Value of the Railway to Communities on the Tamar Valley Line

MAY 2018

Evaluation Report

TAS

The TAS Partnership Limited

Passenger Transport Specialists

CORNWALL COUNCIL

Devon & Cornwall RAIL PARTNERSHIP

ACoRP New life for local lines

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Document Title	**Error! No text of specified style in document.**		
Name of File	20157C REP Tamar Valley Line Evaluation Report JT 2.docx		
Last Revision Saved On	17/05/2018 15:20:00		
Version	FINAL		
Prepared by	JA/MM/MR/RT		
Checked by	JT		
Approved by	JT		
Issue Date	17 May 2018		

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1.1 Introduction

1.1.1 The Tamar Valley Line is one of eight branch railway lines that are promoted by the Devon & Cornwall Rail Partnership (DCRP). The Partnership's role is essentially to promote the lines and increase patronage, through engagement with the community, stimulation of economic regeneration, new marketing initiatives, and assistance with service improvements. The TAS Partnership was commissioned in November 2017 to deliver an evaluation study of the Tamar Valley line.

1.1.2 The study is the initiative of Calstock and Gunnislake's Cornwall Councillor Dorothy Kirk and has been commissioned by DCRP. Councillor Kirk's primary objective was for the survey to evaluate and to emphasise the economic importance of the Tamar Valley Line to the communities on the Cornish end of the line – Gunnislake and Calstock. DCRP obtained funding from the Designated Community Rail Development Fund, backed by the Department for Transport and ACoRP, the Association of Community Rail Partnerships, to extend the study to cover the Devon part of the line as well.

1.1.3 The survey, therefore, aims is to gain a holistic view of the impact of the Tamar Valley line, identifying the connection between the service that is provided and the wider benefits that accrue. This underlines the fact that the journeys made on the rail service are not an end in themselves but enable and enhance a diverse range of activities that would otherwise not take place, or would take place less effectively, or at greater cost (to individuals, to the communities served, and to the environment).

1.1.4 The TAS Partnership would like to acknowledge the assistance of the DCRP staff, surveyors Brian Skelcey and Roger Webster, and all the other stakeholders who have contributed to this report.

1.2 Objectives

1.2.1 The purpose of the study is:

a) to identify the value of the current service, taking into account a range of stakeholders; and

b) to assess the impact that any changes to the services would have on the various communities and stakeholders, and how these would affect service frequencies; and to assess the possible extension to Tavistock, which would disrupt current timetable patterns.

1.2.2 The main objective is to provide a valuation of the Tamar Valley line to the communities being served. This takes account of different aspects of the rail service and its impact on:

- Individual users and meeting their travel needs
- Strategic objectives of local agencies
- Social capital of the communities served
- Economic aspects of local businesses
- Overarching themes such as tourism, the environment, the line's place as part of the wider transport network.

1.3 Our Approach

1.3.1 In order to deliver the requirements of the brief, we have adopted the following approach:

- **Rapid Baseline Mapping** - this involves mapping all of the current passenger transport provision in the Tamar Valley to provide an understanding of the railway and its place as a key part of the wider transport network. Demographic data is also examined to present a profile of travel habits in the area;
- **Rail Benefits Appraisal** – consistent with general rail benefits evaluations elsewhere, this centres on a valuation framework drawing on a broad range of evidence and data, including a targeted survey of stakeholder agencies expected to benefit from rail usage;
- **Rail User Survey** – rail users were surveyed in January 2018 to establish current attitudes to and opinions of the line, including feedback on how individuals value the line and its relation to their lifestyles, activities and spending habits;
- **General Travel Survey** - this supplementary survey has obtained a broader set of feedback from those in the Tamar Valley catchment area who, for whatever reason, are not all currently rail users;
- **Impact Evaluation of Service Changes** – we have considered a number of scenario options around service changes using a range of evaluation criteria including benefits / drawbacks for passengers, operators, local agencies (statutory, business sector), cost implications, environmental, modal choice / shift, sustainability and viability;
- **Conclusions** – this presents the broad findings of the evaluation and highlights the key service benefits, along with future development options that emerged from the study.

1.3.2 A particular emphasis has been placed on consultation with rail users, Tamar Valley residents, and businesses in order for this study to reflect the views and feelings of the community in a way that does not necessarily come through from statistics alone. There are numerous dimensions to the value that can be ascribed to the rail line but which cannot readily be measured or monetised. Such qualitative aspects are equally valid and significant as quantitative aspects and play a crucial part in the wider valuation.

1.4 Report Structure

1.4.1 This report is structured into the following sections as follows:

- 1: Introduction & Objectives
- 2: Baseline Analysis of Study Area
- 3: Review of Economic, Social, Environmental and Other Benefits of the Tamar Valley Line
- 4: Specific Aspects of Valuation of the Tamar Valley Line
- 5: Summary of Survey Findings
- 6: Impact Evaluation of Service Changes
- 7: Value of Tamar Valley Railway to Policy & Development Plans
- 8: Conclusions
- Appendices – survey findings in full and background to evaluation methodology

1.4.2 An Executive Summary has been produced as a separate, stand-alone document.

Travel in the Tamar Valley – Baseline Mapping 2

2.1 Public Transport in the Tamar Valley

Introduction

2.1.1 This baseline section of the report is designed to present the Tamar Valley railway line as part of a wider public transport network. The interconnections of different transport modes are important in understanding how the travel needs of the Tamar Valley communities are being served. It is also important not to see the railway as a separate 'stand-alone' facility that has a contained, captured market of users. Many people use the rail service as the most desirable option in comparison to other modes (e.g. driving routes are much longer, rail fares are cheaper) and others use the rail service in combination with a car, bus or cycle journey. Aside from a core of loyal rail users who by necessity or choice would always be rail users, many more people may 'float' between different modes, with a complex range of circumstances determining how choices are made.

2.1.2 The modal choice of rail also needs to be understood in the national context of how journeys are made – despite increases in rail usage, and its popularity for longer journeys, the car is the significantly predominant mode. Figure A below presents the modal split of journeys based on Department for Transport (DfT) National Travel Survey from 2016. Whilst shortcomings in the public transport network and lack of travel options may necessitate many of the car journeys, public transport (rail and bus) clearly needs to compete for passengers who choose to use the car when other modes are available and affordable. The Tamar Valley railway offers very tangible travel benefits over other modes, but faces the same challenge of persuading car users to take the train.

2.1.3 For comparison, Figure B sets out the local situation based on 2011 Census data. Rail usage is proportionately the same as the national picture at 3%, but car usage is 20% higher at the expense of bus and walking. This reflects the rural nature of the location but also suggests that where walking or buses are not viable, people are turning to car use rather than rail. Promoting rail use against this background is a key function of DCRP and rail operator Great Western Railway (GWR).

Figure A: National Travel Survey 2016 - Journeys by Mode (England)

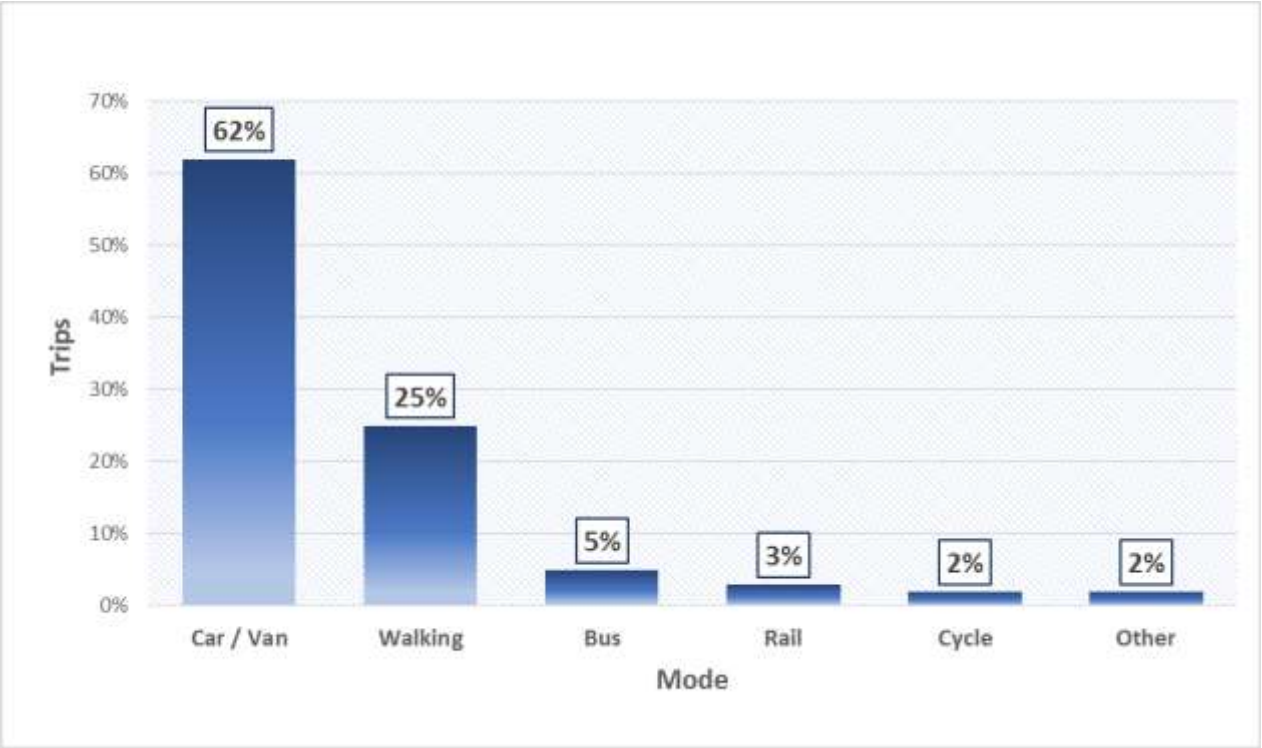
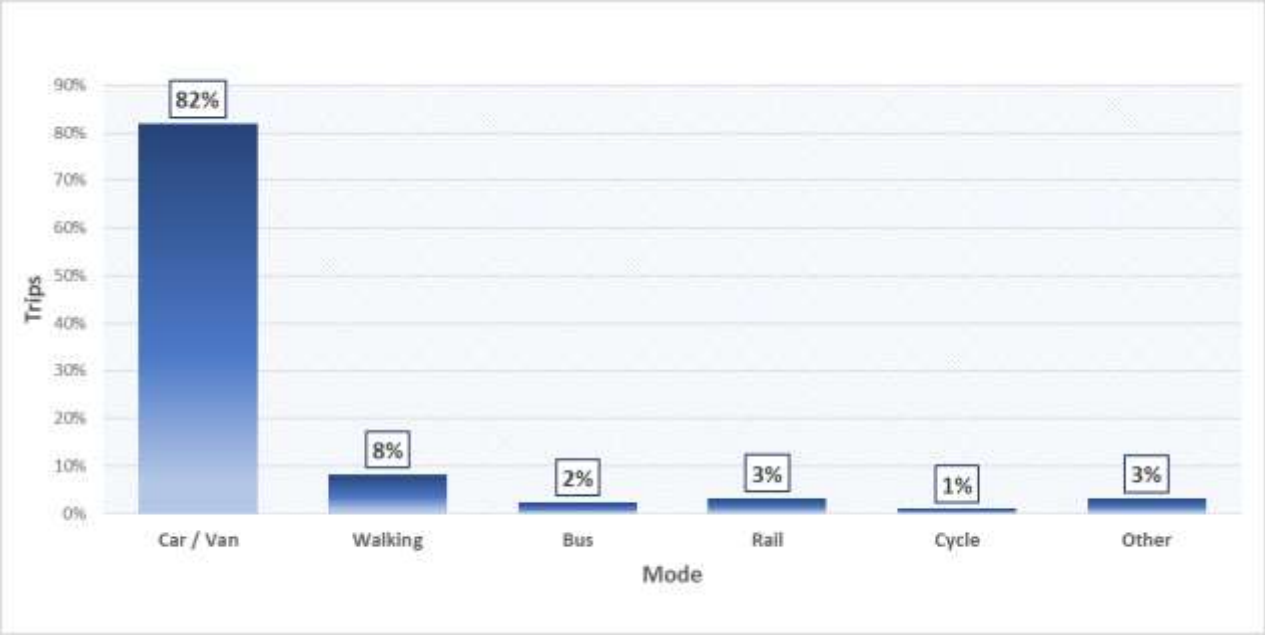


Figure B: Tamar Valley 2011 – Journeys by Mode



Rail

2.1.4 The Tamar Valley's main form of public transport is the railway, with roughly a two-hourly service seven days a week. This service not only acts as a lifeline to communities on the Cornwall and Devon county border but also as the main suburban service in the west of Plymouth itself. Stations are served in the following locations: Gunnislake and Calstock (both in Cornwall), and Bere

Alston, Bere Ferrers, St Budeaux, Keyham, Dockyard, Devonport and Plymouth (all in Devon). 193,107 single journeys were undertaken on the line in 2016, and there has been a 60% increase across the 15 years from 2001 which largely mirrors the upward trend in national rail usage. However, the resident population of the Tamar Valley has been relatively static, with no growth (taking the three parishes together) between 2001 and 2011 when nationally the growth was 7.5%. In this context the increase in usage on the line indicated in Figure D below has been greater than the national average.

Figure C: Tamar Valley Line

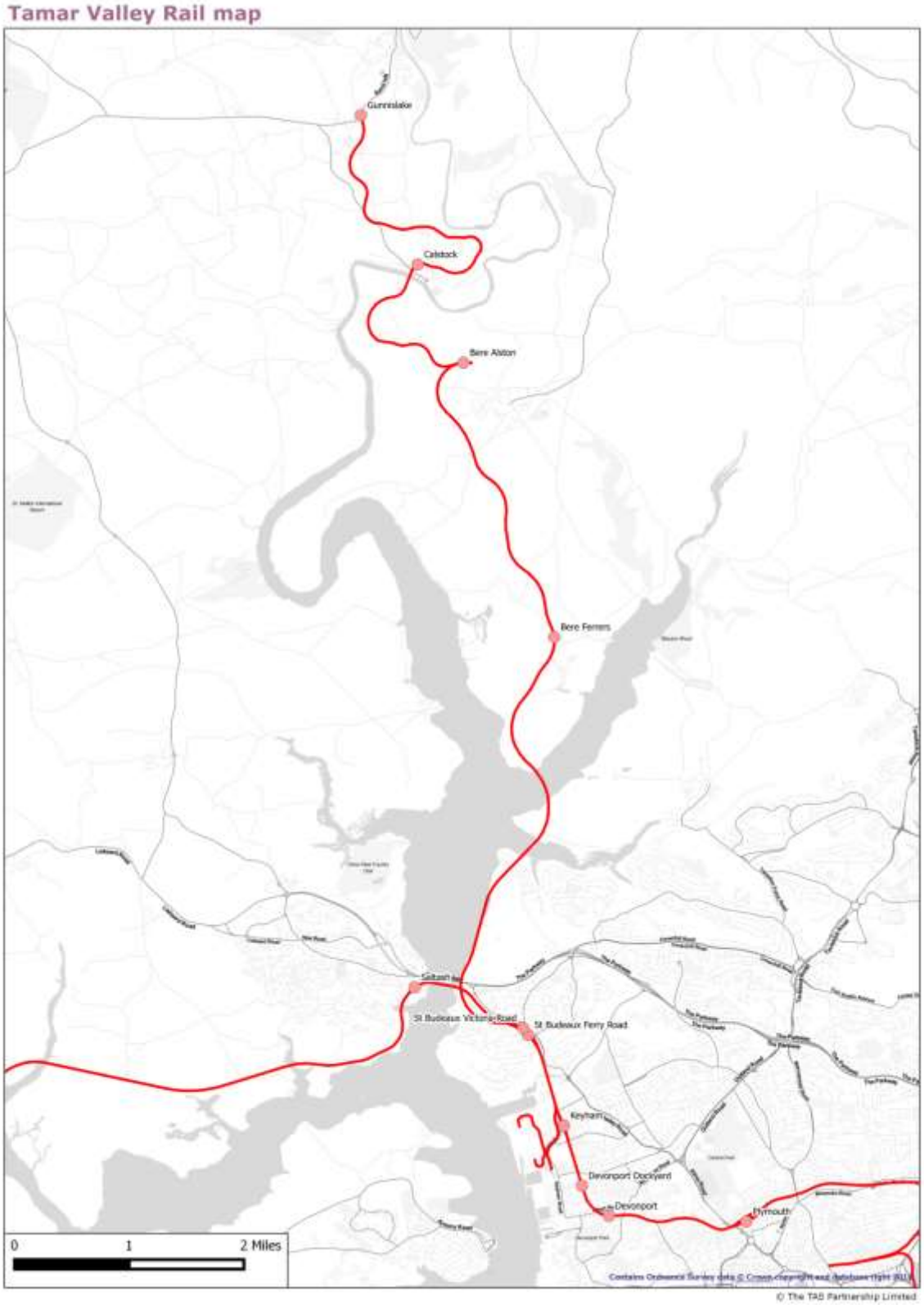
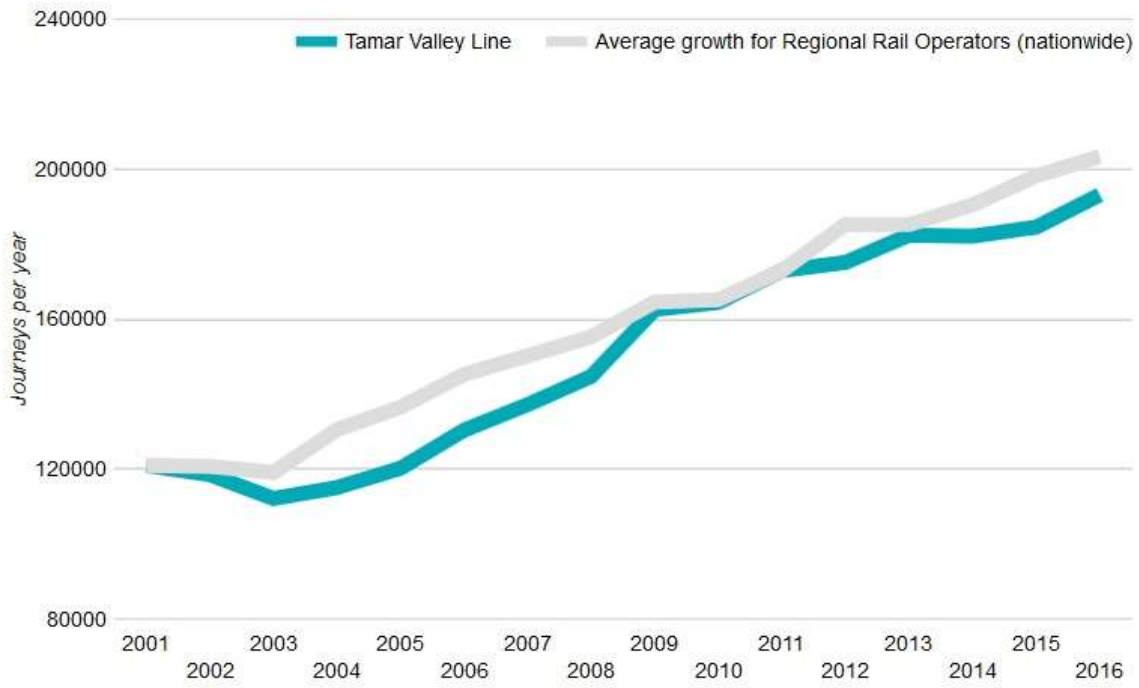


Figure D: Tamar Valley Line Journeys 2001-2016[1]



2.1.5 Gunnislake is by far the busiest station on the line, excluding Plymouth, with 53,728 entries and exits in 2015/16[2]. The train operating company (TOC) is GWR, with line and infrastructure support from Network Rail. DCRP markets the service under the Tamar Valley Line brand, with emphasis on journeys between Gunnislake, Calstock, Bere Alston, Bere Ferrers, and Plymouth. One critical advantage of the railway line over road routes between Calstock, Bere Alston and Bere Ferrers to Plymouth is its direct route via the bridge over the River Tavy, which considerably shortens the journey.

Bus

2.1.6 In terms of local bus services, the Tamar Valley has a very limited service offering. The network is shown in Figure E below, the main services being:

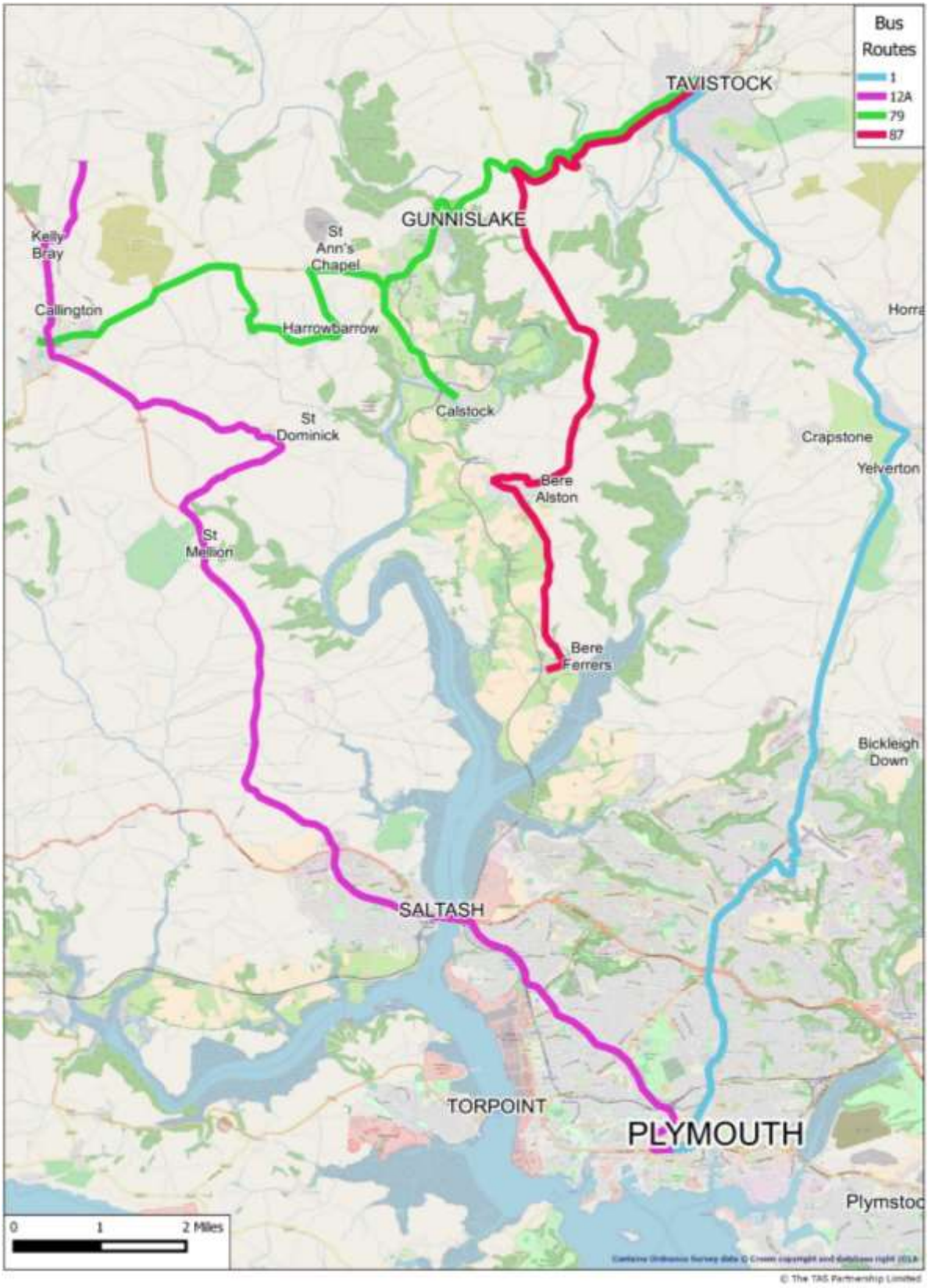
- 79/79A Callington – Calstock – Gunnislake – Tavistock, runs hourly Monday – Friday over the whole route and between Calstock and Tavistock on a Saturday (every 2 hours to Callington); and
- 87/87A Tavistock – Bere Alston, runs roughly hourly Monday – Saturday with two journeys a day extending to and from Bere Ferrers.

2.1.7 To get to Plymouth by bus would require a change at Tavistock onto Service 1 running every 15 minutes or at Callington onto hourly Service 12A. Service 12A and 79/79A are both run by Plymouth Citybus allowing a journey from Gunnislake or Calstock to Plymouth with one ticket. Service 1 is run by

[1] *Graph source: DCRP http://www.dcrp.org.uk/lines/tamar-valley-line/*
[2] *Derived from ORR Station Usage Statistics*

Stagecoach whilst the 87/87A is run by Target Travel. The lack of multi-operator ticketing restricts the attractiveness of travelling by bus to those who do not possess a concessionary pass.

Figure E: Tamar Valley Bus Routes



Community Transport

2.1.8 Community transport operators provide non-profit services which generally take four forms:

- Car Schemes – in which volunteers provide pre-booked journeys for individuals with a mobility constraint, often for medical appointments or other essential journeys;
- Door-to-Door Accessible Transport – pre-booked minibus services for individuals with a mobility constraint (often known as dial-a-ride or ring & ride);
- Community Bus – known as Section 22 operators, these are generally timetabled bus routes available to the general public, usually in rural areas where there are no commercial services, and often driven by a volunteer;
- Group Transport – minibuses that can be hired by community organisations, also with a volunteer driver.

