.4. Three main criteria used to assess these options were constructability, operational suitability and deliverability. Additionally, the ease of possible future conversion of the connection to a heavy rail route in line with the Peninsula Rail Task Force aspirations was a consideration.

2.9.5. The Option Assessment Report provides a detailed assessment of the each of the alternatives against the scheme objectives set out in Section 2.11.

2.9.6. Table 2-12 Provides the ranking of the alternatives and the preferred option, the heavy rail alternative.

[24] Jacobs Tavistock Rail Review of Options Report (2016)

Table 2-11 - List of Alternatives

Option	Description	Proposed Infrastructure / Services
Bus Alternative	A386 Northern Corridor Tavistock to Plymouth Service frequencies to increase between Tavistock and Plymouth to potential 6 services per hour (10 minute frequency, increased from 15 minutes currently). Additional bus services and bus priority measures in Plymouth as set out in the Plymouth Bus Service Improvement Plan (BSIP) to improve city centre journey times. Bere Alston to Tavistock Service frequencies amended to integrate timetable with train services from Bere Alston to Plymouth and enhanced bus service connectivity to Okehampton station. Plymouth Western Corridor West Plymouth (St Budeaux and Devonport) Crownhill Road dedicated bus lane to improve connectivity between St Budeaux and Derriford area away from A38.	Within Plymouth: Additional bus priority: 180m bus lane on Wolseley Road Bus lane on the Manadon Roundabout approach Re-configuration of Meavy Way roundabout Dedicated bus lane on Crownhill Road. Enhanced service frequencies: 5-minute combined daytime frequencies in core corridors until 7pm Enhanced Saturday frequencies matching weekday daytime frequencies Minimum 15-minute link frequency in the evening and at weekends (Bere Alston) services to and from Bere Alston station to tie in with proposed train service timetable
Heavy Rail Alternative	Reopening of the heavy railway line between Tavistock and Bere Alston Heavy rail connection with existing heavy rail services and infrastructure which provides a seamless integration onto the network allowing for through running of rail services from Tavistock to Plymouth	Restoration of single-track railway between Tavistock (Callington Road) and Bere Alston. New hourly Tavistock-Plymouth rail service integrated with the existing 2-hourly Gunnislake – Plymouth rail service. Provides a direct rail connection between Tavistock and Plymouth and an enhanced service frequency for intermediate stations between Bere Alston and Plymouth including St Budeaux, Keyham, Dockyard and Devonport.
Lower-cost Heavy Rail Alternative	Improve service frequency of buses between Bere Alston and Tavistock to connect with upgraded hourly rail services between Bere Alston and Plymouth. Rail services could be improved through 3 low-cost options: 1. Signal upgrade 2. Signal upgrade & additional platform at Bere Alston 3. Signal upgrade, additional platforms at all single track stations and upgrade to double line tracking	Signalling upgrade to split current Gunnislake to Plymouth services into two shuttle services from Bere Alston. Signalling upgrade plus extra platform and track upgrade at Bere Alston to reduce service conflict at Bere Alston. Signalling upgrade, extra platforms at each single station and double tracked line to allow more frequent services without conflict on the route.
Guided Busway Alternative	Guided busway double track between Tavistock and Bere Alston. Provides operational flexibility to operate buses on the Tavistock road network improving direct accessibility to the town centre. The guided busway alternative could potentially be extended to connect Tavistock to Plymouth, but this would best be considered as part of a wider guided busway network in the Plymouth region with implications for deliverability.	New 'double tracking' infrastructure needed for guiding buses and new stops. Journey time reliability for bus would be improved. Hourly connections from Tavistock to Bere Alston using two guided buses supplementary to the existing 87 service for onward connections to Plymouth by existing heavy rail services.
Light Rail Alternative	Construction of light rail track between Tavistock and Bere Alston. A lower occupancy alternative to heavy rail which could run similar frequency of services compared to the heavy rail option. Timetabling however would be affected by the existing heavy rail services on the line from Bere Alston to Plymouth and the need for interchange. Could eventually be upgraded to heavy rail if necessary. The VLR alternative could potentially be extended to connect Tavistock to Plymouth, but this would best be considered as part of a wider guided VLR network in the Plymouth region with implications for deliverability.	Hourly connections from Tavistock to Bere Alston using two light rail units. Reliable journey times between Tavistock and Bere Alston however interchange requirements at Bere Alston onto Plymouth add reliability constraints on this section. Infrastructure includes a depot for maintenance.

Table 2-12 - Option Sifting Scores

Scheme Objectives	Bus Alternative	Heavy Rail Alternative	Lower-cost Heavy Rail Alternative	Guided Busway Alternative	Light Rail Alternative
Encourage modal shift for journeys between Tavistock and Plymouth, reducing congestion on A386 and tackling the climate by supporting lower carbon travel.	1	3	2	1	2
Facilitate local development, as laid out in the Plymouth and South-West Devon JLP	1	3	2	1	2
Enhance access to employment, education and healthcare in Plymouth for residents of Tavistock and the surrounding West Devon and North Cornwall area.	1	3	2	1	2
Provide an improvement in rail services for the deprived communities of St Budeaux, Keyham and Devonport in Plymouth.	1	2	2	1	1
Improve visitor access by public transport to the natural environment, particularly Dartmoor National Park	2	3	2	1	2
Overall Score	**6**	**14**	**10**	**5**	**9**

2.10 PREFERRED OPTION

2.10.1. The rail option reopening of the Tavistock to Plymouth railway line provides the greatest opportunity for a step-change in transport services.

2.10.2. Figure 2-25 shows the preferred option. The option will restore the railway between Bere Alston and Tavistock, accommodating hourly services between Tavistock and Plymouth, which will operate in addition to the existing Tamar Valley line services to/from Gunnislake.

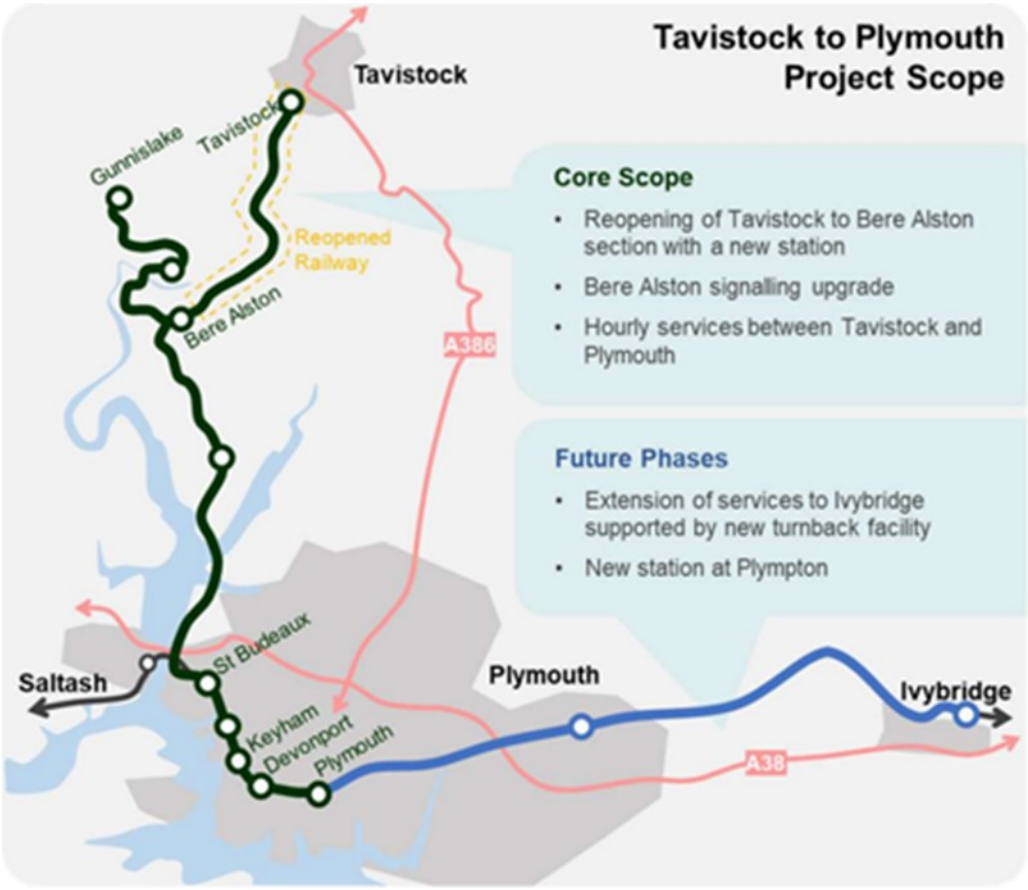
2.10.3. The increase in service frequency south of Bere Alston will provide additional rail connectivity to the local communities of St Budeaux, Keyham, Devonport and Dockyard, some of the most deprived areas in Plymouth.

2.10.4. The heavy rail option will not only provide better connectivity for these areas to the wider region, but the increase in service frequencies will mean there is better accessibility between the Dockyard and the city centre. Journey times between Tavistock and Plymouth will improve from around an hour by car during peak times to approximately 28 minutes by rail. This will assist in the stimulation of economic regeneration, and improved accessibility to employment, particularly areas such as St Budeaux and Devonport which are located on the rail line. Wider economic benefits will also potentially be accrued for the regional economy by more closely linking the Tavistock labour market with employers in Plymouth.

2.10.5. This is the option assessed to offer the strongest potential to deliver the scheme objectives. It provides the greatest opportunity for modal shift, mitigates the traffic impact of new development, and provides more reliable connections to areas of future growth. Access to education, employment and healthcare will be improved which will assist in reducing deprivation and increasing social opportunity within Plymouth and West Devon. The impacts are presented in further detail in the Economic Case, enabling an assessment of value for money to be undertaken.

2.10.6. This option creates future opportunities to establish cross-city links by joining Tavistock and west Plymouth rail services with those serving Ivybridge, Totnes, Newton Abbot and Torbay. Finally, it would also represent a second phase of the Peninsula Rail Task Force's longer-term aspirations to deliver a second strategic rail link between Plymouth and Exeter via Tavistock and Okehampton. Such a scheme, if delivered in future, would improve connectivity and resilience of the railway into the far south west and potentially open up more rail freight decarbonisation opportunities.

Figure 2-25 – Tavistock-Plymouth Preferred Option

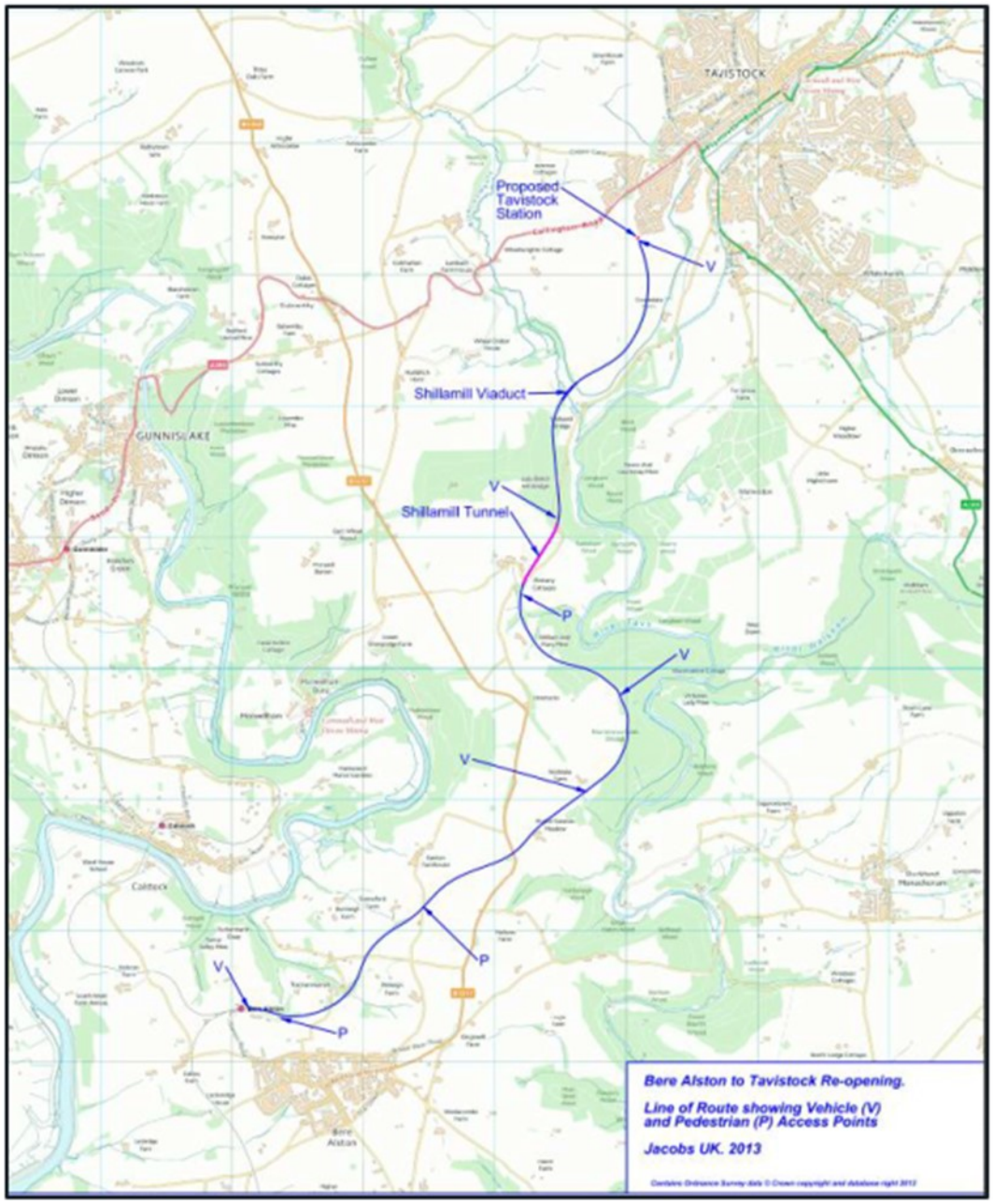


2.11 SCOPE AND CONSTRAINTS

SCOPE

2.11.1. The scope of the preferred option will be to reconnect Tavistock to the rail network by restoring an 8.3km section of disused railway line along the edge of the Tamar Valley between Tavistock and Bere Alston. A new station will be constructed at a site at Callington Road in south-west Tavistock adjacent to a 600-dwelling development currently under construction. This will be designed as a Network Rail Design Standards Category F station. A single platform will be provided. The scheme alignment is shown in Figure 2-26.

Figure 2-26 – Rail Connection Bere Alston – Tavistock Alignment



2.11.2. The station will be a small unstaffed DfT Category F facility, and will provide the following:

- Platform length suitable for 2x2 car trains (112.5m);
- Car parking with cycle parking and electric vehicle parking provision to the Network Rail standards current at the time of development;
- CCTV and lighting to ensure passenger safety;
- Live information screens ;
- Ticket machines and help points; and
- Ramped station access.

2.11.3. There will also be facilities provided separately under the Section 106 agreement between the developer and Devon County Council which will include:

- Internal roads;
- Bus turning circle;
- Bus shelter;
- Station car park (park and ride facility, although users of the railway station will be encouraged to use bus or cycling to access the station); and
- EV charging points.

2.11.4. The scheme will comprise works to restore the previous railway infrastructure between Bere Alston and a new station on the south side of Tavistock by providing a single line railway along the old track-bed connecting with the existing railway at the Tavistock end of Bere Alston station . There will also be some redesign of platform arrangements at Bere Alston station for the operation of rail services through to Tavistock, and signalling alterations will be required along the route between St Budeaux Victoria Road and Gunnislake / Tavistock so that more than one train can enter the area at a time to deliver the timetable.

2.11.5. A new direct hourly rail service will be operated between Tavistock and Plymouth via Bere Alston. In 2012 Feasibility Study was carried out which confirmed reopening of the railway link to Tavistock was feasible. An indicative timetable was proposed which maintains the existing service between Plymouth and Gunnislake as well as introducing a new service between Plymouth and Tavistock.

2.11.6. This service will deliver enhanced connectivity and reduced travel times for residents of Tavistock commuting to Plymouth and also for other travellers, notably visitors to Dartmoor National Park travelling to Tavistock as well as education trips from Bere Alston, where the majority of Primary School children transfer to Tavistock College and so represents a significant catchment for the railway.

CONSTRAINTS

2.11.7. At this SOBC stage the main constraints included are, as follows:

- Affordability of the reopening of the Tavistock to Plymouth Line in terms of securing capital funding for all the works and facilities and provide an integrated transport interchange with bus services;
- Re-signalling and capacity improvements at Bere Alston station and construction impacts on the operation of the rail service on the Tamar Valley / Gunnislake Line; and
- Stakeholder and bus operator agreement and implementation of a bus strategy for providing the bus service connections at the new Tavistock rail station to maximise its interchange potential.

2.11.8. Risks are assessed in the Management Case.

2.12 STRATEGIC BENEFITS

2.12.1. The preferred option for the restoration of the railway link between Tavistock and Plymouth will create a range of strategic benefits for the transport corridor.

2.12.2. The enhanced connectivity provided by restoring the rail link will support the employment market by providing enhanced strategic sustainable transport connectivity reducing journey times between employers and the labour market, and, offering a step change in reliability for Tavistock residents commuting to work in Plymouth. Together these beneficial impacts are likely to improve local productivity levels and improve connectivity to Plymouth for higher-skilled workers.

2.12.3. The improvement in connectivity with Plymouth will potentially have wider economic impacts in terms of supporting future development in Tavistock. Enhanced rail connectivity can have a transformative impact on local economies as seen with the opening recently of a new station at Horden in County Durham. The area around Horden experienced relatively low productivity and had problems of social inclusion. Durham County Council has viewed the improvements in rail connectivity resulting from Horden station as central to attracting new investment and levelling up the local economy[25].

2.12.4. The development of a new station at Kirkstall in Leeds is another example of the potential regeneration benefits of a new railway station in a community. As with Tavistock, the station supports housing development. The station it is also estimated will create 2,400 new jobs and be the catalyst for £400million of private investment and annual retail spend of £5 million in the Kirkstall area[26].

2.12.5. A further indication of the potential of the scheme to unlock economic opportunities is supported by research on wider economic benefits carried out for the Tamar Valley Line which assessed the railways contribution to the local economy. The research found that rail users on the Tamar Valley Line living in West Devon and Cornwall and travelling to Plymouth by rail spent £2.8 million annually on retail purchases in Plymouth supporting the local economy. A restored Tavistock rail connection will offer further potential growth in retail expenditure27.

[25] https://democracy.durham.gov.uk/documents/s133603/Economic%20Recovery%20and%20Prosperity%202-%20Levelling%20Up%20for%20County%20Durham_%20c.pdf

[26] https://www.the-lep.com/news-archive/kirkstall-forge-on-track-for-major-regeneration-with-support-from-lep/

[27] Value of the Railway to Communities on the Tamar Valley Line, 2018

2.12.6. Strategic benefits will also be generated by improved accessibility to the area's tourist sites. Plymouth and longer distance leisure travellers will have a direct rail link to Tavistock which with the integration of the rail service with local bus services will provide enhanced access for those without access to a car to the area's tourist attractions including Dartmoor National Park, the Mining Landscape World Heritage Site and Tamar Area of Outstanding Natural Beauty. The tourism sector is a key growth area for the local economy and the new rail link will support strategies such as the Dartmoor Recreation Strategy developed by the Dartmoor National Park which promotes working with town hubs to increase economic benefit to the region and encourage use of more sustainable onward travel by visitors. The Tamar Valley Line research also found that leisure users travelling on the Tamar Valley Line spent £2.6 million annually. Similarly, reconnecting Tavistock to the rail network offers potential for wider economic benefits of increased expenditure in the local tourist sector.

2.12.7. Whilst Dartmoor National Park is the largest tourist attraction with an estimated 7.5 million visits to Park locations, the new railway station will further grow the potential leisure market by providing improved accessibility not only to the National Park, but also unlock opportunities for visitors to explore more of west Devon (Tamar Valley AONB) and Cornwall through integration of rail services at Tavistock with local bus services connecting the market town with Okehampton. The creation of these strategic benefits for the leisure sector is a local planning policy objective set out in the Plymouth and South-West Devon JLP.

2.12.8. Strategic economic benefits of the scheme will extend supporting the economy in west Plymouth (St Budeaux, Keyham and Devonport) by enhancing connectivity to Tavistock (new link) and the Bere Peninsula (enhanced service frequency). The train journey time between Tavistock and west Plymouth will be no more than 25 minutes by train compared to a current peak hour journey time of up to an hour by road. Existing commuters such as those employed in the Babcock International Group's site at Devonport will have an alternative to driving on the A386. High quality and sustainable transport connectivity will increase the attractiveness of Tavistock as a future home for more employees based in the expanding marine and defence-based employment centres.

2.12.9. Strategic connectivity benefits will also be realised by providing an enhanced railway service calling at west Plymouth stations. By complementing an ongoing programme of public transport and active mode improvements being implemented through Plymouth City Council TCF investments across west Plymouth, the scheme will ensure rail's part in the hierarchy of sustainable transport modes. Enhanced access to key health and education services will be a strategic benefit such as improved links between the Tamar Valley Line stations and Derriford Hospital. The enhanced railway will improve opportunities to access health and education and level up these areas.

2.12.10. A theory of change has been identified providing a description of how the new railway station investment package (inputs) will produce outputs which generate the strategic benefit outcomes and impacts (Table 2-13).

Table 2-13 – Theory of Change

Problems	Objectives	Inputs	Outputs	Outcomes	Impacts
▪ Deterioration in transport connectivity in Tavistock-Plymouth corridor due to traffic congestion on the A386 ▪ Adverse impact on goal of tackling Climate Change Emergency goals due to traffic congestion on A386 ▪ Economic growth constrained by lack of sustainable transport connectivity, exacerbating structural issue of low productivity in region ▪ Areas of high multiple deprivation (west Plymouth) with limited access to the private car for transport needs	▪ Restore sustainable transport connectivity between Tavistock and Plymouth ▪ Facilitate local economic development through restored sustainable transport connectivity ▪ Decarbonisation of local and regional transport networks by mode shift to sustainable modes ▪ Support place-making by providing accessible sustainable transport connections to employment and education	▪ Reopening the Tavistock to Plymouth railway line ▪ Park and ride facility at Tavistock railway station ▪ New hourly train service between Tavistock and Plymouth calling at 6 intermediate station ▪ Integration of bus and active modes with Tavistock station	▪ Direct rail service for Tavistock residents to Plymouth & intermediate stations ▪ Direct rail service for leisure visitors to the Tavistock/ Dartmoor area ▪ Reduced travel on the A386 as car users switch to rail	▪ Improved employment opportunities for residents of Tavistock, Bere Alston, St Budeaux and Devonport ▪ Increased non-car leisure trips to the Tavistock area ▪ Improved journey time reliability for public transport journeys ▪ Improved sustainable transport options for access to employment and education ▪ Increased sense of place with improved access to services for residents ▪ Lower carbon emissions by reducing the number of vehicles on the road network	▪ Economic growth including leisure sector ▪ Improved transport connectivity for local communities ▪ Improved social mobility ▪ Improved public health ▪ Local planned housing development commuter travel by sustainable mode ▪ Mode shift from car to public transport ▪ Reduced carbon emissions with reduced road traffic levels ▪ Improved access to employment opportunities

2.13 COMPLEMENTARY SCHEMES

Bus and Active Mode Integration

2.13.1. The Tavistock-Plymouth Line Reopening scheme will be an addition to the national rail network. The provision of a new station on this line is aligned with the strategic portfolio requirement to improve access to rail services in rural towns and communities. The restored rail link with a new railway station at Callington Road will need to be integrated with other sustainable modes for the full strategic benefits of the scheme to be realised in meeting the needs of the community. The National Bus Strategy requirement for local authorities and bus operators to set up Enhanced Partnerships will offer an opportunity to integrate bus and rail services. Rail and bus are interdependent in realising the full potential of the station to act as a local mobility hub providing bus connections not only to other market towns, but also extended local bus connectivity within Tavistock. Devon County Council has produced a Bus Service Improvement Plan (BSIP) which was followed by the preparation of a Devon Enhanced Partnership (December 2021) which has as a goal the development of 'better connected communities' which includes improvement of bus links to railway services to be developed through the 'Devon Lynx' strategic bus network. Devon Lynx will include a strategic link between Barnstaple, Holsworthy and Tavistock for onward connections to Plymouth.

2.13.2. The Tavistock to Plymouth Line reopening is a recognised constituent part of an overarching strategy for encouraging use of sustainable modes of transport in Plymouth. Bus and active mode improvements are to be implemented in key corridors connecting with the Tamar Valley / Gunnislake Line which will increase the attractiveness of the enhanced rail service for travellers.

Programmes

2.13.3. The Tavistock-Plymouth Line Reopening scheme is an element of the rail strategy South-West Peninsula set out in the Peninsula Rail 20 Year Strategy – Closing the Gap: South-West Peninsula Strategic Rail Blueprint. These strategies have as aims the improvement of access to rail and enhancing rail connectivity in the South-West. The programme of enhancement across the South-West will be beneficial to the Tavistock-Plymouth Line Reopening scheme in terms of offering a better overall level of service on the rail network encouraging greater use of the station, for example a future potential extension of services to Ivybridge and longer term potential for a 2nd strategic rail line between Plymouth and Exeter via Tavistock and Okehampton.

2.14 STAKEHOLDER VIEWS AND REQUIREMENTS

2.14.1. The scheme is being developed by Devon County Council, Network Rail and GWR who have partnered together on other rail projects in the area such as the Dartmoor Line reopening to regular passenger services.

2.14.2. The members of the Steering Group supporting the scheme are as follows:

- Devon County Council;
- Plymouth City Council;
- Heart of the South-West Local Enterprise Partnership;
- Great Western Railway – scheme is being developed jointly with GWR;
- Network Rail - scheme is being developed jointly with Network Rail;
- Peninsula Transport Sub National Transport Body; and
- Devon and Cornwall Rail Partnership.

2.14.3. The contribution of the stakeholder groups to the development of the scheme is set out below.

2.14.4. The Department for Transport is on the Project Board for the development of the business case for the Tavistock to Plymouth Line Reopening scheme. The DfT has provided funding of £50,000 from the Restoring Your Railways Ideas Fund for the preparation of an SOBC for the scheme.

2.14.5. Devon County Council's Plymouth and South-West Devon JLP is strongly supportive of improved connections and travel options for Tavistock and West Devon to Plymouth including a commitment to restoring the rail link serving Tavistock. The County Council is the promoter of this scheme. DCC submitted a bid to the New Ideas Fund in March 2020, seeking support to develop the technical work required to progress the station and line reopening proposals to SOBC stage. DCC has secured via Section 106 up to £11million in developer funding, payable in phases as development proceeds. The development is currently under construction. The County Council has also purchased land for the new Tavistock station. In total, DCC has acquired at least 85% of the land required for the railway. Since 2012, DCC has undertaken extensive work on the restoring the rail link scheme with over £2.3m spent on business case, design (including traffic, topographical, structural and geotechnical surveys) and EIA work as well as costs associated with legal and land acquisition. Appraisal of fixed link options and an initial economic appraisal has also been carried out in recent years. For this work, DCC has provided match funding of £21,000 for the preparation of an SOBC for the scheme. DCC is working jointly with Network Rail and GWR to develop the scheme.

2.14.6. Plymouth City Council is on the Steering Group for the development of the business case for the Tavistock to Plymouth Line Reopening scheme. The Council supports the business case for the scheme as it will deliver on improving strategic connectivity in supporting economic growth as set out in the Plymouth and South West Devon Joint Local Plan.

2.14.7. The Heart of the South-West Local Enterprise Partnership (LEP) is on the Steering Group for the scheme business case development and supports the scheme as an enabler of better transport connectivity, rail network improvements to enhance the resilience of rail lines and strategic connectivity in the South-West.

2.14.8. Network Rail as the rail infrastructure provider has the role of running a safe, reliable and efficient railway serving customers and the community. As the owner, operator and developer of Britain's railways, Network Rail is critical to the efficient movement of people and goods by rail nation-wide to support the country's prosperity. These programmes aim to re-balance the economy generating economic recovery in the areas of the country whose local economies have been badly affected by the impacts of the Covid-19 pandemic. Network Rail is a stakeholder/partner on the Project Board and Steering Group for the Tavistock to Plymouth Line Reopening scheme.

2.14.9. Network Rail is on the Project Board and Steering Group for the scheme and is jointly developing the scheme with DCC. Network Rail has undertaken liaison with the design feasibility team's work on the scheme design. Network Rail has worked with GWR to establish an operating solution for the timetabling and signalling for the scheme.

2.14.10. GWR is on the Project Board and Steering Group for the development of the business case for the scheme. GWR is jointly developing the scheme with DCC. The operator is strongly supportive of the scheme and has developed a timetabling and signalling solution for the introduction of a new hourly Tavistock train service. GWR is the current operator operating under a 3-year National Rail Contract from June 2022, potentially with an extension to 2028. GWR will be the operator of the Tavistock to Plymouth train service.

2.14.11. GWR has also been in consultation with Babcock International Group regarding the potential for an improved rail services on the Tamar Valley / Gunnislake Line to offer better rail journey to work opportunities for employees.

2.14.12. Devon and Cornwall Rail Partnership was invited to be a member of the Steering Group. Given that the Tamar Valley / Gunnislake Line covers both Devon and Cornwall it is important to have the Rail Partnership's involvement at an early stage in the scheme business case development.

List of Supporting Stakeholders

2.14.13. A list of supporting stakeholders is provided below including local authorities / councils, other organisations including steering group members and local Members of Parliament.

Local Councils

- West Devon Borough Council (WDBC), the joint producer of the Plymouth and South-West Devon Local Plan. WDBC has in its West Devon Plan identified improvements to rail connectivity between Tavistock and Plymouth as a key priority for planning for future infrastructure and includes specific reference to the Tavistock- Bere Alston line reopening;
- Cornwall Council;
- Plymouth City Council; and

- Town and Parish Councils including Bere Ferrers, Tavistock, Okehampton, Okehampton Hamlets, Buckland Monachorum, Mary Tavy, Plasterdown Grouped, Lifton and Sticklepath.

Other Organisations - Steering Group Members

- Network Rail;
- Great Western Railway;
- Heart of the South-West LEP; and
- Devon and Cornwall Rail Partnership.

Other Organisations

- Dartmoor National Park Authority;
- Babcock International Group;
- Tamar Valley AONB;
- Devon & Plymouth Chamber of Commerce;
- Destination Plymouth;
- Plymouth Manufacturing Group;
- University of Plymouth;
- Plymouth Cycling Campaign;
- Tavy Rail;
- Transition Tavistock;
- Tavistock Plan Neighbourhood Plan Steering Group;
- Okerail;

Members of Parliament

- Sir Geoffrey Cox QC MP for Torridge and West Devon;
- Sir Gary Streeter MP for South-West Devon;
- Sherryl Murray MP for South-East Cornwall;
- Scott Mann MP for North Cornwall;
- Johnny Mercer MP for Plymouth Moor View; and
- Luke Pollard MP for Plymouth Sutton and Devonport.

2.14.14. Letters of Support for the stakeholder organisations are in Appendix A.

3 ECONOMIC CASE

3.1 INTRODUCTION

3.1.1. This Economic Case presents the findings of the Value for Money assessment for the preferred and lower cost options, which were identified in the Strategic Case as those with the strongest potential to deliver the scheme objectives. The process of option definition and assessment is set out in detail in the Options Assessment Report (OAR), is appended to this SOC as Appendix B.

3.1.2. The preferred option and a lower-cost alternative have been analysed quantitatively to calculate their impact on the transport network, verifying that those impacts address the need for intervention described in the Strategic Case, and to undertake a quantified assessment of value for money.

3.2 OPTIONS APPRAISED

3.2.1. Following qualitative analysis undertaken to assess the performance of each option against the scheme objectives, the "Heavy Rail Alternative" (restoration of the railway line between Bere Alston and Tavistock and introduction of an hourly service between Tavistock and Plymouth) was identified as **preferred**. A **lower cost** scenario – the "Lower Cost Heavy Rail Alternative" - has also been brought forward for appraisal. Both options, as well as the comparator Do Minimum, are described below.

DO MINIMUM

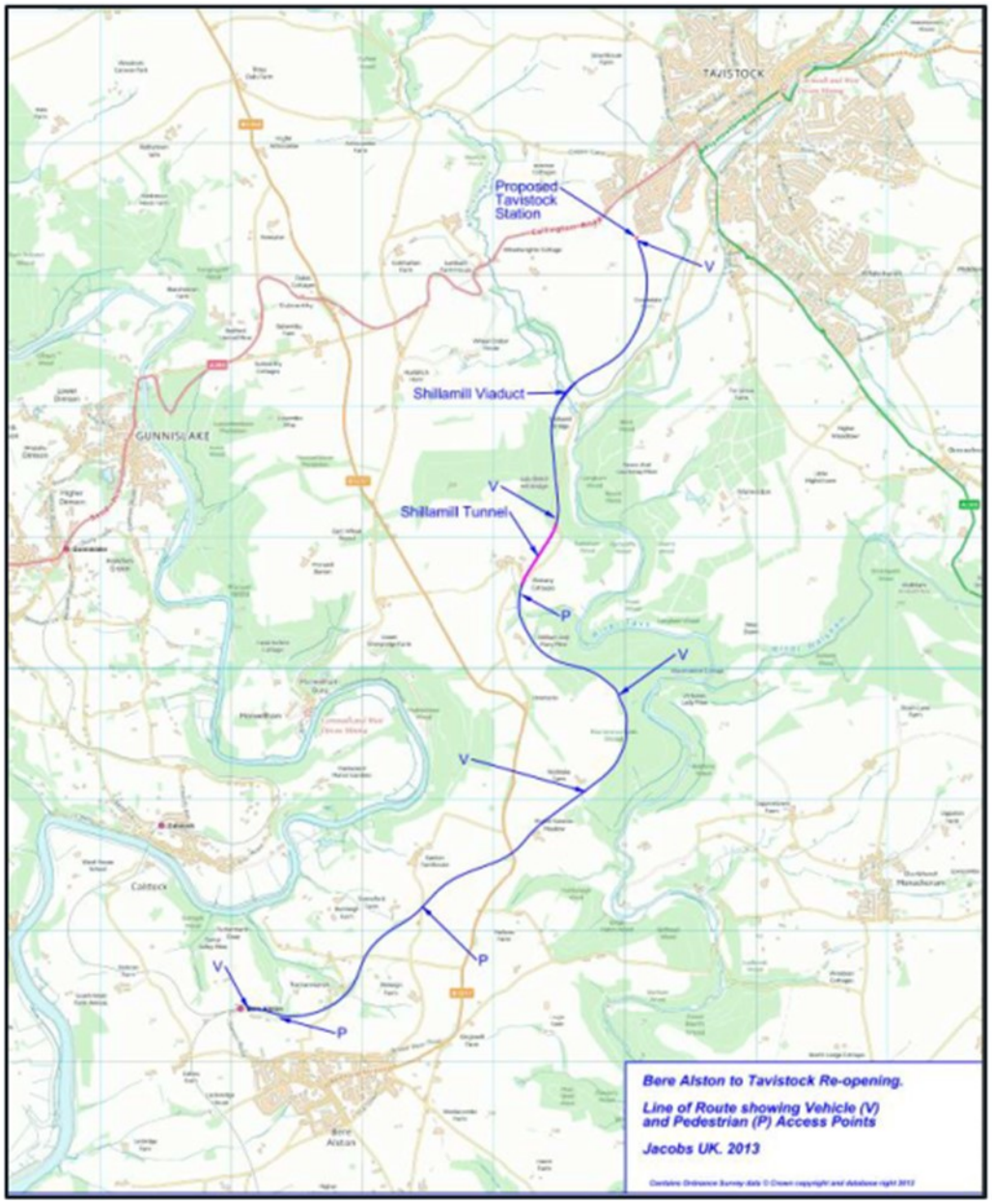
3.2.2. The Do Minimum option against which the interventions are compared is taken to be the retention of the existing rail service between Gunnislake and Plymouth. No infrastructure or service improvements are currently committed, meaning service frequency at all intermediate stations remains 0.5tph, as current.

3.2.3. Highway conditions in the Do Minimum will continue to worsen in line with current projections.

PREFERRED OPTION (HEAVY RAIL ALTERNATIVE)

3.2.4. The scope of the preferred option will be to reconnect Tavistock to the railway network by reopening an 8.3km section of disused railway line along the edge of the Tamar Valley between Tavistock and Bere Alston. A new station will be constructed at a site at Callington Road in south-west Tavistock adjacent to a 600-dwelling development currently under construction. This will be designed as a Network Rail Design Standards Category F station. A single platform will be provided. The scheme alignment is shown in Figure 2-26.

Figure 3-1 – Rail Connection Bere Alston – Tavistock Alignment



3.2.5. The station will be a small unstaffed DfT Category F facility, and will provide the following:

- Single platform of length suitable for 2x2 car trains (112.5m);
- Car parking with cycle parking and electric vehicle parking provision to the Network Rail standards current at the time of development;
- CCTV and lighting to ensure passenger safety;
- Live information screens;
- Ticket machines and help points; and
- Ramped station access.

3.2.6. There will also be some redesign of platform arrangements at Bere Alston station for the operation of rail services through to Tavistock.

3.2.7. A new direct hourly rail service will be operated between Tavistock and Plymouth via Bere Alston. It is assumed for the purposes of this Economic Case that each service will provide a call at each intermediate station – Devonport, Dockyard, Keyham, St Budeaux Victoria Road, Bere Ferrers and Bere Alston. The end-to-end journey time has been calculated to be 28 minutes, based on a 2x2-car DMU equivalent to a Class 150, as currently deployed on the Gunnislake branch line by the operator Great Western Railway. The existing 0.5tph service on the Tamar Valley / Gunnislake line is retained, increasing service frequency at stations between Bere Alston and Plymouth to broadly 1.5tph.

LOWER COST OPTION (HEAVY RAIL ALTERNATIVE)

3.2.8. A lower-cost scenario was developed as an extension of the existing rail / bus transport connectivity between Tavistock / Bere Alston and Plymouth. This scenario was developed to offer some improvement in passenger quality of service by improving the existing heavy rail infrastructure on the Tamar Valley line. A number of options were considered with increasing levels of investment required to improve service frequency to Bere Alston and creating additional opportunities for connections to be made with the local bus service connecting Bere Alston to Tavistock.

3.2.9. The proposed lower-cost option will provide 68 services per day, offering an hourly connection between Plymouth and Gunnislake. To deliver an hourly pattern, the service must be split at Bere Alston, with a 17-minute wait at Bere Alston for onward travel towards Gunnislake. In the Plymouth direction, there is a 61-minute wait at Bere Alston. For example, the 05:54 service from Gunnislake arrives at Bere Alston at 06:06 and the next service from Bere Alston that consumers can catch is at 07:07. Table 3-1 and Table 3-2 provide detail.

Table 3-1 - Plymouth-Gunnislake Lower-Cost Timetabled Services

Origin	Departure	Destination	Arrival
Plymouth	04:57	Gunnislake	05:39
Plymouth	05:38	Bere Alston	06:01
Plymouth	XX:38	Bere Alston	XX:01
Plymouth	21:38	Bere Alston	22:01
Bere Alston	06:18	Gunnislake	06:38
Bere Alston	XX:18	Gunnislake	XX:38
Bere Alston	21:18	Gunnislake	21:38

Table 3-2 - Gunnislake-Plymouth Lower-Cost Timetabled Services

Origin	Departure	Destination	Arrival
Bere Alston	06:07	Plymouth	06:31
Bere Alston	XX:07	Plymouth	XX:31
Bere Alston	22:07	Plymouth	22:31
Gunnislake	05:54	Bere Alston	06:06
Gunnislake	XX:54	Bere Alston	XX:06
Gunnislake	20:54	Bere Alston	21:06
Gunnislake	22:04	Plymouth	22:49

3.2.10. Analysis was carried out in advance of using MOIRA to determine whether the impact would be positive or negative on generalised journey time between Gunnislake and Plymouth for the base timetable and lower cost option timetable. The following was considered in accordance with PDFH Guidance:

- Service time intervals,
- Interchanges,
- Wait times, and
- In-vehicle times.

3.2.11. Table 3-3 below shows a high-level GJT estimate (in minutes) by ticket type for the base and lower cost option.

Table 3-3 – Lower Cost Option – Impact to Gunnislake

	PLY – GSL Base	PLY – GSL Low Cost Option	GSL – PLY Base	GSL – PLY Low Cost Option
Full GJT	01:51	01:54	01:50	02:31
Reduced GJT	01:51	01:54	01:50	02:31
Seasons GJT	01:27	01:37	01:26	02:14

3.2.12. Towards Gunnislake, the low-cost option adds between 3 and 10 minutes to the base GJT. In the opposite direction, the option adds between 41 and 48 minutes to the base GJT. As a result, this analysis concludes the results will be a decrement on the base for travellers to/from Gunnislake.

3.3 IMPACTS DEFINITION

3.3.1. The impacts of the Preferred and Lower Cost Options have been analysed using a range of quantitative and qualitative methods. The principle of proportionality has been applied, with analytical rigour focussed on the impacts anticipated to have a material bearing on the assessment of value for money. Those impacts not considered, at this stage of scheme design maturity, to be material to the overall case have been assessed qualitatively, with some exceptions where quantified methods are readily available. A summary of the impacts considered can be found in the Appraisal Specification Report in Appendix C.

3.3.2. The impacts anticipated to be material, and the approach to their analysis, have been described in more detail below.

3.3.3. Rail User Journey Time Savings and Revenue (Tavistock): Applicable to the Preferred Option only. As a result of the introduction of the new service between Tavistock and Plymouth, additional journeys will be undertaken on the rail network using Tavistock station as either origin or destination. These journeys will consist of existing travellers either switching mode from car or bus or switching station. There will also be entirely new travellers, making trips which would not have been made in the Do Minimum. Each of these users experiences a journey time saving which has been quantified and monetised.

3.3.4. Additional revenue for the rail industry will be generated from new users, which has also been calculated. In line with TAG guidance the revenue impact will reduce the net cost to the public finances Present Value Costs (PVC) and has been included in the Public Accounts (PA) Table and the Economic Efficiency of Transport System (TEE) Table as a positive impact to the private sector and net off in the grant subsidy line.

3.3.5. There will be a small reduction in bus passengers as a result of passengers switching to use a train for travel, with bus revenue implications. This is anticipated to be modest changes to the bus industry given the bus and rail services operate on different corridors.

3.3.6. There will also be indirect taxation implications for non-business rail user trips. As rail revenue changes between the with and without scheme scenarios, expenditure shifts from goods or services attracting the average level of indirect taxation to rail fares – this has an indirect tax effect as there is no VAT on rail fares. This is reported in the PA table and Analysis of Monetised Costs and Benefits (AMCB) table.

3.3.7. Rail User Journey Time Savings and Revenue (Existing Stations): Applicable to both the Preferred Option and Lower Cost Alternative. Existing rail users at stations between Plymouth and Bere Alston will experience journey time savings as a result of the increased service frequency. The reduction in service frequency penalty (as defined and quantified in the Passenger Demand Forecasting Handbook v6) reduces generalised journey times for existing users and, by applying PDFH journey time elasticities, generates new rail users. These new users also experience journey time savings (calculated by applying “rule of half” approach) and generate new rail industry revenue. These impacts have been quantified using MOIRA, supplied by GWR to inform this business case.

3.3.8. It should be noted that the combination of low existing usage on the effected flows and high changes to generalised journey time makes the demand response a source of uncertainty. The use of MOIRA to calculate the demand response is considered conservative, and recent case study evidence provided by GWR suggests that the demand response could be more significant than presented

here. This uncertainty has been addressed using sensitivity analysis presented later in this Economic Case.

3.3.9. Highway User Journey Time Savings: Applicable to the Preferred Option and Lower Cost Alternative, although the latter has been valued using MEC methodology (see below). As a consequence of users switching modes from car to rail, a number of car journeys between Tavistock and Plymouth will be removed from the road network. The decongestion impact on the highway network has been assessed using the Plymouth Highway Assignment Model and transport users benefit appraisal (TUBA) software, which provides the following benefits:

- Travel time impacts;
- Vehicle operating costs;
- Greenhouse gases; and
- Indirect taxation.

3.3.10. Environmental and Societal Impacts of Mode Shift: To capture additional benefits relating to reduced highway traffic that are not captured in the TUBA software, the Marginal Externality Cost savings (MECs) approach was used to capture the monetised social cost that impacts the environment, the government, road traffic and health, all of which is captured in the list below:

- Infrastructure (cost savings due to less road maintenance being required);
- Accidents;
- Noise; and
- Local Air Quality.

3.3.11. There will also be a reduction in car journeys related to increased passenger demand at existing stations along the Tavistock-Plymouth route. These highway benefits have been captured entirely using MECs, including both the benefits listed in the prior paragraph and the following benefits:

- Decongestion;
- Greenhouse gases; and
- Indirect taxation.

3.3.12. Active Travel Impacts: Applicable to the Preferred Option only. Many new-to-rail journeys will consist of a walking or cycling stage to access the station from the users place of origin. There is therefore an active travel benefit for new-to-rail users (physical activity and absenteeism), which has been assessed using the DfT's Active Mode Appraisal Toolkit.

3.3.13. Scheme Costs: Applicable to the Preferred and Lower Cost Options. The capital and operational costs of the scheme have been set out in Section 1.5 of this Economic Case.