2.1.9 In general, community transport is provided for a specific part of the community (older and disabled people, or those who are rurally isolated) and fares are higher than for conventional bus services. Community transport is not competing with bus or rail services and serves sections of the market not otherwise provided for.

2.1.10 **Tavistock and District Ring and Ride** provides services for residents in Bere Ferrers and Bere Alston to travel to Tavistock. There is also a one day per week service from Tavistock to Plymouth.

2.1.11 **Access Plymouth** – Community Car and Ring & Ride services which are restricted to residents of Plymouth and travel within the city.

2.1.12 **Tavistock Community Transport Association** (Tavistock Country Bus) operates two services that include Gunnislake as follows:

- 115 Tavistock Circular: Tavistock - Gunnislake - Stoke Climsland - Luckett - Horsebridge - Sydenham Dameral - Chipshop – Tavistock. Fridays Only.
- 136 Tavistock – Truro: Tavistock - Gunnislake - Harrowbarrow - Callington - Merrymeet - Liskeard - Dobwalls - Bodmin - Bugle - St Austell - Grampound - Probus - Tresillian – Truro. One Saturday per month.

2.1.13 **Tamar Valley Community Transport Association** operates a Community Bus based in Callington. Operated by volunteers, this is a timetabled service.

- 265 Gunnislake local service: Square - Windy Bridge - Norris Green - Fullaford Road - St Dominic Park – Square. Wednesdays Only.

- There is a service run by volunteers that serves Calstock Parish, with a regular timetable, and monthly outings to Callington, Trago Mills and Truro.

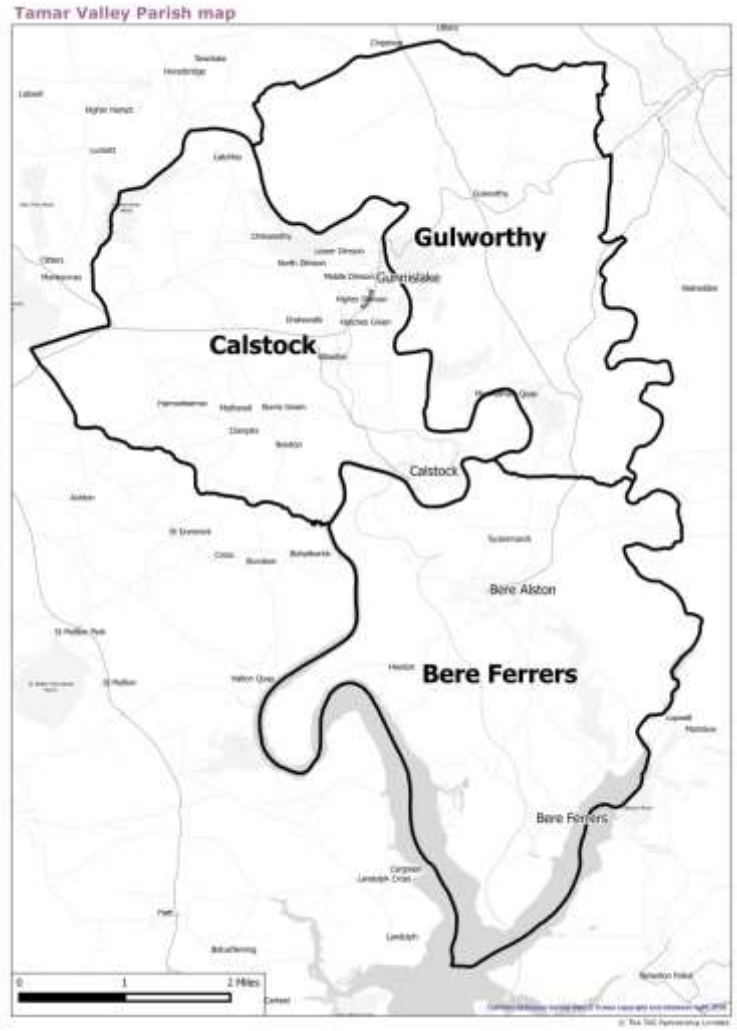
2.1.14 The community transport services are likely to provide some bespoke connecting services for individuals wishing to access the rail stations but in general they are operating to meet specialist needs, and (apart from the routed community buses) cannot be viewed as an alternative service to the rail or bus network. However, we note that community buses elsewhere have been scheduled as commuter feeder services e.g. Essex Community Buses (Goggeshall) which runs to and from the rail station to connect with morning and afternoon services to and from London. Although not generally used for commuting purposes, these services do add considerably to the general level of accessibility in the Tamar Valley.

2.2 Demographic Profile of Tamar Valley

General

2.2.1 The focus of this study is the Tamar Valley area covered by the rail line. For demographic purposes we have defined the catchment of the railway to include the parishes of Calstock, Bere Ferrers and Gulworthy, which include within their boundaries key locations such as Bere Alston and Gunnislake.

Figure F: Tamar Valley Parish boundaries



2.2.2 The maps that follow (Figure G to Figure K) illustrate a number of demographic aspects of the Tamar Valley that are pertinent to public transport usage, as quantified in Table 1.

Table 1: Tamar Valley Demographic Profile

Parishes	Population	Population under 16	Population over 65	Households with no cars (or vans)	Economically active population
Calstock	6253	16%	23%	11%	49%
Bere Ferrers	2989	16%	24%	14%	47%
Gulworthy	518	18%	19%	2%	55%
TOTAL	**9760**	**16%**	**23%**	**27%**	**49%**

2.2.3 The significance of the maps is as follows:

- **Population Density -** Figure G shows the population density of the Tamar Valley. It is unsurprising that outside of the centre of the two largest settlements, Gunnislake (including Drakewalls) and Bere Alston, there is very low population density. This helps to explain the poor level of bus service along the Tamar Valley. Whilst railway stations tend to act as local hubs it is rare to find people who would drive to a location to catch a bus apart from a park and ride site;

- **Children Under 16 –** Figure H. Young people and older people generally bring different demands to a service. Figure H shows that young families seem to be concentrated close to the stations in Gunnislake, Calstock and Bere Alston. There are two Devonport High Schools and Plymouth High School for Girls which are in easy walking distance of railway stations.

  For those aged over 16, Gunnislake and Calstock are located within the designated catchment area of Callington Community College which has a sixth form. Bere Alston and Bere Ferrers are within the Tavistock College catchment area which also has a sixth form. It is therefore likely that the major term time demand for travel into Plymouth from the Tamar Valley will be to City College and Plymouth University;

- **Older People Over 65** - Figure I shows that whilst the higher concentrations of older people in Bere Alston and Calstock are within walking distance of their respective stations, Gunnislake is slightly different. Here the largest concentration of older people is at the top end of the town; with their free concessionary bus pass it may be more attractive to travel to Tavistock than walk to Gunnislake station;

- **Car Ownership -** Figure J. The rural nature of the Tamar Valley means that there is a very high level of car ownership. Figure J illustrates the proportion of households with two or more cars – if a household has only one car it tends to mean that there is at least one member of the household who will be reliant on public transport to get around. Bere Alston appears to have the lowest proportion of households in the category, meaning that an increase in frequency of the train service would have a greater positive impact here than at Bere Ferrers.

- **Economic Activity -** Figure K. Economic activity levels give a good indication of the likely size of the commuter market. With Plymouth being the major centre of employment for the Tamar Valley it can be expected that the vast majority of economically active people who commute will be seeking to travel into Plymouth for work. Figure K shows that Calstock has quite a high level of economic activity whilst levels in Gunnislake and Bere Alston are supressed by the high proportion of younger and older people.

Figure G: Tamar Valley Population Density

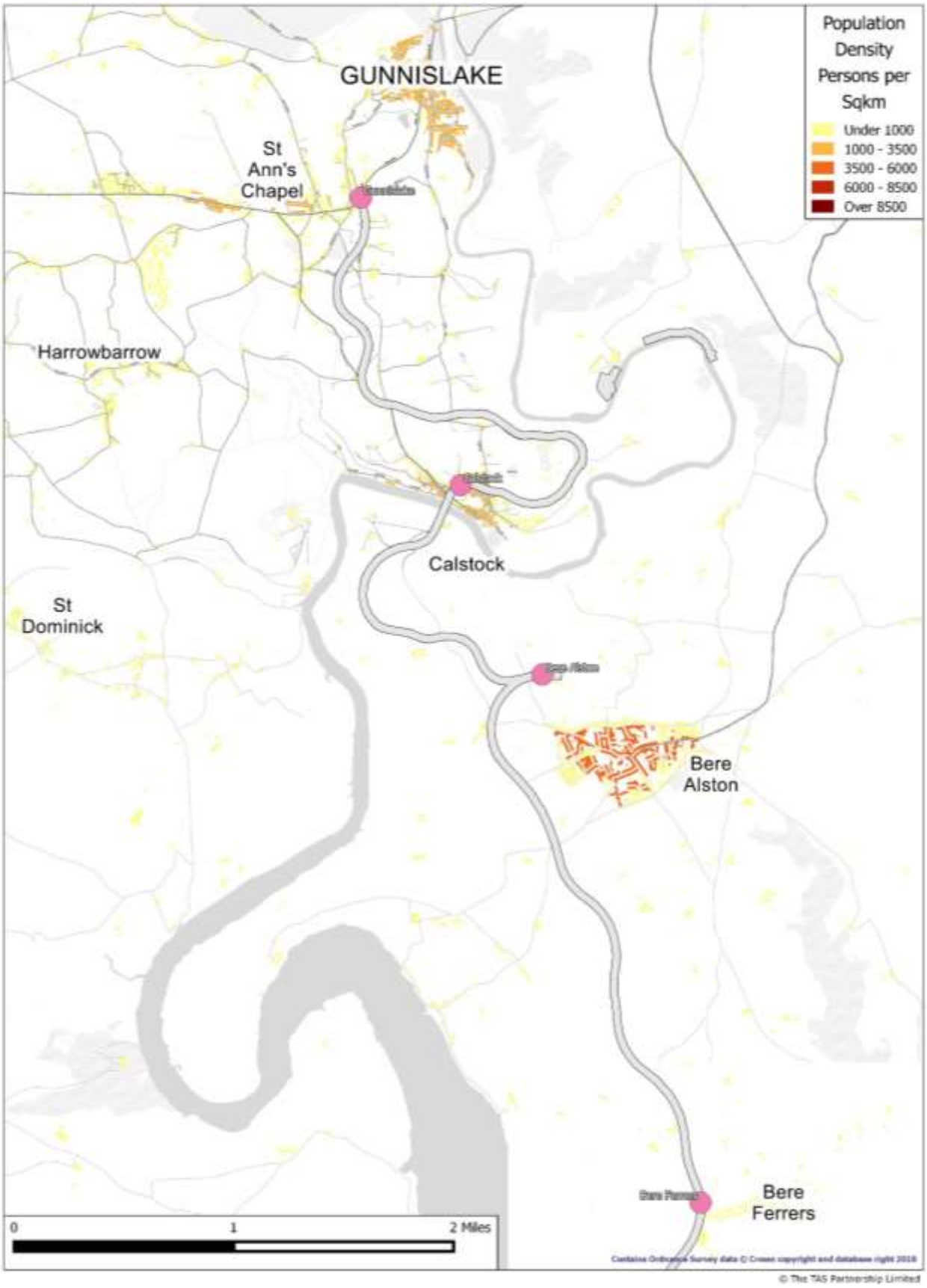


Figure H: Tamar Valley Population Aged Under 16

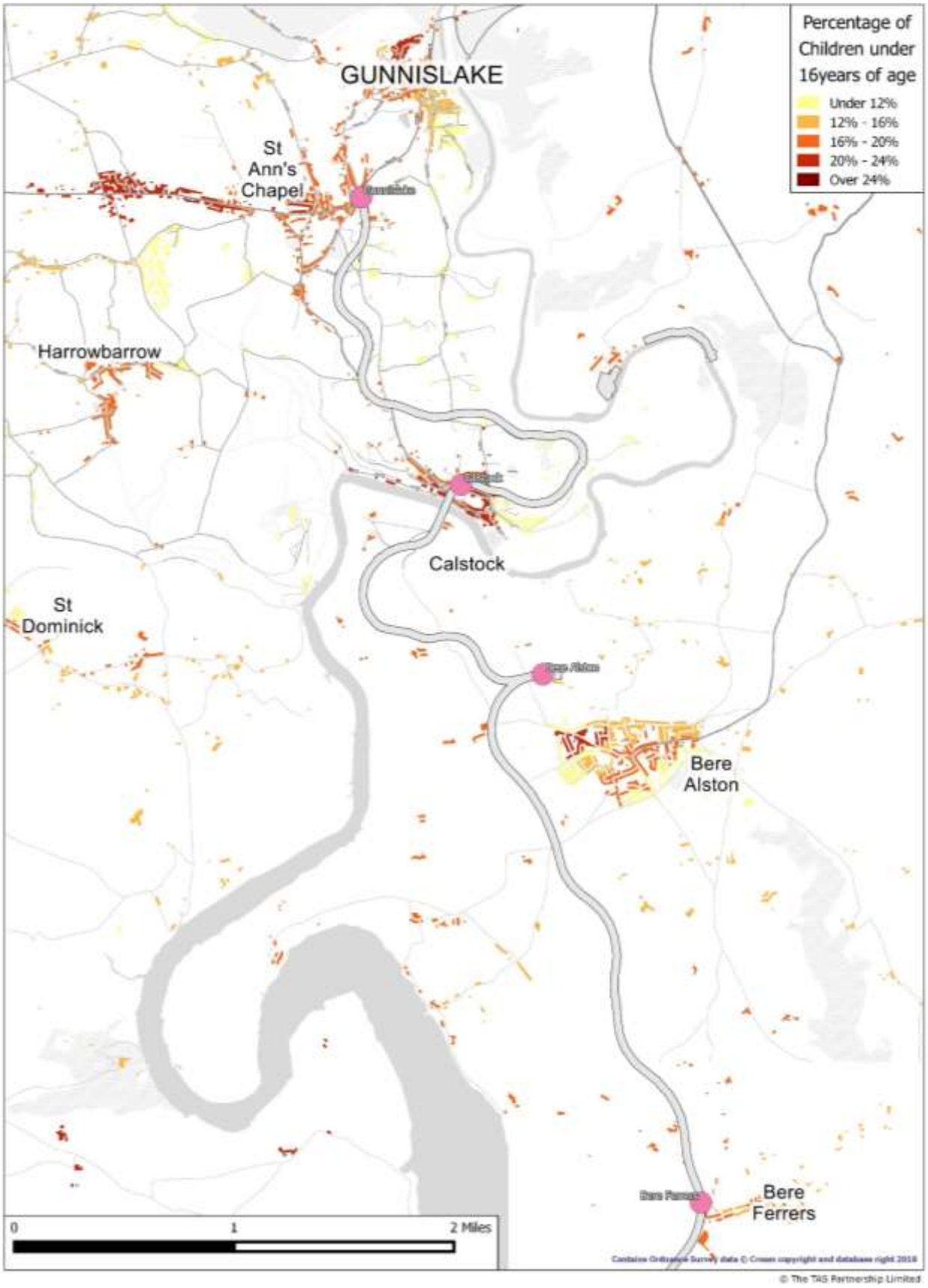


Figure I: Tamar Valley Population Aged Over 65

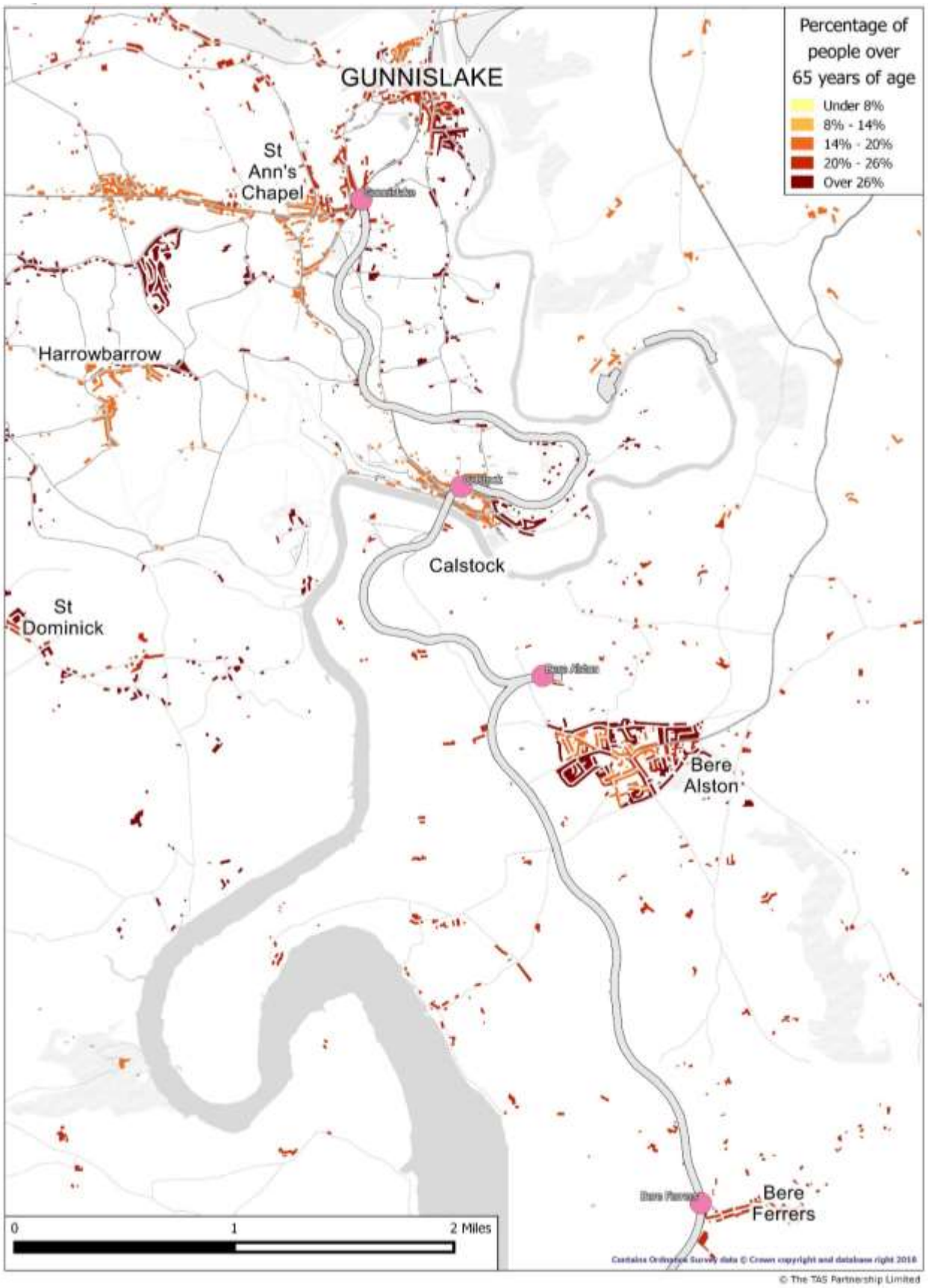


Figure J: Tamar Valley Households with More than one Car

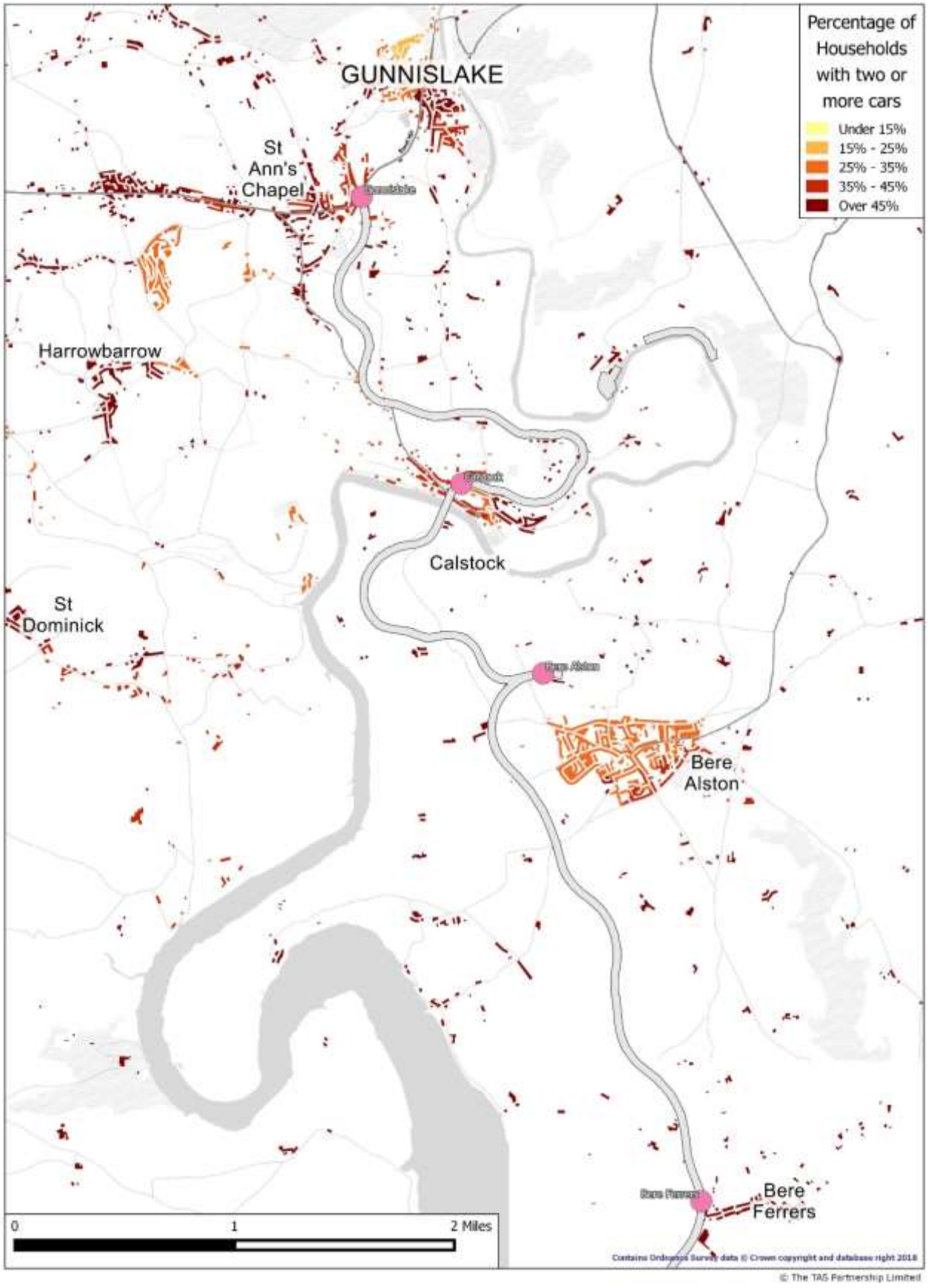
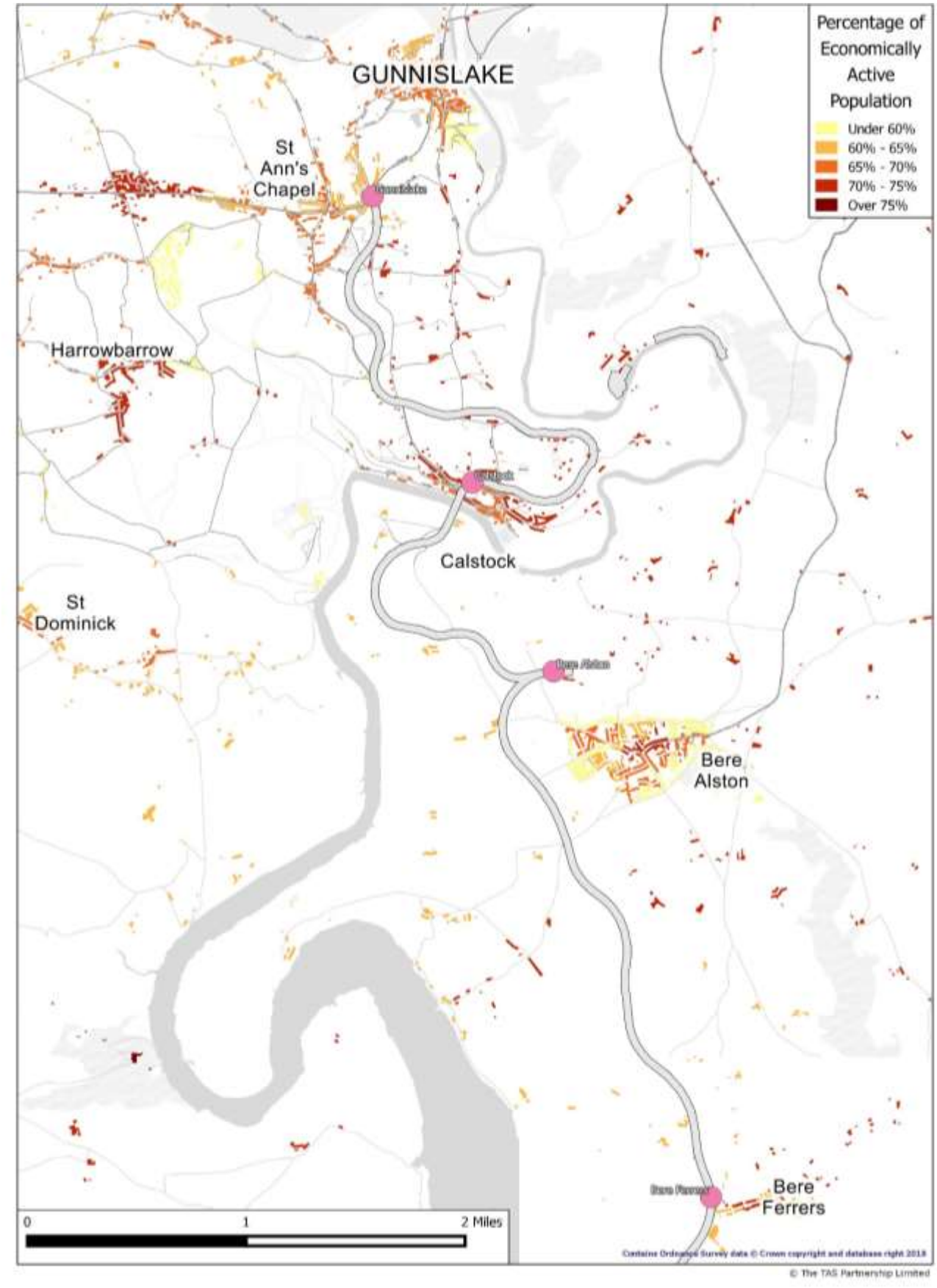


Figure K: Tamar Valley Economically Active Population



2.3 Travel to Work Patterns

2.3.1 The census database allows a look at how people travelled to work from a given area in 2011. Figure L sets out the proportion of workers in the Tamar Valley who travelled to work by train whilst Figure M does the same for car. Of interest is the high proportion of population in Bere Ferrers who used the train compared with those that used the car. This is likely due to the circuitous route to Plymouth by road compared with rail. Table 2 also demonstrates this with Bere Ferrers parish having a higher proportion of rail users when compared with Calstock or Gulworthy.