3.4 IMPACT ANALYSIS AND ECONOMIC APPRAISAL APPROACH

3.4.1. The economic appraisal for the new station was completed according to SOC requirements, using the following approach:

- Calculate the demand for rail generated by the new station at Tavistock using a Trip Rate Model;
- Use the demand results from the Trip Rate Model to calculate 'New User' benefits, including applying an appropriate revenue figure to each journey and accounting for any loss in bus revenue;
- Calculate highway user travel time benefits and other monetised environmental and societal benefits using the Plymouth HAM3 model and TUBA;

- Calculate the additional highway-related benefits using the Marginal External Costs (MEC) method detailed in TAG Unit A5-4 for new-to-rail and abstracted trips;
- Calculate journey time and revenue benefits for users at existing stations by modelling the new train service in MOIRA;
- Apply exogenous background rail growth to revenue benefits in line with TAG Unit A5-3 guidance using forecasts obtained from the DfT;
- Calculate physical activity and absenteeism benefits in the DfT's AMAT in line with TAG Unit A5-1;
- Develop the infrastructure costs and operating costs and account for any private developer contributions;
- Calculate Benefit to Cost Ratio (BCR) and complete the Appraisal Summary Tables; and
- Perform sensitivity tests relating to assumptions surrounding post-COVID impacts and fares and the assessment methodology for the west Plymouth stations.

RAIL USER JOURNEY TIME SAVINGS AND REVENUE (TAVISTOCK)

3.4.2. Demand forecasting for the new station at Tavistock was undertaken using WSP's spreadsheet-based trip rate model. The model has been used successfully to forecast the demand response of a number of new railway line and station studies and was adapted to the specific requirements of this project.

3.4.3. Rail user journey time savings and revenue arising from a new station at Tavistock occurs only in the Preferred Option.

3.4.4. The general framework for the forecasting of passenger demand is provided by the PDFH, the use of which is recommended by DfT's TAG Unit M428. With specific regard to new stations, PDFH presents three options29; one of which is the use of trip rate models. Trip rate modelling is an industry-accepted approach for the forecasting of passenger demand. Trip rate models have been used extensively to inform investment decisions in new rail infrastructure since the privatisation of the rail network. A review of 27 station business cases in the 1999-2010 period found that all but four were based on trip rate model forecasts30. These forecasts were also reviewed ex-post and were found to be accurate in modelling future passenger demand when compared to observed station entry and exit statistics collected annually by the Office of Road and Rail.

3.4.5. The trip rate model was calibrated based on 24 South West stations with similar characteristics to Tavistock. The demand forecast includes demand originating from existing local housing and new demand associated with new housing and employment developments within the catchment of the proposed station site. Appendix D includes further information on the methodology and assumptions used. Figure 3-2 to Figure 3-4 below show the straight-line catchment bands used for Tavistock station, where the green shaded areas represent planned housing developments in the area.

[28] Department for Transport (2019) - TAG Unit M4 Forecasting and Uncertainty, Section 8.
[29] Passenger Demand Forecasting Handbook v6.0 Section B9.3 New Stations and Services.
[30] Steer Davies Gleave (2010) -- Station Usage and Demand Forecasts for Newly Opened Railway Lines and Stations.

Figure 3-2 - Tavistock catchment bands (1km and 2km)

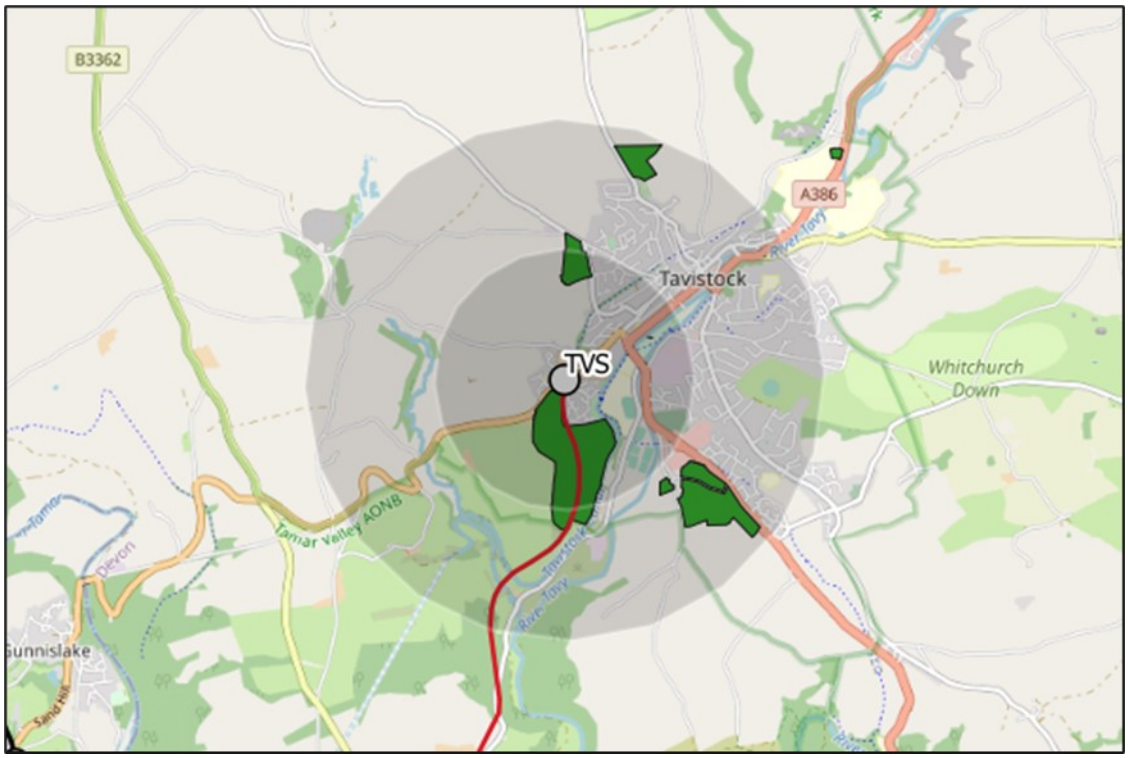


Figure 3-3 - Tavistock and other station catchment bands (5km)

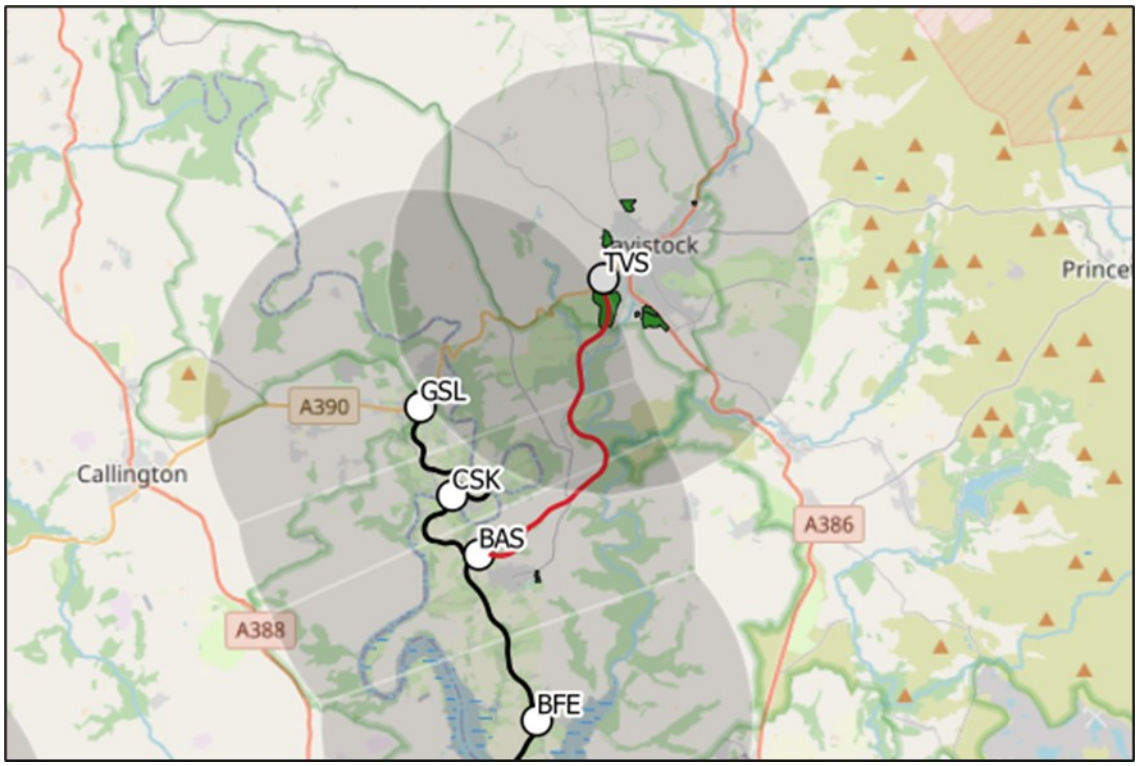
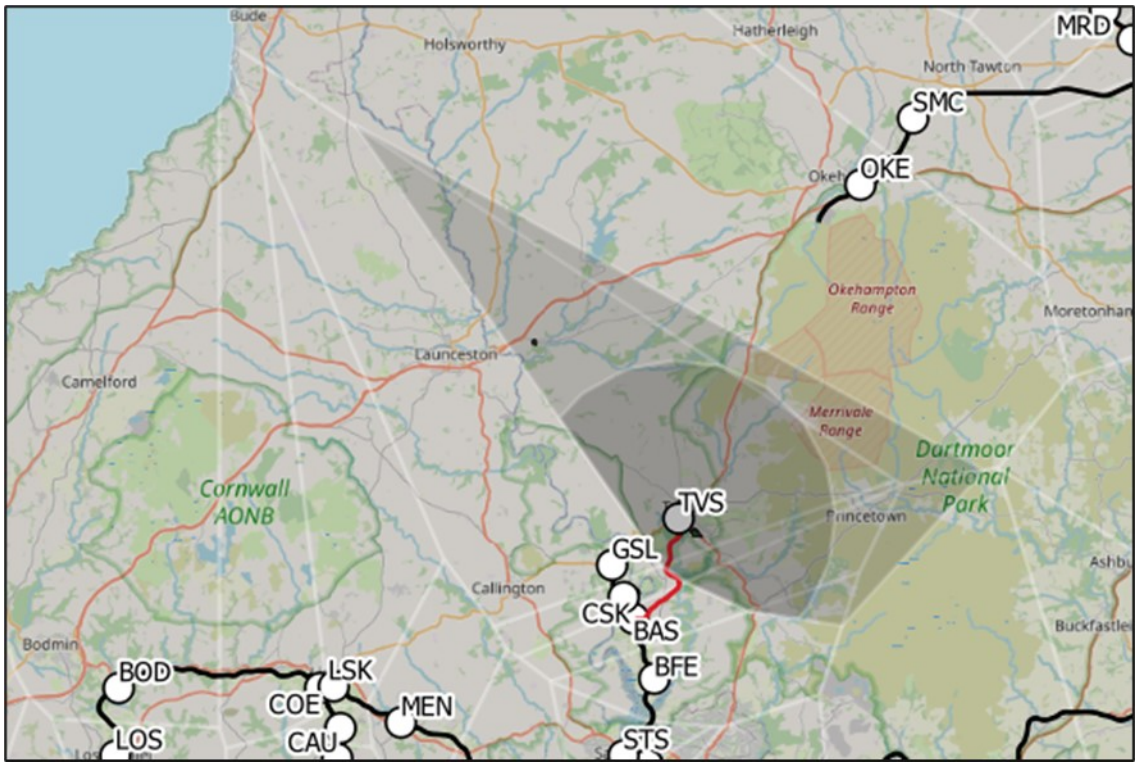


Figure 3-4 - Tavistock and other station catchment bands (10km and >10km)



Journey time savings: new-to-rail users

3.4.6. Three types of users were considered to determine the generalised cost saving: new rail users making entirely new trips, existing bus users and existing car users that will divert to rail.

3.4.7. There is expected to be a generalised journey time saving for new-to-rail users travelling to/from Plymouth as they switch from car and bus. A weighted average generalised cost for each mode has been computed based on the following guidance:

- TAG M3.2 Public Transportation,
- TAG M3.1 Highway Assignment Modelling,
- TAG A1.3 User and Provider Impacts,
- PDFH6.0 B4 Journey Time, Frequency and Interchange, and
- PDFH6.0 B9 New and Competing Services and New Stations.

3.4.8. Rail generalised cost is comprised of PDFH Generalised Journey Times (in-vehicle time + interchange penalty + interval penalty) plus average yield expressed in time and access time weighted to be equivalent to generalised journey time. The method and sources are listed below.

- In-vehicle time between Tavistock and Plymouth derived from the indicative passenger train timetable provided by Network Rail;
- Access Time to Tavistock Station derived from the National Travel Survey (2019) and National Rail Travel Survey (2010) and access weightings applied according to PDFH6.0 Table B9.2;

- Average Yield (2019 Prices) between Tavistock and Plymouth based on Gunnislake to Plymouth revenue and journeys flow extracted from MOIRA, adjusted to reflect anticipated demand patterns and converted to 2010 prices and values and translated to a time equivalent using TAG Values of Time by Journey Purpose. The approach to average yield calculation is described in further detail later in this Economic Case;
- Interval Penalty by ticket type expressed in minutes in accordance with PDFH6.0 Table B4.10, where Tavistock is predicted to be served by an hourly service between Tavistock and Plymouth; and
- Interchange Penalty is assumed to be zero as the hourly service between Tavistock and Plymouth will be a direct service.

3.4.9. Car generalised cost consists of travel time, vehicle operating costs per km multiplied by distance expressed in time and road user charges expressed in time units. Vehicle operating costs include fuel costs which include fuel duty and VAT for non-work users. The method and sources are listed below.

- In-vehicle time by time period derived from SATURN Journey Times (2028, 2043 and 2051) modelled journey times between the Sir Francis Drake Roundabout in Tavistock and Plymouth city centre;
- Access time to the main road network at Sir Francis Drake Roundabout (A386) calculated using National Travel Survey average car speeds and GIS to determine a weighted average distance to the roundabout based on Experian Mosaic postcode data that are forecast to use Tavistock Station in the trip rate model;
- Non-fuel vehicle operating costs values taken from TAG Unit A1.3 Section 5 with respect to the distance between Tavistock and Plymouth. This was calculated based on the average distance of Tavistock postcodes from Sir Francis Drake Roundabout on the A386 (3.5 miles), added to the distance between the roundabout and Plymouth city centre (14.9 miles) as calculated from online mapping software. This was converted to a time equivalent using TAG Values of Time by Journey Purpose;

  $C = a1 + b1/V$

  Where:
  C = cost in pence per kilometre travelled;
  V = average link speed in kilometres per hour;
  a1 is a parameter for distance related costs defined for each vehicle category; and
  b1 is a parameter for vehicle capital saving defined for each vehicle category (this parameter is only relevant to working vehicles)

- Fuel-based vehicle operating costs taken from TAG Unit A1.3 Section 5 with respect to average speeds derived from the link speeds assessment carried out in the previous study and converted to a time equivalent using TAG Values of Time by Journey Purpose;

  $L = (a + b.v + c.v^2 + d.v^3) / v$

  Where:
  L = consumption, expressed in litres per kilometre;

v = average speed in kilometres per hour; and
a, b, c, d are parameters defined for each vehicle category

- Average car parking daily parking charges of £7.18 based on in 2022 prices, this value was halved to determine a one-way trip, converted to 2010 prices and values and translated to a time equivalent using TAG Values of Time by Journey Purpose; and
- Average time to find a parking space taken from the British Parking Association and assumed to be 5.9 minutes.

3.4.10. Bus generalised cost includes access and egress times (egress is not considered in the appraisal, assumed to be constant across all modes for simplicity), wait times, transfer wait time (not applicable), in-vehicle time, bus fares, transfer penalty (not applicable for analysis between Tavistock and Plymouth) among other items only applicable for more detailed bus assignment models. The method and sources are listed below.

- Access time (from trip origin to PT stop) – assumed to be equivalent to rail access times (excluding the weighting) with a weighting of 2.0 times in-vehicle time for generalised cost purposes in line with TAG Unit M3.2;
- Origin wait time (time spent waiting for first service on path) – this is assumed to be the bus headway (4 buses per hour by peak hour) divided by two as per TAG guidance for bus assignment, with a weighting of 2.5 times in-vehicle time for generalised cost purposes in line with TAG Unit M3.2;
- In vehicle time – assumed to be 56 minutes to 1 hour and 7 minutes throughout the day based on the current Number 1 service between Plymouth and Tavistock; and
- Bus fare – assumed to be £1.15 in 2013 prices based on the previous study and bus surveys, converted to 2010 prices and values and translated to a time equivalent using TAG Values of Time by Journey Purpose.

3.4.11. The calculated GJTs for each mode are shown in Table 3-4.

Table 3-4 – New-to-rail User GJTs between Tavistock and Plymouth

Mode	2028 GJT (mins)	2043 GJT (mins)	2051 GJT (mins)	Diversion Factor to Rail (%)
Car	99	100	101	95%
Bus*	108	109	110	5%
Rail	94	94	94	N/A

*Bus journey times have been assumed to grow in line with modelled car journey times in the absence of modelling specifically undertaken for buses.

3.4.12. In the opening year, for car users there is a 5-minute GJT benefit when switching to rail and for bus users there is a 14-minute GJT benefit. Given the 5% bus diversion factor, the weighted average of the car and bus GJT benefits is 5.9 minutes, which was applied to all new-to-rail users.

Table 3-5 – New-to-rail User GJTs Savings from car/bus to rail (Tavistock-Plymouth)

	2028 GJT (mins)	2043 GJT (mins)	2051 GJT (mins)

Weighted GJT Saving	5.9	6.5	7.5

3.4.13. Car and bus GJT have been adjusted to grow over time to take into account traffic growth. Rail GJT's are assumed to be fixed. The difference in GJT of bus and car compared with rail is expected to grow over time. The GJT is applied to the number of new-to-rail users and values of time by journey purpose are applied to the total GJT impact to quantify the monetised impacts for new-to-rail users.

Journey time savings: abstracted users

3.4.14. The nearest stations to the location of the new station are at Gunnislake, Calstock, Bere Alston and Bere Ferrers. It is expected that some of the new station demand will include individuals who have transferred from existing stations – this is known as abstraction. The trip rate model operates at a high-level and considers the distance to the nearest stations in calculating abstraction of demand. The trip rate model assumes 'straight-line' catchments, and abstraction is based on those existing passengers for whom the new Tavistock station would become the closest option. More detail on the calculation of abstracted demand can be found in Appendix D.

3.4.15. The approach to calculating generalised journey time savings for abstracted users is based on outputs of journeys and GJTs by flow and ticket type between these stations and Plymouth. A further dimension of the analysis considers average access times to the stations based on trip rate model outputs in relation to catchment bands and distances between population and the station in 'without-Tavistock station' and 'with-Tavistock station' scenarios.

3.4.16. The generalised journey times between the existing stations and Plymouth were extracted from MOIRA which is based on PDFH guidance of in-vehicle time, interval penalty and interchange penalty. The new station GJT was calculated using the indicative passenger timetable provided by Network Rail, PDFH interval penalties for hourly service and an interchange penalty of zero for a direct service. These GJTs are shown in Table 3-6.

Table 3-6 – Abstracted User GJTs

Station	Average GJT to/from Plymouth (mins)
Gunnislake (Existing)	94
Calstock (Existing)	78
Bere Alston (Existing)	71
Bere Ferrers (Existing)	61
Tavistock (New)	61

3.4.17. The average GJTs to/from Plymouth at existing stations were compared with the GJT to/from Plymouth at Tavistock to determine the reduction in GJTs for abstracted users to/from Plymouth.

3.4.18. The difference between the Plymouth-Tavistock GJT and the weighted average of the Plymouth-Existing Stations is 27.5 minutes which was applied to all abstracted users. This was then applied to abstracted users only.

Development assumptions

3.4.19. The demand forecast is comprised of trips generated from both existing housing and new residential developments. The Plymouth and South-West Devon Joint Local Plan gives the quantum of housing developments to be built across Tavistock, Bere Alston and Lifton over the Local Plan period as being 1,293 dwellings. The new housing demand from each site was assigned to the trip rate model.

Table 3-7 – Development Assumptions

Period	Total Dwellings
2028-2034	1,293

Demand forecasting assumptions

3.4.20. Key assumptions relating to the growth applied to the new station demand forecast over the 60-year appraisal period are presented in Table 3-8 below.

Table 3-8 – New station demand forecasting assumptions

Demand forecasting input	Assumption
Scheme opening year	2028/2029
Demand ramp-up period	A ramp-up for demand, revenue and benefit calculations were assumed based on evidence contained in the PDFH in Table B12.2 of PDFH5 regarding demand by end of period resulting from lags. **Year 1**: 70 percent **Year 2**: 85 percent **Year 3**: 95 percent **Year 4**: 100 percent
Steady-state demand	Year 1: Steady-state demand assuming no new housing Assumes the opening of the new station but excludes the impact of additional demand generated by new housing developments in the vicinity of the station Year 2-6: Growth in line with compound growth rate derived from trip rate modelling Growth rate is the compound annual growth rate (CAGR) between the following two scenarios presented in the trip rate model: station demand with no additional impact from housing station demand assuming all homes near the station are built and occupied with a build out rate of new housing developments of 16.6% per year CAGR has been derived based on a 6-year growth-to-maturity period and equals 3.51% per annum between 2028/29 and 2034/35
Longer term demand growth	Year 7-60: Growth in line with PDFH and TAG demand forecasting principles Average annual demand growth is 0.55% (including the impact of fare increases)
Journey purpose/ticket type splits	Standard TAG Databook technical inputs (May 2022 issue) Selected flow category: Average of Outside South East categories weighted by flows extracted from MOIRA for Gunnislake station, which has been used as a proxy for flow type and demand proportions for Tavistock.

Results

3.4.21. The demand forecasting outlined in Appendix D demonstrated the total demand for the new stations using Experian's Mosaic dataset for 2018/2019 population estimates. Therefore, the demand in this section is presented in 2018/2019 levels. **Table 3-9** shows the demand in the opening year 2028 and in the future year 2037 when all currently planned housing construction in the vicinity is completed, and excludes demand lags, exogenous growth, and Covid-19 adjustments.

Table 3-9 – Annual Demand Forecasting Impacts from the Trip Rate Modelling (2018/2019 demand levels)

	Opening Year 2028	Future Year 2037
Total demand	308,225	393,872
New-to-rail Demand	302,165	386,971
Abstracted Demand	6,060	6,901

3.4.22. The results verify that the preferred option would satisfy the success criteria identified in the Strategic Case. The trip rate modelling has found that:

- If the new service were provided, it would generate significant demand;
- That this demand would primarily arise from existing car users switching modes; and
- By extension, that the volume of users abstracted from other railway stations is low.

3.4.23. This satisfies the criteria of "generating additional trips between Tavistock and Plymouth by sustainable modes" and "a significant proportion of travellers being new, and not simply abstracted and/or displaced".

3.4.24. Further, Tavistock housing developments including Callington Road account for one in five of the users of the Tavistock railway station.

3.4.25. The demand created at Tavistock is comparable to other Devon and Cornwall stations such as Liskeard (351,000), Honiton (359,000) and Barnstaple (432,000).

RAIL INDUSTRY REVENUE IMPACTS

3.4.26. The potential operator revenue generated by the Preferred Option is estimated based on ticket sales for all 'new to rail' trips for both the new station and existing stations, where the 'new to rail' trips for existing stations are derived from a MOIRA analysis of adding the new train service.

3.4.27. Revenue estimates for the new station at Tavistock do not include consequential revenue loss from abstracted users.

3.4.28. Incremental revenues arising from new users at Tavistock have been calculated based an average yield. To calculate the average yield, Gunnislake (in terms of distance) and Okehampton (in terms of demand patterns) stations were used as benchmarks.

3.4.29. The average yield at Gunnislake, derived from MOIRA, is £4.11. However, demand at Gunnislake is dominated by commuting trips to Plymouth, with very few longer-distance trips made. Although commuting to Plymouth is also expected to be the dominant use of trips originating at Tavistock, its utility as a tourism base for visitors to Dartmoor National Park and other adjacent natural attractions is likely to generate more leisure trips to/from stations further afield. The distribution of journeys to/from Okehampton are considered to be more proportionate to that of Tavistock. Okehampton was used to derive a more suited distribution of trips, where Okehampton to Exeter and London was used as the proxy for Tavistock to Plymouth and London.

3.4.30. **Table 3-10** below shows the yield comparison analysis used to determine the average yield for Tavistock. This is based on distribution of journeys to/from Okehampton data provided by GWR, postcode data from Babcock (employment site in Plymouth) and MOIRA based on LENNON ticket

sales data. It should be noted that the percent breakdown is based on current level of service 2-hourly) on the Tamar Valley / Gunnislake Line which does not offer train timings which are aligned with shift patterns for Devonport workers, hence the low percent rail share.

Table 3-10 - Tavistock station: yield comparison analysis

To/From Station	% of Total Journeys (Gunnislake)	% of Total Assumed Journeys (Tavistock)	Weighting Calculation Description	Yield
(1) Plymouth	74%	70%	Weighting reduced based on Okehampton to/from Exeter Flow	£2.46
(2) Devonport Devon	8%	10%	Weighting increased by the ratio of users travelling from Gunnislake and Tavistock to Babcock	£1.99
(3) London Stations	2%	7%	Weighting increase based on Okehampton to/from London Flow	£42.73
(4) St Budeaux Victoria Road	2%	1%	Weighting reduced to normalise assumed journeys to 100%	£2.70
(5) Calstock	2%	1%	Weighting reduced to normalise assumed journeys to 100%	£1.51
(6) Bere Ferrers	1%	1%	Weighting reduced to normalise assumed journeys to 100%	£1.63
(7) Bere Alston	1%	1%	Weighting reduced to normalise assumed journeys to 100%	£1.92
(8) Keyham	1%	0%*	Weighting reduced to normalise assumed journeys to 100%	£3.39
(9) Exeter St Davids	1%	1%	Weighting unchanged	£6.49
(10) Dockyard Devonport	1%	1%	Weighting increased by the ratio of users travelling from Gunnislake and Tavistock to Babcock	£2.83

*Percentage appears to be zero based on rounding.

3.4.31. All remaining proportion of total journeys by flow were assumed to remain unchanged. The Gunnislake average yield is £4.13 and average trip length is 25 miles. The Tavistock weighted yield and trip length applies the proportions in the assumed journeys column in **Table 3-10** producing an average yields of £6.18 and average trip length of 37 miles respectively.

3.4.32. The assumed fare has been adjusted for inflation in future years.

3.4.33. The additional revenues from existing stations have been appraised based on a MOIRA analysis of the increased demand due to the new train service and the average yield of these new trips, which was calculated to be £1.97. The same revenue calculation was undertaken for the lower cost option and the average yield produced was £1.98.

3.4.34. **Table 3-11** summarises the key assumptions used to calculate the revenue impacts.

Table 3-11 – Assumptions for revenue impact calculations

	Do Something Scenario
Station	New station at Tavistock
Train Service	Scheme package includes new Plymouth-Tavistock service.
Service Frequency	Hourly
New-to-rail passengers at new station	
Average Yield (£, 2019)	£6.18
Average Rail Journey Distance (miles)	37
Passengers at existing stations	
Effect of scheme	Scheme introduces a new service, which improves journey time benefits for existing passengers, as service frequency trebles at existing stations from 0.5tph to 1.5tph.
Change in existing passenger demand	Increase
Average Yield (£, 2019)	£1.97
Change in total passenger miles	Increase

Bus industry revenue impacts

3.4.35. The loss in bus fare revenue due to passengers switching from bus to rail has been appraised based on average bus fares described in the previous study assumed to be £1.15 in 2013 prices – this was then applied to the new-to-rail demand multiplied by the bus diversion factor of 5%. This diversion factor was similarly based on the proportion of bus-to-rail switchers from the previous study. This revenue is reported in the TEE table as a reduction in private sector revenue attributed to bus operating companies in the area.

3.4.36. Rail revenue forecasts include a nominal increase in line with RPI (TAG Databook May 2022 issue) plus 1%. Bus revenue forecasts include a nominal increase in line with RPI only. The scheme's revenue impact and the monetised journey time savings have been re-based to 2010 present value prices using GDP deflator values and discounting assumptions from the TAG Databook (May 2022 issue).

Preferred Option

3.4.37. The journey time benefits for passengers at the existing stations, where the addition of a new train service would improve service frequency for several destinations, have been monetised using MOIRA. These include Bere Alston, Bere Ferrers, Devonport, Dockyard and St Budeaux Victoria Road Stations. The stations will experience service increases up to three-fold the existing service frequency. The extraction of steady state demand, revenue and monetised journey time impacts from MOIRA were added to the appraisal.

3.4.38. **Table 3-12** below shows the ten largest flow increases resulting from the additional train service in the Do Something (DS) scenario. Movements between Bere Alston, Devonport and Plymouth see the largest increases, but all the west Plymouth and Tamar Valley stations see demand increases. The west Plymouth stations in particular are a key strategic consideration, and **Table 3-13** shows the overall change in demand at each of them – they all see significant percentage increases in demand, demonstrating that the scheme will have a positive impact on the deprived communities at St Budeaux, Keyham and Devonport.

Table 3-12 – Ten largest MOIRA rail flow changes, two-way demand

Station 1	Station 2	Base demand	DS demand	Change	% Change
Bere Alston	Plymouth	24,157	33,910	9,753	+40%
Devonport	Plymouth	3,924	8,551	4,627	+118%
Bere Alston	Devonport	7,006	10,545	3,539	+51%
Keyham	Plymouth	1,679	3,485	1,806	+108%
Bere Ferrers	Plymouth	8,969	10,363	1,394	+16%
Bere Alston	St Budeaux Victoria Road	2,137	3,178	1,041	+49%
Gunnislake	Plymouth	46,165	46,883	718	+2%
St Budeaux Victoria Road	Plymouth	1,239	1,892	653	+53%
Devonport	St Budeaux Victoria Road	908	1,559	651	+72%
Dockyard	Plymouth	1,096	1,486	390	+36%

Table 3-13 – MOIRA demand changes at west Plymouth stations

Station	Base demand	DS demand	Change	% Change
St Budeaux Victoria Road	9,763	12,569	2,806	29%
Keyham	5,302	8,091	2,789	53%
Dockyard	3,804	4,442	638	17%
Devonport	23,950	35,135	11,185	47%

Lower Cost Option

3.4.39. MOIRA was also used to assess the impact of the proposed lower cost option on existing users on the Tamar Valley Line.

3.4.40. The reference case was defined using the December 2019 timetable. ATTune rail timetabling software was used to develop an indicative timetable made possible by the lower cost option.

3.4.41. Table 3-14 presents a comparison of journey time savings and annual change in demand for the preferred option and lower cost option respectively. The operation of the two shuttles in the lower cost option and the need for through passengers traveling between Gunnislake and Plymouth to interchange (by between 17 and 55 minutes depending on direction of travel) results in a net negative journey time saving and a significant reduction in demand compared to the baseline.

Table 3-14 – Lower Cost Option Journey Time Savings & Annual Demand

	Preferred option	Lower Cost Option
GJT Difference (mins)	7.8	-9.0
Annual Demand Difference	30,170	-28,972

Covid-19 Adjustment

3.4.42. The impact of temporary demand reduction following the onset of the Covid-19 pandemic and the resultant adjustments to long-term demand forecasts has been considered. The scheme's economic impact and underlying assumptions (e.g. forecast demand and revenues) calculated using post-Covid growth rates. For the preferred option the 'No behavioural impact' scenario has been assumed in each scenario for economic appraisal as per DfT's Covid-19 guidance (version 18.1) dated March 2022. Sensitivity tests include growth rates that have been adjusted using the Low and Medium scenarios of long-term behavioural impacts, these factors were taken from Version 18.1 of the DfT's Rail Demand Forecasting During Covid guidance, dated March 2022.

Approach to Economic Appraisal

3.4.43. After deriving calibrated steady-state demand using the trip rate model (for Tavistock users) and MOIRA (for existing station users), demand figures were extracted into a spreadsheet-based economic appraisal model to understand the impact of general change in population and economic activity on future rail demand.

3.4.44. Changes in demand during the scheme's appraisal period were forecast using a range of exogenous factors and associated elasticity assumptions, in line with the demand forecasting approach outlined in TAG Unit A5.4 Rail Appraisal. The key factors and assumptions are presented in Table 3-15.

Table 3-15 – Demand growth factors and elasticities included in the appraisal

Driver	Average annual growth	Elasticity	Comment
GVA per capita growth	1.36%	1.00	To capture the impact of general economic growth on rail demand. Source: TAG Databook (May 2022) and PDFH 6.0 elasticity
Population growth	0.11%	1.00	To capture demand growth beyond the forecast year (20-years post opening), annual population growth has been included. Source: TAG Databook (May 2022)
Fare growth	1.00%	-0.97	To estimate the demand suppressing impact of fare rises in the appraisal period. Source: TAG Databook (May 2022) and PDFH 6.0 elasticity

3.4.45. The outputs of the benefits assessment provide the inputs for the economic appraisal of the impacts for:

- Demand;
- Revenue; and
- Marginal external costs.

3.4.46. A qualitative approach has been applied for the assessment of other impacts, as presented in the Appraisal Summary Tables.

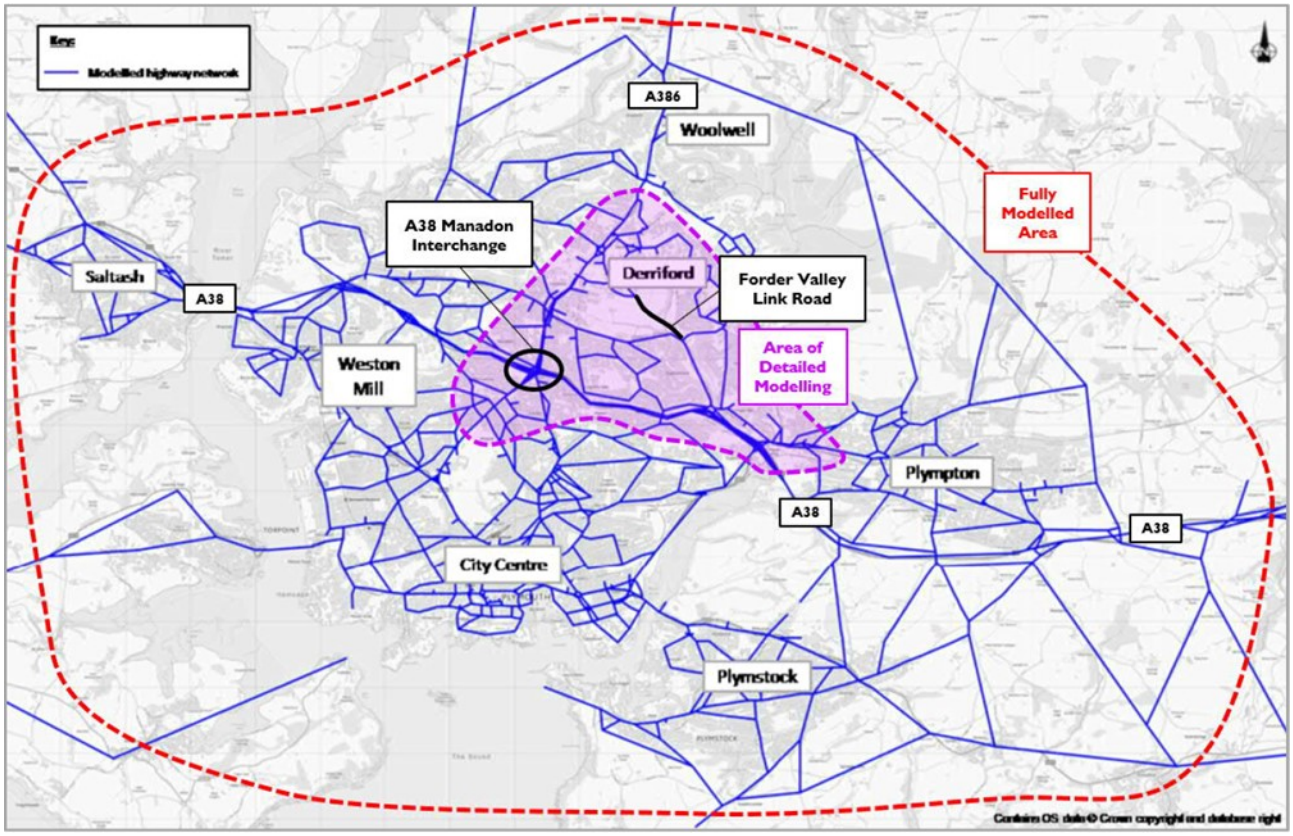
HIGHWAY USER JOURNEY TIME SAVINGS

Highway Model

3.4.47. The SATURN model used to appraise the car traffic reduction is the TAG-compliant Plymouth HAM3 model that was used in the appraisal of the A38 Manadon Interchange LLM OBC. This model consists of three forecast years (2028, 2043, 2051) and three time periods (AM peak 08:00-09:00, Interpeak average hour 10:00-16:00, PM peak 17:00-18:00).

3.4.48. The fully modelled area of HAM3 is shown in **Figure 3-5** below.

Figure 3-5 - HAM3 Fully Modelled Area



Highway Appraisal

3.4.49. The Do Minimum (DM) forecast models for the Manadon OBC were also used as the Do Minimum models for this appraisal – these forecast models represent future housing/employment developments and highways schemes that are near certain or more than likely to be built.

To create the Do Something (DS) models, the networks were kept the same as in the DM but the demand matrices were updated to remove car trips between the Tavistock station catchment area and the local catchment areas of the Plymouth stations. The number of car trips removed was based on the forecast new-to-rail demand for each modelled SATURN forecast year and the daily rail demand profile, for which the MOIRA daily profile for Gunnislake-Plymouth trips was used as a proxy.

3.4.50. **Table 3-16** shows the calculated daily car reduction for the modelled SATURN forecast years and the reduction by time period. The AM and PM peaks have the largest reductions, with a smaller reduction in the interpeak that is nevertheless consistent across the middle of the day.

Table 3-16 – Tavistock-Plymouth car reduction

Year	Annual new-to-rail demand*	Daily car reduction	AM peak car reduction (08:00-09:00)	Interpeak average hour car reduction (10:00-16:00)	PM peak hour car reduction (17:00-18:00)
2028	211,516	428	49	26	37
2043	411,688	834	94	52	72
2051	415,178	841	96	52	73

** The 2028 opening year demand includes a 70% demand lag factor in line with PDFH guidance*

3.4.51. Table 3-17 below shows the DM and DS 2043 forecast journey times for vehicles travelling between Tavistock and Plymouth Station. The AM peak Tavistock to Plymouth and PM peak Plymouth to Tavistock movements see the largest car reductions, and therefore see the largest journey time savings. These savings arise mainly from delay reductions along the A386 between the northern part of Plymouth and Yelverton – in the AM peak about 65% of the time benefit comes from a delay reduction at the George Junction. This demonstrates that the scheme will lead to decongestion along the A386, and though the time benefits are smaller outside the peak hours the cumulative impact on delays will still lead to improvements in air quality and greenhouse gas emissions that are part of the strategic considerations for this scheme.

Table 3-17 – Tavistock to Plymouth Station Forecast Journey Times (2043)

Time period	Northbound DM	Northbound DS	Northbound Diff	Southbound DM	Southbound DS	Southbound Diff
AM peak	35:35	35:25	-00:09	34:57	33:51	-01:06
Interpeak	32:57	32:48	-00:08	31:24	31:17	-00:07
PM peak	45:41	45:01	-00:40	37:59	37:49	-00:09

3.4.52. The DM and DS models were then appraised using TUBA software version 1.9.17 and TUBA economics file version 1.9.19 (which aligns with the Forthcoming Change TAG Data Book v1.19 May 2022).

3.4.53. The full detail and results of the SATURN appraisal can be found in the Tavistock SATURN Modelling Technical Note in Appendix E.

Marginal External Costs (MECs)

3.4.54. The reduction in vehicle kilometres between the SATURN DM and DS models were used to calculate MEC benefits for infrastructure, air quality, noise and accidents using the values in the TAG Databook table A5.4.2.

3.4.55. The highway impacts related to new users at existing stations were fully appraised using MECs (not excluding any category). The total change in passenger miles output from MOIRA was related to a change in car kilometres using the TAG Data Book diversion factor of 31% (for Non-London Short Distance <20 miles non-PTE).

3.4.56. The MEC values used for the appraisal were based on TAG Data Book road type proportions for the South West (excluding motorways).

ACTIVE TRAVEL IMPACTS

3.4.57. The introduction of a new station in Tavistock will generate additional walking and cycling trips as rail passengers access/egress the station. These active mode trips induce economic benefits, which can be quantified and monetised using the DfT's Active Modes Appraisal Toolkit (AMAT).

3.4.58. The DfT's AMAT (May 2022) has been utilised, where applicable, to calculate health and absenteeism benefits, mode shift benefits, and journey quality benefits.

Active Mode Appraisal Toolkit

3.4.59. AMAT streamlines the process set out in TAG Unit A5-1 'Active Mode Appraisal'31 (May 2022) and ensures that the calculation of active mode benefits is in accordance with DfT guidance and its value for money can be consistently compared against other proposed schemes.

3.4.60. The AMAT calculates benefits in relation to a range of impacts linked to an increase in active mode use. These benefits relate to three key areas: mode shift, health and journey quality. Table 3-18 presents the benefit types considered for this scheme. Only health benefits have been considered as the scheme encourages active travel toward the new station but does not directly improve journey quality through improved active travel infrastructure. The modal shift benefits of the scheme are captured in the highway modelling and MECs approach for rail, and any MECs captured in the AMAT would be a subset of the highway / MECs benefits relating to rail users. Therefore, the AMAT journey quality and mode shift benefits have been excluded from the overall appraisal to avoid double counting.

Table 3-18 – Scheme Impacts Appraised Using the Active Mode Appraisal Toolkit

Benefit Area	Benefit	Impacts Assessed
Health	Reduced risk of premature death	Improved health and gaining life years due to increased physical activity
Health	Absenteeism	Reduced levels of absenteeism from employment due to increased physical activity

3.4.61. To determine demand, the new-to-rail trip rate model outputs shown in **Table 3-9**, indicate 302,165 annual new-to-rail passenger trips will use Tavistock station for the opening year of 2028. At maturity in 2037, the passenger forecast is 394,000. A portion of these users will access the station via walking or cycling. In order to determine the proportion of those accessing the station the National Rail Travel Survey (2010) was used to derive the 54% walkers and 2% cyclists assumed to

[31] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/275394/webtag-tag-unit-a5-1-active-mode-appraisal.pdf.

access Tavistock station. This was then de-annualised by a standard rail factor of 300 days of travel per year to determine the daily walking and cycling trips to be inputted into the AMAT.

3.4.62. In order to calculate the benefits, the AMAT requires the user to input a number of scheme-specific variables:

- Scheme opening year – 2028;
- Number of walking and cycle journeys per day without the proposed scheme -zero in the absence of Tavistock station;
- Number of walking and cycle journeys per day with the proposed scheme – 544 walkers and 20 cyclists to Tavistock station based on trip rate modelling outputs and NRTS survey;
- Proportion using the walking and cycling scheme to commute to work – default value used; and
- Appraisal period – 60-years.

3.4.63. A number of assumptions are also included within the AMAT where the DfT has provided default values based on DfT defined sources and research, such as:

- The decay rate (0.00%);
- Average length of cycling trip (4.84km) and walking trip (1.1km);
- The average cycling speed (15km/h) and walking speed (5km/h);
- Proportions of cyclists and pedestrians who are employed (56%);
- The proportions otherwise using a car (13%) and a taxi (9%), where light rail is not a travel option in the area;
- The percentage of return trips (90%);
- The background growth rate in trips and the period over which this growth rate applies (0.75% per year for 20 years);
- Number of days for which intervention data is applicable per year / annualisation factor – changed to 300 days as described above; and
- Car occupancy rate (1.6) and taxi occupancy rate (2.4).

3.4.64. These values were retained unless specified and described above covering the modelling assumptions.

3.4.65. The methodology for calculating the scheme-specific inputs is set out above. The outputs of the AMAT feed into an initial BCR focussing on the value for money of the active mode impacts.

WIDER ECONOMIC IMPACTS

3.4.66. DfT's TAG Unit A2-1 outlines methodologies for assessing the wider economic impacts of a transport scheme. This guidance outlines how to capture the economic changes as a result of transport investment. In situations where there is significant land use change or market failures, these benefits are not captured by the estimation of user benefits approach and are therefore classed as wider economic benefits.

3.4.67. A wider economic assessment will be undertaken at the next stage of business case development. However, it is likely that the line reopening will contribute towards the delivery of a significant number of new housing units and will provide significant improvements to connectivity via sustainable modes.

3.5 COST ASSESSMENT

CAPITAL COSTS

3.5.1. The derivation of capital costs are discussed in the Financial Case. The mid-level estimate of the capital costs has been used for the economic appraisal. The capital costs and the assumed cost profile the scheme in 2022 prices are shown in **Table 3-19**. The capital costs are estimated in 2022 Q1 prices. This includes costs for construction, statutory undertakers work, land and other costs such as professional fees.

Table 3-19 – Capital Costs excluding risk and inflation (£000s, 2022 prices)

Option	2022 / 2023	2023 / 2024	2024 / 2025	2025 / 2026	2026 / 2027	2027 / 2028	Total
Preferred	1,568	1,568	2,091	35,896	15,384	500	57,008

3.5.2. It is currently anticipated that part of these capital costs will be paid through developer contributions, which will be represented in the TEE table as a cost against business and in the PA table as an offset to the scheme costs. £11m is committed to sustainable transport connections between Tavistock and Bere Alston (not restricted to heavy rail) in a signed Section 106 agreement. For the purposes of appraisal, it has been assumed that 75% of this will be paid in 2026/27 and the remaining 25% in 2027/28.

OPERATING COSTS

3.5.3. Operating cost estimates for both the Preferred and Lower Cost options have been produced by GWR.

3.5.4. The estimate for the Preferred Option is £2.3 million per annum at current prices for all train service and station operational costs. This cost estimate has utilised current accurate mileage rates, lease prices, salaries and timetable mileage assumptions.