2.3.2 The low proportion of rail-based commuters at the North end of the line is likely affected by the geographical closeness to towns such as Tavistock, Callington and Launceston, and the more direct road access to Plymouth via the A388 / A38 and Tamar road bridge.

Table 2: Method of Travel to Work by Parish

Parishes	Employed Residents	Car	Train	Bus
Calstock	2901	2211	58	58
Bere Ferrers	1334	915	69	36
Gulworthy	273	186	4	5
TOTAL	**4508**	**3312**	**131**	**99**

Figure L: Tamar Valley Travel to Work – by Train

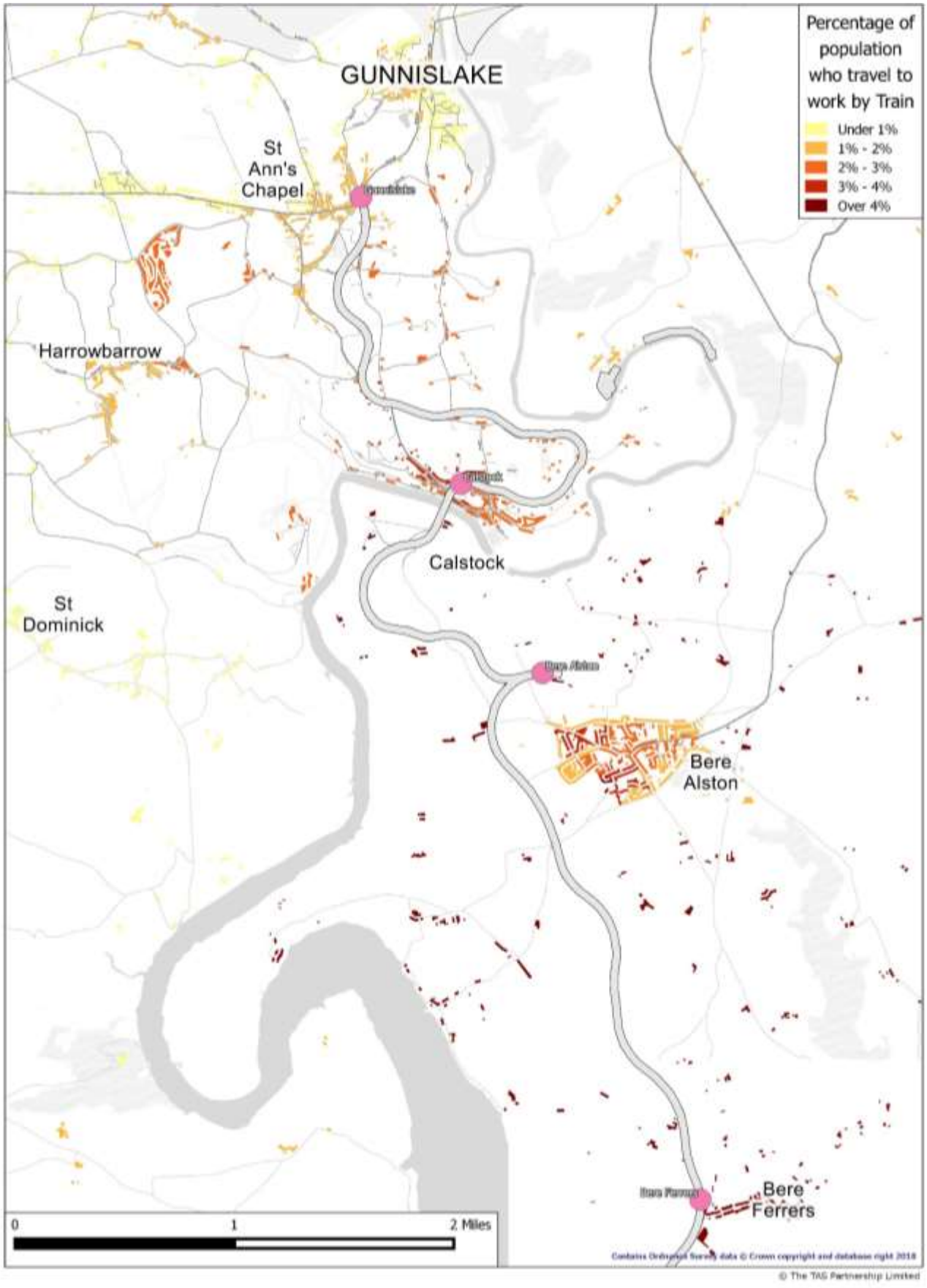
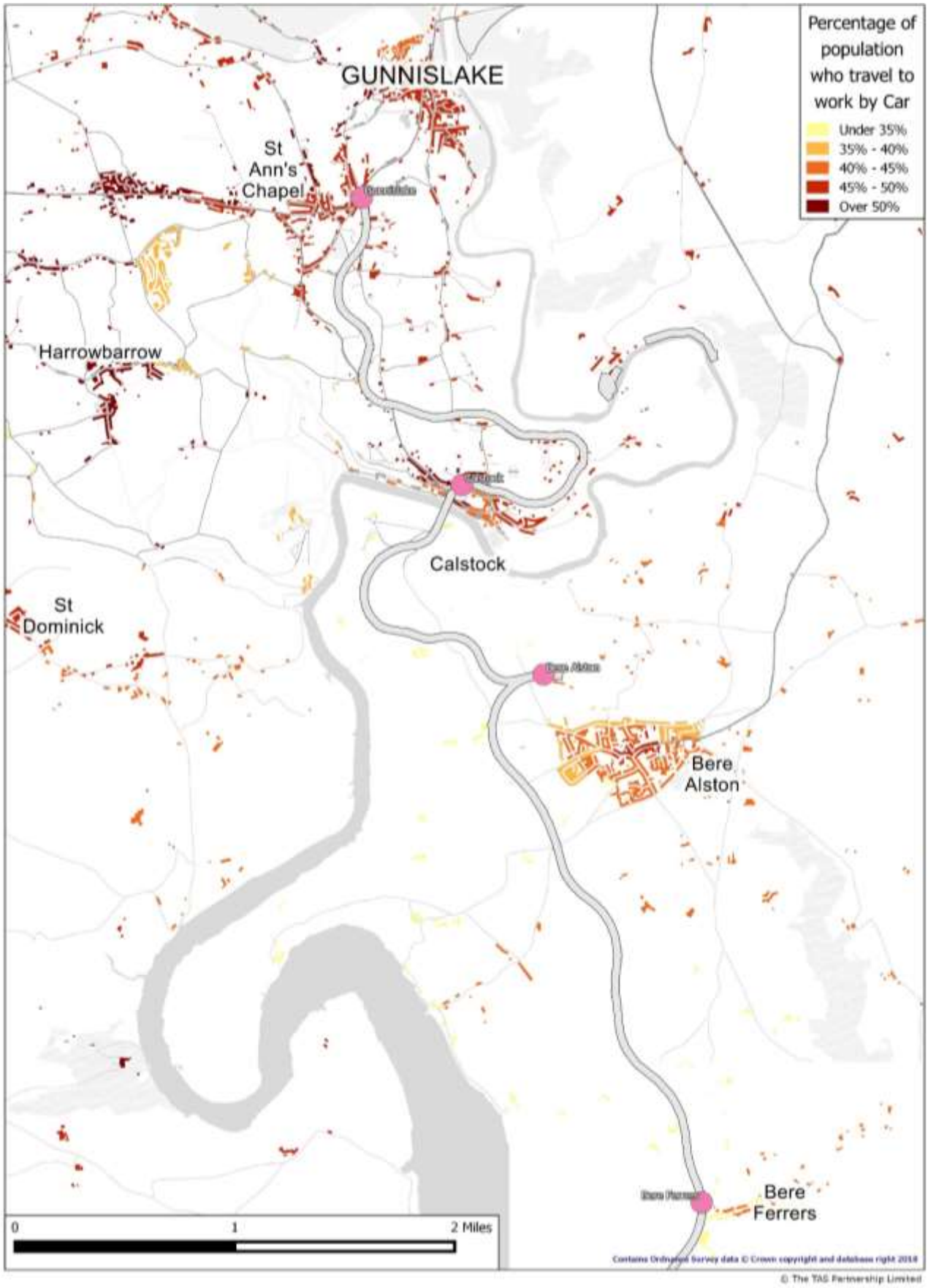


Figure M: Tamar Valley Travel to Work – by Car



2.4 Comparator Stations

2.4.1 It is worth comparing the current service level at stations along the Tamar Valley line with other stations around England and Wales which serve a comparatively sized population. Interpreting these comparators requires care because population figures taken from the 2011 Census look at the immediate urban area; there isn't an obvious measure that will delineate the wider catchment area that a station may serve as a railhead.

2.4.2 To best provide the comparison the stations have been divided into two groups, the larger (Table 3) and smaller stations (Table 4). Additionally, for context, Table 5 compares Tavistock against towns of a similar size which currently do have stations. Statistics are derived from Office of the Rail Regulator Station Usage[3] with additional Carnet journeys allocated proportionately.

2.4.3 Table 3 shows that there is no standard usage pattern for stations even when they serve similar sized populations. Rye acts as a railhead for a wide area as well as being a tourist destination, figures for Looe and Settle are also distorted by the influx of tourists in the summer. Market Rasen is home to a race course although the more regular bus service will suppress rail demand.

2.4.4 Table 4 shows that, whilst the Tamar Valley stations has no more services per day than all but one of the comparator locations, Calstock is the 2nd highest station in terms of trips per head. This may be affected by it being the railhead for Cotehele House although it does act as a warning against any possible reduction in service level.

2.4.5 Table 5 again shows that there is no hard and fast scale rule relating to service frequency and usage. Whitby is a tourist town but the line to Middlesbrough is anything but direct; Hexham is a local hub for people working in Newcastle.

[3] http://orr.gov.uk/statistics/published-stats/station-usage-estimates

Table 3: Comparison between Larger Stations

Station	Region	Population Served	Station Usage			2016-17 Trips per Head	Trains per Day MF	Main Destination	Bus links
			2016-17	2015-16	Change				
Gunnislake	*South West*	*4,044*	*66,217*	*64,602*	*2.5%*	*16*	*18*	*Plymouth*	*n/a*
Bere Alston	*South West*	*2,164*	*49,837*	*47,505*	*4.9%*	*23*	*18*	*Plymouth*	*n/a*
Looe	South West	5,112	123,060	117,014	5.2%	24	24	Liskeard	1 per hour
Gilberdyke	Yorkshire & Humber	3,430	59,814	52,034	15.0%	17	52	Hull	0.5 per hour
Rye	South East	4,773	403,652	458,850	-12.0%	85	46	Hastings	2 per hour
Llandrindod Wells	Wales	5,309	40,768	39,648	2.8%	8	10	Swansea	n/a
Settle (inc Giggleswick)	Yorkshire & Humber	3,659	131,598	145,636	-9.6%	36	26	Leeds	n/a
Manea	East of England	2,088	13,452	12,020	11.9%	6	20	Peterborough	n/a
Market Rasen	East Midlands	4,773	66,398	62,908	5.5%	14	15	Lincoln	1 per hour
Fishguard & Goodwick	Wales	5,139	19,600	19,946	-1.7%	4	12	Carmarthen	n/a

Table 4: Comparison between Smaller Stations

Station	Region	Population Served	Station Usage			2016-17 Trips per Head	Trains per Day MF	Main Destination	Bus links
			2016-17	2015-16	Change				
Bere Ferrers	*South West*	*446*	*19,480*	*20,509*	*-5.0%*	*44*	*17*	*Plymouth*	*n/a*
Calstock	*South West*	*790*	*42,940*	*40,848*	*5.1%*	*54*	*18*	*Plymouth*	*n/a*
Silverdale	North West	1,326	55,892	54,872	1.9%	42	35	Lancaster	n/a
Yetminster	South West	1,105	7,190	7,022	2.4%	7	16	Yeovil	n/a
Ham Street	South East	1,555	91,940	101,616	-9.5%	59	46	Ashford	1 per hour
Lapford	South West	867	2,262	2,252	0.4%	3	8	Exeter	0.5 per hour
Haydon Bridge	North East	1,557	32,802	31,976	2.6%	21	21	Newcastle	1 per hour
Long Preston	Yorks & Humb	742	13,070	13,918	-6.1%	18	18	Leeds	n/a

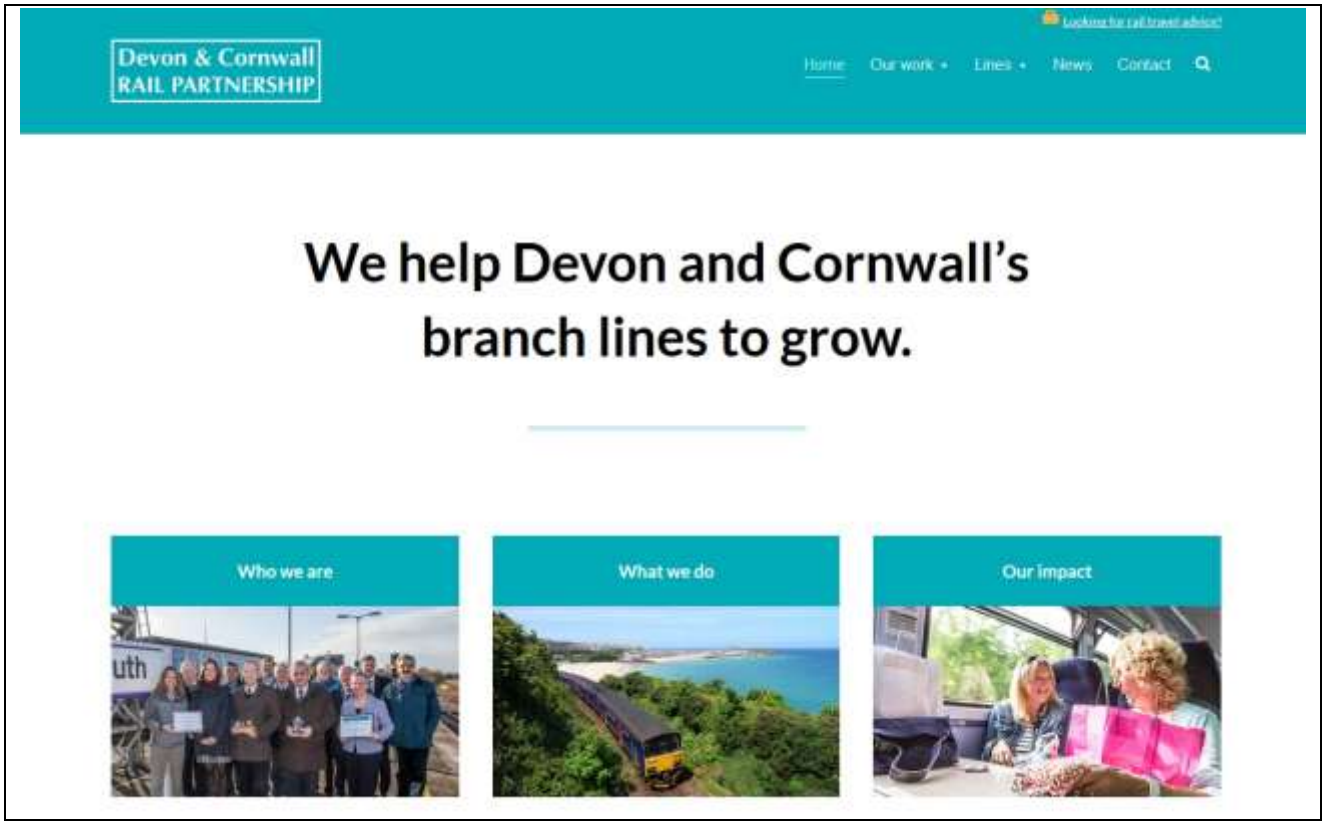
Table 5: Tavistock and Comparators

Station	Region	Population Served	Station Usage			2016-17 Trips per Head	Trains per Day MF	Main Destination	Bus links
			2016-17	2015-16	Change				
Tavistock	*South West*	*12,280*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*Plymouth*	*4 per hour*
Whitby	Yorks & Humb	13,213	131,810	137,196	-3.9%	10	8	Middlesbrough	3 per hour
Maryport	North West	9,555	89,562	90,392	-0.9%	9	30	Carlisle	1 per hour
Whittlesea	East of England	12,745	30,474	28,456	7.1%	2	21	Peterborough	2 per hour
Hexham	North East	11,388	344,264	331,866	3.7%	30	59	Newcastle	5 per hour
Penistone	Yorks & Humb	10,956	156,252	162,852	-4.1%	14	35	Barnsley	2 per hour

2.5 Devon & Cornwall Rail Partnership

2.5.1 Devon and Cornwall Rail Partnership formed in 1991 and is the largest community rail partnership in the UK with a remit to promote eight community rail lines. The Tamar Valley Line was adopted with designated status in 2005 and is marketed under the 'Great Scenic Railways' brand.

Figure N: Devon and Cornwall Rail Partnership Webpage[4]



2.5.2 The principal activities of DCRP regarding the Tamar Valley Line are noted on the website as follows:

- "***Running the line*** *- Forum Meeting three times a year, the Forum brings together the rail operator Great Western Railway (GWR), Network Rail, Cornwall Council, Devon County Council, Plymouth City Council, Calstock Parish Council, Bere Ferrers Parish Council and other partners. This enables ongoing dialogue, leading to new projects and enhanced understanding and cooperation.*

[4] http://www.dcrp.org.uk/

- ***Supporting volunteers*** *- We have been running student volunteering opportunities with Plymouth University Students' Union for more than a decade. The Rural Stations Project allows students to get out of the city into the Tamar Valley and engage in gardening and improvement works at stations – delivering a more attractive environment for passengers and giving students the chance to make a real contribution to the local community.*

- ***Promoting the line to visitors*** *- We promote the Tamar Valley Line through our printed visitor guides that appear widely in leaflet racks, a dedicated section on our Great Scenic Railways website, on social media and in local and regional newspapers. We also collaborate with visitor organisations including the National Trust, for example promoting visiting Cotehele by train and a scenic walk. We are members of the Tamar Valley Tourism Association (TAVATA).*

- ***Encouraging greater use by local residents*** *- Through our carnet ticket scheme, books of Tamar Valley Line tickets are available to buy in local shops – helping businesses to get more customers through the door, and giving people an easy (and discounted) way to buy tickets. The project has been such a success that carnet tickets now account for a fifth of all journeys made the line.*

- ***Working towards improvements*** *- In 2014, we worked with Network Rail on a programme of vegetation clearance to open up views from the train. We have also worked with Great Western Railway to improve the appearance of local stations through our Rural Stations Project (see above) and initiatives including improved signage and branded poster boards at stations along the line."*[5]

[5] http://www.dcrp.org.uk/lines/tamar-valley-line/

Figure O: Great Scenic Railways Webpage[6]

2.5.3 The inclusion of the Tamar Valley line as a 'Great Scenic Railway' goes to emphasise the intrinsic appeal of the railway route passing through the rural areas of Devon and Cornwall (including the designated AONB), and not just as a means of getting from A to B or into Plymouth and to the workplace. This is an attribute that cannot be applied to all rail routes, and the result is that apart from meeting commuter needs (and providing connectivity between Plymouth and the linked villages of Gunnislake, Calstock, Bere Ferrers and Bere Alston), the rail service is valued for travellers making journeys:

- to experience the scenic value of the journey as an end to itself, including dramatic features such as the Calstock viaduct;
- to visit the villages and the retail, cultural and hospitality opportunities that are offered in the area;
- to undertake walks or cycle journeys in the surrounding countryside.

[6] http://greatscenicrailways.co.uk/lines/tamar-valley-line/

Economic, Social, Environmental and Other Benefits of the Tamar Valley Line 3

3.1 Valuation Methodology for Tamar Valley Line

3.1.1 The brief from DCRP does not require a cost-benefit approach and we have not sought to provide a valuation that is net of operating costs. The report considers a full range of benefits that are provided by the Tamar Valley line. These include harder statistical and demographic values that can be quantified and monetised, as well as softer social and community benefits that are not readily capable of reduction to a £ value.

3.1.2 The following principles have been followed:

- TAS undertook an extensive level of surveying for this project and the return samples were very high, providing confidence that we can accurately extrapolate and interpret the survey findings. This source – together with the 2016 journey statistics - provides the key baseline data for the study;
- In common with many of the rail evaluation studies mentioned above, we have used standard DfT's Transport Analysis Guidance (WebTAG) data metrics, data from the Office of National Statistics, supplemented by more locally focussed analysis from Devon County Council, Cornwall Council and West Devon District Council;
- Monetised valuations have been applied only where data and sound methodology can be applied to arrive at a valuation figure. These opportunities are limited. We are aware of many additional benefits that are provided by the DCRP (such as station gardening projects) that add greatly to social capital and landscape environment, but which cannot be readily monetised – in such cases we have not provided estimates. We would emphasise, however, that these 'softer' impacts are equally valid and represent a significant value that should be fully acknowledged as part of the overall picture.

3.1.3 As the railway is such a long-established facility, no data or experience from before its construction over 100 years ago can be used with any validity for the sake of comparison. Therefore the valuation process often requires an assessment (or visioning) of what would happen if the railway were not there or what the likely alternative scenarios would be if passengers had to make other travel arrangements. This links with the wider issue of what impact the loss of the railway would have on the economy, environment etc. Likewise many current identified benefits cannot be exclusively ascribed to the railway's performance and continuation. In all instances where estimates are required, we have erred on the conservative side.