Long Term Access Charge

3.5.5. The Long Term Access Charge (LTAC) is payable by GWR to Network Rail for long term repair and renewal of the station. LTAC assumptions were based on the LTAC recently quoted charge for Marsh Barton of £37,000 pa. Tavistock station is broadly comparable as it will have similar footfall. The SISS renewal element at Marsh Barton will be higher because of the additional SISS assets due to its two platforms, so the LTAC figure assumed for Tavistock should be considered conservative.

General operations and maintenance

3.5.6. For general operations and maintenance including utility bills, cleaning, ticket resupply, SISS/retail equipment operation and reactive maintenance an assumption of £60,000 pa was used. This is based on the detailed estimates produced for other new stations including Marsh Barton and Portway. Additional car park maintenance/operations costs will apply of circa £51 per space pa (based on the price at Okehampton and assuming install of Automatic Number Plate Recognition as at Okehampton) and any business rates that apply.

Train Services

3.5.7. GWR has undertaken a high-level review of costs for the operation of the proposed train services. For this it has utilised June 23 mileage costs, recognising these are fluctuating at present, based on Class 150 units. The overall cost for Tavistock train services being £2,201,000 split into £306,000 mileage (covers fuel/materials/VTAC), £549,000 lease costs, £1,286,000 train crew costs and £60,000 for other costs (eg on board in transit cleaning).

3.5.8. The document includes cost assumptions associated with the new station and additional train services.

3.5.9. The operating cost estimate for the Lower Cost option is £1.3m per annum. This operating cost estimate nets off the existing mileage for Gunnislake services and was based on a high level assumption on train crew impacts, which are difficult to predict without diagramming as the Gunnislake – Bere Alston shuttle would be inefficient from a train crew perspective due to crew needing to travel to/from Plymouth both at start/finish of their diagram.

CONVERTING TO PRESENT VALUE COSTS

3.5.10. The costs have been adjusted for the economic appraisal in accordance with guidance in TAG Unit A1.2 Scheme Costs. Both capital costs and operating costs have been inflated in line with RPI (as sourced from TAG Data Book A5.3.1, May 2022).

3.5.11. Optimism Bias of 56% has been applied to the station construction costs, which is the value recommended in TAG for conventional rail projects. For the operating cost, a 1% optimism bias allowance has been applied to reflect the lower levels of uncertainty, given the operating costs are provided by GWR at an equivalent level to GRIP4. Station maintenance costs have an optimism bias of 41% given the level of uncertainty surrounding the station building maintenance costs.

3.5.12. Costs have been re-based to 2010 prices using GDP deflator values from TAG Data Book and discounted to 2010 using TAG discount factors. The costs have then been converted from the factor cost to the market price unit of account using the indirect tax correction factor from the TAG Data Book.

3.5.13. Table 3-20 below shows each calculation step between the base cost estimates and the present value costs for the capital costs, operating costs and developer contributions.

Table 3-20 – Present Value Cost Conversion

	Capital Costs (£000s)	Operating Costs (£000s)	Developer contributions* (£000s)
1 – Base cost estimate	57,008	138,000	11,000
2 – Inflation	62,262	430,112	-
3 – Optimism Bias	97,129	434,413	-
4 – Rebased to 2010	71,322	136,029	7,893
5 – Discounted to 2010	41,417	30,381	4,514
6 – Convert to market prices (PVC)	50,476	36,153	4,514

** Developer contributions are only rebased and discounted to 2010, and are already in market prices*

3.6 ECONOMIC APPRAISAL RESULTS

3.6.1. The outputs of the benefits assessment have been converted into a Present Value Benefit for a 60-year appraisal period, based on the standard parameters provided in TAG and the scheme assumptions presented in **Table 3-21**.

Table 3-21 – Economic Appraisal Parameters and Assumptions

Criteria	Assumption	Source
Opening Year	2028/2029	WSP
Base Year	2010	DfT Base Year
Appraisal Years	60 years of benefits	HMT's Green Book
Value of Time (2010)	Rail users – Business: 29.18 £/hr Rail users – Commute: 9.95 £/hr Rail users – Other: 4.54 £/hr	TAG unit A1.3.1, May 2022
Journey purpose split	Rail users – Business: 4.67% Rail users – Commute: 36.25% Rail users – Other: 59.08%	TAG unit A5.3.2, November 2021 (Outside South East by distance bands)
Benefits growth	Value of time growth	TAG Annual Parameters, May 2022
Revenue growth	RPI +1% (deflated by GDP deflator)	TAG unit A5.3.1, May 2022

Criteria	Assumption	Source
Build-up rate	70% in year 1, 85% in year 2, 95% in year 3 and 100% thereafter	Assumed for demand on the existing network and demand at new stations, following scheme opening in line with PDFH6.0 B9.5 Lags for new stations and services (% demand achieved by end of period
Demand growth	0.55%	Average growth per annum in the 60-year appraisal period Demand growth capped 20 years from appraisal year (TAG Unit A5-3)
Discount Rate	3.5% 0-30 years 3.0% 31-75 years	HMT's Green Book
Market Price adjustment	19%	TAG unit A1.3.1, May 2022
Marginal External Costs	Values based on South West road type proportions (excluding motorways)	TAG Data Book A5.4.1 and A5.4.2, May 2022

PRESENT VALUE OF BENEFITS

3.6.2. **Table 3-22** sets out the initial monetised impacts of the scheme that are represented in the Present Value of Benefits (PVB). These include journey time benefits for road and rail users, vehicle operating cost benefits, marginal external cost benefits and active mode benefits. Bus revenue loss and developer contributions are represented as costs against businesses. There are also indirect tax impacts from the increase in public transport revenue and the reduction in road vehicle fuel consumption.

3.6.3. The lower cost option assessment of monetised impacts is shown for comparison.

Table 3-22 – Present Value of Benefits (£000s, 2010 present value)

Benefit/Cost Type	Preferred Option	Lower Cost Option
Rail journey time	16,318	-27,307
Highway journey time (TUBA)	17,275	-481
Highway VOC (TUBA)	2,665	0
Highway greenhouse gases (TUBA)	1,548	0
MECs (excluding indirect tax and infrastructure)	4,942	-263
Active modes (AMAT)	4,608	0

Benefit/Cost Type	Preferred Option	Lower Cost Option
Bus revenue	-488	0
Developer contributions	-5,372	-5,372
Indirect tax (Change in PT revenue)	-9,442	241
Indirect tax (Change in fuel consumption)	-1,511	44
Total	**30,541**	**-33,137**

PRESENT VALUE OF COSTS

3.6.4. Table 3-23 sets out the initial monetised impacts of the scheme that are represented in the Present Value of Costs (PVC). These include the capital and operating costs, rail revenue benefits and MEC infrastructure benefits. Developer contributions are also represented in the PVC as an offset to the public sector provider costs.

3.6.5. The lower cost option has been assumed to have no capital costs, although there would be costs associated with the option including a signalling upgrade.

Table 3-23 – Present Value of Costs (£000s, 2010 present value)

Benefit/Cost Type	Preferred Option	Lower Cost Option
Capital costs	50,476	0
Operating costs	36,153	20,434
Rail revenue	-52,617	1,332
Developer contributions	-5,372	-5,372
MEC infrastructure	-40	-5
Total	**28,601**	**16,389**

3.7 ENVIRONMENTAL ASSESSMENT

3.7.1. The environmental assessment included within the economic chapter has been developed in accordance with TAG Unit A3 (Environmental Impact Assessment). The table below informs the AST qualitative analysis and scoring. Given the relatively early stage of the project, a qualitative assessment is viewed as proportionate at this stage of the project.

3.7.2. The expected environmental impacts are summarised in Table 3-24 The scheme environmental constraints reports is located in Appendix F.

Table 3-24 - Summary of Environmental and Social Constraints

Topic	Summary of Constraint
Air Quality	The proposed scheme is not within or adjacent to an AQMA. The scheme will remove traffic from the A386 which will improve air quality along the corridor.
Noise	The Proposed Scheme is not located within an NIA. The scheme will remove traffic from the A386 which will reduce noise levels along the corridor, particularly benefiting residents in NIA's along the A386.
Water Environment	The River Lumburn, an ordinary watercourse crosses the Proposed Scheme. The statutory main rivers – River Tamar, River Tavy and River Walkham (tributary of the Tavy) are located within the 2km study area. The majority of the Proposed Scheme lies within Flood Zone 1. However, at the area where River Lumburn crosses the Proposed Scheme, it lies within Flood Zones 2 and 3. The Proposed Scheme is underlain by Secondary A aquifer. There are no groundwater Source Protection Zones (SPZ) noted within the study area.
Biodiversity	2 SSSIs, 1 LNR and 1 SAC are located within 2km of the Proposed Scheme. A few ancient woodland areas are located within 2km of the Proposed Scheme. Purple moor grass and rush pastures and broadleaved woodlands are located within the Proposed Scheme boundary. Various Priority Habitats are located within the 2 km study area. There are no TPOs within the Proposed Scheme's boundary. However, one TPO is located adjacent to the northern extent of Proposed Scheme.
Landscape	The Proposed Scheme lies within Tamar Valley AONB. A part of the Dartmoor National Park is located within the 2 Km study area. The study area lies within two National Character areas: South Devon (NCA 151) and Cornish Killas (NCA 152). There are no greenbelt zones located within the study area. The alignment of the proposed railway infrastructure currently exists, vegetation clearance will be necessary, however, there is no impact on landscape except for at Tavistock where the station is part of consented development where such landscape issues have already been addressed.
Historic Environment	The Proposed Scheme lies within the Tavistock to Bere Alston Railway Conservation Area. The scheme will utilise the Shillamill Viaduct, a Grade II listed building, the scheme is not anticipated impact the building. Maintenance of the infrastructure may be required. The Proposed Scheme crosses the Cornwall and West Devon Mining Landscape World Heritage Site at the point where it crosses the River Lumburn and at the location of the existing Bere Alston Station There are no Scheduled Monuments within the boundary of the Proposed Scheme, however five Scheduled monuments are located within the 2km study area. No Registered parks and gardens or Registered Battlefields are located within 2km of the Proposed Scheme.

3.8 SOCIAL AND DISTRIBUTIONAL ASSESSMENT

3.8.1. This section covers both social and distributional impacts as covered separately in DfT TAG Units A4.1 and A4.2 respectively. These are summarised:

- User benefits: these benefits also form outputs from the congestion element of the MECs approach and new-to-rail generalised journey time user benefits. 'User benefits' are defined as distributional impacts;
- Accident impacts: these also feature in the externalities work. Accidents are defined as both social and distributional impacts; and
- Local air quality and noise impacts: both of these impacts are calculated in the MECs work. These also form two of the distributional impacts.

3.8.2. In addition to these, there are other social and distributional impacts that are covered in the following section. For several impacts, such as Security, Severance, Accessibility and Personal Affordability, these are categorised as both social and distributional impacts.

3.8.3. At this stage a high-level qualitative assessment has been carried out of these impacts, which are summarised in Table 3-25 below and the appraisal summary table (AST) in Appendix G.

Table 3-25 – Social and Distributional Impacts

Indicator	Qualitative Comments
User benefits	The scheme will lead to journey time benefits for car and bus users switching to rail and passengers at the existing Tamar Valley / Gunnislake line stations who will benefit from more frequent services. The reduction in car users will also lead to journey time benefits for the remaining car users due to decongestion of the road network.
Physical Activity	The scheme would generate new-to-rail users, of which a proportion of the total will access the Tavistock station via active modes, where they previously used car or did not travel. There will be an uplift in physical activity and reduction in absenteeism which will give rise to positive benefits for the user and businesses. These benefits have been quantified and monetised as described earlier in this Economic Case.
Noise	The scheme will lead to a reduction in car usage, which will lead to a reduction in noise levels on roads between Tavistock and Plymouth.
Air quality	The scheme will lead to a reduction in car usage, which will lead to an improvement in air quality on roads between Tavistock and Plymouth.
Accidents	This scheme will lead to a reduction in car usage, which will lead to a reduction in accidents on roads between Tavistock and Plymouth.
Security	The new station will include appropriate contemporary security features. These will benefit all users equally.
Severance	This scheme uses a disused rail alignment and will not change road crossing provision, so will not affect severance.
Accessibility	Access to employment, health, education and leisure opportunities in Plymouth and the wider area will be improved for the population around Tavistock, especially for demographics such as older residents and students. Additionally, such access applies to

Indicator	Qualitative Comments
	deprived communities within the west Plymouth area which will benefit from improved rail service frequency at existing stations.
Affordability	It is anticipated that the provision of a new railway station will provide an affordable and value for money travel option for local residents and visitors. There will be a reduction in car operating costs as a result of reduced congestion on the road network. These are not likely to be significant and will be distributed across a wide area between Tavistock and Plymouth.

3.8.4. A full distributional impact assessment will not be completed at this stage, but as user benefits will likely be the most significant impact of this scheme an initial analysis has been carried out of the income distribution of the area between the planned Tavistock station and Plymouth station. Index of Multiple Deprivation (IMD) data has been used as an indicator of income distribution. **Table 3-26** below shows how the population within the 5km catchment of the new Tavistock station and the stations between Bere Alston and Plymouth are distributed according to the IMD data.

Table 3-26 – IMD Distribution (0% = most deprived, 100% = least deprived)

Station(s)	5km catchment population	IMD Income quintile 0-20%	IMD Income quintile 20-40%	IMD Income quintile 40-60%	IMD Income quintile 60-80%	IMD Income quintile 80-100%	Total
Tavistock	Population	0	1,664	6,533	2,871	3,390	14,458
Tavistock	Proportion	0%	12%	45%	20%	23%	100%
Bere Alston to Plymouth	Population	83,905	77,053	33,887	32,392	9,663	236,900
Bere Alston to Plymouth	Proportion	35%	33%	14%	14%	4%	100%

3.8.5. The IMD data shows that the population around Tavistock is skewed towards the less deprived IMD quintiles with only 12% being in the second quintile and 0% in the first, most deprived quintile. However, the population near the existing stations (particularly within Plymouth) is skewed the other way, with 35% being in the first quintile and 33% in the second quintile. Most of the user benefits are derived from journey time benefits from shifting to rail from car or bus for the Tavistock population. There will also be benefits related to the increased service frequency for the stations between Bere Alston and Plymouth which will mostly be distributed in stations within Plymouth in the more deprived areas.

3.8.6. Figure 3-6 and Figure 3-7 below show the railway network and stations are overlaid on 2019 IMD data for the Tavistock and Plymouth areas respectively.

Figure 3-6 – IMD and rail network in Tavistock area

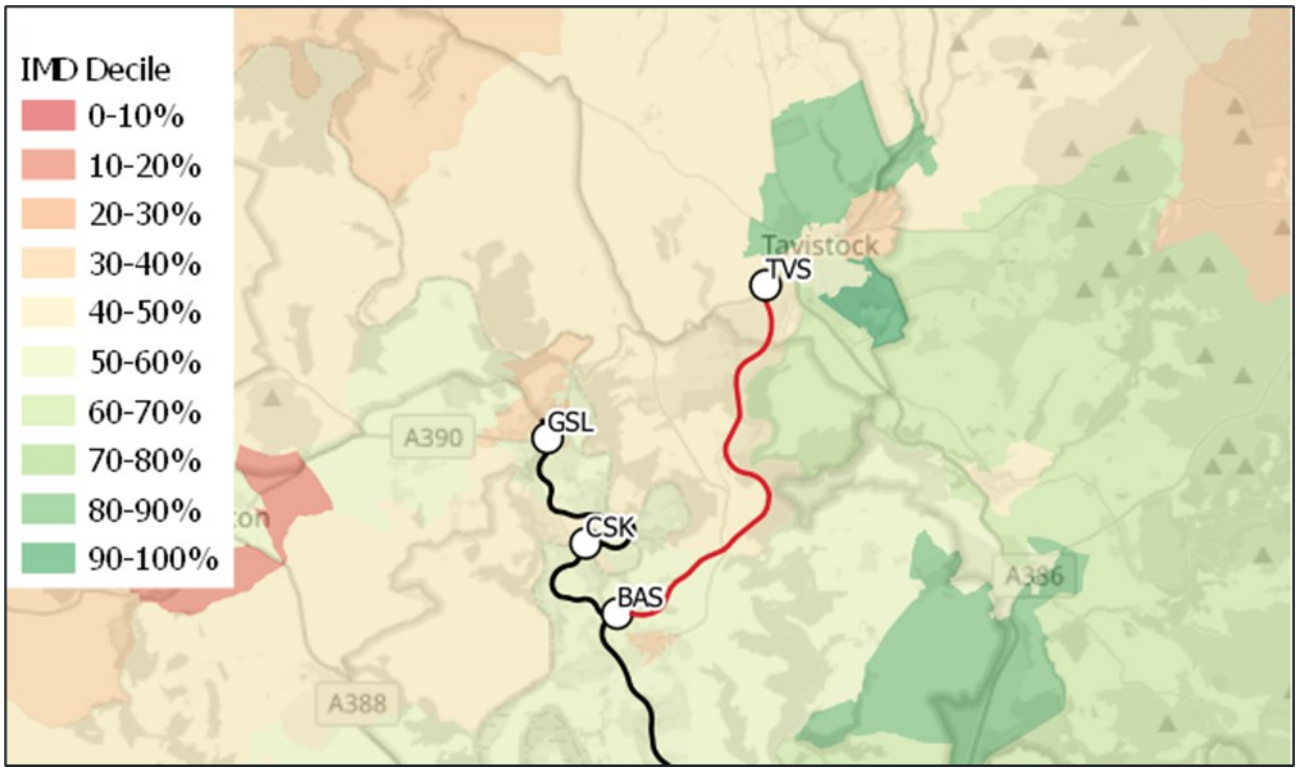
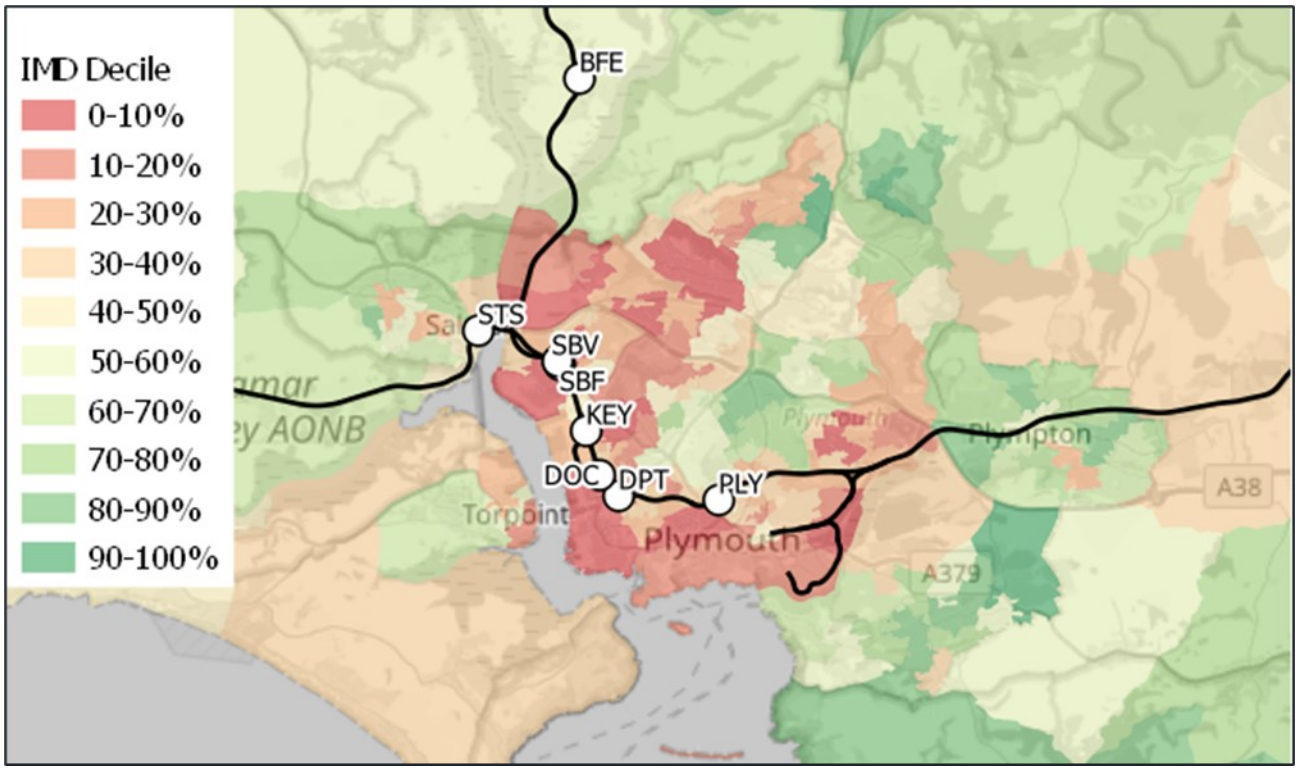


Figure 3-7 – IMD and rail network in Plymouth area



3.9 VALUE FOR MONEY ASSESSMENT

3.9.1. The TEE, PA and AMCB tables are provided in Appendix H. **Table 3-27** summarises the value for money (VfM) results for the Preferred and Lower Cost options based on the PVBs and PVCs in section 3.6. The Net Present Value (NPV) is equal to the PVB minus the PVC.

3.9.2. It should be noted, that the lower cost option PVB is negative as this option reduces travel opportunities for users of the Tamar Valley line and does not provide an additional station at Tavistock

Table 3-27 – Value for money assessment (£000s, 2010 PV)

	Preferred Option	Lower Cost Option
PVB	30,541	-33,137
PVC	28,601	16,389
NPV	1,940	-49,536
BCR	1.1	(2.02)
VfM category	Low	Very Poor

3.9.3. The core VfM may not reflect the full extent of the benefits of the scheme. There are also expected to be wider economic impacts associated with improving accessibility between workers resident in Tavistock and jobs in Plymouth and the scheme acting as a catalyst for growth in the tourist sector. These impacts will be appraised at the next stage of the business case, and the corresponding benefits would be likely to result in a significant improvement in the BCR.