3.2 Valuation Framework

3.2.1 This valuation framework seeks to segment aspects of all identifiable beneficial impacts that the Tamar Valley line brings. These are grouped into four areas as shown below and summarised in Figure P below:

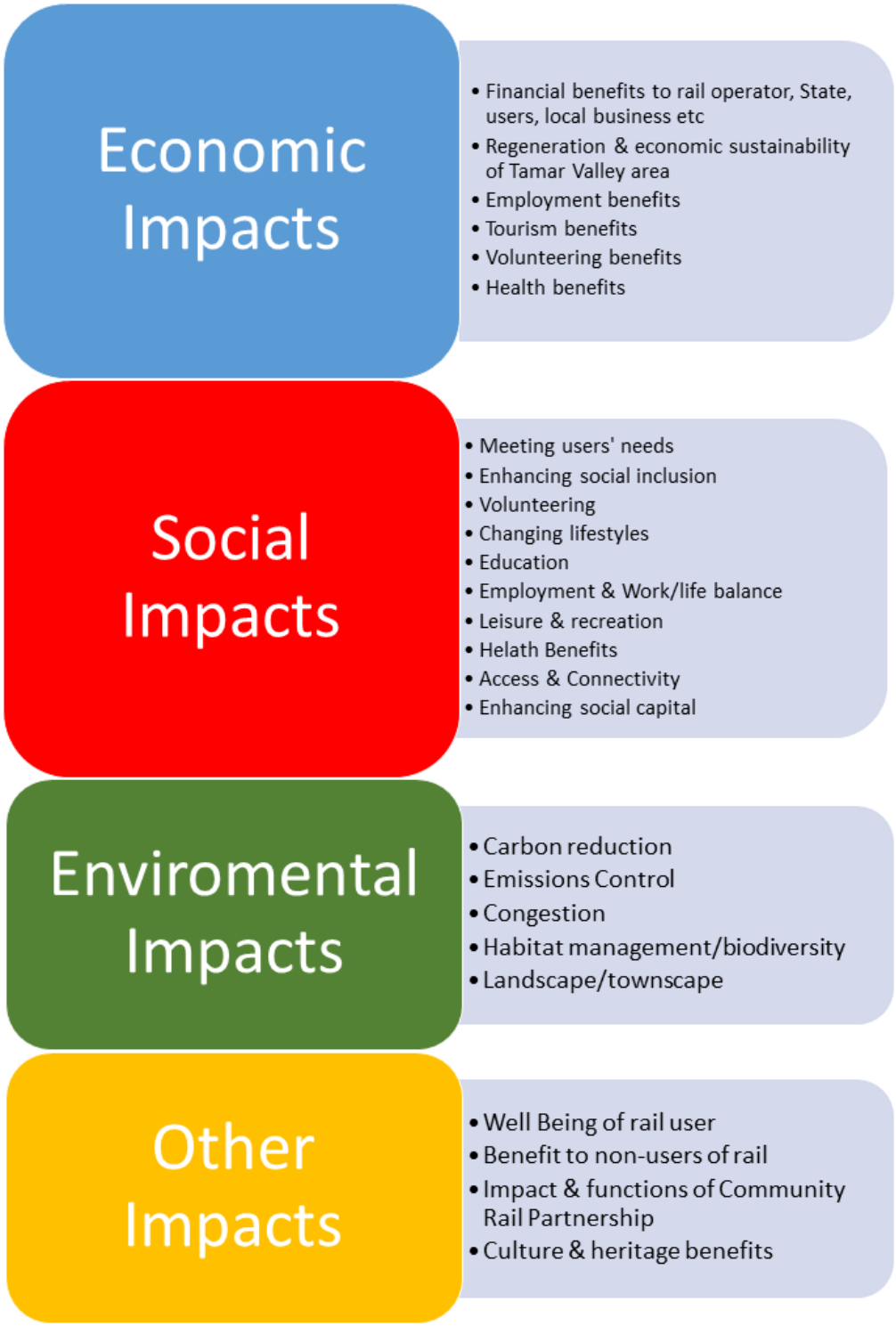
- **A: Economic Impacts** - aspects of value that generate income, increase commodity values, or create financial savings at both public and individual level – this includes 'spin-off' or indirect impacts and 'multiplier' effects (e.g. where rail use directly improves the economy of one sector such as tourism, and this in turn creates employment and business for a range of other supporting functions);

- **B: Social Impacts** – aspects of value that improve, enhance and enrich the lives of individuals and the communities served by the railway – these are the 'soft' aspects of benefit that should not be undervalued despite the difficulty of determining financial values;

- **C: Environmental Impacts** – aspects of value that preserve, protect and conserve the natural environment and resources; and

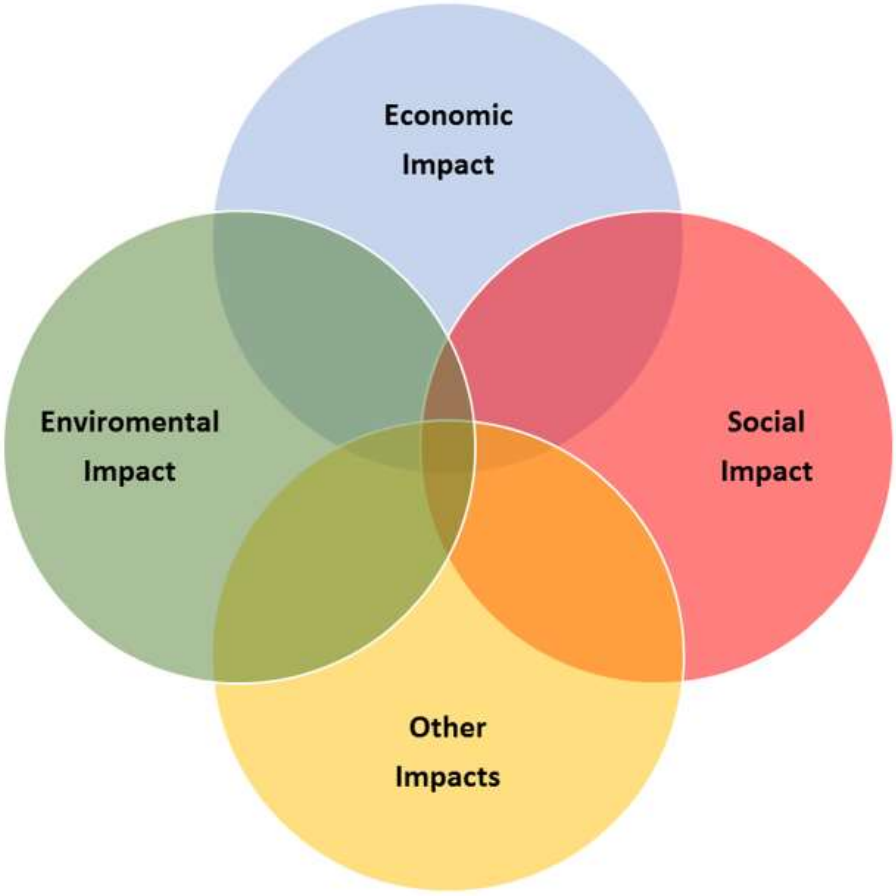
- **D: Other Impacts** – specific additional aspects of value that the rail service accrues that do not readily fall into any of the above three categories.

Figure P: Structure of Valuation Framework



3.2.2 Many benefits do not neatly fall exclusively into just one of the four categories, and so some aspects of impact are considered more than once from a different perspective, hence the overlap illustrated in Figure Q below:

Figure Q: Four Areas of Value



3.2.3 The impacts of the Tamar Valley Railway are presented in Table 6 below which maps them as follows:

- **Column 1: Area of Value** (A: Economic, B: Social, C: Environmental and D: Other) - as outlined above;
- **Column 2: Aspects of Impact** – within the area of value, the different ways in which impacts are organised and segmented. These are numbered to enable cross-referencing;
- **Column 3: Tamar Valley Rail Impacts** – specific ways in which the impacts listed in Column 2 apply to the Tamar Valley Line and the local situation;
- **Column 4: Indicators / Evidence from Surveys or Other Sources** – this column seeks to quantify, monetise, or otherwise provide evidence or supporting data for the impacts noted in Column 3. It will be noted that some of the evidence / indicators apply to more than one area of impact. Some of the evidence / indicators are analysed more fully in Section 4 below, including the detail and parameters of the financial calculations. This column also includes testimonial feedback from Tamar Valley residents and agencies, designed to provide an authentic human dimension.

3.2.4 The valuation framework in Table 6 was produced with reference to the following:

- Transport Analysis Guidance – The Transport Appraisal Process (DfT, Jan 2014);
- Early Assessment & Sifting Tool (EAST);
- Value of Community Rail Partnerships Report (ACoRP);
- Transport and the Economy (The Transport Knowledge Hub);
- Previous rail evaluation studies and guidance (see Appendix D below);
- Census data and Index of Multiple Deprivation (ONS).

3.2.5 In some case proxy values are cited to enable financial values to be attributed, as follows:

- webTAG - a number of transport-specific values are available via a regularly updated data spreadsheet[7]
- Gross Value Added[8] (GVA, the monetary value generated by any unit engaged in the production of goods and services – produced on a County-wide basis, this enables the collective value of an area's business to be quantified. The GVA for Calstock and Bere Ferrers areas separately was calculated on a per capita basis.
- Gross Domestic Product[9] (GDP, the monetary value of goods and services produced in an area plus taxes and minus subsidies).

3.2.6 Calculations and estimate methodologies of the monetary values that are included in Table 6 below are provided in detail in Section 4 and monetary values are also presented in a concise form in Section 8 Conclusions.

[7] https://www.gov.uk/government/publications/webtag-tag-data-book-december-2017
[8] https://www.ons.gov.uk/economy/grossvalueaddedgva
[9] https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/grossdomesticproductpreliminaryestimate/octobertodecember2017)

Table 6: Tamar Valley Line Impact Mapping

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
A: Economic Impacts – aspects of value that generate income, increase commodity values, or create financial savings at both public and individual level.	**1: Financial Benefits** to rail operator / State (as source of rail subsidies)	▪ Income generation via fares and charges. ▪ Growth in patronage due to DCRP work and resultant increase in revenue that can be quantified over 15-year period of time (30%). ▪ 'Profit' value could be isolated if cost of operation is deducted from fares revenues – often a deficit on rural lines, so revenue increase has the effect of lowering the subsidy (assuming costs and income are equally balanced with inflation etc.). ▪ Ability for DCRP to lever external funds to further develop the line.	▪ Tamar Valley line is subsidised and so benefits of patronage growth should be quantified as a reduction of subsidy required. 60% growth in usage since 2001. This study does not seek to establish a net value of the railway service, and so cost of provision has not been factored into this section. ▪ DCRP provides **£30,000** pa of funds to cover its staff and resources exclusively for Tamar Valley line development. ▪ DCRP's marketing is estimated to have stimulated 50% of the growth in usage on the Tamar Valley line over a period of 15 years. Overall growth has seen 73,000 additional trips in 2016 from the 2001 baseline. Equating this to GWR's revenue, we estimate that the total line revenue was £235,950 for the line in 2001 (121,000 journeys at a notional average fare of £1.75) – and taking inflation into account, £358,118; we estimate this figure is now £482,768 (193,107 with a notional average fare of 2.50). Therefore, of 2016's additional fare yield of **£124,650** above the 2001 baseline, 50% (**£62,325**) is attributed to the work of DCRP.
	2: Financial Benefits to user	▪ Competitive fares – cost per mile is cheaper than car journey equivalent and significantly cheaper than equivalent taxi fares. ▪ Rail journey times are shorter than alternative modes and travel time has a cost value. ▪ Range of concessions and season tickets can add further value for	▪ Total value of travel cost savings to rail users over other modes is **£897,513** (**£762,320** Cornwall and **£135,193** Devon). Perceptions of value for money from the survey were positive from 61% of users, with a response of 31% considering it 'very good' and 30% 'fairly good'. ▪ Total value of travel time savings is **£388,281** (**£340,755** Devon and **£47,526** Cornwall) and 79% of users were happy with the journey times (45% 'very good' and 34% 'fairly good). ▪ Total value of travel time usage is **£195,034** (Devon **£101,418** and Cornwall **£93,616**).

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		money – esp. for older people, children etc. ▪ The rail service provides a viable commuting option for the local workforce. ▪ Rail service enables sustainable employment to those who have no other means of getting to work.	▪ Affordable and effective transport brings a beneficial impact on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ 83,036 journeys (42%) take advantage of a railcard concession (Devon & Cornwall, Family & Friends, Disabled Persons, Senior, 16-25). ▪ 28,966 journeys (15%) take advantage of a Carnet / season ticket. ▪ 7,724 journeys (4%) take advantage of a combination of both of the above. (Concession savings are included in figures above.) ▪ The overall employment benefit to rail users can be expressed in terms of Gross Domestic Product (GDP) – this averages at £20,700 per person per year for Cornwall and £21,400 per person per year for Devon (combined average £21,000 pa). 25% of Tamar Valley rail journeys are for the purpose of employment and it is estimated that 125 individual employees (50 from Cornwall, 75 from Devon) make these trips – this is consistent with the census data in Table 2 above. The total GDP value for all rail using employees is **£2,640,000 (£1,035,000** for Cornwall and **£1,605,000** for Devon) ▪ Within the 25%, 36% = 45 persons who use the service to reach places of employment (25 in Devon, 20 in Cornwall) have stated that they have no alternative transport mode available. Therefore the total value of the employment that can be exclusively ascribed to the rail service is **£949,000 (£535,000** for Devon and **£414,000** for Cornwall).
	3: Financial Benefits to local business	▪ Improved general access and connectivity between locations in Tamar Valley and Plymouth – strengthens links with local organisations and businesses.	▪ Retail expenditure generated by rail users is estimated at **£2,880,869** (**£1,382,817** Cornwall and **£1,498,052** Devon). ▪ Leisure expenditure generated by rail users is estimated at **£2,610,310** (**£1,252,949** Cornwall and **£1,357,361** Devon).

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Increased footfall and expenditure in shops and business premises due to rail travellers (especially tourists / visitors). ▪ Rail offers commuting options which are both timely and cost-effective for employees, enabling a reliable and sustainable workforce for employers.	▪ (Both estimates are derived from survey analysis detailed in 4.5 and 4.6 below) ▪ 93% of passengers stated that they agree that the railway is both socially and economically beneficial to the Tamar Valley area. 77% fully agreed, while 16% partially agreed. ▪ Of the consultees in the stakeholder survey: o 100% strongly agreed with the statement: "The Plymouth to Gunnislake railway line is economically beneficial to the Tamar Valley area"; o 36% said that staff used the line for business purposes, and 60% said their customers used the line; o 19% felt that the rail service provided economic benefits to retail; o 23% felt the rail service provided economic benefits to the leisure industry; o 16% felt the rail service was beneficial in connecting customers and clients; o 14% felt that business productivity was boosted via faster journey times. ▪ The Gross Value Added (GVA) of the Cornwall area served by the railway is £107m and £61m for the West Devon area. It is estimated that railway directs adds 1% of these values - **£1,680,000** (**£1,070,000** Cornwall and **£610,000** Devon). ▪ "*The line is particularly vital in bringing in workers from the very far end in the very remote Gunnislake and across the Tamar*" George Cowcher, Devon Chamber of Commerce (Stakeholder Survey 2018).

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			▪ Sustainable businesses bring beneficial impacts on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ As outlined in A2 above, 25% of rail journeys are for the purpose of employment and it is estimated that 125 individual employees (50 from Cornwall, 75 from Devon) make these trips. Of these, 36% = 45 persons (25 in Devon, 20 in Cornwall) have stated that they have no alternative transport mode available. The GDP benefits for the individuals is given above – however, there are benefits for employers in that the railway widens the catchment of recruitment which in turn improves the ability of employers to engage staff with appropriate skills and ability, with longer-term prospects.
	4: Financial Benefits to State	Taxation of: ▪ households by local councils (Council Tax); ▪ businesses by local councils (Business Tax); ▪ property purchases by HM Revenue & Customs (Stamp Duty); ▪ individual income of local workforce by HM Revenue & Customs (Income Tax); ▪ retail purchases by HM Revenue & Customs (Value Added Tax); ▪ business income by HM Revenue & Customs (Corporation Tax).	▪ There is a financial benefit to State attributable where housing, business and employment is made viable or sustainable due to the Tamar Valley rail line. This is difficult to evidence in full. However, any continuation of residence (or tax-payers moving into new housing) with proximity to the rail line, and where the line itself and assumed usage of the rail service are contributory factors, can be said to contribute to the State economy. The survey indicates that 125 people are wage-earning tax payers, of whom 45 may depend on the rail service to continue their employment – tax is included in the GDP values (A2 above). ▪ The income of businesses is also of benefit to the State but difficult to ascribe in detail in terms of £ revenue to the Exchequer. ▪ In cases where the rail service has enabled commuters to live in the Tamar Valley, then it can be argued that this equates to occupied housing and council tax revenue generation. If the 125 commuters occupy, say, 70 properties, then this will generate **£175,000** per year (assuming an average Council tax of £2,500 per property). For the 45 rail-dependent commuters, this would

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			be **£63,000 (£35,000** to West Devon Borough Council and **£28,000** to Cornwall Council). ▪ At present, planning consent has been granted for 273 new dwellings in the Tamar Valley (some now in occupation) – these will generate **£682,500** in council tax (**£162,500** in Devon and **£520,000** in Cornwall) when fully occupied. As new housing developments are conditionally sited near to stations as a part of planning consent, it can be argued that these houses have been made viable due to the railway, and these values have been included in the valuation. It should be noted, however, these figures assume that all 273 houses are completed and occupied, and the status of this at present is undetermined.
	5: Regeneration & **Economic Sustainability** of Tamar Valley	As 'for local business' A3 above, plus: ▪ Rail service improves the development and investment profile of Tamar Valley; ▪ Sustainability of businesses and employers in Tamar Valley is greater by providing local employment; ▪ Proximity of rail stations and rail travel options are beneficial to stimulating new housing developments; ▪ Proximity of rail stations and rail travel options contribute to property valuations – wider commuting options; ▪ Rail service assists in the sustainability of a network of local businesses – rail brings	▪ Generally, these impacts are evidenced by A3 and A4 above. ▪ A number of strategic planning and economic development reports cite the railways as a key part of the transport infrastructure in the Tamar Valley, with frequent reference to the potential for new link to Tavistock (see D5 below). ▪ Greater economic activity brings a beneficial impact on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ New housing developments are noted in A4 above. The 273 planned homes contribute to the economic profile of the Tamar Valley and planning consent is dependent on proximity to the rail stations. ▪ Devon County Council: *"Economically, the line is important in terms of connection with Devon – especially the Bere Alston and Bere Ferrers section of the route. Without the line, there is a very circuitous route via Tavistock. The importance of the line is best underlined when there are difficulties with it and getting rail replacement is very challenging."* (Stakeholder Survey 2018)

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		businesses, suppliers and workforce closer together – productivity impacts.	
	6: Employment Value	▪ Direct employment – staff employed on Tamar Valley rail services (train crew, station staff, engineering staff, DCRP staff) – can be expressed as FTE. ▪ Indirect employment – portion of jobs that are created and sustained by the wider economy to which the rail line contributes. ▪ Affordable rail fares enable individuals to access places of employment. ▪ Regular and frequent rail services can assist in making employment more viable for workforce that relies on rail travel to get to work, and also employers who need staff to be available (especially for shift work / rostering).	▪ Value of direct employment of GWR train crews, station staff, Network Rail staff, and sundry external contractors is estimated to be **£250,000** (gross). To this can be added **£151,000** of supply chain value related to the rail industry. ▪ Value of direct employment of DCRP staff is included in its fund allocation to Tamar Valley line noted in A1. ▪ Indirect employment – see A2 and A3 above and GDP values. ▪ Potential future employment created for local trades persons with the new housing developments in Gunnislake, Tavistock, and Bere Alston that are in part enabled by the rail service – see D5. ▪ Higher levels of employment have a beneficial impact on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ Forestry Training Service (South West*): "The line is important for people working in Plymouth and especially to teens for access to Saturday job opportunities and younger adults who don't drive."* (Stakeholder Survey 2018)
	7: Tourism	▪ Generated spend in hospitality sector in Tamar Valley. ▪ Direct links to AONB and established walking routes. ▪ Specifically branded railway walks with guide materials. ▪ DCRP promotes a "Rail Ale Trail".	▪ Overall, tourism is critically important to the economy of both Devon and Cornwall. However much of the data regarding tourism is produced at County level and does not enable segmentation by district or parish. When examining county level figures for tourist expenditure, business economy and tourist-related employment, allowance has to be made for the fact that the centres of high tourist activity in both Devon and Cornwall are not within the Tamar Valley. As part of the economy, tourism is incorporated into the GVA values noted in A3 above.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Specific attractions within easy reach of rail stations. ▪ Heritage links e.g. Turner, industrial heritage sites (mines, limekilns etc.), National Trust and English Heritage attractions. ▪ Access to Plymouth tourist attractions.	▪ It is clear from the locations served by the railway and the marketing linkages that are highlighted by DCRP promotions, that the rail line has a strong tourist appeal. The survey indicated that 6% of users were making journeys for leisure purposes (11,586 trips) some of which would be by tourists. However, the time of year that the survey was undertaken (January) did not capture the main tourist season. ▪ Devon Chamber of Commerce (George Cowcher): *"The line is a very important part of the infrastructure in terms of leisure and tourism and runs up a highly attractive area. Much like the Tarka line, branch lines in the area are attractive in themselves. It also enables access to National Trust properties and other attractions to people travelling from the SW to the UK and beyond."* (Stakeholder Survey 2018). ▪ Forestry Training Service (South West): *"There is no doubt that Tamar Valley Railway encourages tourists into the area - mainly day trippers. Groups come up from Plymouth for walking trails. Families like to come up to Calstock to drink by the river while the children play on the play boat; there is a very relaxed atmosphere."* (Stakeholder Survey 2018). ▪ Visit Plymouth*: "The core recommendation by Visit Plymouth is the links the line offers to Gunnislake and Calstock – where people can visit National Trust houses particularly Cotehele House which is a short walk along the river and very beautiful. This is forever the recommendation during the summer and the line is perfect from Plymouth: it is cheap and takes tourists through lots of natural countryside. The line is very well used."* (Stakeholder Survey 2018). ▪ 27% of consultees in the stakeholder survey felt that the service was a boost to tourism.
	8: Volunteering impacts	▪ Volunteers add financial value and create savings for local agencies.	▪ Volunteering hours can be valued at Average Wage equivalent, and many volunteers undertake work that would cost more if paid at the current market rate for the job. For this purpose the

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Volunteering enhances social capital and community cohesion.	average wage is derived from the average GDP for Devon and Cornwall, which is £21,000 pa /£10.91 per hour (assuming a 37 hour week). ▪ Making volunteering more viable (as the rail service does) clearly contributes to the overall economy and the sustainability of many voluntary sector organisations who would not be able to afford the equivalent in paid staff. The survey did not enable the number of volunteers to be identified, although it undoubtedly does support many kinds of volunteering activity. ▪ DCRP itself benefits on the Tamar Valley line alone from 284 volunteering hours per year. Using the average GDP for Devon and Cornwall this represents **£3,098** of benefit pa.
	9: Health Benefits for state (NHS)	▪ Connectivity with healthcare locations enables individuals to access treatment - missed appointments cost NHS money. ▪ As part of active lifestyle, use of rail promotes better mental and physical heath, which in turn means fewer people need medical interventions (or such interventions are deferred) - this also represents a savings for the NHS.	▪ The Tamar Valley line serves two Clinical Commissioning Group areas (NHS Northern, Eastern and Western Devon and NHS Kernow) which straddle the county boundary between Devon and Cornwall. In reality many health referrals that cannot be undertaken at GP clinic localities in both east Cornwall and south west Devon would require residents to travel to Derriford Hospital in Plymouth. This is located 4.5 miles from Plymouth rail station and so in the majority of cases for out-patient visits (those not qualifying for patient transport services), a connecting bus would be needed. Nonetheless, for those without other means, the Tamar Valley line would be a valuable means of access. ▪ Promotion of walking activities in the Tamar Valley adds to healthier lifestyles. Via the Great Scenic Railways webpage (http://greatscenicrailways.co.uk/great-days-out/walks-and-trails/), DCRP promotes 2 specific 3-mile walks from Tamar Valley stations. ▪ General rail use promotes greater physical and mental health – there is no local evidence or data to support this on the Tamar Valley line, but is acknowledged more widely in the context of the role of public transport in an active lifestyle.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			▪ Health is a measure that will impact on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ 28% of rail users (circa 140 individuals) walk to the origin rail station and 32% (circa 160 individuals) walk from their destination station. ▪ 3% of users (circa 15 individuals) cycle to / from the rail station, with 2% (circa 15 individuals) taking their cycles on the train.
B: Social Impacts – aspects of value that improve, enhance and enrich the lives of individuals and the communities served by the railway.	**1: Meeting Users' Needs** – satisfaction levels.	Choice of rail mode as travel preference due to positive quality aspects of service: ▪ Reliability ▪ Convenience ▪ Journey time ▪ Cost ▪ Comfort ▪ Safety ▪ Perceptions of quality (as gleaned from surveys).	▪ A range of quality factors was considered in the survey and the majority of users rated different aspects of the service mostly 'very good' or 'good'. Overall satisfaction was stated by 34% to be 'very good' and by 46% as 'good'. Asked to provide an overall assessment of the service provided by GWR, 28% of passengers rated it 'very good', and 65% 'good'. (Full analysis of the quality aspects of the survey is provided in section 5 below.) ▪ 80% of users consider the service to be reliable (47% thought reliability was 'very good' and 33% 'fairly good'). ▪ 77% of users consider the service to be punctual (40% thought reliability was 'very good' and 37% 'fairly good'). ▪ 79% of users were happy with the journey times (45% 'very good' and 34% 'fairly good). ▪ 64% of users rated the service as comfortable (28% 'very good' and 36% 'fairly good'). ▪ Perceptions of value for money from the survey were positive from 61% of users, with a response of 31% considering it 'very good' and 30% 'fairly good'. ▪ Journey costs savings and benefits are noted in A2 above. ▪ Travel time savings are noted in A2 above.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
	2: Access & Connectivity – especially important in rural areas with fewer alternative travel options	▪ Tamar Valley line is a key corridor to the city. ▪ Bus services in Tamar Valley are sparse (and have declined in recent years) leaving rail as the key 'lifeline' for many. ▪ Rail provides for journeys that are not possible on foot or cycle due to distance and time. ▪ Rail enables cycles to be used as part of a multi-modal journey. ▪ Interface between bus and rail timetables to enable 'seamless' multi-modal journeys. ▪ Rail offers shorter journey times between Plymouth and Calstock, Bere Alston and Bere Ferrers due to directness of route as opposed to roads. ▪ Rail services provide travel options for those with limited mobility who may not be able to walk or cycle (e.g. wheelchair users). ▪ Tamar Valley line connects with main rail network at Plymouth enabling seamless longer-distance rail journeys throughout England, Scotland and Wales.	▪ Other passenger transport services are noted in section 2 above. ▪ 6.5% of passengers (12,552 trips) use other public transport modes (train, bus, taxi) to get to origin rail station. 10% of passengers (19,311 trips) use other public transport modes after reaching destination station. 1.5% of journeys (2,897 trips) had connecting public transport modes at both ends. ▪ 0.5% of trips (966 total) used cycles and left them at the station. 2% of rail users (3,862 trips) involved the carriage of cycles on board. ▪ Passengers rate access levels to stations and trains highly: 47% rated access as 'very good', while 38% rated access as 'good'. However, it is not known if anyone with a specific disability took part in the survey. ▪ 55% of rail users stated that connections with other rail services were either 'very good' (21%) or 'fairly good' (34%). ▪ 51% of rail users stated that connections with other modes of transport were either 'very good' (20%) or 'fairly good' (31%). ▪ 80% of rail users stated that the rail service was either 'very good' (48%) or 'fairly good' (32%) in terms being convenient to get to their end destination. ▪ Local Authority Accession mapping of Tamar Valley 'with railway' and 'without railway' would produce an interesting comparison and hopefully indicate that the rail line improves accessibility counts in area. Whilst useful, this would require specialist software that the local authorities have and has not been carried out as part of this study. ▪ South West LEP (Transport Advisor*): "Rail transport assists with both strategic connectivity and for local transport movements – particularly access to urban areas and also very rural areas. The impact is two-way – both economically and in terms of providing links to the Tamar Valley AONB."* (Stakeholder Survey 2018).