3.9.4. The Appraisal Summary Table (AST) for the core scenario is included on the following pages.

Aspect	Impacts	Summary of key impacts	Qualitative	Monetary £(NPV)
Economy	Business users & transport providers	The scheme would reduce journey times for both existing rail users and new-to-rail users by providing a station and new service. The scheme is expected to facilitate mode shift from car to rail and therefore will benefit the highway network in terms of reduced congestion and delay. Mode shift from bus to rail will lead to reduced bus fare revenue. Developer contributions to the scheme costs will be a cost for business.	N/A	£2,256,688
Economy	Reliability impact on Business users	The scheme would improve journey time reliability for trips to Plymouth from Tavistock through the introduction of the new station. Alongside this the reduction in car user associated with the modal shift from car to rail should help to improve journey times for other road users unable to use the new station.	Moderate Beneficial	
Economy	Regeneration	Scheme regeneration impacts have not been considered at this stage and therefore a qualitative assessment is not provided. The new railway station will improve connectivity between Tavistock and Plymouth, unlocking potential for economic regeneration and levelling up. Access to employment will become easier and local employers will have access to a larger labour market.	Not assessed	
Economy	Wider Impacts	Wider impacts have not been assessed at this stage of the scheme assessment and therefore a qualitative score has not been provided. It is likely that with the introduction of the new station it could generate changes across the Tavistock area in West Devon with better access to labour supply and jobs. Wider impacts will be considered at the next stage of the scheme appraisal.	Not assessed	
Environmental	Noise	The scheme is expected to lead to a slight reduction in overall noise levels in the area as it would encourage a modal shift from car to rail. The scheme is expected to have a neutral impact on noise at / close to the station. The proposed scheme is not located within an NIA. The nearest NIA is located 1.5 km to the east on the A386 highway.	N/A	£231,464
Environmental	Air Quality	The scheme is expected to have a beneficial impact to air quality as it would encourage a modal shift from car to rail. The proposed scheme is not within or adjacent to an AQMA.	N/A	£502,098
Environmental	Greenhouse gases	The scheme is expected to have a beneficial impact to greenhouse gas emissions as the scheme would encourage a modal shift from car to rail.	N/A	£1,581,943
Environmental	Landscape	The Proposed Scheme lies within Tamar Valley Areas of Outstanding National Beauty (AONB). Apart of the Dartmoor National Park is located within the 2 Km study area. The study area lies within two National Character areas: South Devon (NCA 151) and Cornish Killas (NCA 152).	Slight Adverse	
Environmental	Townscape	Townscape impacts have not been assessed at this stage of scheme development. They will be assessed at the OBC stage.	Not assessed	

Aspect	Impacts	Summary of key impacts	Qualitative	Monetary £(NPV)
Environmental	Historic Environment	The Proposed Scheme lies within the Tavistock to Bere Alston railway Conservation Area. There are no listed buildings within the boundary of the Proposed Scheme, however there are Grade II listed buildings adjacent to the Proposed Scheme. The Proposed Scheme crosses the Cornwall and West Devon Mining Landscape World Heritage Site at the point where it crosses the River Lumburn and at the location of the existing Bere Alston Station. There are no Scheduled Monuments within the boundary of the Proposed Scheme, however five Scheduled monuments are located within the 2km study area. No Registered parks and gardens or Registered Battlefields are located within 2km of the Proposed Scheme.	Neutral	
Environmental	Biodiversity	2 SSSIs, 1 LNR and 1 SAC are located within 2km of the Proposed Scheme. A few ancient woodland areas are located within 2km of the Proposed Scheme. Purple moor grass and rush pastures and broadleaved woodlands are located within the Proposed Scheme boundary. Various Priority Habitats are located within the 2 km study area. There are no TPOs within the Proposed Scheme's boundary. However, one TPO is located adjacent to the northern extent of Proposed Scheme.	Slight Adverse	
Environmental	Water Environment	River Lumburn, an ordinary watercourse crosses the Proposed Scheme. The statutory main rivers – River Tamar and River Tavy are located within the 2km study area. The majority of the Proposed Scheme lies within Flood Zone 1. However, at the area where River Lumburn crosses the Proposed Scheme, it lies within Flood Zones 2 and 3. The Proposed Scheme is underlain by Secondary A aquifer. There are no groundwater Source Protection Zones (SPZ) noted within the study area.	Slight Adverse	
Social	Commuting and Other users	The scheme would reduce journey times for both existing rail commuters and new-to-rail commuters and other users by providing a station and new service. The scheme is expected to facilitate mode sihft from car to rail and therefore will benefit the highway network in terms of reduced congestion and delay.	N/A	£28,370,873
Social	Reliability impact on Commuting and Other users	The scheme would improve journey time reliability for trips to Plymouth from Tavistock through the introduction of the new station. Alongside this the reduction in car user associated with the modal shift from car to rail should help to improve journey times for other road users unable to use the new station.	Moderate Beneficial	
Social	Physical activity	The introduction of the new station in Tavistock may lead to increased walking and cycling within the communities in close proximity to the station.	N/A	£4,607,573
Social	Journey quality	Journey quality will be enhanced providing local access to rail service significantly enhancing residents (and visitors) connectivity by sustainable modes of transport. The rail station will be a transport hub offering an integrated timetable with bus services serving the station, cycle storage facilities, a station car park and EV charging points along with passenger information and seating.	Moderate Beneficial	

Aspect	Impacts	Summary of key impacts	Qualitative	Monetary £(NPV)
Social	Accidents	The scheme is not expected to have a direct impact to accidents, however, any shift from car to rail may generate a marginal external benefit due to reduced vehicle mileage in the highway network. The scheme may impact on local accidents due to increased highway movements and pedestrian/cycle activity around the station site. This will be considered in more detail at the OBC stage once local access arrangements have been fully defined.	Moderate Beneficial	£3,943,912
Social	Security	The new station would include security features such as CCTV, lighting, fences, landscaping and emergency phones providing a safe environment for users.	Slight Beneficial	
Social	Access to services	The introduction of the new Tavistock station will improve access to key services located in regional centres (Plymouth, Exeter and further beyond) particularly for members of the community without access to a car. Access to services will be significantly enhanced for demographics such as older residents and students for access to healthcare and further and higher education.	Moderate Beneficial	
Social	Affordability	Personal affordability impacts will be assessed as part of the distributional Impacts appraisal at the OBC stage. However, it is anticipated that the provision of a new railway station in the Tavistock area will provide an affordable and value for money travel option for local residents and visitors.	Slight Beneficial	
Social	Severance	This scheme uses a disused rail alignment and will not change road crossing provision, so will not affect severance.	Neutral	
Social	Option and non-use values	The scheme is likely to be beneficial in terms of option and non-use value. It is likely that local residents will value the station even if they use the station infrequently, as an additional option to travel by rail is available. This is an important aspect of the scheme and will be assessed in more detail at the OBC stage.	Slight Beneficial	
Public Accounts	Cost to Broad Transport Budget	Cost of funding the station has been appraised using a bespoke cost tool along with the assessment of the revenue impacts of the scheme using the outputs of the trip rate model. The present value of costs is the capital costs and operational and maintenance costs minus the revenue impact, developer contributions and infrastructure savings derived from the MECs calculations.	N/A	£28,600,635
Public Accounts	Indirect Tax Revenues	The scheme is expected to have a negative impact on tax revenues due to the shift from car to rail and the increase in expenditure on rail tickets.	N/A	£10,953,493

3.10 SENSITIVITY TESTING

COVID SCENARIOS

3.10.1. Uncertainties have been addressed through sensitivity testing of key assumptions.

3.10.2. Sensitivity analysis was carried out to assess the impact of demand reduction following the onset of the Covid-19 pandemic and the resultant adjustments to long-term demand forecasts in line with DfT guidance. Two Covid-related sensitivity scenarios were modelled and the DfT forecast assumptions are outlined below:

- Medium demand: low impact on GDP and employment, 26-27% reduction in commuting and business travel compared to pre-Covid figures, 25% reduction in leisure travel; total long-run impact (as percentage of pre-Covid demand): 85% (GWR, for post-Covid GDP and employment forecast); and
- Low demand: substantial impact on GDP and employment, 44% reduction in commuting and business travel, 50% reduction in leisure travel; total long-run impact (as percentage of pre-Covid demand): 69% (GWR, for post-Covid GDP and employment forecast where possible).

3.10.3. It should be noted that in first five weeks of the 2022/23 financial year the average footfall at stations in the South West was 89% of pre-COVID levels (2019/20), with Exeter Central station experiencing 108% of pre-COVID levels, and Plymouth station 85%. In addition, Okehampton station (located 15 miles north of Tavistock) has seen passenger levels significantly higher than forecast since it's reopening in November 2021. Between November 2021 and May 2022 around 51,000 journeys were made to and from Okehampton, which was around double the forecast. All together this means that the COVID sensitivity scenarios are likely to be conservative in reflecting the rebound in rail demand in the South West region.

3.10.4. The results of the sensitivity tests are presented in the tables below.

WEST PLYMOUTH STATION DEMAND

3.10.5. In line with PDFH Guidance, the demand and revenue impacts of the Preferred Option for users at existing West Plymouth (WP) stations was analysed using MOIRA. An investigation found that the WP stations were forecast to have generalised journey time changes in excess of 30%. PDFH guidance, suggests that for larger GJT changes there is no effect on GJT elasticity, with the exceptions of high-speed rail projects or where there are only very indirect services available, in these cases the use of a full multi-modal model is advisable.

3.10.6. Although MOIRA is an acceptable and proportionate approach, there is some uncertainty regarding the underestimation of demand and benefits at the WP stations. The rationale for this uncertainty is the very large demand response observed at comparable suburban stations (i.e. those with very low pre-intervention footfall) in South West England following recent service frequency increases.

3.10.7. A sensitivity test has been performed to adjust the assumptions underpinning the analysis. The stations included in the sensitivity test are:

- Devonport;
- Dockyard;
- Keyham; and
- St Budeaux Victoria Road.

3.10.8. An approach was developed using comparator stations in the suburban areas of Exeter and Bristol to estimate and forecast the potential demand response at WP stations where the baseline demand is very low and which experience a large reduction in GJT.

3.10.9. Office of Road and Rail Entries and Exits data has been compiled since 2004/05 to 2018/19 to benchmark growth in existing stations due to changes in services and other factors.

3.10.10. A range of suburban stations were identified based on population and depravity broadly similar to WP stations. The comparator stations in the table below were selected based on their 2004/05 station demand levels similar to the WP station demand levels.

Table 3-28 - Alternative Demand Forecast Step One

WP Station Name	MOIRA Base Demand (2018/19)	Comparator Station Name	Station Demand (2004/05)	Station demand (2018/19)
St Budeaux Victoria Road	9,783	Pinhoe (Exeter)	12,959	130,044
Keyham	7,974	Parson Street (Bristol)	7,231	173,832
Dockyard	5,624	Patchway (Bristol)	6,507	82,198
Devonport	36,569	Lawrence Hill (Bristol)	46,508	190,118

3.10.11. Exogenous growth could be explaining this growth, so Tamar Valley line growth (215%) in the period was used to determine 2018/19 demand at the comparator stations, excluding exogenous growth.

Table 3-29 - Alternative Demand Forecast Step Two

Comparator Station Name	Station Demand (2004/05)	Station demand excluding exogenous growth (2018/19)	Growth (%)
Pinhoe (Exeter)	12,959	61,797	477%
Parson Street (Bristol)	7,231	82,605	1,142%
Patchway (Bristol)	6,507	39,060	600%
Lawrence Hill (Bristol)	46,508	90,344	194%

3.10.12. Applying growth from Table 3-29 to the MOIRA Base Demand gives the altered forecast demand for the WP Stations in **Table 3-30**.

Table 3-30 - Alternative Demand Forecast Step Three

WP Station Name	MOIRA Base Demand (2018/19)	Altered Forecast Demand (2018/19)
St Budeaux Victoria Road	9,783	46,652
Keyham	7,974	91,093
Dockyard	5,624	33,760
Devonport	36,569	71,037
Total	59,950	242,541

3.10.13. The current difference between total MOIRA base demand and MOIRA forecast demand is 15,076. This approach yields a difference of 182,591.

3.10.14. For appraisal purposes this MOIRA forecast minus MOIRA base demand was stripped out and the difference between altered forecast and MOIRA base demand was added back into the appraisal model. This was done to re-calculate the total GJT impact by applying the same average GJT, revenue impact by applying the same average yield and modal shift impacts by applying the same average trip length and diversion factor. The new net MOIRA demand change using the alternative comparator station approach is 197,686.

3.10.15. It should be noted that the active mode benefits have only been captured for new station demand, so there is likely to be additional physical activity and absenteeism benefits not captured at this stage.

3.11 SENSITIVITY TEST RESULTS

Table 3-31 – Sensitivity analysis: Present Value of Benefits (£000s, 2010 present value)

Benefit/Cost Type	Core	Sensitivity 1: Medium Covid demand	Sensitivity 2: Low Covid demand	Sensitivity 3: Higher West Plymouth Demand
Rail journey time	16,318	13,837	11,210	19,430
Highway journey time (TUBA)	17,275	14,649	11,868	17,275
Highway VOC (TUBA)	2,665	2,260	1,831	2,665
Highway greenhouse gases (TUBA)	1,548	1,313	1,063	1,548
MECs (excluding indirect tax and infrastructure)	4,942	4,190	3,394	7,317
Active modes (AMAT)	4,608	3,907	3,165	4,608
Bus revenue	-488	-414	-336	-488
Developer contributions	-5,372	-5,372	-5,372	-5,372
Indirect tax (Change in PT revenue)	-9,442	-8,007	-6,487	-10,828
Indirect tax (Change in fuel consumption)	-1,511	-1,281	-1,038	-1,652
Total	**30,541**	**25,082**	**19,300**	**34,503**

Table 3-32 – Sensitivity analysis: Present Value of Costs (£000s, 2010 present value)

Benefit/Cost Type	Core	Sensitivity 1: Medium Covid demand	Sensitivity 2: Low Covid demand	Sensitivity 3: Higher West Plymouth Demand
Capital costs	50,476	50,476	50,476	50,476
Operating costs	36,153	36,153	36,153	36,153
Rail revenue	-52,617	-44,619	-36,148	-60,264
Developer contributions	-5,372	-5,372	-5,372	-5,372
MEC infrastructure	-40	-34	-27	-55
Total	**28,601**	**36,604**	**45,082**	**20,938**

Table 3-33 – Value for money assessment (£000s, 2010 PV)

	Core scenario	Sensitivity 1: Medium Covid demand	Sensitivity 2: Low Covid demand	Sensitivity 3: Higher West Plymouth Demand
PVB	30,541	25,082	19,300	34,503
PVC	28,601	36,604	45,082	20,938
NPV	1,940	-11,523	-25,782	13,564
BCR	1.1	0.7	0.4	1.65
VfM category	Low	Poor	Poor	Medium

3.12 VALUE FOR MONEY STATEMENT

3.12.1. The improvement of sustainable transport connectivity in the Tavistock – Plymouth corridor is being promoted by Devon County Council with support from neighbouring Plymouth City Council, the Heart of the South West LEP, Network Rail, Great Western Railway (who have produced an indicative timetable for the scheme) and West Devon Borough Council, (the local planning authority jointly responsible for the Joint Local Plan). There is also very strong wider support from business, leisure (Tamar Valley AONB/Dartmoor National Park), and local parish and town councils etc. Intervention is sought to address current weaknesses in public transport provision linking the market town of Tavistock with neighbouring Plymouth, which is the regional centre of high value employment, education, and health services. These weaknesses manifest in high car reliance which is inducing congestion on the A386 highway, a constrained single-carriageway road with significant sections situated within the Dartmoor National Park boundary.

3.12.2. The preferred option, identified in the Strategic Case and supporting Option Assessment Report, is to reinstate the railway alignment between Bere Alston and Tavistock, restoring a connection to the national network severed in 1968. The reinstated infrastructure would facilitate an hourly service between Tavistock and Plymouth, calling additionally at intermediate stations in rural West Devon and urban West Plymouth. The improved rail service at these existing stations will also serve to improve sustainable transport options for those in deprived communities. An alternative, lower cost, option was also developed, which aimed to deliver some improvement to sustainable transport connectivity in the Plymouth – Tavistock corridor by utilising and improving the existing Tamar Valley railway line to deliver an enhanced level of service.

3.12.3. Analysis presented in this Economic Case has validated that, if delivered, the preferred option would induce the desired impact of attracting significant numbers of current road users to the rail network and avoids simply abstracting significant volumes of journeys from other nearby stations. The generalised journey time differential has been calculated and demonstrates the quicker journeys available by rail. The differential increases as highway conditions worsen in the Do Minimum. In parallel, remaining road users experience journey time savings through decongestion.

3.12.4. As secondary benefits, the preferred option also generates journey time savings for passengers making trips to/from stations between Bere Alston and Plymouth, and health benefits for active travel users accessing the new station in Tavistock.

3.12.5. By contrast, the lower cost option was found to deliver a net negative impact to demand on the existing railway, where improvements in west Devon and west Plymouth are more than offset by the significant decrement to connectivity experienced by Gunnislake, which would lose direct connections to Plymouth to facilitate the option.

3.12.6. The combined impact of journey time savings experienced by new rail users, existing rail users at stations between Bere Alston and Plymouth, active travel users and remaining road users contributes to a total PVB of £30.5m (refer to Table 3-22 for a breakdown).

3.12.7. The rail revenues and developer contributions partially offset the construction and operating costs, leading to the total PVC of £28.6m. The overall BCR is 1.1, which gives a VfM Category of Low.

3.12.8. The medium and low COVID sensitivity scenarios show worse results than the core scenario. In both scenarios the lower rail passenger demand leads to reduced journey time and MEC benefits (decreasing the PVB) and reduced rail revenues (increasing the PVC), which leads to the PVC being larger than the PVB and the VfM category becoming Poor. These sensitivity tests should be considered in the context that by mid-2022 the average station footfall in the South West had recovered to 89% of pre-COVID levels – therefore even the medium COVID scenario (85% long-term impact) is pessimistic compared to the current recovery.

3.12.9. These economic results should be considered alongside the strategic benefits of this rail intervention, where restoring the rail link will lead to a step change in sustainable connectivity for the Tavistock area, improve local productivity levels, support the development of tourism, enhance accessibility for the deprived areas of west Plymouth and contribute to a reduction in transport sector carbon emissions. The scheme will also have additional benefits related to wider economic impacts that will be appraised at the next stage of the business case. These wider economic impacts would include agglomeration benefits (bringing workers closer to jobs) and new tourist spending that benefits the local economy. The typical scale of wider economic benefits means that they would likely improve the core scheme BCR significantly.

4 FINANCIAL CASE

4.1 INTRODUCTION

4.1.1. This chapter provides the capital costs and operating costs and the funding strategy for the preferred option.

4.2 FORECAST SCHEME CAPITAL COSTS

4.2.1. The Do Something scheme capital costs include the costs of reopening the 8.3km line between Bere Alston station and Tavistock, provision of a new single platform railway station at Callington Road, Tavistock and at Bere Alston station alteration to the track layout and refurbishing a former platform as bay platform for Gunnislake services.

4.2.2. An engineering review was undertaken as part of the development of this SOC which is included in Appendix I. This review concluded that the previous Jacobs study in 2015 was generally robust and considered feasible. The review also concluded that some additional work was required to resolve timetable conflicts between St Budeaux Junction and Plymouth station. Land ownership and land purchase are noted, although not part of the technical engineering review, which will need to be addressed separately. Carbon tools should be considered to in the design to provide downstream cost benefits and minimise environmental impacts.

4.2.3. A high-level capital cost estimate has been undertaken by quantity surveyors at WSP. These costs are for the Do Something scheme station. Supporting infrastructure will be provided separately under a Section 106 agreement with the developer.

4.2.4. The direct construction works costs include:

- Railway control systems (signalling works at Bere Alston and Tavistock, signal alterations between St Budeaux Victoria Road & Gunnislake / Tavistock, track circuits and route works));
- Permanent way (track works);
- Operational telecommunications systems (includes cable routeing);
- Civil engineering works, for example tunnels, embankments, earthworks etc; and
- Enabling works, for example structural surveys of existing structures and access.

4.2.5. The cost presented in the Financial Case is for a Category F station which includes the following:

- Single platform construction (112.5m);
- Lighting;
- Cycle racks;
- Operational facilities including CCTV, ticket machines, information screens and help points;
- Ramped station access; and
- Passenger shelter.

4.2.6. There will also be facilities provided separately under the Section 106 agreement between the developer and Devon County Council which will include:

- Internal roads;
- Bus turning circle;
- Bus shelter;
- Station car park; and
- EV charging points.

4.2.7. A summary of the capital costs by cost item is shown in **Table 4-1**.

Table 4-1 – Preferred Option Itemised Capital Cost (£millions, 2022 prices)

Cost Item	Value £ms
Railway Control Systems	£3,095,280
Permanent way	£8,954,140
Operational Telecommunication Systems	£1,351,725
Buildings & Property	£5,750,000
Civil Engineering	£12,254,530
Enabling Works	£3,281,517
Land Purchase	£160,000
Direct Construction Costs	£34,847,191
Indirect Construction Costs	£22,160,584
Total Direct & Indirect Construction Costs	**£57,007,775**
Inflation	£10,973,997
Total Cost with Inflation	**£67,981,772**

4.2.8. The total capital cost is shown with an estimated breakdown by design, procurement, construction and commissioning cost element phase in Table 4-2. This is based upon a high-level spending profile presented in the Economic Case chapter. The costs include 15% risk/contingency and 19.25% inflation to the end of the construction period.

4.2.9. Other infrastructure will be provided by the developer as part of the S106 agreement including a small station car park and EV charging points.

4.2.10. Full details of the high-level cost estimation as proportionate for this stage of business case development is set out in Appendix J.

Table 4-2 - Scheme Capital Costs by Cost Element (£,2022 Prices) including risk and inflation

Cost Element	
Design Development	4,704,371
Procurement	522,708
Construction	62,254,693
Commissioning and Follow Up Works	500,000
Total	**67,981,772**

4.2.11. In order to account for the real cost of the scheme, inflation has been added to the base cost estimates (in current prices) to uplift them to prices in the year that they are spent. Given the variance between construction inflation and general inflation, the Financial Case cost appraisal has been undertaken by applying the appropriate type of inflation to the various elements of the base cost estimates. A value of 6% inflation was used for future inflation pertaining to construction elements and current general inflation (Consumer Price index – CPI) has been used for non-construction elements.

4.2.12. A Quantified Risk Analysis (QRA) has not been undertaken at this stage and is proportionate to the stage of project development in line with TAG Unit A5.3 – Rail Appraisal. The risk and optimism bias adjusted cost estimate is accounted for at this stage by applying optimism bias to the base costs (excluding QRA). An Optimism Bias value of 56% has been used in accordance with TAG. However, as the scheme moves through the development stages a QRA will be completed. A high-level risk contribution has been applied to the financial costs of the scheme. This has been done to ensure the additional uncertainties of the scheme costs at this stage of the project life cycle in the Financial Case are accounted for and the affordability analysis of the scheme is robust.