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Connections to Plymouth enable connections with local and continental sea ferries. ▪ Tamar Valley line enables city dwellers in Plymouth a means of accessing the countryside and AONB area.	▪ Forestry Training Service (South West): *"Access to retail and shopping is good and can be cheaper than driving and parking. Allows access on to other towns and cities, like Exeter and Truro."* (Stakeholder Survey 2018). ▪ Gunnislake is especially challenging for bus services due to the narrow lanes in the village.
	3: Enhancing Social Capital[10]	▪ Rail service is part of historical fabric of Tamar Valley communities via its relation to culture, history, schools etc. ▪ Rail service makes volunteering more viable. ▪ Rail service is part of a collective social network. ▪ Art projects related to trains and station. ▪ Enhances civil participation. ▪ Arts and Cultural venues sited near to rail stations stimulate wider participation.	▪ The presence of a rural railway can act as a focus for community engagement and civic pride - these attributes are further enhanced when a Community Rail Partnership is able to harness and promote these values to more positive effect – as is the case with the Tamar Valley line. 40% of rail users are aware of DCRP which is high and evidence of effective promotion. ▪ Examples of projects and initiatives that benefit from the rail service's ability to bring people together are: o Tamar Belle – Heritage Rail museum at Bere Ferrers station and Heritage Group http://www.tamarbelle.co.uk o Cultural values of Tamar Valley – e.g. *Drawn to the Valley*, a group of over 150 local artists https://www.drawntothevalley.co.uk o Food growing http://www.tamargrowlocal.org/ o Limekiln Gallery https://www.facebook.com/limekilngallery/ o Calstock Boatyard http://www.calstockboatyard.org/ o Calstock Arts Centre http://calstockarts.org/

[10] *Social capital is cited here in line with the definition by the Office of National Statistics as representing* "the connections and collective attitudes between people that result in a well-functioning and close-knit society". *https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/socialcapitalintheuk/may2017*

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			○ Calstock Village Hall http://www.calstockhall.com/ ▪ Interest in rail line by UK and overseas enthusiasts – service has featured in Japanese TV as a line of special interest. ▪ Historic connections with artist JMW Turner who depicted Tamar Valley in various landscape artworks of the early 19C.
	4: Increasing Social Inclusion	▪ Tamar Valley fares are highly competitive compared with alternative travel modes. ▪ Rail service offers concessions, family activities, and independent travel for those with no car or bus service. ▪ Rail presents travel options for those without a car or driving licence. ▪ Travel options are made available to those at risk of exclusion, loneliness etc. ▪ Passengers with limited mobility can gain assistance boarding and alighting trains in a way that is not available on a bus.	▪ Use of public transport by those who live alone and / or are located in an isolated area has a positive effect on well-being as if provides a social link, contact and interaction with other people (including railway staff). ▪ 27% of rail users stated that they had no other means of making their journey. This suggests that 44,415 trips have been enabled that would otherwise not have been possible. 8% of the rail users who had no other means of transport were over 60 years of age, older people being at greatest risk of loneliness and isolation. ▪ Social inclusion is also enhanced by affordable travel – as indicted in A2 above, Tamar Valley rail fares are highly competitive and offer savings above all comparable modes of travel. ▪ Calstock Refugee Outreach Group (Rosie Brennan): *"In our Calstock Refugee Outreach Group, the railway is a vital link which connects the rural community of Calstock with refugees and asylum seekers in Plymouth who are often isolated and orientating themselves to a new city/region."* (Stakeholder Survey 2018) ▪ Perceptions of value for money from the survey were 61% positive, 31% considering it 'very good' and 30% 'fairly good'. ▪ Journey costs savings and benefits are noted in A2 above. ▪ Social inclusion measures are reflected in Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			▪ Work of DCRP includes marketing the rail service to more marginal sections of the community and specific initiatives to make rail use more friendly and viable to those at risk of exclusion.
	5: Employment Opportunities and Work / Life Balance	▪ Tamar Valley line sustains commuting options for local residents and makes for wider employment choices – this benefits both individual members of the workforce (greater choice of job options), and employers who enjoy the benefits of a wider diversity of recruitment choices.	▪ Rural dwellers can easily commute to city for employment / City workers can opt to live in more rural locations. ▪ If rail service were to cease, some people would a) use another commuting mode, b) move house or c) give up their job that requires commuting. Of current rail users circa 45 individuals use the rail service to commute to work and have no other transport available. ▪ Aspects of this value would be reflected in Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ Rail service is a determining factor in the location of new housing developments - see D5 ▪ Cllr Dorothy Kirk: *"Line makes a huge difference to employment and income: average salary in Cornwall is £15k p.a. and in Plymouth it is over £20k. One of the largest employers in Cornwall is Ginsters in Callington; connection to Plymouth means links to the Dockyard, energy plant and centres of education. A lot of naval officers live in places like Calstock – away from the city and in attractive, less populated areas."* (Stakeholder Survey 2018)
	6: Volunteering	▪ Community Rail Partnership provides some volunteering opportunities. ▪ Rail service makes volunteering more viable for individuals with fewer travel options.	▪ Volunteers for DCRP are engaged with station improvement, line forums, and student involvement (station gardening, Time Travelling Train book, student masterclasses). As detailed in A8 above, DCRP volunteers provide 284 hours per year across a range of activities. ▪ Aside of the financial value detailed in A8, volunteering enhances community cohesion (brings disparate people

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Volunteering in all forms enhances social capital and community cohesion.	together), provides skills acquisition and experience, and creates a feeling of well-being and usefulness in individuals. ▪ Social capital of some form also results, being the outcome or end gain of the volunteering effort that would otherwise not be achieved. ▪ The Tamar Belle Heritage Group utilises volunteers to support the development of the Heritage Centre (Bere Ferrers).
	7: Changing / Forming Lifestyles	▪ Introducing rail to new generations via school trips etc., with early habit / culture forming influence which minimises carbon dependency, and encourages sustainable travel modes (away from cars, but including use of cycles). ▪ Encourages healthier travel modes. ▪ NHS 'social prescribing' could involve activities that require rail travel. ▪ DCRP marketing is aimed at effecting modal shift and introducing young people to the railway.	▪ Engaging with children is a specific function of DCRP and there are a number of marketing initiatives involving local school children. Free taster trips have been enjoyed by local school children on Tamar Valley line. Tamar Valley Rail song project with schools. ▪ 8% of rail users are under 16 years of age, which amounts to 15,449 journeys. ▪ Also, see feedback from Gunnislake Primary School quoted in B8 below. ▪ 3% of users (circa 15 individuals) cycle to / from the rail station, with 2% (circa 15 individuals) taking their cycles on the train. ▪ Marketing of railway walks encourages a) rail users to walk and b) walkers to use rail rather than other modes, with health benefits for both.
	8: Education	▪ Use of rail service by school children and students – providing access to schools and colleges for those with fewer travel options. ▪ Concessions made available for pupils and students making travel more cost effective (and	▪ As B7 above, plus more generally, rail is a popular option for school trips and outings. ▪ 16% of rail users surveyed were using the service for education purposes (23,767 trips per year). This breaks down as follows: o Devon (under 16s): 2% of users making 2,971 trips;

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		therefore improved educational standards more attainable). ▪ Use of railway as part of DCC and CC's statutory Home to School transport provision. ▪ DCRP uses students on various projects, broadening their experience and developing skills.	○ Cornwall (under 16s): 4% of users making 5,942 trips; ○ Devon (Post 16 - Further & Higher education): 4% of users making 5,942 trips; ○ Cornwall (Post 16 - Further & Higher education): 5% of users making 7,427; ○ Educational locations in Cornwall travelled to by 2% of users making 2,971 trips; ○ Educational locations in Devon travelled to by 14% of users making 20,796 trips; (NB – as the survey was undertaken during school and college term time, the above trips figures have been adjusted to reflect a 40 week year). ▪ The Tamar Valley rail service enables both Cornwall Council and Devon County Council to fulfil statutory Home to School transport duties. In Cornwall, 7 pupils receive supported travel with season tickets. For Devon there are no season tickets provided, but without the railway the authority would potentially have to provide transport for some qualifying pupils (however, DCC has stated that it is not aware that any home to school transport via road has been saved or replaced by the rail service.) ▪ Cllr Dorothy Kirk: *"The access to schools and colleges that is enabled by the Tamar Valley line has widened parental choice and made more it financially viable for students living in Tamar Valley to attend Tertiary and Higher education."* (Stakeholder Survey 2018) ▪ Gunnislake Primary School commented: *"As a small school, there are only a few staff but a high percentage of them use the line to travel to school. School children use the line to reach the school as well and every year they are able to take a group of*

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			school children for free on the line as a familiarisation exercise and with the aim of encouraging them to use the line further." (Stakeholder Survey 2018). ▪ Forestry Training Service (South West): *"The line is very important for those children that go to Plymouth schools and older ones to the colleges. It saves parents having to be involved in transport which has an economic value (e.g. they are then available for work)."* (Stakeholder Survey 2018)
	9: Leisure & Recreation	▪ Access to facilities and services provided by rail. ▪ Less restriction on alcohol consumption for those using rail instead of car (road safety benefits). ▪ Ability for larger parties to travel together (e.g. walking groups, sports teams).	▪ 26% of rail users undertake 50,208 journeys for leisure and recreation purposes. These break down as follows: o 14% Devon users (27,035 journeys); o 12% Cornwall users (23,173 journeys); o 8% of journeys (15,448) were to Cornwall destinations; o 18% of journeys (34,759) were to Devon destinations. ▪ 19% of consultees in the stakeholder survey felt that the rail service provided access to the leisure industry. ▪ Expenditure on leisure and recreation is given in A3 above. ▪ Forestry Training Service (South West): *"Local walking groups use the line. It allows teens to access leisure facilities in Plymouth independently, which is hugely advantageous. Unfortunately there is little evening service so transport back is by shared taxi."* (Stakeholder Survey 2018) ▪ DCRP promotes a "Rail Ale Trail" which highlights the services of various inns near to Tamar Valley stations.
	10: Health Benefits for individuals	▪ Access to healthcare facilities and locations. ▪ Active lifestyle - Rail use contributes to healthier lifestyle	▪ See also A9 above. Many studies have concluded that using public transport results in better mental and physical health – especially for older people.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		and generally involves walking some distance. ▪ Supports leisure and recreational activities that may promote healthier lifestyle. ▪ As part of enhancing social inclusion, rail use can alleviate loneliness and related physical and mental health problems by enabling social contact. (See also "Well Being of Rail User" in C1 below.)	▪ 28% of rail users (circa 140 individuals) walk to the origin rail station and 32% (circa 160 individuals) walk from their destination station. ▪ 3% of users (circa 15 individuals) cycle to / from the rail station, with 2% (circa 15 individuals) taking their cycles on the train. ▪ Health is a measure that will impact on Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ Residents of Bere Ferrers, Bere Alston, Calstock and Gunnislake generally have to travel at least 5 miles to the nearest dentist. Rail service enables dentists in Plymouth to be readily accessed.
C: Environment Impacts – aspects of value that preserve, protect and conserve the natural environment and resources.	**1: Carbon**	▪ Rail presents an alternative sustainable travel option. ▪ Modal advantages of rail in carbon impact per distance travelled per passenger – due to extensive multi-occupancy. ▪ Reducing car use / need for car ownership. ▪ Encouraging longer multi-modal journeys with cycles. ▪ Enabling seamless long-distance rail journeys that might otherwise involve use of a car or bus.	▪ Rail service enables travellers to make environmentally responsible choices around sustainable travel modes. ▪ The survey indicated other modes of transport that would be considered in the absence of the rail service: o 58% would use car; o 30% had no other transport; o 11% would use bus; o 0.7% would use taxis; o 0.3% would use a cycle. o 3% of users (circa 15 individuals) cycle to / from the rail station, with 2% (circa 15 individuals) taking their cycles on the train. ▪ The rail user survey indicated that if the rail service were not there, then 58% of journeys (totalling 112,002) would be undertaken by car - webTAG states that average car occupancy rates are 1.5 persons per trip, so this is factored into the calculations of the number of equivalent car journeys (with some additional trips to reflect half of those who currently have no

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			alternate mode but whom are likely to revert to a car, and some cycle feeder use). This would involve 117,409 rail trips reducing to 78,273 car trips. This equates with 1,198,678 car miles being saved. ▪ The rail service enables cost savings that additional car journeys would entail as follows: o **£165,897** in fuels costs o **£56,370** in energy costs o **£4,319** in CO2 costs
	2: Congestion	▪ Relieves parking problems in towns. ▪ Reduces traffic flow problems, especially at rush hours.	▪ Congestion is a prime cause of air quality problems – see C3 below. ▪ Reliability figures of rail service compared with delays caused by congestion on roads – although both road and rail modes can be subject to unexpected / unpredictable delays, the Tamar Valley line is less prone to complications due to it being a single track, single unit operation. This is reflected in the positive passenger feedback: o 80% of users consider the service to be reliable (47% thought reliability was 'very good' and 33% 'fairly good'). o 77% of users consider the service to be punctual (40% thought reliability was 'very good' and 37% 'fairly good'). o 79% of users were happy with the journey times (45% 'very good' and 34% 'fairly good).
	3: Emissions	▪ Diesel rail units compare with multiple cars. ▪ CO2 savings from equivalent car and bus journeys.	▪ There are two Air Quality Management Areas to which the Tamar Valley line brings a positive contribution: o Plymouth Air Quality Management Area – this includes the Northern Corridor route into Plymouth (A386 – Tavistock Road) -congested and already

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			impacts on residents of those areas of Plymouth through which it passes (see also D2 below). ○ Gunnislake Air Quality Management Area (declared March 2014) - nitrogen dioxide levels in Gunnislake have been monitored as excessive for several years. Primary cause is nitrogen dioxide exhaust gases from cars and lorries passing through the town on the A390. ▪ Of the 112,002 rail trips that would displace to 74,668 car trips if the service were not there (see C1 above), this can be further broken down as follows with relation to the detrimental impact on the two Air Quality Management Areas: ○ 11,587 additional car journeys (17,380 / 9% of current rail journeys) from Bere Peninsula would approach and depart Plymouth via A386 and would likely contribute to the air quality problem; ○ 20,598 additional car journeys (30,897 / 16% of current rail journeys) which start or end in Gunnislake would likely use the A390 and contribute to the air quality problem; ○ 32,185 additional car journeys (48,277 / 25% of current rail journeys) from Calstock and Gunnislake that would approach and depart Plymouth via A390 / A388 / A38. ▪ The rail service enables **£4,319** in particulate cost savings that additional car journeys would entail.
	4: Habitat / Biodiversity	▪ Railway infrastructure in Tamar Valley is well-established (non-disruptive). ▪ Noise – less than equivalent cars.	▪ Flora and fauna are abundant on Tamar Valley rail route and co-exist in close proximity of much of the line. ▪ Significant portions of railway land along the route are wooded. ▪ These are often standard attributes of established rail lines, especially rural branches. Although trains generate noise

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Rail infrastructure and land supports grass / trees etc. therefore more beneficial to wildlife / eco system. ▪ Rail as a movement corridor for wildlife enabling population expansion and genetic diversity	pollution, the frequency of service on the Tamar Valley line (average 1 train per 90m) is sporadic (and significantly less than motor traffic) – if the railway were to cease operations, the increase in motor traffic would create increased noise and disruption. These benefits are difficult to measure but of significant value to the habitat, especially so in an AONB. ▪ Without rail, the traffic through AONB and Dartmoor National Park on A386 would be greater and therefore more damaging to the fragile habitat.
	5: Landscape / Townscape	▪ Attractiveness of rail buildings. ▪ Use of gardens / planting. ▪ Art projects related to trains and station. ▪ Historic features of rail infrastructure (bridges, stations etc.). ▪ Fewer motor vehicles in landscape. ▪ Sustainable rail reduces need to build / extend road network and car parking. ▪ Rail line enables the villages in the Tamar Valley to retain traditional feel without the need to compromise further to accommodate cars.	▪ Station adoption and gardening projects co-ordinated by DCRP seek to keep station sites clean and attractive and to exploit the potential for flower beds and grass areas. ▪ Bere Ferrers station (adoption by Tamar Belle site and Tamar Belle Heritage Group) hosts a range of vintage rail stock and artefacts. See also B3 and B6. ▪ Tamerton Bridge, Tavy Bridge and iconic Calstock Viaduct are all Grade II listed structures that are protected for their historic interest. Also, historic signal boxes and station buildings at Bere Ferrers and Bere Alston.
	6: Accidents	▪ Aside of individual consequences, each accident that occurs brings a cost to the State which can be classed as an environmental impact.	▪ For the displaced trips cited in C1, the additional car journeys generated would incur an additional **£42,000** in accident costs, using latest Govt accident statistics by mode.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
D: Other Impacts - specific additional aspects of value that the rail service accrues.	**1: Well Being of Rail User**	▪ Safety record of rail - Fewer life threatening accidents than cars, buses, cycles or motorcycles – rail use also reduces the correlation rate between alcohol consumption and accidents / safety lapses. ▪ Perceptions of personal safety & security – some people feel safer using trains than buses or taxis (but this may be subjective). ▪ Recent research has linked feelings of well-being to less stressful modes of commuting such as rail.	▪ Government statistics indicate that proportionately, rail has a lower passenger fatality / injury rate than car, bus, cycle or pedestrians and so is inherently safer than all alternative travel modes. https://www.gov.uk/government/statistical-data-sets/ras53-modal-comparisons ▪ 71% of survey respondents rated their feelings of personal safety on the railway as either 'very good' (32%) or 'fairly good' (39%). ▪ Health and well-being is a factor that determines Index of Multiple Deprivation (IMD) ranking of neighbourhoods in Tamar Valley area. ▪ University of East Anglia research (2014) on commuting and happiness demonstrated a 0.5% improvement for commuters switching from car to public transport + HM Treasury / New Economy Manchester 2014 with a value of **£3,609** of emotional well-being per person. http://www.uea.ac.uk/about/-/walking-or-cycling-to-work-improves-wellbeing-university-of-east-anglia-researchers-fi-1 ▪ Also 2014 ONS research on commuting and well being: http://webarchive.nationalarchives.gov.uk/20160131203938/http://www.ons.gov.uk/ons/rel/wellbeing/measuring-national-well-being/commuting-and-personal-well-being--2014/art-commuting-and-personal-well-being.html#tab-2--Key-Points ▪ As the above refers to travellers that shift mode from car to rail, it is not known how many individuals on the Tamar Valley line fall into this category for commuting, so no precise figure has been attributed for emotional well-being.
	2: Benefit for non-users of Rail	▪ Option value of rail as a public asset that people wish to see maintained even if they are not users.	▪ Although there is no direct evidence from surveys, it is likely that many residents of the Tamar Valley who are not rail users value the service for the following reasons: o it may be seen as an insurance against a time when they may not be able to use a car;

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
		▪ Railway reduces congestion and negative impact of car usage on specific locations and environment – this benefits local residents who may not be rail users.	○ it may enable friends and relatives who do not drive or have access to a car to visit them; ○ for family members who do not drive (e.g. teenagers) it removes the burden of parents needing to provide a 'taxi service'. ▪ Plymouth Air Quality Management Area – (Mutley Plain). The Northern Corridor route into Plymouth (A386 – Tavistock Road) is congested and already impacts on residents of those areas of Plymouth through which it passes. The use of the railway in preference to the car, especially by commuters from the Bere Peninsula, actively reduces the level of congestion and environmental damage that might otherwise occur. ▪ Likewise, further north the A386 passes through Dartmoor National Park (to the east) and Tamar Valley ANOB (to the west) and the rail services assist in reducing motor vehicle traffic through these protected sites. ▪ Gunnislake Air Quality Management Area – rail service relieves road traffic through Gunnislake. Without rail service pollution would be higher and a risk for all residents (including rail non-users). See also C3.
	3: Impact of Community Rail Partnership	▪ Enterprise and development – engaging with business. ▪ Social capital – local roots, celebration of the rail line and locations. ▪ Community cohesion – events and collaboration. ▪ Volunteering. ▪ Marketing initiatives.	▪ See A1 above: 60% growth in patronage on Tamar Valley line since 2001, half of this credited to DCRP. **£30,000** budget allocation to area. Also see A8 above: 284 volunteer hours completed for Partnership. ▪ The effectiveness of DCRP has been noted and used as a good practice case study in various studies, specifically ACoRP (e.g. *What's been achieved through community rail?* (2017) https://acorp.uk.com/wp-content/uploads/2017/10/ACoRP-wbatcr-report-web.pdf). ▪ 40% of rail users are aware of DCRP.

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
	4: Cultural & Heritage Benefits	▪ Rail as historical asset. ▪ Focus for historic research. ▪ 'living history' example of the lives of the past (esp. use of old loco stock).	▪ Cllr Dorothy Kirk: *"I assisted a Japanese film crew making a film featuring the Tamar Valley Line for broadcast in Japan."* (Stakeholder Survey 2018). This demonstrates the international appeal of the line. ▪ George Cowcher, Devon Chamber of Commerce: *"Much like the Tarka line, branch lines in the area are attractive in themselves*." (Stakeholder Survey 2018). ▪ This is clearly a key benefit but not readily monetised. See also B3 and C5.
	5: Benefit to Policy and Planning	Continuation and development of Tamar Valley line has value to policy-makers and planners as it determines how strategic plans are shaped. This covers: ▪ national rail policy; ▪ county transport plans; ▪ social inclusion and cohesion measures; ▪ neighbourhood plans; ▪ economic development; ▪ specific planning decisions (where the proximity to rail and impact on rail infrastructure are critical factors to be considered in approving or rejecting proposals); ▪ plan for Tavistock extension which is dependent on continuation of Tamar Valley line; ▪ general rail improvement plans (e.g. electrification).	▪ The Tamar Valley railway is referenced and plays a role in many strategic plans. A number of recent policy and planning documents (listed below) are reviewed in detail in section 7 below. o *Cornwall Local Plan – Strategic Policies 2010-2030* (Cornwall Council, rev.2016) o *Core Strategy* (West Devon Borough Council, 2011) o *Caradon Local Plan* (Cornwall Council, 2007, rev 2013) o *Facilitating Economic Growth in South Hams and West Devon* (South Hams and West Devon Councils, 2014) o *A Strategy for Growth 2013 – 2020* (Devon County Council, May 2013) o *Economic Growth Strategy for Cornwall & Isles of Scilly 2012 – 2020* (Cornwall & Isle of Scilly Local Enterprise Partnership 2012 o *Bere Peninsula Neighbourhood Plan* (December 2017)

Area of Value	Aspects of Impact	Tamar Valley Rail Impacts	Indicators / Evidence from Surveys or other Sources – all values expressed as annual averages. Trips or journeys are single rather than returns.
			○ *Connecting Cornwall: 2030 moving towards a green peninsula – Strategy* (Cornwall County Council, 2011) ○ *Local Transport Plan - Devon and Torbay Strategy 2011 – 2026* (Devon County Council, 2011) ○ *Heart of the South West - Local Transport Board* (Scheme Prioritisation Proforma, 2013) ○ *Clean Air for Cornwall Strategy* (Updated April 2017) ○ *Plymouth Air Quality Action Plan* (2006) The above documents reference rail in general and the Tamar Valley line in particular. ■ New housing development that is progressed with reference to proximity to rail line e.g. St Ann's Chapel, Gunnislake, Tavistock and Bere Alston. This assists in meeting current policy on housing provision, including affordable homes (see 7.3 below).

Specific Aspects of Value of the Tamar Valley Line 4

4.1 Introduction

4.1.1 This section provides a more detailed examination of a number of the aspects of benefit that have been noted in Table 6 in the previous section. This provides, in particular, a methodology and rationale to indicate how monetised values have been arrived at. The baseline of passenger activity is derived by the findings of the user survey of 2018 being extrapolated against the last full year of performance statistics of the year 2016. The survey sample of 360 users covered all days and times of operation and can be regarded as robust. Table 7 below illustrates how the survey findings are amplified using full passenger journey outputs.

Table 7: Baseline for Valuation Calculations – Annual Performance

	Devon Trip Origins	Cornwall Trips Origins	Total
Total Single Trips (2016)	100,416 (52%)	92,691 (48%)	193,107
Survey Sample	187 (52%)	173 (48%)	360
Peak Trips (Work & Education)	40,552 (21%)	36,690 (19%)	77,242
Off Peak (Other Categories)	59,863 (31%)	56,002 (29%)	115,865
Peak Trips (Work & Education) – Plymouth + Return	11,576 (6%)	23,150 (12%)	34,726
Off Peak (Other Categories) – Plymouth + Return	18,384 (9.5%)	47,272 (24%)	65,656
Peak Trips (Work & Education) – Devonport + Return	7,338 (3.8%)	9,655 (5%)	16,993
Off Peak (Other Categories) – Devonport + Return	2,510 (1.3%)	2,510 (1.3%)	5,020
Average Single Trips Per Day (363 days of operation)	277 (52%)	255 (48%)	532

4.1.2 It is not easy to ascertain how many individuals use the service – the user survey had 360 respondents. On average there are 532 single trips per day, consisting of 210 return journeys and 112 one-way journeys. It is estimated that at least 500 different individuals are users with the numbers of casual or sporadic users through the year.

4.1.3 GWR was unable to provide precise details of fare revenues. The average single fare across all journeys and ticket cost combinations is around £2.50 (half return fare value). This is multiplied by 193,107 to give a total fare income of £482,766.