4.3 OPERATING COSTS

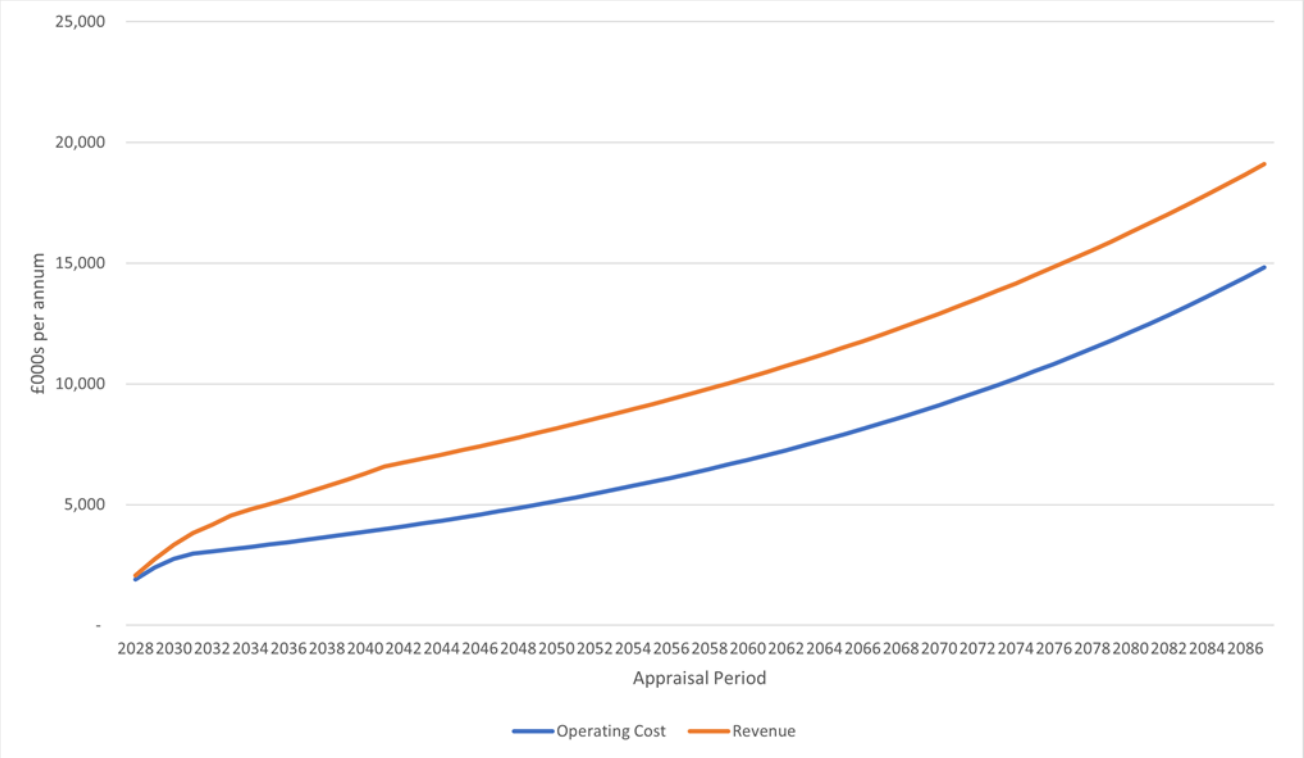
4.3.1. An operating cost estimate has been produced by GWR. This estimate is £2.3 million per annum at current prices for all train service and station operational costs. This cost estimate has utilised current accurate mileage rates, lease prices, salaries and timetable mileage assumptions. These are pre-procurement estimates. Details of the breakdown of the operating cost estimate are provided in the Economic Case.

4.4 REVENUES

4.4.1. Annual revenues were produced by the economic appraisal model. Revenues comprise new to rail revenues for Tavistock station calculated using average yields and the trip rate model forecast of demand at Tavistock and incremental revenues for existing stations on the Tamar Valley Line using MOIRA. Details are provided in the Economic Case.

4.4.2. A comparison of annual revenue and operating costs (nominal values) is shown in **Figure 4-1**. As can be seen scheme revenues exceed operating costs over the appraisal period.

Figure 4-1 – Annual Revenue and Operating Costs – 60-Years, £000s Nominal Values



4.5 FUNDING STRATEGY

4.5.1. The Funding Strategy for reopening the Tavistock to Plymouth Line will be jointly developed with DfT and other Project Board members. The Funding Strategy will encompass the design, construction and operational phases of the scheme. Whilst the Strategy is still to be fully developed, it is anticipated that central grant funding will be required for a significant proportion of the scheme construction costs.

4.5.2. A Section 106 funding agreement has been entered into by DCC and the developer at Callington Road Tavistock. This commits to a total of £11.6 million developer contribution towards a sustainable transport connection between Tavistock and Bere Alston (which is not restricted to a heavy rail connection). It should be noted that the section 106 agreement specifies that this is paid incrementally at set trigger points for the housing development; £1.53 million funding provided for every 100 homes. The full £11.6 million is likely to be funded over a period of years and is dependent on the full build-out of the development. Based on current cost estimates, the full section 106 contribution represents circa 20% of the construction cost of the scheme. Some of this Section 106 funding could be used to support ongoing development of the station design / business case.

4.5.3. There is limited additional funding available through Devon County Council's Local Transport Plan, which has reduced significantly in recent years from approximately £10 million per annum in 2009/10 to £3.6 million per annum in recent years. This funding needs to be used to develop and support the match funding and delivery of a range of multi modal schemes across a large County area. However, it has continued to commit relatively modest sums annually to help progress design and assist with the acquisition of land, underlining DCC's commitment to the railway scheme. To date, the County Council has secured approximately 85% of the land required and is engaged with the 5 landowners on the remaining parcels of land.

FUNDING SPEND/PROFILE

4.5.4. An indicative spend profile is presented in Table 4-3. This is based on the high-level programme presented in the Management Case. The spend profile includes risk and inflation.

Table 4-3 - Do Something' Spending Profile – £ 2022 Prices

Cost Element	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	Total
Design Development	1,568,124	1,568,124	1,568,124				4,704,371
Procurement			522,708				522,708
Construction				43,578,285	18,676,408		62,254,693
Commissioning and Follow Up Works						500,000	500,000
Total	**1,568,124**	**1,568,124**	**2,090,831**	**43,578,285**	**18,676,408**	**500,000**	**67,981,772**

5 COMMERCIAL CASE

5.1 MARKET APPETITE

DESIGN AND CONSTRUCTION

5.1.1. The nature of this work is within the day-to-day realm of the transport / engineering consultancy and rail contractor skillsets. Therefore, it is anticipated that market appetite will be high for the future stages of project delivery.

5.1.2. As set out in the Procurement Strategy below, it is anticipated that once the scheme reaches GRIP Stage 4 / RNEP Decision to Design, the infrastructure aspects of the scheme will be passed to Network Rail for delivery. This is classed as a 'contestable service' and as such, Network Rail's ability and appetite to deliver within required timescales would be reviewed at that time.

TRAIN SERVICES

5.1.3. A key part of the delivery of this project is the appetite of Train Operating Companies (TOCs) to run an additional service on the reopened Tavistock to Bere Alston Line operating between Tavistock and Plymouth station. As stated in the Management Case, significant stakeholder liaison with GWR has been undertaken and GWR is on the Project Board and Steering Group. GWR has been fully supportive throughout the process and has identified in collaboration with its partners Devon County Council and Network Rail, a feasible approach to the provision of services and rolling stock. There has also been a collaborative and co-development approach with DfT.

ROLLING STOCK

5.1.4. The delivery of a new train service operating between Tavistock Callington Road station and Plymouth station will require additional rolling stock. Class 150 rolling stock is assumed to be deployed for the service. Two units will be required to operate the train service. A procurement strategy to deliver the additional units will be developed at the next stage of scheme development.

5.2 ANTICIPATED DEMAND

5.2.1. The Economic Case set out the constituent elements of passenger demand for an hourly service operating throughout the day between Tavistock Callington Road and Plymouth station. In summary, the anticipated passenger demand for this scheme comprises:

- Background / exogenous growth through population, housing and employment growth across the South- West region and in particular allocated housing and employment sites close to Tavistock Callington Road station;
- Modal shift from the A386 road corridor to rail as a result of the restoration of rail connectivity between Tavistock and Plymouth city centre;
- New demand to rail generated by Tavistock station for a 10km catchment area around the station produced by the trip rate model; and
- Abstracted demand generated at intermediate stops on the route at St Budeaux, Keyham and Devonport assessed using MOIRA.

5.2.2. Achieving this demand forecast will be dependent on providing an attractive service offer, but also on making sure that wider factors influencing demand are accounted for including accessibility to Tavistock station, fare pricing structure, service publicity / promotion which will deliver a service enabling a change in travel behaviour.

5.3 PROCUREMENT STRATEGY

5.3.1. The procurement strategy after submission and approval of the SOBC will include the following key services:

- Procurement of the outline business case and inclusion in the RNEP pipeline;
- Consultant and project management services to progress the scheme through the PACE stages, including design and appraisal;
- Network Rail support covering sponsorship, operational planning and engineering assurance of the design;
- Wider TOC support for operational planning, revenue forecasting and wider regulatory considerations; and
- Design and construction of the highway access and car parking facilities overseen by Devon County Council.

5.3.2. It is likely that there will be several more procurement stages to facilitate the design and delivery of the reopening of the Tavistock to Plymouth Line.

5.3.3. The preferred option at this stage, would be to continue to procure services locally (i.e. via Devon County Council's existing frameworks) through to Outline Business Case/RNEP Decision to Design stage. The contracted engineer would take on the Construction Design and Management (CDM) duties and undertake the Principal Designer role through to Project Delivery and Project Close (PACE 4/5).

5.3.4. Beyond PACE 2, it is preferable that Network Rail is requested to act as the Delivery Agent, (either at the beginning or the end of PACE ES4), but Network Rail's role as Delivery Agent should be no later than the end of PACE ES4 Network Rail has agreed this seems a pragmatic approach. This is the approach taken on other RYR schemes and has been supported by DfT.

5.3.5. There are significant advantages to the client group in taking this approach including:

- Discharge of CDM Principal Designer duties to contracted engineer, which possesses the organisation expertise and experience to execute this duty;
- Access to Network Rail's Design and Contractor Frameworks where all suppliers have undertaken competency checks within the rail environment; and
- Knowledgeable Sponsor and Project Manager for securing regulatory approvals in an efficient manner, alongside wider project delivery requirements.

5.3.6. If as is likely Network Rail is appointed as Delivery Agent, defined as a contestable service, there are a number of non-contestable services that Network Rail will be obliged to provide, and the client group is obligated to pay for. These include arranging and supervising lineside access (including booking possessions) and design assurance.

5.3.7. Irrespective of the procurement route chosen, the client organisations will need to enter into a Commercial Agreement with Network Rail for the provision of agreed procurement services. For PACE1, this is likely to be a Basic Asset Protection Agreement (BAPA) that will enable consultants to undertake site surveys and obtain formal feedback on design proposals. Assuming that Network Rail is Delivery Agent for Design & Build stages, an Implementation Agreement would be employed. Network Rail would then procure consultant and contractor services as required through their procurement Frameworks.

5.3.8. The procurement of the project will comprise rail and non-rail related works. Depending on the extent of the highway and public realm works (i.e.non-rail related works), an option would be to split the scheme delivery into two separate design & build contracts at the end of GRIP4 (PACE6). This would enable efficient delivery of the non-rail related works (highways access, bus stop/shelter facilities and car parking areas) by a contractor procured by Devon County Council. There is also potential opportunity for the track-bed preparatory civils to be procured using a highways contractor. This would offer potential savings on costs. A rail specialist contractor would deliver the track itself.

5.3.9. This option will provide access to the Gen 3-3 Framework. Contractors on this framework include a range of national contractors with experience and delivering major infrastructure projects. This framework uses the NEC (3) Engineering and Construction Contract (ECC) for all work.

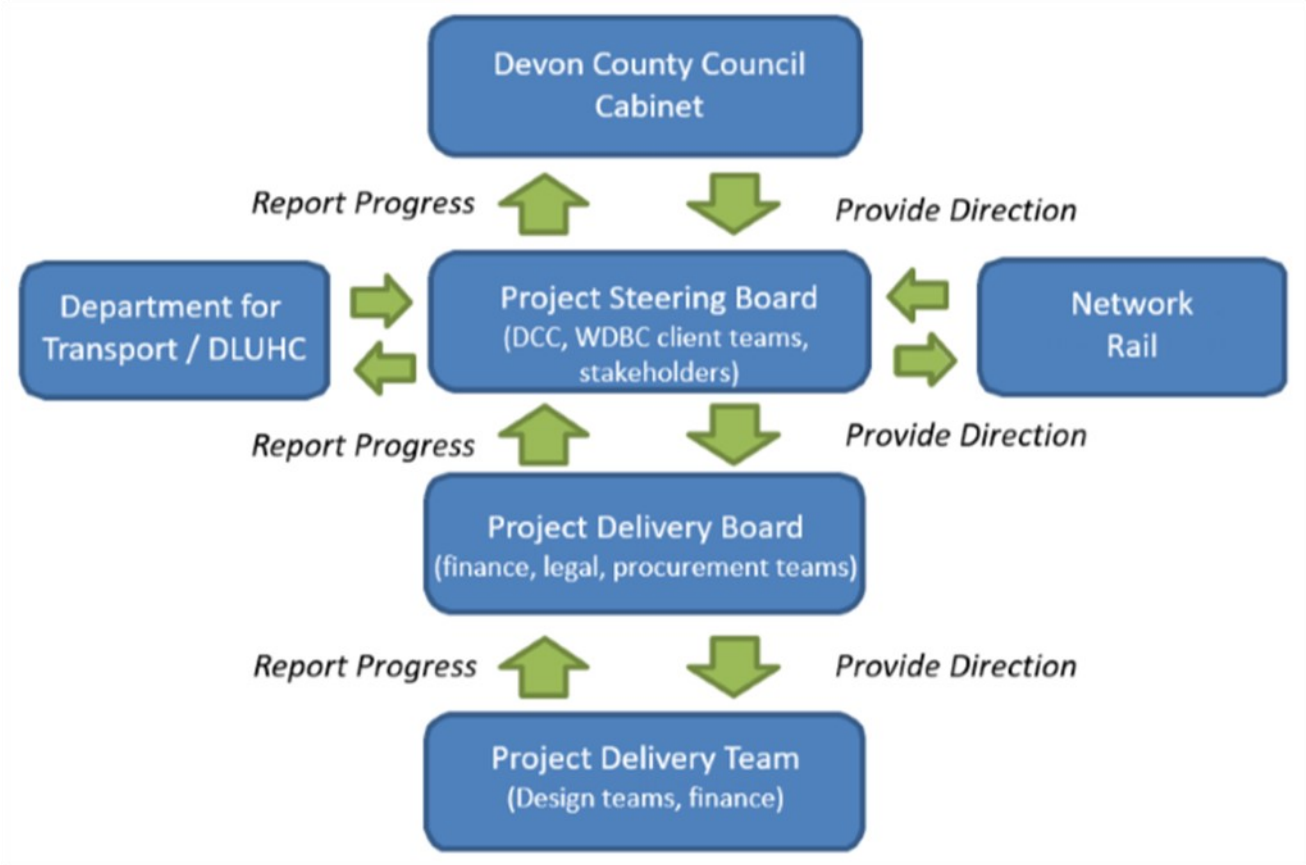
Highways and 'Non-Rail' Delivery

5.3.10. Alongside the 'Rail-side' of the delivery process, the highways and cycle infrastructure improvements will be run in parallel and project managed by Devon County Council's in-house Engineering Design Group (EDG) as shown in Figure 5-1. This enables efficient delivery of the non-rail related works (highways access, bus stop facilities, car parking, cycle parking) by a contractor procured by Devon County Council.

5.3.11. The cycle infrastructure elements will be delivered using contractors on Devon County Council's Minor Engineering Works Framework, which is for works up to the value of £1.65m and is based upon the NEC4 Framework Contract with individual Work Orders based upon the NEC4 Engineering and Construction Contract. For the car park and highway access elements there is the option to procure the works either via a formal open tender process or via the Generation 3 Civil Engineering, Highways and Transportation Infrastructure Works Framework Two (GEN 3-2), which has a number of contractors available to carry out works valued up to £10m. The most appropriate of NEC4 options would be either Option A: Priced contract with Activity Schedule or Option B: Priced contract with bill of quantities. The decision on which of these options are most appropriate will be made following successful award of funding.

5.3.12. The tender assessment methodology would be clearly explained in the Contract Notice and the Invitation to Tender. This would be fully in accordance with the Public Contract Regulations 2015 which require DCC to base contract award on the Most Economically Advantageous Tender (MEAT). Tenders would be assessed using a combination of quality and price, with the latter being an adjusted figure for tender assessment purposes only which takes into account the tendered price together with a reasonable allowance for anticipated compensation events.

Figure 5-1 - Project Governance structure for non-rail elements of the scheme.



5.3.13. Developed in collaboration with DCC's Corporate Procurement team, we have detailed the intended approach to risk allocation, contract and implementation timescales and how the capability and technical expertise of the project team would be secured.

5.3.14. DCC plan to have progressed and tendered the construction work, obtained statutory undertaker C4 estimates, obtained quotations for preparation and supervision professional services and secured any necessary third party/environmental charges for processing agreements or licences.

5.3.15. DCC's procurement strategy described herein has been informed by the following factors:

- Compliance with regulations, government guidance and DCC's constitution;
- DCC's appetite for risk and the lessons learnt from other recent schemes delivered by DCC;
- The composition of the proposed Scheme (i.e. the car park and cycle infrastructure works);
- DCC's demonstrable competence in preparing and managing both design and build and traditional contracts.

5.3.16. The leads in the dedicated DCC Procurement Team have been trained and briefed in contract management, procurement regulations compliance and relevant legislation. We have access to best practice from other Local Authorities through our networks. DCC have decades of experience in this department of managing construction procurement, including providing training ourselves. DCC have written guides for our delivery partners on administering our bespoke Framework Contracts.

5.4 ALIGNMENT WITH OTHER COMPLEMENTARY INVESTMENTS

5.4.1. The Strategic Case identified complementary schemes and programmes. The business case for any of the schemes as stand-alone is weaker than being considered as part of a wider programme of works. The delivery of the complementary infrastructure interventions set out in the table below are assumed to be brought forward as separate projects (noting the varying stages of development of listed schemes).

Scheme	Dependency	Stage of Development
Okehampton Passenger Services	Dartmoor Line train service to be enhanced to hourly operation. Dartmoor Line is identified as part of the Peninsula Rail Taskforce blueprint for reconnecting Okehampton with Tavistock	Regular service operating since November 2021 on the Dartmoor Line; service is operating at an hourly frequency
Housing in Tavistock	Tavistock is forecast to accommodate over 1,100 new homes and 18,600 of new employment space. 600 new homes are planned at Callington Road, the proposed site for the new Tavistock railway station which are dependent on the station - .the section 106 agreement with the developer that specifies that this is paid incrementally at set trigger points for the housing development	Phases 1 and 2 will be nearing completion by 2028 (398 dwellings) based on current estimates. Phase 3 and 4 of the development to follow.
Plymouth Freeport	The Freeport will provide significant investment in the local economy contributing an estimated £400 million GVA and 3,500 jobs. The development of the Freeport will result in a need to provide an accessible affordable alternative transport system to the car for residents in commuter settlements such as Tavistock.	In March 2021, it was confirmed by the government that Plymouth was to become a Freeport, one of eight nationally.
National Bus Strategy/Devon CC and Plymouth CC BSIPs	Improved bus service integration with rail services. Essential to maximise ridership, particularly leisure market for the new train service through integration with the Tavistock station	Devon CC awarded indicative allocation of £14.1m from BSIP.

6 MANAGEMENT CASE

6.1 GOVERNANCE, ROLES AND RESPONSIBILITIES

6.1.1. This scheme is being promoted by Devon County Council. The scheme is governed by a Project Board comprising DfT, Devon County Council, Network Rail and GWR and a Project Steering Group representing Devon County Council, Plymouth City Council, Heart of the South West LEP, Network Rail and GWR.

6.1.2. The Project Board, acting as the Senior Stakeholder Forum, meeting on a regular basis will provide strategic direction and oversight in the development of the project. Key roles and responsibilities of the Project Board are listed below:

- Champion the Tavistock Line Reopening scheme, its delivery and reporting to respective corporate management teams and elected members to ensure corporate support and buy-in;
- Facilitate and promote joined up delivery and to engage with and secure support at a strategic level from key stakeholders and partners;
- Endorse the overall direction of the project whilst working within the framework of Restoring your Railway principles;
- Provide a point of escalation for the Steering Group should this be needed for matters outside the railway boundary;
- Make decisions/recommendations on strategic issues and resolve showstoppers; and
- Provide 'upwards' high-level liaison with Government bodies.

6.1.3. The Steering Group will be the forum where formal decisions are made, providing promoter/cross industry leadership and oversight for the development and delivery of the reopening of the Tavistock to Plymouth Line.

6.1.4. The Steering Group will implement the Project Plan and focus on the day-to-day project management of the continuing development of the PACE objectives and drive forward the project. The Steering Group will identify and oversee the project working groups. To do so effectively is likely to require regular meetings to generate and maintain momentum in the project.

6.1.5. The Steering Group will report to the Project Board (Senior Stakeholder Forum). Key roles and responsibilities are listed below:

- Oversee the project development (including the work undertaken by either consultants or contractors) up to the end of PACE 2 and the enabling elements of PACE 3. This work will include areas of project development such as resourcing, programme and budget;
- Review and monitor the project progress against the milestones agreed with DfT;
- Review and monitor project cost against forecast and authorise change control in line with proposed change control process;
- Review and monitor the land strategy plan and progress to programme.
- Provide a forum for discussion of any material input from any of the stakeholders, for example related to land use planning, transportation, rail industry standards, etc;
- Review and monitor risk and opportunities and detail where support may be needed to support scheme progress;
- Provide co-ordination of input from partner organisations and draw in technical expertise as required;

- Review and endorse the regular update to the DfT New Station Board;
- Consider, identify and progress any further funding opportunities in addition to the Section 106 agreement; and
- Prepare agendas for the Project Board and agree any points of escalation needed by the Steering Group.

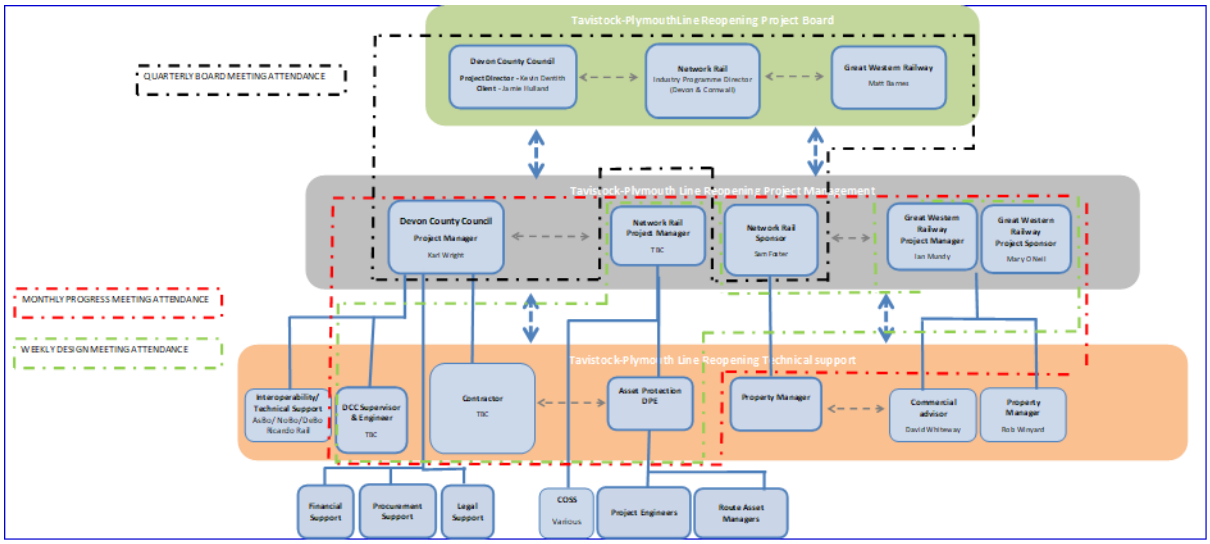
6.2 PROJECT DELIVERY

6.2.1. The Project will be delivered in partnership between Devon County Council, Network Rail and GWR. In line with similar schemes in Devon, the project will adopt a 'one team' approach for delivery.

6.2.2. It is anticipated that Devon County Council will be the main scheme promoters up to the end of PACE 1 (previously GRIP3). At this point, the Decision to Design, it is assumed that Network Rail will take over the station scheme as main Project Sponsor, with support from Devon County Council on the highways and cycle infrastructure delivery, and GWR on the station operation and rail service arrangements.

6.2.3. The project structure is shown in **Figure 6-1**.

Figure 6-1 – Project Structure



PROJECT RESOURCING

6.2.4. The project will be resourced across Network Rail and Devon County Council, making use of framework contractors as necessary. Network Rail have already appointed a project sponsor to take the scheme through the PACE process, and it is anticipated that the PACE process will call upon a range of Network Rail specialist teams to input to the design and delivery of the station scheme.

6.2.5. Devon County Council will make use of both their in-house Engineering Design Group (EDG) and their Framework engineering consultants, WSP, in order to resource the delivery of the scheme to RNEP Decision to Deliver, and to manage the delivery of the non-rail elements of the project.

6.2.6. The project has access to the following Network Rail resources to manage the delivery strategy shown in Table 6-1.

Table 6-1 – Network Rail resources supporting the delivery strategy

Resource	Roles
Project Management	Enhancements Programme Director Senior Programme Manager Senior Project Manager Project Managers Scheme Project Managers
Commercial and Procurement	Programme Commercial Manager/Contracts Manager Senior Commercial Manager Procurement Manager
Project Planners	Programme Controls Manager Project Planner
Engineering	Project Engineer for each discipline as per packages – track, signalling, civils, telecoms and E&P Designated Project Engineer responsible for engineering integration System Safety Engineer
TOC Delivered Works and Validation, Driver Training, Timetable Planning,	Regional Development Manager Project Managers Commercial Development Manager Regional Safety Advisor Operations Change Manager Driver Training Team Strategic Train Planning Manager

6.2.7. For PACE 1, there is likely to be a Basic Asset Protection Agreement (BAPA) that will enable consultants to undertake site surveys and obtain formal feedback on design proposals. If Network Rail is the Delivery Agent for the design & build stages, an Implementation Agreement would be employed while a Development Services Agreement may also be required dependent on the stage of the scheme Network Rail became Delivery Agent. Network Rail would then procure consultant and contractor services as required through Network Rail procurement frameworks.

6.2.8. The governance structure will be reviewed with all parties on commencement of the Construction Stage/PACE 3.

6.2.9. Depending on the extent of highway and public realm works (i.e., non-rail related works), it might be an option to split the scheme delivery into separate design & build contracts at the end of PACE ES4. This would enable efficient delivery of the non-rail related works by a contractor procured by Devon County Council as the Local Transport Authority. As stated in Section 5.3, there is also potential opportunity for the track-bed preparatory civils to be procured using a highways contractor. This would offer potential savings on costs. A rail specialist contractor would deliver the track itself.

6.2.10. If the scheme delivery through two separate design & build contracts at the end of PACE ES4 is adopted access would be gained to the Gen 3-3 Framework. It should be noted that contractors on the Gen 3-3 framework include a range of national contractors with experience of delivering major

infrastructure projects. The Gen 3-3 framework uses the NEC(3) Engineering and Construction Contract (ECC) for all work.

6.3 DELIVERY PROGRAMME

6.3.1. Table 6-2 provides a high-level programme of the likely steps, milestones and timescales as is appropriate for this stage of project delivery. A more detailed programme is provided in Appendix K. The programme assumes that consultancy services are procured up to completion of GRIP3 / Decision to Design / PACE ES3, and then engage with Network Rail to undertake design, obtain 'Decision to Deliver' and implement the scheme. The programme is conservative in its timescales, for example, the construction period given the refurbishment of the Viaduct.

Table 6-2 – Indicative Delivery Programme

Activity	Likely Duration	Milestone Date(s)
Submission of SOBC ***(RNEP Decision to Develop)***		September 2022
Procurement of professional consultants to progress PACE 1	6 weeks	November 2022
Development of Outline Design (PACE 1), Operational Strategy and OBC ***(RNEP Decision to Design)***	6 months	May 2023 (NSF4 bid) November 2023 (PACE 1 / RNEP Decision to Design)
Engagement with Network Rail and procurement of Design Consultant for PACE ES4	2 months	January 2024
Single Option Design approval	6 months	July 2024
Statutory and Regulatory Approval Submissions (Planning, Network Change and others)	2 months	September 2024
Consultation period for Statutory and Regulatory process	5 months	February 2025
Development of FBC ***(RNEP Decision to Deliver)***	3 months	May 2025
Approval of FBC ***(RNEP Decision to Deliver)***	4 months	October 2025
/PACE ES4 to Stage 4 Brief Prep	1 month	November 2025
PACE ES5 Detailed Design	6 months	May 2026
Start on Site	1 month	June 2026
Construction Period – New Stations & Alignment	18 months	February 2028

Activity	Likely Duration	Milestone Date(s)
Testing, Commissioning and Driver Training	1 month	March 2028
New train service / service stopping at the station commence		April 2028

6.4 STATUTORY PROCESSES

Primary Consent Routes

6.4.1. At a high level the Primary Consent Route would provide the project with the powers to:

- Construct, operate and maintain an operational railway;
- Amendments to, or exclusion of, other legislation;
- provide powers to compulsorily acquire land and rights for the benefit of the proposed scheme; and
- may include a request for the required planning permission (referred to as deemed planning permission).

6.4.2. There are two potential Primary Consent Routes.

Nationally Significant Infrastructure Project - Development Consent Order

6.4.3. To be considered a Nationally Significant Infrastructure Project (NSIP) where a Development Consent Order (DCO) would be the necessary Primary Consent Route, the proposed scheme would need to meet the qualification criteria as set out in Section 25 (1) of the Planning Act 2008.

Table 6-3 – Qualification Criteria of S25 (1) of the Planning Act 2008

S25(1)	… consists of the construction of a railway.	✓
S25(1) (a)	… is wholly in England	✓
S25(1) (b)	… will be part of a network operated by an approved operator	✓ - the railway would be assumed to become part of Network Rails national railway network
S25(1) (ba) (i)	… includes a stretch of track that is a continuous length of at least 2 km.	✓ - noted to be 8.3km
S25(1) (ba) (ii)	… is not on land that was operational land of a railway undertaker immediately before the construction work began or is on land that was acquired at an earlier date for the purpose of constructing the railway.	✓- It is understood that the land is not operational railway and is not held by a railway undertaker so meets this element of the criteria. ? - Devon County Council has purchased a number of land parcels with some earlier

		agreements being for the purpose of constructing a cycleway and latter agreements broadening the purpose to also include a railway. Further consideration should be given to the existing land position with full detail of freehold and any rights remaining relating to the surface or subsoil land referenced.

6.4.4. The DCO is single document that provides a composite authorisation for a project, which in effect grants planning consent, compulsory purchase powers (if required) and other statutory consents to enable it to proceed such as rights to discharge water or the stopping up and diversion of highways and public rights of ways. It is granted following an extensive pre-application consultation process followed by an examination of the application which is conducted by the Planning Inspectorate.

6.4.5. It is considered that the proposed scheme may be considered a NSIP for the purposes of the Planning Act 2008 Act and so a DCO is the likely Primary Consent Route for the proposed scheme. A precedent for this would be the Portishead Branch Line (MetroWest Phase 1) DCO where North Somerset District Council applied for a DCO for the construction of a new railway line in an area of disused track bed. The Planning Inspectorate agreed that the scheme was an NSIP and so the DCO route was followed. However the principle of the proposed scheme must also be contained within the relevant National Policy Statement (NPS) and so this should be given further consideration.

Transport and Works Act Order

6.4.6. If the DCO route was not considered applicable (not fully meeting the qualification criteria set out in Section 25 (1) or its principle not being contained within the relevant NPS) the proposed scheme could consider a Transport and Works Act Order (TWAO) via the Transport and Works Act 1992.

6.4.7. There are no qualification criteria for a TWAO and it is the standard route for new transport infrastructure projects, such as railways, tramways and other guided transport systems.

6.4.8. A similar range of powers to a DCO as well as the ability to request deemed planning permission can be provided by this route.

6.4.9. The TWAO route when compared to a DCO is less prescribed, more flexible and less intensive. A TWAO potentially offers greater flexibility in accommodating design change and experience suggests that there is less pressure to commit to design detail early on than under the DCO route.

6.4.10. The overall timelines for a TWAO and a DCO are considered similar – (experience suggest 33 to 34 months in total). It is advised that advice from a parliamentary agent is sought on the final Primary Consent Route at an early stage as the DCO route has a more front-loaded design, environmental assessment and application process with greater emphasis on early consultation with prescribed bodies.

6.4.11. A high-level comparison of the different routes is provided in Table 6-4 below.

Table 6-4 – Comparison of Consenting Routes

	DCO	TWAO
Public Consultation	Pre-application consultation with local communities and local authorities is a statutory requirement. Applicants are required to: • produce a Statement of Community Consultation; • carryout iterative phase consultation, and prepare a Consultation Report.	The nature of pre-application consultation is not prescribed. In practice it is advised to mirror the DCO consultation requirements should the DCO route be required at a later stage.
Information requirements	The principle of the development should be contained in National Policy Statement (NPS). Applicants are required to submit Preliminary Environmental Information (PEI) prior to submission of the DCO (this may be a draft of the ES) – this can lead to design change.	The principle of the development needs to be demonstrated. Only a draft of the Order is submitted 28 days prior to the submission of the TWAO.
Examination	Multiple rounds of written representations and 'hearings', which are inquisitorial examinations of topics led by the Examining Authority. The examination stage is completed in 6 months.	Written representations and an intense period of public inquiry where proofs of evidence are presented and expert witnesses cross examined. This can last up to 3 months from experience
Flexibility	Parameters/'limits of deviation' may be used as a practical way to address uncertainty and provide flexibility. Research suggests there has been an increase in the level of detailed information requested during examination. Formal procedures for non-material and material amendments.	Authorises development within 'limits of deviation', offering a degree of flexibility and can include options. Potentially offers greater flexibility in accommodating design change and experience suggests that there is less pressure to commit to design detail early on.
Timescales	The process from start of examination to a decision being issued should be completed within 12 months. However, this is being stretched; decisions on A303 Stonehenge, Wylfa nuclear power station, A63 delayed. Average time for determination of a DCO Non Material Amendment is 5-6 months and up to 8 months if examination is required for agreeing Material Amendments.	No fixed statutory decision timescale. However the timelines for a TWAO and a DCO, from experience, are generally considered similar e.g. approximately 31 months.

6.5 COMMUNICATIONS AND STAKEHOLDER MANAGEMENT

6.5.1. The main stakeholders will form the main membership of the Project Board, ensuring accountability of the Project Steering Group, and ensuring the vision for the Tavistock to Plymouth Line Reopening remains centre stage as the business case is developed.

6.5.2. A comprehensive Stakeholder Management Plan will be developed to set out how local businesses and residents can be kept fully engaged as the project progresses.

6.5.3. A full Stakeholder Management and Communications Plan will be developed following submission of the SOBC. This will seek to:

- Keep stakeholders informed of the processes, proposals and constraints and prepare people for forthcoming works / initiatives;
- Ensure stakeholder input and suggestions are evaluated and, where appropriate, incorporated; and
- Ensure that the experience of local people and stakeholders with respect to the proposals is in line with their expectations.

6.5.4. This Marketing and Communications plan will be produced with an informative and accessible website at its heart to promote engagement of the community with the new rail station. An example of such a website is the one developed for the Dartmoor Line[32].

Notice of works

6.5.5. All requirements for the advanced notice of works will be led by the contractor. The contractor will be required to identify all the communication activities necessary to support a proposed start of works date and ongoing construction milestones.

6.6 RISKS, ISSUES AND OPPORTUNITIES

A qualitative risk register is provided at Appendix L.

6.6.1. Table 6-5 below is an extract from this risk register of the risks currently rated as ‘high risk’ to the successful delivery of the project.

Table 6-5 - Risk Register Extract Showing High Risks Impacts

Risk Description	Impact	Probability	Proposed Mitigation
Land ownership. Whilst DCC owns much of the land, there will be a need to negotiate land purchase with the 5 remaining land- owners	High	Probable	Address through a CPO negotiation with land-owners, although this could potentially add time and cost to the project.

[32] https://dartmoorline.com/.

Risk Description	Impact	Probability	Proposed Mitigation
Match funding availability - reduced levels of funding available to Lead Authorities	High	Possible	Explore match funding opportunities as early as possible and ensure appropriate processes are in place to secure funding and local support
Match funding availability - timescales do not match RYR requirements	High	Possible	Explore match funding opportunities as early as possible and investigate any interim opportunities to overcome any timing mismatch.
Overall funding for the scheme (capital and/or operating) is not secured/available causing delay or cancellation	High	Possible	Regular communications and liaison with NR and DfT to ensure funding stream status is known throughout
Integration of railway station and bus services not fully realised within RYR bid	High	Possible	Explore further funding opportunities to ensure full 'vision' of station as integrated sustainable transport hub can be realised
Construction costs exceed forecasts significantly due to unforeseen issues	High	Possible	Sufficient Optimism Bias applied to allow for cost changes and studies/reports to reduce unknowns and risks
Ecology and the removal of vegetation, particularly within the Tamar Valley AONB, results in complex issues, licenses and additional time and cost	High	Possible	Early engagement with the local planning authority to agree planning strategy and programme
Cost guide uncertainty. No formal estimate can be provided until completion of GRIP 3/PACE 1.	High	Possible	Apply appropriate levels of Optimism Bias and contingency to ensure cost appraisal is fit for purpose in line with TAG Unit A1.2

6.7 STAKEHOLDER ENGAGEMENT

6.7.1. This section provides details of stakeholder engagement which has been undertaken, the intended purpose of the engagement, and how the engagement outcomes have informed development of the project to date.

6.7.2. Since 2014, a collaborative partnership has been in place between the local authorities and industry partners (led by Devon County Council), Network Rail, GWR, Devon and Cornwall Rail Partnership and the Local Enterprise Partnership (Heart of the South-West LEP) through the Local Transport Board. These parties support the scheme and have been helping with scheme development. This collaboration on scheme development has ensured that synergies and linkages have been explored in terms of local planning proposals, train franchise arrangements and community rail aspirations. Discussions have also been held with the Tamar Valley Area of Outstanding Natural Beauty Partnership, the Cornwall and the West Devon Mining Landscape Mining Landscape World Heritage Site Team and South-West Water.

6.7.3. A public consultation on the railway reopening scheme proposals was held between 25 January 2013 and 22 February 2013[33]. To publicise the proposals and understand the views of the public, consultation exhibitions were held in Tavistock and Bere Alston. Devon County Council officers also attended meetings of Tavistock Town Council, Bere Ferrers Parish Council and Gulworthy Parish Council. Devon County Council officers also presented and answered questions at a Public Meeting arranged by Calstock Parish Council. More than 1,200 people and organisations were contacted regarding the consultation. There was also significant media interest in the consultation with articles in local papers and coverage on local radio.

6.7.4. A total of 465 responses were received to the consultation. Analysis of the consultation responses showed that two-third of respondents supported the reopening of the line. Main reasons given for their support being that the scheme would improve traffic conditions on the A386, link Tavistock to the national rail network, improve transport options and access, and help to bring additional business to Tavistock.

6.7.5. There were historic concerns from Cornwall County Council regarding a reduction in level of service for Tamar Valley / Gunnislake Line stations, but these concerns can be overcome. As a result the scheme has support across the Cornwall border (and is supported by cross border MPs).

6.7.6. A comprehensive list of organisations were consulted and responded positively to the development of the business case for the scheme. Several local MPs are also supportive of the scheme, suggesting a strengthening in support for the scheme, particularly due to the success of the Dartmoor Line reopening. There is also strong business community support in Plymouth for the scheme.

6.8 MONITORING AND EVALUATION PLAN

6.8.1. Monitoring and evaluation of benefits is required to establish the extent to which the scheme meets the objectives and the forecast benefits described in the Economic Case. To be fully effective, a Monitoring and Evaluation Plan should be included early in the development of the business case. The project monitoring and evaluation plan will be a 'live' plan evolving during the project development. HM Treasury Magenta Book provides the following definition of Monitoring and Evaluation[34]:

- "Monitoring – seeks to check progress against planned targets and can be defined as the formal reporting and evidencing that spend and outputs are successfully delivered, and milestones met; and
- Evaluation – is the assessment of the initiative's effectiveness and efficiency during and after implementation. It seeks to measure the causal effect of the scheme on planned outcomes and impacts and assessing whether the anticipated benefits have been realised, how this was achieved, or if not, why not."

[33] Tavistock to Plymouth Railway - Roads and transport (devon.gov.uk)
[34] The Magenta Book, HM Treasury (2011).

6.8.2. In March 2013, the DfT published a Monitoring and Evaluation Strategy, setting out a framework for enhancing the generation of good quality monitoring and evaluation evidence, which would provide greater accountability and a stronger evidence base for future decision making and communication activities. The strategy states that good quality monitoring and evaluation evidence is important for making and communicating decisions about where best to target public spending, demonstrating the value for money and benefits which are generated by investment in transport, and learning about how to effectively design and deliver policies, programmes and communications.

6.8.3. The DfT has also published a document entitled, 'Monitoring and Evaluation Framework for Local Authority Major Schemes' (2012), designed to make the process as consistent and proportionate as possible. The document sets out three levels of monitoring and evaluation:

- Standard monitoring;
- Enhanced monitoring; and
- Fuller evaluation.

6.8.4. Fuller monitoring is required for schemes which demonstrate the following:

- Scale – includes schemes which are expected to cost more than £50m.
- Scheme nature – includes schemes which are expected to cost more than £10m and the nature of the scheme is considered to be at least one of the following:
    - Innovative;
    - Have an adjusted benefit cost ratio of less than 2; and/ or,
    - Have potential risks or sensitivities (particularly in the form of local opposition) which may affect scheme delivery and benefits realisation.
- Key evidence gaps - includes schemes which are expected to cost more than £10m and will generate evidence to inform key evidence gaps, either about the effectiveness of public transport initiatives or scheme outcomes on dependent development.

6.8.5. The Tavistock to Plymouth Line Reopening scheme meets the first criteria, and as a new station in the rural market town of Tavistock can also provide some key evidence gaps for rural station development schemes.

SCHEME EVALUATION

6.8.6. Before and after scheme delivery monitoring will be undertaken to evaluate the effectiveness of the scheme compared with the scheme objectives, outputs and impacts.

6.8.7. The Monitoring and Evaluation programme will consist of the following stages:

- Stage 1 - Pre-Construction Baseline: This will draw upon data currently available, with any gaps identified in Q3 2022 to ensure a complete baseline;
- Stage 2 - One Year Post Opening Process Evaluation: This will be Q3/Q4 2028; and
- Stage 3 - Five Year Post Opening Impact Evaluation: This will be Q3/Q4 2032.

6.8.8. Traffic and cycle count data will be collected, and journey time data evaluated. Existing traffic count data, if available, as well as updated survey data will be used to establish the baseline for the scheme prior to its construction. Monitoring (data collection) will also take place at regular intervals before and after the scheme has opened at one year and five years intervals after opening. This will allow a full before and after comparison to be made and allow an assessment of whether the scheme has met its objectives. Finally, a key indicator of success will be the development delivered as a result of the scheme implementation.

TYPE OF EVALUATION

6.8.9. The type of method proposed to evaluate the scheme will be an 'outcome evaluation'. Outcome evaluations compare the existing situation, i.e., before the interventions have been introduced, against the situation with the intervention. Any observed changes (in the metrics outlined below) are assumed to be the result of the intervention.

DATA REQUIREMENTS

6.8.10. The metrics proposed for the Tavistock Line Reopening and associated data collection requirements and frequency of data collection are shown in Table 6-6.

Table 6-6 - Data requirements and frequency of data collection

Metric	Frequency	Data
INPUTS		
Outturn Costs	Post Opening	Financial monitoring of project
Funding Breakdown	Post Opening	Financial monitoring of project
Stakeholder Management	Pre- and Post-opening	Stakeholder Management Plan
Risk Management	During Delivery	Risk Register Monitoring & Risk Workshops
Project Delivery	Pre- and Post-Opening	Project Monitoring against Delivery Plan
Additional Resources	During Delivery	Resource Monitoring and Project Diary
OUTPUTS		
Delivered schemes	Post Opening	Full description of implemented scheme outputs including design changes post funding approval with reasons for such changes, post scheme as built drawings of works completed
OUTCOMES		
Travel Demand - Rail	Post Construction, Years 1 and 5 post opening	Rail Patronage figures – ORR & TOC (GWR and others)

Metric	Frequency	Data
Travel Demand – Car Park	Post Construction, Years 1 and 5 post opening	Car Park Ticket Sales and Occupancy Surveys
Journey Times/Reliability	Post Construction, Years 1 and 5 post opening	Train punctuality data
Student Travel Patterns	Pre- and Post-Construction, Years 1 and 5 post opening	Student Travel Survey and Rail Ticket Sales Data
Travel Catchment of Station Users	Post Construction, Years 1 and 5 post opening	Annual Station Survey
Traffic Levels	Pre- and Post-Construction, Years 1 and 5 post opening	Annual ATCs and DfT Congestion Statistics
IMPACTS		
Carbon Emissions	Pre- and Post-Construction, Years 1 and 5 post opening	Traffic counts, speed surveys and air quality monitoring if available
Economic Growth Rate	Pre- and Post-Construction, Years 1 and 5 post opening	GVA Headline figures for South Somerset District Council

7 NEXT STEPS

7.1.1. The next step for the development of the business case for the scheme, subject to DfT approval of this SOC, will be the preparation of the outline business case (OBC).

7.1.2. In order to carry out the OBC, consultant services will be procured for a sum of around £1.0 million based on the costs of OBCs for similar new rail projects.

7.1.3. Development of the OBC will include the following:

- An evaluation of the potential wider economic impacts of the scheme including agglomeration impacts of making jobs in Plymouth more accessible to workers in Tavistock and the potential growth in tourist sector expenditure from improved sustainable transport accessibility to the Dartmoor National Park and the Tamar Valley AONB;
- A carbon management plan produced in line with government guidelines to show the scheme's contribution to the de-carbonisation agenda, including a proportionate approach to the assessment of whole life costs;
- A further assessment of the environmental constraints Is likely to be required in some areas;
- A more detailed assessment of the scheme design with a target opening date in the late 2020s;
- Scheme integration with other modes of transport including the redistributive impacts on traffic in Tavistock as a result of mode shift and park and ride usage at the railway station; and
- Consenting process: Development Consent Order preparation.

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