4.2 Cost of Travel

4.2.1 For each of the travel cost comparisons in the tables below, rail station postcodes have been used to calculate distances. The rail and bus fares used for peak and off peak comparisons are based on half of a day return ticket rather than a single ticket – this reflects the general trend that the majority of travellers would buy a return ticket to take advantage of discounts. Ticket prices are correct as at January 2018.

4.2.2 We have included comparisons with bus fares, not least because 11% of rail users said they would use the bus for their journey if the railway was not available. However, we acknowledge that the bus does not necessarily offer a viable practical alternative for Tamar Valley communities travelling to and from Plymouth.

4.2.3 The cost comparisons are primarily based on journeys to and from Plymouth from other stations – this is where the bulk of cost value can be evidenced. As will be appreciated, to duplicate this exercise involving all the permutations from all stations to all stations, peak and off-peak, via all modes would be laborious and so estimates of the remaining value have been made.

Table 8: Tamar Valley Rail Fares to Plymouth Compared with Local Bus – Daily

From	Rail Peak Fare (return x 50%)	Rail Off Peak (return x 50%) Fare	Bus Fare (return x 50%)	Peak saving of Rail (%)	Off Peak saving of Rail (%)
Gunnislake	£4.55	£3.00	£4.00	-£0.55 (-14%)	£1.00 (25%)
Calstock	£4.40	£3.00	£4.00	-£0.40 (-10%)	£1.00 (25%)
Bere Alston	£3.45	£2.55	£5.08	£1.63 (32%)	£2.53 (50%)
Bere Ferrers	£3.20	£2.55	£5.08	£1.88 (37%)	£2.53 (50%)
St Budeaux	£1.60	£1.30	£1.60	£0.00 (0%)	£0.30 (19%)
Keyham	£1.30	£1.25	£1.35	£0.05 (4%)	£0.10 (7%)
Dockyard	£1.05	£0.95	£1.35	£0.30 (22%)	£0.40 (30%)
Devonport	£1.05	£0.95	£1.25	£0.20 (16%)	£0.30 (24%)
Average Saving of Rail Per Daily Cost - All Stations				**£0.64 (16%)**	**£1.02 (29%)**
Average Saving – Gunnislake & Calstock Only				**None**	**£1.00 (25%)**
Average Saving – Bere Ferrers and Bere Alston Only				**£1.76 (35%)**	**£2.53 (50%)**

4.2.4 As Table 8 indicates, for all locations travelling to Plymouth, the rail fares are cheaper than the equivalent bus fare (assuming purchase of a return ticket), apart from peak journeys from Gunnislake and Calstock. At off-peak prices,

single trips by rail yield savings from all the stations apart from St. Budeaux, Keyham, Dockyard and Devonport. In general, the rail fare offers an average saving of £0.64 (16%) peak and £1.02 (29%) off peak over the equivalent bus fare.

Table 9: Tamar Valley Rail Fares to Plymouth Compared with Local Bus – Weekly Season

From	Rail (Week)	Rail (week per 10 trips)	Bus Week	Bus (week per 10 trips)	Week saving of Rail (%)	Per 10 Trips saving (%)
Gunnislake	£26.70	£2.67	£30.00	£3.00	£3.30 (11%)	£0.33 (11%)
Calstock	£25.50	£2.55	£30.00	£3.00	£4.50 (15%)	£0.45 (15%)
Bere Alston	£21.00	£2.10	n/a	n/a	n/a	n/a
Bere Ferrers	£18.60	£1.86	n/a	n/a	n/a	n/a
St Budeaux	£9.10	£0.91	£18.00	£1.80	£8.90 (49%)	£0.89 (49%)
Keyham	£6.60	£0.66	£14.00	£1.40	£7.40 (53%)	£0.74 (53%)
Dockyard	£5.90	£0.59	£14.00	£1.40	£8.10 (58%)	£0.81 (58%)
Devonport	£5.90	£0.59	£14.00	£1.40	£8.10 (58%)	£0.81 (58%)
Average Saving of Rail Per Weekly Cost – All Stations					**£6.71 (41%)**	**£0.67 (41%)**
Average Saving – Gunnislake & Calstock Only					**£3.90 (13%)**	**£0.39 (13%)**
Average Saving – Bere Ferrers and Bere Alston Only					n/a	n/a

4.2.5 Compared to the daily tickets, the season tickets on the railway are even more cost effective than the bus equivalents. As season tickets do not have any cost differential between peak and off peak (and require a minimum of 10 return trips to be cost effective), the savings indicated in Table 9 are significantly higher than those for daily tickets.

Table 10: Tamar Valley Rail Fares to Plymouth Compared with Car

From	Rail Peak Fare (return x 50%)	Rail Off Peak Fare (return x 50%)	Car Peak Costs	Car Off Peak Costs	Peak saving of Rail (%)	Off Peak saving of Rail (%)
Gunnislake	£4.55	£3.00	£19.36	£16.06	£14.81 (76%)	£13.06 (81%)
Calstock	£4.40	£3.00	£18.10	£14.80	£13.70 (76%)	£11.80 (80%)
Bere Alston	£3.45	£2.55	£14.78	£11.48	£11.33 (77%)	£8.93 (78%)
Bere Ferrers	£3.20	£2.55	£16.09	£12.79	£12.89 (80%)	£10.24 (80%)
St Budeaux	£1.60	£1.30	£8.51	£5.21	£6.91 (81%)	£3.91 (75%)
Keyham	£1.30	£1.25	£8.23	£4.93	£6.93 (84%)	£3.68 (75%)
Dockyard	£1.05	£0.95	£8.11	£4.81	£7.06 (87%)	£3.86 (80%)

From	Rail Peak Fare (return x 50%)	Rail Off Peak Fare (return x 50%)	Car Peak Costs	Car Off Peak Costs	Peak saving of Rail (%)	Off Peak saving of Rail (%)
Devonport	£1.05	£0.95	£7.88	£4.58	£6.83 (87%)	£3.63 (79%)
Average Saving of Rail Per Daily Cost – All Stations					**£10.06 (81%)**	**£7.39 (79%)**
Average Saving – Gunnislake & Calstock Only					**£14.26 (76%)**	**£12.43 (81%)**
Average Saving – Bere Ferrers and Bere Alston Only					**£12.11 (79%)**	**£9.59 (79%)**

4.2.6 The basis of comparing car travel costs has been as follows:

- Peak car journey (mileage @ £0.57[11] + 8 hours parking @ £6.80 + £1.50 bridge toll for Gunnislake and Calstock journeys only)
- Off peak car journey (mileage @ £0.57 + 4 hours parking @ £3.50 + £1.50 bridge toll for Gunnislake and Calstock journeys only)

Table 10 indicates the substantial cost savings that the rail service provides compared with the car, which is an average of 80%.

4.2.7 However, this value is reduced somewhat by a number of variables that need to be considered:

- Some rail users will use a car for the first leg of their journey to the rail station, and so incur mileage and possibly parking charges in additional to the cost of the rail ticket;
- The cost-effectiveness of the rail fare is much weaker when there are multi-occupancy trips by car. However, with the savings all being greater than 75%, the car is only a cheaper option if four or more persons are travelling.

  The convenience and utility value of a car must also be considered – for example, in circumstances of foul weather or where bulky shopping or luggage need to be conveyed.

[11] *RAC rate for 1800cc petrol vehicle* http://www.emmerson-hill.co.uk/documents/2016/Motoring_Costs_2016.pdf

Table 11: Tamar Valley Rail Fares to Plymouth Compared with Taxi

From	Miles to Plymouth	Rail Peak	Rail Off Peak	Single Taxi Fare	Peak saving of Rail (%)	Off Peak saving of Rail (%)
Gunnislake	18.5	£4.55	£3.00	£41.06	£36.51 (90%)	£38.06 (93%)
Calstock	16.9	£4.40	£3.00	£38.10	£33.70 (88%)	£35.10 (92%)
Bere Alston	12.7	£3.45	£2.55	£19.76	£16.31 (82%)	£17.21 (87%)
Bere Ferrers	10.2	£3.20	£2.55	£16.46	£13.26 (81%)	£13.91 (85%)
St Budeaux	3.3	£1.60	£1.30	£7.36	£5.76 (78%)	£6.06 (82%)
Keyham	2.5	£1.30	£1.25	£6.30	£5.00 (79%)	£5.05 (80%)
Dockyard	2.3	£1.05	£0.95	£6.04	£4.99 (83%)	£5.09 (84%)
Devonport	1.8	£1.05	£0.95	£5.38	£4.33 (80%)	£4.43 (82%)
Average Saving of Rail Per Daily Cost – All Stations					**£14.98 (83%)**	**£15.61 (87%)**
Average Saving – Gunnislake & Calstock Only					**£35.11 (89%)**	**£36.58 (93%)**
Average Saving – Bere Ferrers and Bere Alston Only					**£14.79 (82%)**	**£15.56 (86%)**

4.2.8 Taxi fares are calculated from Hackney tariffs from Cornwall Council (Caradon Zone) and Plymouth City Council. West Devon's taxis do not use a Hackney tariff and are variable – for the illustration above for Bere Alston and Bere Ferrers, Plymouth City Council's tariff has been used. This is logical for single taxi journeys *from* Plymouth but not for travelling *into* Plymouth. Likewise, journeys from Gunnislake and Calstock using local taxis are subject to the higher fare tariffs set by Cornwall Council, and a return would be potentially cheaper.

4.2.9 As would be expected, the equivalent taxi fares are significantly higher than the rail fares, taxi being a premium bespoke door-to-door facility. It should be borne in mind, however, that passengers are expected to pay tolls to cross the Tamar Bridge (£1.50 has been added to the Gunnislake and Calstock fares to reflect this). However, a more realistic comparison would be where four passengers share a taxi journey. In all such cases, the taxi would still be over twice as expensive as the train.

4.2.10 Table 12 takes the above information and incorporates it into a single table showing the cost impact for travellers to Plymouth if the railway was not there, based on the alternative modes available to respondents to the rail user surveys. It can be seen that an annual saving of just under £900k is identified.

Table 12: Annual Travel Cost Savings for Rail Users Travelling to Plymouth

Mode	Peak Journeys Origin Devon Stations	Savings	Off Peak Journeys Origin Devon Stations	Savings	Peak Rail Journeys Origin Cornwall Stations	Savings	Off Peak Journeys Origin Cornwall Stations	Savings	Total Saving Gained By Rail Use
Rail	11,576	-	18,384	-	23,150	-	47,272	-	-
Car	6,020 (52%)	£52,133	11,214 (61%)	£64,032	12,733 (55%)	£181,573	34,981 (74%)	£434,814	£732,552
Bus	1,621 (14%)	£1,313	1,471 (8%)	£1,515	2,315 (10%)	-	3,309 (7%)	£3,309	£6,137
Taxi	0	-	0	-	463 (2%)	£16,256	945 (2%)	£34,568	£50,824
None	3,935 (34%)	-	5,699 (31%)	-	7,639 (33%)		8,037 (17%)		
								Total Savings – Plymouth Journeys	£789,513
								Estimated Additional Savings – Season / Discount Tickets	£8,000
								Estimated Additional Savings – Journeys to and from Other Stations	£100,000
								Total Value of Travel Cost Savings to Rail Users over other Modes	**£897,513**
								Total Value of Travel Cost Savings to Rail Users over other Modes - Cornwall	**£762,320**
								Total Value of Travel Cost Savings to Rail Users over other Modes - Devon	**£135,193**

4.3 Travel Time

4.3.1 A well–established metric for transport valuation is travel time. This approach identifies travel time as a quantifiable concept and time saved can be expressed as a financial value. DfT's WebTAG data provides updates of national average values ascribed to travel time that can be applied to transport valuation. WebTAG describes these as follows:

"Values of travel time reflect:

- *the amount of money a traveller is willing to pay to save time*
- *the benefit a traveller would receive from being able to put 'saved' time to alternative uses following a transport investment.*

Travel time savings typically account for a large proportion of the benefits of major transport infrastructure. For this reason they play an important role in policy making and investment decisions."[12]

4.3.2 WebTAG's valuation is defined as the amount of money a traveller is willing to pay to save time. This is derived from the willingness to pay concept that reflects the theoretical premium people are prepared to pay to save time. This value differs between income bands and WebTAG provides an average figure (from incomes below £20k, between £20-40k, and above £40k) for three different purposes ('Commuting', 'Other', and 'All non-work'). Current average values[13] (December 2017) are:

- £9.95 per hour – commuting (peak) / £0.16 per minute
- £4.54 per hour – other / £0.08 per minute
- £5.93 per hour – all non-work (off peak) / £0.10 per minute

4.3.3 Although this valuation is designed to inform investment and costing decisions that might, for example, determine tolerance of specific fare levels, it can be applied to travel time differences between modes. For the Tamar Valley line, this is illustrated in Table 13 and Table 14 below which compares rail journey times to Plymouth and Devonport from each station and equivalent journey times by other modes. In cases where the rail journey time is shorter, this can be expressed as a financial value using current WebTAG values. More realistically, this is illustrated financially only where the rail journey saves time over equivalent car journeys.

[12] https://www.gov.uk/government/publications/values-of-travel-time-savings-and-reliability-final-reports
[13] https://www.gov.uk/government/publications/webtag-tag-data-book-december-2017

Table 13: Journey Times to Plymouth (minutes)

From	Rail	Car (peak 8.30 am)	Car (off peak 11 am)	Bus (peak 8.30 am)	Bus (off peak 11 am)	Cycle	Time Saved by Rail over Car (peak)	Time Saved by Rail over Car (off peak)	Value of Time Saved (peak) over car @ £0.16 per min	Value of Time Saved (off peak) over car @ £0.10 per min
Gunnislake	45m	40m	37m	97m	90m	120m	-5m	-8m	-	-
Calstock	34m	41m	39m	107m	100m	135m	7m	5m	£1.12	£0.50
Bere Alston	25m	40m	39m	115m	95m	92m	15m	14m	£2.40	£1.40
Bere Ferrers	20m	43m	39m	108m	108m	61m	23m	19m	£3.68	£3.04
St Budeaux	11m	14m	11m	17m	15m	27m	3m	0m	£0.48	-
Keyham	9m	11m	8m	18m	18m	20m	2m	-1m	£0.32	-
Dockyard	7m	10m	9m	25m	25m	14m	3m	2m	£0.48	£0.20
Devonport	5m	9m	7m	14m	14m	12m	4m	2m	£0.64	£0.20

Table 14: Journey Times to Devonport (minutes)

From	Rail	Car (peak 8.30 am)	Car (off peak 11 am)	Bus (peak 8.30 am)	Bus (off peak 11 am)	Cycle	Time Saved by Rail over Car (peak)	Time Saved by Rail over Car (off peak)	Value of Time Saved (peak) over car @ £0.16 per min	Value of Time Saved (off peak) over car @ £0.10 per min
Gunnislake	40m	40m	35m	107m	102m	120m	0m	-5m	-	-
Calstock	29m	41m	39m	117m	112m	135m	12m	10m	£1.92	£1.00
Bere Alston	22m	40m	35m	99m	100m	100m	18m	13m	£2.88	£1.30
Bere Ferrers	25m	43m	42m	120m	120m	104m	18m	19m	£2.88	£1.90
St Budeaux	7m	14m	9m	18m	18m	22m	7m	2m	£1.12	£0.20
Keyham	4m	11m	4m	13m	13m	12m	7m	0m	£1.12	-
Dockyard	2m	10m	4m	12m	12m	5m	8m	2m	£1.28	£0.20
Plymouth	3m	9m	6m	16m	16m	15m	6m	3m	£0.96	£0.30

4.3.4 Time values in the table are sourced as follows:

- Rail journey times were as timetabled.
- Journeys are measured to and from rail station postcodes or nearest bus stops.
- Bus journey times taken from http://nationaljourneyplanner.travelinesw.com Where options are available around the same timeframe, the quickest journey has been selected.
- Sample car journey times are taken from www.theaa.com/route-planner/index. As these use live traffic data, they vary according to time of journey and road conditions – these were tested on a number of days during January 2018 to ensure that they represented a reasonable average rather than exceptional conditions.
- Cycle journey times taken from https://www.cyclestreets.net/journey/ selecting 'Fastest Route' and 'Cruising Speed' (12.5 mph).

4.3.5 As the key comparison is between a journey by car and by rail, the following differences need to be noted:

- Car journeys will involve multiple origin and destination locations which may lengthen or shorten the journey time;
- Travel time by rail will involve some time expended getting to the station, and in some cases the time taken to purchase a ticket (if done prior to travel) which also may lengthen or shorten the journey time – this is not included in the overall travel time;
- Car journeys often necessitate additional time to park (and in some cases the purchase of a ticket) – this is not included in the overall travel time;
- The relative costs of travel (i.e. the fare or fuel costs) are not considered in this exercise;
- Both rail and road routes are subject to extraneous conditions and factors that can cause delay.

Taking into account the above differentials, it can be assumed that these factors are more or less even for rail and car, and therefore can be excluded from consideration.

4.3.6 It should be noted that the operating speed on the Tamar Valley line is 55 mph (half the speed of some mainline routes) – future upgrades and technology improvements have the potential to reduce the rail travel times further. It is also noted that the A388 / A38 road route from Gunnislake and Calstock can be subject to unexpected delays in the event of incidents which

obstruct the Tamar Bridge, especially for Plymouth-bound traffic which has a single lane.

4.3.7 Table 15 and Table 16 below indicate the travel time savings for both peak and off-peak journeys to Plymouth and Devonport (which represent the bulk of commuter traffic on the route). Travel time savings could be calculated in this way between all stations for all trips but the minimal savings made between some locations and the laborious process involved to work through each permutation means that this approach has not been considered worthwhile for the present study.

Table 15: Valuation of Travel Time Saving Over Equivalent Car Journey Per Annum (Journeys to Plymouth)

	Single Peak Trips	Time Saved by Rail over Car -peak	Total Time Saved – peak	Value of Time Saved @£0.16 per min	Single Off-peak Trips	Time Saved by Rail over Car (off peak)	Total Time Saved – Off peak	Value of Time Saved @£0.10 per min	Total Value Peak + Off Peak
Gunnislake	12,131	-5m	n/a	n/a	34,141	-8m	n/a	n/a	n/a
Calstock	11,019	7m	77,133m	£12,341	13,131	5m	65,655m	£6,566	£18,907
Bere Alston	11,019	15m	165,285m	£264,456	12,474	14m	174,636m	£17,464	£281,920
Bere Ferrers	557	23m	12,811m	£2,050	4,596	19m	87,324m	£8,732	£10,782
St Budeaux	-	3m	-	-	657	0m	-	-	-
Keyham	-	2m	-	-	657	-1m	-	-	-
Dockyard	-	3m	-	-	-	2m	-	-	-
Devonport	-	4m	-	-	-	2m	-	-	-
TOTAL	**34,726**	**-**	**255,229m**	**£278,847**	**65,656**	**-**	**327,615**	**£32,762**	**£311,609**
Value of Travel Time Journeys from Cornwall to Plymouth									**£18,907**
Value of Travel Time Journeys from Devon to Plymouth									**£292,702**

4.3.8 Peak and off peak trips to Plymouth are derived as follows: based on the 360 respondents to the rail user survey, 52% of all trips have a Plymouth destination, of which 18% are peak journeys (for work and education purposes) and 34% (all other purposes). These percentages have then been multiplied in line with the 193,107 total trips.

Table 16: Valuation of Travel Time Saving Over Equivalent Car Journey Per Annum (Journeys to Devonport)

	Single Peak Trips	Time Saved by Rail over Car -peak	Total Time Saved – peak	Value of Time Saved @£0.16 per min	Single Off-peak Trips	Time Saved by Rail over Car (off peak)	Total Time Saved – Off peak	Value of Time Saved @£0.10 per min	Total Value Peak + Off Peak
Gunnislake	7,338	0m	n/a	n/a	2,124	-5m	n/a	n/a	n/a
Calstock	2,124	12m	25,488m	£4,078	541	10m	5,410m	£541	£4,619
Bere Alston	5,793	18m	104,274m	£16,684	1,159	13m	15,067m	£1,508	£18,192
Bere Ferrers	541	18m	9,738m	£1,558	541	19m	10,279m	£1,028	£2,586
St Budeaux	0	7m	-	-	0	2m	-	-	-
Keyham	0	7m	-	-	541	0m	-	-	-
Dockyard	0	8m	-	-	0	2m	-	-	-
Plymouth	1,159	6m	6,954m	£1,113	541	3m	1623m	£162	£1,275
TOTAL	**16,955**	**-**	**146,454m**	**£23,433**	**5,447**	**-**	**32,379m**	**£3,239**	**£26,672**
Value of Travel Time Journeys from Cornwall to Devonport									**£4,619**
Value of Travel Time Journeys from Devon to Devonport									**£22,053**

4.3.9 Peak and off peak trips to Devonport are derived as follows: based on the 360 respondents to the rail user survey, 12% of all trips have a Devonport destination, of which 9% are peak journeys (for work and education purposes) and 3% (all other purposes). These percentages have then been multiplied in line with the 193,107 total trips.

4.3.10 Travel time savings between each of the intermediate stations are more modest and, similar to the travel cost savings above, would require extensive tabulation to calculate. In lieu of this, we estimate the combined peak and off peak savings to destinations other than Plymouth and Devonport to amount to £50,000.

Table 17: Total Travel Time Savings Per Annum

	Devon Savings	Cornwall Savings	TOTAL
All Stations - Plymouth	£292,702	£18,907	£311,609
All Stations – Devonport	£22,053	£4,619	£26,672
Other Stations (estimate)	£26,000	£24,000	£50,000
TOTAL	**£340,755**	**£47,526**	**£388,281**

4.4 Productive Use of Travel Time

4.4.1 An additional level of value can be identified in terms of the ability of the traveller to undertake peripheral activities *during* the journey. The table below describes a number of typical activities that might be undertaken during travel, and scores each against what is possible / permissible for the different transport modes. As is evident, the rail mode enables the maximum flexibility and greatest range of options than the other modes. This contributes a potential greater level of value to the travel time for rail users.

Table 18: Productive Use of Travel Time

Typical Activities During Travel	Rail	Bus	Car (Driver)	Car (Passenger)	Cycle	Walk
Eat / Drink (non-alcoholic)	✓✓	✓✓	✓✗	✓✓	✓✗	✓✗
Drink (alcoholic)	✓✓	✓✓	✓✗ (legal restrictions apply)	✓✓	✓✗ (legal restrictions apply)	✓✓
Sleeping / Snoozing	✓✓	✓✗	✗	✓✓	✗	✗
Read (Hard Copy)	✓✓	✓✗ (can result in motion sickness)	✗	✓✗ (can result in motion sickness)	✗	✓✗
Audio mode devices (hands free)	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Audio mode devices (no hands free)	✓✓	✓✓	✗	✓✓	✗	✓✓

Typical Activities During Travel	Rail	Bus	Car (Driver)	Car (Passenger)	Cycle	Walk
Audio / Visual mode devices (iPhones, tablets, laptops etc.)	✓✓	✓✓	×	✓✓	×	✓×
Interactive Devices needing hand control (iPhones, games, tablets, laptops etc.)	✓✓	✓× (less easy to manage larger devices on bus)	×	✓✓	×	✓×
Recharge / Power connectivity for devices	✓×	✓×	✓✓	✓✓	×	×
Free wi-fi provision*	✓×	✓×	×	×	×	×
Use of on-board toilet facilities	✓✓	✓× (mainly longer distance coaches only)	×	×	×	×
SCORES (TICKS)	**20**	**16**	**6**	**17**	**4**	**10**

Key to Score Values:

✓✓ = activity can be undertaken without any restriction, legal control or level of impracticability

✓× = activity can be undertaken but with some restriction or limitation

× = activity cannot be undertaken due to impracticability, legal restriction or safety concern

(* we understand that Wifi is currently being introduced to GWR trains, and is available on some of the bus services).

4.4.2 Although there is limited direct evidence (and nothing noted in surveys) it can be argued that the additional flexibility that rail offers in enabling passengers to undertake a range of activities during the journey yields benefits for businesses in cases where passengers (employees) use the travel time to conduct business calls and undertake work-related tasks, thus extending the time constraints of the working day. It could also be argued (though not included in the table) that when journeying though areas of scenic beauty (such as Tamar Valley AONB), this is best appreciated by train rather than by car or bus.

4.4.3 Use of travel time on rail journeys has been subject to a number of studies and reports, notably:

- *The Use of Travel Time by Rail Passengers in Great Britain* (2006)[14] by Glenn Lyons, Juliet Jain and David Holley (which uses 2004 data), and

- *Comparing Rail Passengers' Travel Time Use in Great Britain Between 2004 and 2010* (2012)[15] Glenn Lyons, Juliet Jain, Yusak Susilo & Stephen Atkins.

These studies outline how rail travellers use the journey time by activity, and enable an approach to valuation for the Tamar Valley line.

4.4.4 Table 19 below applies the findings of the studies to Tamar Valley commuter journeys, with the following principles:

- the studies were completed at a time when i-phones and tablets were less commonplace, and trains less modified to support them – we have allowed for an increase of activities that would require these devices reflecting 2018 levels of usage;

- in the studies, use of time was segmented into three kinds of journey: 'Commuting', 'Leisure' and 'Business' (although there may be fewer trips on the Tamar Valley line in the latter category), and also between outward and return journeys;

- the studies combine the figures for 'working / studying' which have been separated here to enable a different financial value to be attached to each. Also, the study includes the category 'listening to music / radio' which has been updated to 'Use of devices for social / entertainment purposes'. The proportions of activity have been revised from the 2004 baseline to reflect more recent habits enabled by technology;

- the value of activity per minute (in column four) uses estimates that are valued using the average wage for Devon & Cornwall (£20,000 pa, £10.91 per hour, £0.18 per minute) for working and then at diminishing values for the other activities to which a value can reasonably be attached (some activity categories cannot be valued). The four monetary valued activities are those least likely to be possible by car (as driver), and therefore more highly valued by rail users;

- the journey times have been calculated from the estimated average journey *activity* length (weighted towards trips between Gunnislake, Calstock, Bere Alston and Bere Ferrers to Plymouth) of 25 minutes – not all passengers are engaged in an activity for all of the journey time. Activities may also differ on outward and return legs of the journey – these variables have been factored into the Activity column;

- Commuter trips on the Tamar Valley line (for work or education purposes) number 79,174 per year (61% for work, 39% for education).

[14] http://sand14.com/archive/traveltimeuse
[15] https://www.tandfonline.com/doi/abs/10.1080/17450101.2012.743221

Table 19: Use of Travel Time on Tamar Valley Commuter Journeys to Plymouth and Devonport

Activity (%)	Tamar Valley Trips	Total Time (minutes) @ 25 min average	Value of Activity Per Minute (Estimates)	Total Value of Activity
Commuter / Peak (77,242 trips)				
Reading for Leisure (hard copy / kindle etc) (10%)	7,724	193,100	£0.05	£9,655
Window Gazing / People Watching (15%)	11,586	289,650	-	-
Working (Employees) (20%)	15,448	386,200	£0.18	£69,516
Studying (Students & Pupils) (10%)	7,724	193,100	£0.10	£9,655
Talking to Other Passengers (10%)	7,724	193,100	-	-
Sleeping / Snoozing (10%)	7,724	193,100	-	-
Use of Devices for Social / Entertainment Purposes (20%)	15,448	386,200	£0.05	£19,310
No Specific Activity (5%)	3,864	96,600	-	-
Off Peak (115,865 trips)				
Reading for Leisure (hard copy / kindle etc) (15%)	17,380	434,500	£0.05	£21,725
Window Gazing / People Watching (30%)	34,760	869,000	-	-
Working (Employees) (5%)	5,793	144,825	£0.18	£26,069
Studying (Students & Pupils) (2%)	2,317	57,925	£0.10	£5,793
Talking to Other Passengers (10%)	11,587	289,675	-	-
Sleeping / Snoozing (10%)	11,587	289,675	-	-
Use of Devices for Social / Entertainment Purposes (23%)	26,649	666,225	£0.05	£33,311
No Specific Activity (5%)	5,793	144,825	-	-
Total Value of Travel Time Usage				**£195,034**
Total Value of Travel Time Usage – Cornwall (48%)				**£93,616**
Total Value of Travel Time Usage – Devon (52%)				**£101,418**

4.5 Retail Expenditure

4.5.1 The survey of rail users asked how much money passengers spent on average per trip at retail outlets. Of the 360 survey responses, 318 (88%) passengers selected a level of retail expenditure banded in one of five categories: £0-19, £20-49, £50-99, £100-150 and over £150. Each passenger also indicated how

often they make such trip. For the purpose of this analysis we have assumed that the level of expenditure is mid-way within the banding, and assumed expenditure over £150 averages at £200. The trip frequencies have been multiplied to give an annual expenditure figure per return passenger trip with a total of 31,623 in the survey sample. Finally, this trip count from the survey sample is multiplied by 268% to reflect the total annual return trips: 96,500 x 88% who expended money at a retail outlet = 85,000 (rounded) which is 268% greater than the survey sample.

Table 20: Annual Retail Expenditure of Tamar Valley Rail Users

Expenditure Level (banding mid-point)	Number of Trips in Survey Sample	Retail Expenditure of Survey Sample	Number of Total Trips @ 269% of Survey Sample	Total Retail Expenditure
£10	15,526	£155,260	41,765	£417,649
£35	10,527	£368,445	28,318	£991,117
£75	3,712	£278,400	9,985	£748,896
£125	1,370	£171,250	3,685	£460,663
£200	488	£97,600	1,313	£262,544
TOTAL	**31,623**	**£1,070,955**	**85,066**	**£2,880,869**
			Retail Expenditure Journeys from Cornwall (48%)	**£1,382,817**
			Retail Expenditure Journeys from Devon (52%)	**£1,498,052**

4.5.2 The £2,880,869 figure represents the total retail spend that is undertaken by rail users. However, this cannot be exclusively attributed to the railway alone. We can assume that a portion of this would simply be displaced if other travel modes were used. Given that use of a car or taxi enables a more constricting level of shopping (more easily accommodating bulky items or multiple bags) it is difficult to argue that the rail service alone would support any high or exclusive value of retail expenditure. Online shopping options (and especially supermarket home delivery facilities) would make other significant inroads into this value if the rail line were not there.

4.6 Leisure Expenditure

4.6.1 In addition to the retail expenditure, the survey of rail users asked how much money passengers spent per average per trip on leisure activities. Of the 360 survey responses, 317 (also 88%) passengers selected a level of leisure expenditure banded in one of five categories: £0-19, £20-49, £50-99, £100-150 and over £150. Each passenger also indicated how often they make such trip. For the purpose of this analysis we have assumed that the level of expenditure is mid-way within the banding, and assumed expenditure over £150 averages at £200. The trip frequencies have been multiplied to give an annual expenditure figure per return passenger trip with a total of 30,446 in

the survey sample. Finally, this trip count from the survey sample is multiplied by 279% to reflect the total annual return trips: 96,500 x 88% who expended money on leisure = 84,920 which is 279% greater than the survey sample.

Table 21: Annual Leisure Expenditure of Tamar Valley Rail Users

Expenditure Level (banding mid-point)	Number of Trips in Survey Sample	Retail Expenditure of Survey Sample	Number of Total Trips @ 279% of Survey Sample	Total Retail Expenditure
£10	16,213	£162,130	45,234	£452,343
£35	9,439	£330,365	26,335	£921,718
£75	3,594	£269,550	10,027	£752,045
£125	886	£110,750	2,472	£308,993
£200	314	£62,800	876	£175,212
TOTAL	**30,446**	**£935,595**	**84,944**	**£2,610,310**
			Retail Expenditure Journeys from Cornwall (48%)	**£1,252,949**
			Retail Expenditure Journeys from Devon (52%)	**£1,357,361**

4.6.2 The £2,610,310 figure represents the total leisure spend that is undertaken by rail users. As with the retail value, this cannot be exclusively attributed to the railway alone. Likewise, we can assume that a portion of this would simply be displaced if other travel modes were used. However, leisure expenditure is not about buying a product or commodity that might be then taken home – the expenditure profile for leisure is more diverse and less able to be served online orders and home deliveries. Leisure expenditure would also incorporate that made by tourists (also with retail expenditure to a lesser extent). Due to the time of the survey, fewer tourists would be using the Tamar Valley line. It can, however, be argued that commuter spend on leisure and retail would be reduced during school holidays (especially the six week summer period) and for the purpose of this valuation we have assume that the two would be roughly equal.

4.7 Value to Health & Social Care

4.7.1 Over the past few years there has been considerable research that has linked active lives (assisted by use of public transport – including elements of walking) with health benefits (both mental and physical). These benefits are especially significant for older persons who might otherwise be experiencing the need for increasing healthcare interventions. This is a saving to the state (NHS & Local Authorities) that would need to be illustrated by comparing cohorts of individuals in roughly equivalent situations - those with access to rail services and those without, and the differential healthcare needs that result over a long term. Since many other factors may also impact on health, it is difficult to ascribe benefits exclusively to use of rail or bus. Nonetheless,

the continued use of public transport (and Tamar Valley line) would contribute to the active and healthy lives of passengers and delay or defer the need for health or social care support. This is difficult to monetise with any degree of precision. 38,621 journeys per year are undertaken by passengers who are aged over 60, and 21,247 of these involve the passenger walking to and from the station.

4.8 Value to Environment

4.8.1 The key contribution to the environment of the rail service is its impact on reducing car journeys (known as modal shift). Rail, in common with other collective transport activity, can displace with one train unit hundreds of equivalent car journeys. This benefit is most critical:

a) in areas where the natural landscape and habitat are at risk of greater damage from continuing car use;

b) at times / places when congestion is likely to occur due to sheer bulk of traffic (e.g. peak 'rush hour' etc.), and

c) in dense urban locations where air quality is most threatened by emissions.

4.8.2 The benefits of reducing car usage can be measured in the following ways:

a) Fuel costs savings for individuals

b) Energy savings – a strategic benefit to the State

c) CO_2 / Carbon footprint

d) Particulates / Pollution

e) Accidents.

4.8.3 The rail service can be valued for its function to reduce car journeys in cases where rail users have stated that the car would be their alternative main mode of travel. The rail user survey indicated that if the rail service were not there, then 58% of journeys (totalling 112,002) would be undertaken by car - webTAG states that average car occupancy rates are 1.5 persons per trip, so this is factored into the calculations of the number of equivalent car journeys – 112,002 rail trips would reduce to 74,668 car trips.

4.8.4 Additionally, if half of the 28% who selected 'non alternative mode' also revert to car use, this means that a further 14% of current rail journeys would be displaced to cars. Factoring in the average car occupancy rate of 1.5 persons per journey, this suggests that an additional 18,023 car journeys per year would be likely.

4.8.5 Finally, 2.8% of current trips are by passengers who use a cycle to get to and from the rail stations – we estimate the average distance being cycled is per trip is 2.5 miles. Without the train, this cycle feeder usage might also be expected to revert to car mileage.

Table 22: Car Mileage Equivalent of Rail Trips

Journey	Rail Trips	Car Trips /1.5	Distance by Road	Total Car Mileage
Gunnislake – Plymouth / Devonport	46,345	30,897	18.5	571,595
Calstock - Plymouth / Devonport	30,897	20,598	16.9	348,106
Bere Alston - Plymouth / Devonport	25,104	16,736	12.7	212,547
Bere Ferrers - Plymouth / Devonport	5,793	3,862	10.2	39,392
Other Trip Permutations	3,863	2,575	7*	18,025
Cycle feeder usage	5,407	3,605	2.5	9,013
TOTAL	**117,409**	**78,273**	**-**	**1,198,678**

(*estimate of average journey length between other stations.)

4.8.6 The following calculations are based on the following:

- 59% of cars use petrol, 40% use diesel and 1% alternate fuels[16] – the latter has been eliminated from the calculation;
- 99% of the 1,198,678 miles = 1,186,691 / 1,909,386 Kms;
- Cost values from EU Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles.[17]
- **Fuel Costs (savings to motorist)** – costs take an average of 3 engine size bands in the Government's "How Advisory Fuel Rates are Calculated" (2018)[18] and use applied MPG rates (i.e. realistic performance data rather than manufacturer's claims) and cost per mile rates of £0.16 (petrol) and £0.11 (diesel);
- **Energy (saving to State)** – in addition to fuel cost data above, this uses fuel consumption rates 5.47 litres diesel and 7.47 litres petrol per 100km, with duty rate (57.95ppl) from Dept for Business, Engery & IS Weekly Road Fuel Prices;
- **CO_2 (saving to State)** is based on RAC Foundation figure from 2015 which reported the average car as emitting 153.0g/Km;

[16] https://www.gov.uk/government/statistical-data-sets/veh02-licensed-cars#table-veh0202
[17] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32009L0033&from=EN
[18] https://www.gov.uk/government/publications/advisory-fuel-rates/how-advisory-fuel-rates-are-calculated

- **Particulates (saving to State)** – this calculation has used emissions figures from Ford Mondeos: 2.0 diesel (post 2010 model) and 1.8 petrol (post 2004 model) as proxies for typical ages and models of vehicles.

- **Accidents (saving to State)** – uses official accident cost and incidence per distance travelled by mode statistics (see 4.8.7 below).

Table 23: Cost Savings of Car Journeys

1,909,386 kms of Additional Car Journeys Per Year	Cost Saved
Fuel Cost = £113,155 (petrol) and £52,742 (diesel)	£165,897
Energy Cost = 4,239,253 Megajoules total	£56,370
CO_2 emitted = 292,136 kgs total	£8,998
Particulate emissions = 1.1 tonnes of NOx and particulates saved	£11,587
Accident Costs	£42,000
TOTAL	**£284,852**
Cost Saved Per Passenger Journey	**£3.69**
Cost Saved Per Car Mile	**£0.24**

4.8.7 Accident savings are an additional benefit of modal shift as rail travel sees significantly fewer fatalities or injuries to passengers than road transport in general and cars in particular. In 2016 / 2017 there were a reported 15 fatalities amongst rail passengers and 6,866 injuries (266 classed as 'major') – this was an atypically high year for rail fatalities. The statistics for car occupants (2016) were 816 fatalities and 99,255 injuries (8,975 classed as 'major'). Clearly the statistics have to be understood in the context of modal frequency of journeys.

4.8.8 Table 24 below compares the relative cost of accidents involving cars and rail, and indicates the savings that the railway achieves that would otherwise occur through accidents if the trips default to the car. This was derived from UK government accident statistics[19]. An anticipated annual saving of £38,450.

Table 24: Accident Cost Savings from Use of Rail Compared with Car

Mode	Accident Rates (Per Billion Km)	Cost per Average Accident	Cost (Per Billion Km)	Tamar Total Car Mileage (Out of a Billion Km)	Tamar Trips	Tamar Trips Per Billion Km	Tamar Cost Per Trip	Tamar Total Allocated Cost of Accidents
Car	260	£83,893	£21,772,059	0.0019	78,273	40,575,190	£0.54	£42,000
Rail	24	£76,466	£1,840,062	0.0019	117,409	60,862,525	£0.03	£3,550

[19] https://www.gov.uk/government/statistical-data-sets/ras60-average-value-of-preventing-road-accidents *and* https://www.gov.uk/government/statistical-data-sets/rai05-rail-accidents-and-safety

4.9 Economic Benefits

4.9.1 The rail line contributes to the economic status of the areas it serves. This can be defined as:

- Direct benefit – the portion of rail industry expenditure deployed on the line (including Network Rail services, GWR services, DCRP) – this can be estimated as £250,000 (gross). To this sum can be added £151,000 supply chain value directly related to the rail industry activity in the area.

- Indirect benefit - the portion of the collective business value of the areas served that can be argued to be explicitly generated or supported through rail activity – this is estimated at no greater than 1%.

4.9.2 In the absence of detailed economic data relating to business interests in the areas served (and their relation to rail activity), proxy values can be used to arrive at an estimate using latest figures for Gross Value Added (GVA). GVA is the value generated by any unit engaged in the production of goods and services, and is reported periodically by the Office of National Statistics.[20] GVA figures are not available at sub-district level. The rationale of deriving economic value from GVA is outlined in the report *What is the Contribution of Rail to the UK Economy?* (Rail Delivery Group / Oxera 2014) – see Appendix D para 3.5).

4.9.3 The most recent GVA for the Tamar Valley areas are

- Cornwall (all industries) 2016 value = £9,490m / £17,069 per capita

- West Devon (all industries) 2016 value = £17,371 per capita

Table 25: GVA & Tamar Valley Parishes

Parish	Stations	Population (2011 Census)	GVA average per capita	GVA Total for Parish	Rail Contribution (estimate) @ 1%
Calstock	Calstock & Gunnislake	6,253	£17,069	£107m	£1,070,000
Bere Ferrers	Bere Ferrers & Bere Alston	2,989	£17,371	£52m	£520,000
Gulworthy	Gunnislake	518	£17,371	£9m	£90,000
TOTAL	**-**	**9,760**	**-**	**£168m**	**£1,680,000**

4.9.4 From the point of view of individual benefits from employment (not directly related to the rail industry), Gross Domestic Product (GDP) is used. This represents the monetary value of goods and services produced in an area plus

[20] https://www.ons.gov.uk/economy/grossvalueaddedgva

taxes and minus subsidies, and is a proxy for average salary levels. The GDP for Cornwall is £20,700 per head and £21,400 per head for Devon.[21]

4.10 Multiple Deprivation

4.10.1 Each local area in England is ranked regarding its relative level of deprivation as measured by an index (IMD) maintained by UK Government. The index combines data that reflects:

- Income Deprivation
- Employment Deprivation
- Education, Skills and Training Deprivation
- Health Deprivation and Disability
- Crime
- Barriers to Housing and Services
- Living Environment Deprivation

4.10.2 The Tamar Valley line has clear implications for the five Lower Layer Super Output Area (LSOAs) rankings that include Gunnislake, Calstock, Bere Alston and Bere Ferrers. In can be argued that the facility of a rail service has a positive influence on the deprivation rankings due to the impact of rail across all the measures (Crime is the measure where rail service might have the least impact). There is a general trend that areas with better public transport links are less deprived. The railway has an indirect positive impact on the rankings, with three of the five LSOAs having a ranking higher than the national average.

Table 26: Tamar Valley Station Locations IMD Rankings 2015

Area	LSOA Code	IMD Ranking out of 32,844 (1 is most deprived)	Decile Ranking (1 is most deprived 10% of LSOAs)
Gunnislake and area to west	010B	11,335	4
Gunnislake and area to east	010C	16,782	6
Calstock and areas west and north	010D	13,989	6
Bere Ferrers – all Bere Peninsula apart from Bere Alston	007A	18,445	6
Bere Alston – village only	007B	9,924	4

21 https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/grossdomesticproductpreliminaryestimate/octobertodecember2017

5.1 Survey Approach

5.1.1 In order to gather evidence for the valuation study and to enable rail users and other stakeholders to contribute to the report, three surveys were undertaken during December 2017 and January 2018. These comprised the following:

a) **Rail User Survey** – rail users were surveyed in January 2018 to establish current attitudes and opinions of the line, including feedback on how individuals value the line and its relation to their lifestyles, activities and spending habits;

b) **General Travel Survey** - this supplementary survey has obtained a broader set of feedback from those in the Tamar Valley catchment area who, for whatever reason, are not currently rail users, and

c) **Stakeholder Survey** – this was aimed at capturing input from a range of strategic bodies, business interests and organisations who might be expected to have views and comments relevant to the study.

5.1.2 It should be noted that the content of the surveys a) and b) sought to capture a range of data regarding travel habits, service design and rail service quality issues which were intended to be of wider use to DCRP and GWR, but which do not directly relate to the valuation.

5.1.3 This section of the report provides a short summary of each survey including methodology of approach and response rates and key findings. The full survey findings are included as Appendices A, B and C at the end of the report.

5.2 Rail User Survey

5.2.1 An on-train survey of rail passengers was conducted over four days to include peak, off peak, weekend and weekdays times. 360 responses were usable and analysed to identify travel behaviour and satisfaction with various aspects of service.

5.2.2 63% of passengers are travelling on the Tamar Valley Railway line at least once a week. Gunnislake was the most popular railway station where passengers got on (32%), followed by Bere Alston (19%), Plymouth (19%) and Calstock (16%).

5.2.3 Leisure and work were two of the main journey purposes. For the Cornwall stations, leisure was the main journey reason but in West Devon it was work.

5.2.4 Day return, single and carnet tickets were the most commonly used tickets with a significant fall in usage from them to the weekly/season tickets. The off-peak day return was the most popular ticket used by 28% of respondents. Devon & Cornwall railcard was used significantly more than any other railcard by 42%. However, 72% of respondents were eligible to use the railcard. In contrast the Senior Railcard had a great proportion of its available users using it.

5.2.5 A more frequent service on weekdays and Saturdays and a later last train from Plymouth were the top two priorities for respondents when asked which areas they would like to see improved. When rating various aspects of the service, station facilities and the presence of staff stood out as two areas where progress could be made.

5.3 General Transport Survey

5.3.1 TAS produced a general transport survey for the local community and residents to gauge views and travel behaviour on various modes of transport. The survey included sections on bus travel, rail travel, taxi travel, car travel, walking and cycling.

5.3.2 Car travel was by far the most popular mode of transport, with 94% driving at least one day a week – 37% at least 6 days a week. This compares to 15% using rail services once a week and 5% of respondents using bus services once a week; only 1% use taxis more than once a week.

Value for Money

5.3.3 19% of respondents felt that rail services offered good value for money, a similar proportion to those that felt bus services offered good value.

Priorities for Improvement

5.3.4 Asked about priority areas for improvement for bus and rail services, respondents identified 'better frequency' as the top priority for bus services and for rail a 'later last train from Plymouth'. 'Greater availability', meanwhile, was the most popular improvement identified for taxi travel.

Journey Patterns

5.3.5 The most popular bus journeys were between: Tavistock and Gunnislake; followed by Tavistock and Calstock; and then Tavistock and Bere Alston.

5.3.6 The top three points of origin for rail journeys were: Gunnislake then Calstock and Bere Alston. Plymouth is by far the most popular destination for rail travellers; London and Calstock also feature but are nowhere near the same scale.

5.3.7 14% of respondents said they usually purchase the carnet discounted ticket from DCRP compared to 63% who normally purchase a day return.

Car versus Public Transport

5.3.8 Respondents were asked why they use their own car in preference to public transport. Car travel was deemed more convenient by 21% of respondents; 16% said driving was less restrictive and 14% said it provided them better access. Speed was a less significant factor, only identified by 11% of respondents; the same proportion cited having space for luggage.

5.4 Stakeholder Survey

5.4.1 The stakeholder survey gathered the views of businesses and organisations in Cornwall and West Devon on the economic value of the Tamar Valley Railway Line – whether, for example, by connecting local businesses to their customers or by boosting the tourist economy.

5.4.2 TAS consulted approximately 200 local agencies and organisations via a short online survey of 10 largely closed questions on the economic benefits the line might bring. More in-depth research took place via one-to-one telephone interviews and, as requested, by some stakeholders, email exchanges asking two central questions:

- What economic value do you think the Tamar Valley Railway holds for the areas it serves?
- Do you think the Railway holds economic benefit for your organisation and if so, how?

5.4.3 50 respondents answered the online survey of 10 questions and we communicated with 13 respondents for the more in-depth research. Below are the key findings of the online survey:

5.4.4 92% - had heard of the Tamar Valley Railway line while the remainder.

- When asked about how often they used the railway, 6% said they had never used the railway. The majority of consultees in the stakeholder survey only use the railway now and again; 27% use the Tamar Valley line once or twice a year; 16% once a week or more and only 2% said they used the line more than once a week.
- 14% of stakeholders surveyed said they used the line for business related trips – with 76% using the line for other purposes. When asked about commuting, only 2% said they used the line to commute to work.
- 34% said they were aware of at least a few of their staff who use the line for commuting and 36% of consultees said staff sometimes use the line for business trips.

- The line plays a strong role in connecting organisations to customers – a healthy 60% said their customers use the line, with 13% of these using the line a lot.

- Respondents were asked to identify which economic benefits they felt the line offers, from a prompted list. The top three answers were: boost to tourism by providing access to tourist attractions (27%); access to the leisure industry (23%) and retail and shopping access (19%). Only 1% felt there was value from links to education and training.

5.4.5 Conversations and interactions with stakeholders during the more in-depth aspects of the research provided invaluable statements of support and value for the line. These have been captured below:

Table 27: Statements of Support for the Tamar Valley Railway

Stakeholder	Quotation
Dorothy Kirk, Cornwall Councillor for Gunnislake and Calstock	"The whole economic future of the area depends on access to the rest of the world – which is what the railway provides and there is no direct road to Plymouth so the railway is a lifeline."
George Cowcher, Devon Chamber of Commerce	"It is an important umbilical cord for that part of the world in bringing in workers, students and anyone who wants to make use of Plymouth's facilities. This is particularly the case in bringing workers in from the very far end in the very remote Gunnislake and crossing the Tamar." "The line is a very important part of the infrastructure and certainly, in terms of leisure and tourism, it runs up a highly attractive area."
Jo Thomas, Visitor Services Assistant, Visit Plymouth	"The main thing Visit Plymouth recommend the line for is the links to Gunnislake and Calstock – where people can visit National Trust houses particularly Cotehele which is a short walk along the river and very beautiful. This is forever the recommendation during the summer and the line is perfect from Plymouth – it is cheap and takes tourists through lots of natural countryside. The line is very well used."
Rosie Brennan - Calstock Refugee Outreach Group	"In our Outreach Group, the railway is a vital link which connects the rural community of Calstock with refugees and asylum seekers in Plymouth who are often isolated and orientating themselves to a new city/region."
Jo Stirling – Owner of Calstock Bear Necessities Mobile Shop	"We would really struggle if we didn't have the Tamar Valley Railway line. It is a really valuable transport network and most of the village think the same."
Dianne Evans - City College Plymouth	We do have staff who use this rail link to commute to work - this is generally a much quicker mode of transport that by car - from Calstock, the journey time to Devonport is 30 mins and a 40 min journey time from Gunnislake.

5.4.6 The more in-depth research with stakeholders puts a strong spotlight on:

- the value of the line in connecting people to Plymouth – particularly in connecting employees and students with workplaces and places of learning respectively in Plymouth;
- the invaluable role the line plays in connecting visitors to tourist attractions (and indeed as a tourist attraction in itself);
- a vital form of transport access – specifically a quicker and much more direct alternative than routes provided by road to Plymouth; this point has strong marketing potential for the Tamar Valley Railway line in encouraging modal shift and new passengers.

6.1 Benefit of Changes to Tamar Valley Rail Service

6.1.1 The brief requires this report to:

- identify the impact upon the community if the service were removed / less frequent / longer journey times, and to
- identify the benefit to particularly Bere Ferrers and Bere Alston if the service frequency were to improve (especially with the reopening to Tavistock).

6.1.2 These scenarios have not been tested via the surveys that have been undertaken, although the surveys did, however, glean user input into what improvements could be made to the service, and what alternative modes of travel would be used.

6.2 Changes to Current Service

Later Train from Plymouth

6.2.1 In the rail user survey, 51% of passengers from Cornish stations and 55% of passengers from Devonian stations requested a later train from Plymouth. This was backed up by the General Travel Survey where 23% of Cornish residents and 24% of West Devon residents who responded also requested this, so for both areas this was the top request.

6.2.2 A later departure between 22:30 and 23:00 would not only allow passengers to stay out longer in Plymouth but would also give a connection from the 19:03 from London Paddington, which arrives in Plymouth at 22:22, alongside a couple of Cross Country services which would allow passengers to depart later on journeys from Birmingham and Bristol. The 22:42 Plymouth – Penzance runs non-stop to Saltash, therefore a later Gunnislake service would additionally benefit travellers to Keyham and St Budeaux.

6.2.3 Currently the last train of the day from Gunnislake works through to Exeter, meaning that both of the options for a later service would require an additional unit and crew. The first option is to move the last departure back by an hour, which would have the additional benefit of allowing the unit (although probably not the crew) to work an additional return working around 20:00. Pushing the last train later would mean the service to Exeter would either run an hour later or have to be worked by a separate unit, however this would allow for:

- A better spacing of evening services;

- Some shops in Drakes Circus are open until 18:00, leaving only a short window for staff or shoppers to catch the 18:23;

- Connections from the:

  - 16:03 from London (arrives 19:28) and,

  - 16:12 from Birmingham and 17:44 from Bristol.

6.2.4 The second option is to keep the evening services as per current timetable but operate an extra service around 23:00. This would allow the 22:21 to continue on to Exeter as now – this service clears the single track on the Tamar Valley route at around 22:55 so would not prevent a later journey but would still require an extra unit. If it were to use the unit off the 22:21 ex-Gunnislake (with the 23:11 to Exeter worked by a separate unit) then departure time would be 23:10 at the earliest – this might be considered too late for some people although it would allow a connection from the 23:07 arrival from Manchester (21:13 from Bristol).

6.2.5 Just under a third of respondents to the on train survey from Devon stations and just over a quarter from Cornish stations showed a desire for an improved frequency on a Sunday. The current frequency is roughly two-hourly throughout the day, however this does mean that there is over an hour wait at Plymouth after the shops shut at 4pm.

More Frequent Monday – Saturday Service

6.2.6 This was the most popular improvement for those who filled out the rail user survey boarding in Devon (at 62%) and second most popular for Cornish passengers (at 50% of respondents). It was also the second most popular improvement in the General Travel Survey – 17% of Cornish residents and 19% of West Devon residents.

6.2.7 The best frequency possible using just one unit would be every 100 minutes. Although this is more frequent, it would result in less memorable departure times than every two hours. The current ruling speed of the route is 40 to 55 mph. Given that the section between St Budeaux and Bere Alston was once a mainline railway and the units used to operate the line have a 75mph maximum speed, it could be possible to reduce journey times by increasing the line speed. In practice at least 15 minutes would need to be saved off the round trip time to allow a 90 minute frequency with one unit.

6.2.8 Introducing a second unit and train crew to enhance the frequency is an expensive move and may only be justifiable in the morning and afternoon peaks. There are two ways to increase frequency, timetables are shown in Table 28.

6.2.9 A 90 minute frequency could be achieved by having the trains pass at Keyham. This would not require any additional infrastructure but would mean

that the time between trips at Plymouth would be just over 80 minutes. According to the generalised cost model[22] this would produce a 33% increase in patronage – however there would have to be a sufficient suppressed demand to fulfil this.

6.2.10 An hourly frequency could be achieved through the introduction of infrastructure at Bere Alston to allow trains to pass. The working timetable allowance of four minutes to reverse at Bere Alston should just about work with passing trains, however the dwell time at Gunnislake is extended to around twenty minutes so there is room for additional time at Bere Alston – dwell time at Plymouth would be reduced to seven minutes. According to the generalised cost model this would produce a 66% increase in patronage – however, again, there would have to be a sufficient suppressed demand to fulfil this.

Table 28: Timetable Options for Increased Frequency

Options		Option 1		Option 2	
Location		**Train 1**	**Train 2**	**Train 1**	**Train 2**
Plymouth	Dep	10:54	12:24	10:54	11:54
Keyham	Dep	11:00	12:30	11:00	12:00
Bere Alston	Arr	11:16	12:46	11:16	12:16
	Dep	11:20	12:50	11:20	12:20
Gunnislake	Arr	11:40	13:10	11:40	12:40
	Dep	11:45	13:15	12:00	13:00
Bere Alston	Arr	12:03	13:33	12:18	13:18
	Dep	12:05	13:35	12:22	13:22
Keyham	Dep	12:22	13:52	12:39	13:39
Plymouth	Arr	12:30	14:00	12:47	13:47

6.3 Tavistock Changes

6.3.1 We are aware of three different proposals for operating the Tamar Valley line once the extension to Tavistock is open, these are:

- Hourly service to Gunnislake and Tavistock, joining and dividing at Bere Alston;
- 75 minute Tavistock service with a connecting Gunnislake shuttle at Bere Alston; and

[22] https://trl.co.uk/reports/TRL593 *This is an established demand forecasting tool for public transport (TRL 593) produced by TRL ("a centre of excellence for future transport"), and widely used and promoted by public sector bodies such as Association of Train Operating Companies (ATOC).* http://www.trpa.org/documents/rseis/New%20References%20for%20Final%20EIS/Balcombe%20et%20al%202004.pdf

- 75 minute Tavistock services with alternate trains containing a portion to or from Gunnislake.

6.3.2 The first option is taken from a quote by Ian Harrison from the South West LEP in the February 2018 issue of *Modern Railways*. The other two options are taken from the previous Tamar Valley Line survey undertaken by DCRP.

Hourly Joint Service

6.3.3 This is the preferred option of the South West LEP but would also be the most expensive to introduce due to the extra infrastructure needed. Although headline figures of 33 minutes are given for the Plymouth – Tavistock run, it is unclear what the full timetable will look like.

6.3.4 For passengers from West Devon stations this could provide a doubling of frequency with some potential journey time savings if line speed improvements are part of the package – this would result in a 66% increase in patronage according to the generalised cost model. However it is unclear as to whether Bere Ferrers will be served by all journeys.

6.3.5 For Cornish passengers the increase in frequency will be slightly reduced by an increase in journey time. This will only be around a minute or two extra to join or divide on top of the four minutes to reverse giving a 64% increase in patronage according to the generalised cost model.

75 Minute Tavistock and Shuttle

6.3.6 This is the phase one option according to the *Heart of South West - Local Transport Board 2013* report[23]. This would allow the core Tavistock service to be run by one unit with a second unit shuttling between Bere Alston and Gunnislake.

6.3.7 For passengers from West Devon stations this could provide a 60% increase in frequency with some potential journey time savings if line speed improvements are part of the package – this would result in a 40% increase in patronage according to the generalised cost model. However it is again unclear as to whether Bere Ferrers will be served by all journeys.

6.3.8 For Cornish passengers it is slightly more complicated – whilst there is an increase in frequency, there is also an increase in journey time in having to change trains at Bere Ferrers, which may also make the trip unattractive to some current and potential passengers. Although the *Heart of South West Local Transport Board 2013* report claims that there will be no time penalty to changing at Bere Alston as the time allowed would be the same as the current time taken to reverse, this is highly unlikely. The layout at Bere Alston would have to be heavily remodelled to allow for cross platform interchange, therefore passengers will have to cross from one platform to another via a

[23] *http://heartofswlep.co.uk/wp-content/uploads/2016/09/DCC-Tavistock-Railway-Publication-Version.pdf*

bridge which could take more than four minutes for the less able-bodied passengers. Then there will have to be an amount of slack in the timetable from Gunnislake in order to allow passengers to be in the correct place for the arrival of the Plymouth train at Bere Alston. It would therefore be prudent to apply a ten minute connection allowance at Bere Alston, thus increasing journey times by six minutes. The generalised cost model thus gives a potential 34% increase in patronage from stations in Cornwall.

75 Minute Tavistock 150 Minute Gunnislake

6.3.9 The *Heart of South West Local Transport Board 2013* report gives a five minute journey time saving from Tavistock to Plymouth if the train only stops at St Budeaux Victoria Road. This creates two sub-options for West Devon stations as they may receive a 75 minute service or a 150 minute service.

6.3.10 The 75 minute frequency service would give the same result as that noted in 6.3.7 above. The 150 minute frequency would result in a 3% reduction in patronage according to the generalised cost model, however this could be offset by a reduction in journey time of around three minutes if line speeds were increased.

6.3.11 The generalised cost model gives a 4% reduction in patronage from Cornish stations when the slight increase in journey time for joining or dividing the train is added to the reduction in frequency. This decrease would apply to around 75% of passengers as our on train survey showed that 23% of Cornish respondents had no other means of transport apart from the train.

6.4 No Railway

6.4.1 If there was no railway along the Tamar Valley it is likely that there would be a replacement bus service. This would most likely be two separate services due to the topography, one serving Cornwall via Callington and the other serving Devon via Yelverton. Table 29 sets out the likely journey times from Plymouth by bus based on existing services, both routes could operate every 90 minutes by two vehicles but this would mean replacing one train and crew with four buses and drivers.

Table 29: Journey Time by Bus from Plymouth

Location	Journey Time (minutes)
Bere Ferrers	85
Bere Alston	68
Calstock	64
Gunnislake	75

6.4.1 Although replacement bus services would be cheaper than the train in terms of subsidy, it must be recognised that this would not represent a like for like service, and the journey times and other restrictions and factors (no cycles can be carried, etc.) would deter many passengers. (Table 18 shows some of the differences between bus and rail). The main advantages of buses for the end user would be that older people would be able to use concessionary passes, and buses might stop nearer to where passengers live, instead of them having to make journeys to the rail stations.

6.4.2 In many respects the service being removed would inflict severe damage and disruption across every aspect of the valuation as presented here. It is not possible within the scope of this report to examine these impacts in precise detail, but the primary effects would likely be a significant modal shift to cars, with resulting congestion, pollution, parking overload, accident and cost issues. Current rail users have indicated that they would use the following modes of alternative transport to the train:

- Car 58%
- No alternative mode 28% - some of these would inevitably be displaced to car or bus if forced
- Bus 11%
- Cycle 2%
- Taxi 1%

6.4.3 As detailed in 4.8 above, the rail service ceasing operation would result in 78,273 additional car journeys involving 1,198,678 car miles. The cost of this impact is estimated to be £284,852 per year (see 4.8 above).

6.4.4 The consequences of this would be:

- Longer journey times for all passengers – especially those travelling from Bere Peninsula – this will also have consequences for employment and the economy;
- Greater expense of travel for car users;
- Environmental damage cause by the increase in car and bus traffic, especially in the Air Quality Management Areas;
- Increased incidence of road traffic accidents;
- The demographic make-up of the Tamar Valley would change in the longer term with likely population reduction as low-paid workforce and younger people move out;
- Tourism and local business would suffer.

6.4.5 Any partial removal of the service (effectively a reduced frequency, possibly also closure of some stations) would curtail the benefits here evaluated in a reducing but not necessarily proportionate manner. For instance, the difference between a service reduction of 25% to 80% would not be as damaging as that from 80% to 100%.

6.5 Conclusions

6.5.1 There is strong demand for a later evening service from Plymouth by both Devon and Cornwall residents. This would allow leisure and business travellers to depart from London, Bristol and Birmingham later than present as well as allow people going to the cinema, theatre or pubs in Plymouth the opportunity to use the train.

6.5.2 There is a stronger demand from Devonian respondents than Cornish respondents to an improved frequency of service. This is most likely to come with the re-opening of the line to Tavistock, however it is unclear as to what form the service provision will take. Passengers from Devon stations are likely to benefit the most, unless a number of limited stop trains are to be introduced. Cornish passengers will suffer some sort of increase in journey time no matter which option is taken, however two out of the three options will see this outweighed by an increase in frequency helping to attract new passengers.

6.5.3 Replacing the train with buses would not only increase the resources needed to serve the Tamar Valley area but also greatly increase the journey time to and from Plymouth. The increased journey time would also increase congestion as many of those who own a car would choose to use it rather than travel on the bus.

Value of Tamar Valley Railway to Policy & Development Plans 7

7.1 Benefits to Policy & Plans

7.1.1 As part of the overall transport network, rail services provide access, connectivity and mobility for people and freight. Rail services are recognised at both national, regional and local levels as part of overall transport planning and implementation, and it is important that passenger transport services are factored into the strategic objectives of a wider range of other public and private sector agencies and activities (though this does not always happen).

7.1.2 The passenger transport network is an over-arching facility without which many other initiatives or strategies would be more expensive or even fail. This section of the report provides a brief overview of how the rail network and travel options it provides in Devon and Cornwall are recognised by external agencies. The stakeholder feedback noted in Section 5 above also overlaps with this strategic perspective.

7.1.3 In the UK, national policy on rail is determined by Central Government and DfT and implemented by operational franchises. Although local transport authorities are required to account for rail as part of Local Transport Plans, provision of rail services is largely a matter between the contracted operating companies and DfT. Partly due to this situation, and partly because rail services are generally very embedded into thinking and 'taken for granted', they are not always adequately valued by external strategic agencies.

7.1.4 Nonetheless, rail is generally noted as providing great value and prioritised for continuation and (more tentatively) expansion in some plans. In instances where the railway is cited in strategic documents relating to social and economic issues, it can be argued that this brings benefit to policy (as reflected in the valuation framework above in Table 6) – e.g. where a housing policy only considers development locations viable where they are close to a rail station. If the railway were not there, such a policy may be untenable. Benefits to policy are not readily monetised in themselves, but various aspects of policy (such as effective modal shift from cars in problem congestion zones) can be monetised and are noted as such in Table 6.

7.2 Cornwall & Devon Strategic Plans

7.2.1 Table 30 below provides an overview of some key Devon and Cornwall strategic documents. National and Regional documents, and those that do not refer to rail services at all or which do not encompass the Tamar Valley area have been omitted. Some of the documents were originally produced up to 10 years ago but all are currently within scope of a longer term timeline. This is a selective rather than exhaustive list.

Table 30: Review of Policy & Strategy Documents

Title & Source	Reference to Railway
Local Plans	
Cornwall Local Plan – Strategic Policies 2010-2030 (Cornwall Council, rev.2016) https://www.cornwall.gov.uk/media/22936789/adopted-local-plan-strategic-policies-2016.pdf.	The plan identifies heritage assets – *"An historic communications network including ancient byways and church-paths peppered with wayside crosses, guide-stones, milestones and fingerposts, former industrial tramways, and an extensive main line and branch rail network with significant local character;"* The plan calls to *"Safeguard land for the delivery of strategic transport opportunities including land around existing facilities to allow for expansion and use for future sustainable modes of travel e.g. closed branch rail lines and links to the Isles of Scilly"* and supports *"Infrastructure delivery including improvements, to the rail and road network"*. No direct reference to Tamar Valley railway.
Core Strategy (West Devon Borough Council, 2011) https://www.westdevon.gov.uk/media/1955/2011-Core-Strategy/pdf/2011_Core_Strategy.pdf	Reference to the Tamar Valley line are restricted to references to proposed new link to Tavistock. *"SO22: Plan for development in Tavistock…Reinstate the former rail link between Tavistock and Bere Alston to reduce traffic problems on the A386 into Plymouth …There is a need to provide an alternative route into Plymouth from Tavistock to ease congestion on the A386, by reinstating the former rail link."*
Caradon Local Plan (Cornwall Council, 2007, rev 2013) https://www.cornwall.gov.uk/environment-and-planning/planning/planning-policy/saved-policies/caradon-district-adopted-and-saved-policies/	Contains *"POLICY ALT 1: Protection of Rail Infrastructure Planning permission will be granted for the suitable re-use of existing railway infrastructure, passenger and freight facilities and other land, and of the means of access thereto, provided that it would not frustrate the widening of transport choices for both passenger and freight movements. Government guidance advises that when preparing Development Plans and considering applications, Local Authorities should protect sites and routes which could be critical in developing infrastructure to widen transport choices for both passengers and freight movements. The Council, through local rail development partnerships, has supported the enhancement of passenger and freight facilities in the district. These improvements are essential if the peripherally of Caradon in a regional and national context is to be reduced. They should therefore be protected from other development which may reduce their effectiveness."*
Economic Plans	
Facilitating Economic Growth in South Hams and West Devon (South Hams and West Devon Councils, 2014)	This document comments that *"Rail links in West Devon are extremely limited…Developing the transport infrastructure: In West Devon, proposals to locate the majority of new development in the main towns of Okehampton and Tavistock seek to ensure maximum accessibility by public transport. The Adopted Core Strategy for West Devon aims to reduce impact of development on the strategic road network by improving strategic connectivity through sustainable transport means and improving resilience of the local road network; and increase self-containment of the key towns.*

Title & Source	Reference to Railway
https://www.plymouth.gov.uk/sites/default/files/FacilitatingEconomicGrowth%20SouthHamsWestDevon.pdf	*There are proposals to improve the rail infrastructure: West Devon's Core Strategy sets out an intention to reinstate the railway from Bere Alston to Tavistock, to reduce congestion on the A386 into Plymouth in Policy SP23. This is reinforced in the South West of Tavistock Masterplan with funding for the railway and associated infrastructure to come in part from proposed development. Feasibility work is currently taking place to develop this project further."* *"The Plymouth and South West Peninsula City Deal Submission (see Section 3) set out a number of 'asks' from Government on road and rail infrastructure improvements to support Plymouth's role as a driver of economic growth. Further 'asks' as part of Plymouth's growth aspirations include: Improving rail connectivity (to London and elsewhere)…Improving frequency of service on the local rail network including re-opening the line between Bere Alston and Tavistock…Key Messages – Infrastructure: Whilst strategic transport policy is to maximise travel by sustainable transport means, rail links are extremely limited. There are proposals to improve rail links (Plymouth – Tavistock; Exeter – Okehampton)…"* *"There is a clear focus on sustainable transport and reducing the need to travel in strategic transport terms, particularly important given the high levels of outcommuting of working age residents to work and conversely those coming into the two districts to work. Proposals to support improved rail links (and maintain those that exist) are important here and need to look at how they can be used to encourage business into the districts as well as support improved commuter travel flows out; e.g. through supply chain developments, inward investment, university/business links.."*
A Strategy for Growth 2013 – 2020 (Devon County Council, May 2013) http://www.devon.gov.uk/strategy-for-growth-2013-2020.pdf.	Rail services are identified as key part of transport infrastructure and improvements (electrification) are highlighted – no specific detail on Tamar Valley line.
Economic Growth Strategy for Cornwall & Isles of Scilly 2012 – 2020 (Cornwall & Isle of Scilly Local Enterprise Partnership 2012) https://www.cioslep.com/strategy/economic-growth-strategy	There is no specific reference to rail services or the south eastern areas of Cornwall served by the Tamar Valley line in this document, but transport is cited as an important factor in economic growth in the county overall.
Bere Peninsula Neighbourhood Plan (December 2017) http://www.berepeninsulaplan.org.uk	Transport – *"The re-instatement of the railway line from Bere Alston to Tavistock is now confirmed together with new residential development in Tavistock. This will provide a significant additional public transport link between the Peninsula and Tavistock for employment, shopping and entertainment."*

Title & Source	Reference to Railway
	Objectives – *"Support the potential development of the Plymouth-Bere Alston railway to Tavistock and points beyond (i.e. 'The Northern Alternative Route), as this will help to further the future sustainable, economic wellbeing of the Bere Peninsula. Anticipated benefits will include an improved public transport link for employment, shopping and entertainment that could realistically result in a greater number of railway services, operating more frequently and timed to co-ordinate with public bus services"* and *"Support the DCC initiative to establish a dedicated cycle way between Bere Alston and Tavistock. It is understood that this, at least in part, could be associated with the rail development."* Policy H2 (housing development Woolacombe Lane - see below) it is noted that *"As part of the Transport Assessment it is expected that this will include a detailed assessment of the likely impact of the proposal on the rail network, and where appropriate there will be a requirement for developer contributions to deliver any necessary improvements to the rail network."* Policy EC2 Railway Goods Yard: *"At Bere Alston station development proposals will be supported for the redevelopment of the Goods Yard for employment uses that maximise the tourist potential of the site and linkages with the railway…Support the provision of facilities associated with increased use of the railway, and not prejudice the future delivery of railway infrastructure to enable the reinstatement of the line to Tavistock."*
Local Transport Plans	
Connecting Cornwall: 2030 moving towards a green peninsula – Strategy (Cornwall County Council, 2011) https://www.cornwall.gov.uk/transport-and-streets/transport-policy/local-transport-plan-connecting-cornwall-2030/	Whilst this plan incorporates general support for maintaining and improving the rail network to increase patronage and freight, it does not explicitly refer to the Tamar Valley Line apart from in the context of highlighting the work of DCRP.
Local Transport Plan - Devon and Torbay Strategy 2011 – 2026 (Devon County Council, 2011) https://new.devon.gov.uk/roadsandtransport/traffic-information/transport-planning/devon-and-torbay-local-transport-plan-3-2011-2026/	There is acknowledgment of the benefits of rail connectivity and arguments to improve rail services (including electrification), although the latter objectives are exclusively focussed on strategic main line rail links, with no mention of branch lines such as Tamar Valley. Bus Passenger and Rail Infrastructure – *"Rail stations are owned by Network Rail and leased to the relevant train operating companies who run them on a day to day basis. Other organisations are involved in supporting this. Devon County, Cornwall and Plymouth City Councils are active funding partners in the Devon and Cornwall Rail Partnership which plays a significant role in supporting the*

Title & Source	Reference to Railway
	improvement and promotion of the stations on the Tarka and Tamar Valley lines in Devon as well as others in Cornwall." Market and Coastal Towns Strategy *"Improve rail and bus connections from the towns into the main urban areas" and "provide passing loops on the rail network to improve train frequencies."* Targeted Capital Interventions *"Tavistock to Gunnislake Provide an alternative mode and relief of congestion on the Railway A386 corridor to enable new development in Tavistock."*
Heart of the South West - Local Transport Board (Scheme Prioritisation Proforma, 2013) http://heartofswlep.co.uk/wp-content/uploads/2016/09/DCC-Tavistock-Railway-Publication-Version.pdf.	This considers the feasibility and advantages of extending the rail line between Bere Alston and Tavistock. (This document was considered in greater detail in the previous section.)
Environmental	
Clean Air for Cornwall Strategy (Updated April 2017) https://www.cornwall.gov.uk/environment-and-planning/environmental-protection/environmental-protection-air-quality/clean-air-for-cornwall-strategy/	This strategy includes the designation of the Gunnislake Air Quality Management Area (AQMA) (declared March 2014) - nitrogen dioxide levels in Gunnislake have been monitored as excessive for several years. Primary cause is nitrogen dioxide exhaust gases from cars and lorries passing through the town on the A390. The Action Plan includes *"Action 9: Encourage and promote modal shift (bus and rail). If robust bus and rail services are offered it is considered that car users may opt for alternative modes of travel thus reducing traffic volume. The feasibility of this action depends on bus and rail operators offering services which represent viable alternatives for car users. The likely reduction in air pollution at sites of relevant exposure which result from modal shift is impossible to accurately predict. Encourage and promote modal shift (bus and rail)."* The Tamar Valley rail line is a key alternative transport option that directly reduces pollution in Gunnislake and assists with the implementation of the Clean Air Strategy and AQMA targets.
Plymouth Air Quality Action Plan (2006) https://www.plymouth.gov.uk/airqualityactionplan	One of the Plymouth Air Quality Management Areas (AQMA) is designated as Mutley Plain, and covers the Northern Corridor route into Plymouth (A386 – Tavistock Road). The Interim Action plan includes *"Objective 4: To improve the air quality in the city as a whole by increasing travel by more sustainable modes…Measure 1 Information & Education. Intensive awareness raising initiatives to encourage behavioural changes that could lead to reduced car use and greater acceptance of alternatives."* There is no direct reference to rail in the plan referring to this AQMA – due to the plan being aimed at north Plymouth residents with no local rail station rather than those of West Devon District Council for who the rail links at Bere Alston and Bere Ferrers are more viable alternative travel options.

7.3 Development Sites Close to Tamar Valley Stations

7.3.1 Table 31 below considers some recent and planned development options, along with comments on the likely impacts on the railway. A recent prospectus (March 2017)[24] indicates a number of development options in Bere Ferrers Parish and the Bere Peninsula Neighbourhood Plan (noted Table 30 above) provides some comment on conformity. For the purpose of considering the impacts on the neighbourhood, we have assumed that each new residential property will be occupied by an average of three people. The only non-residential option was at Bere Alston station, which offers small office / retail opportunities.

Table 31: Development Options in Tamar Valley

Location	Description	Likely Impact on Rail
North and South of Woolacombe Road, Bere Alston	50 new homes planned, with 17 affordable houses becoming occupied in 2016.	Sited to the east of the village, a mile from the rail station, this development would provide homes for circa 150 residents, with a likely increase in rail usage. Bere Ferrers Parish Council has requested *"a Transport Assessment (including an assessment of any likely impact on the rail network)"* (Bere Peninsula Neighbourhood Plan) – it is not known if this assessment was completed.
Bere Alston Station	Site is available for employment uses *"which maximise the tourist potential of the site and the linkages to the railway"* (Local Plan 2005)	This would enhance the facilities on the railway and increase its appeal to tourists.
Broad Park Road, Bere Alston	0.7 ha site identified for potential residential development – not clear how many homes this would include.	Just under a mile distance to rail station – likely to increase rail demand.
Land to rear of Trevethan Park, Bere Ferrers	Potential for around 15 homes on this site.	Close to railway station (0.3m), circa 45 residents, with a likely increase in rail usage.
Tamar Meadows, St. Ann's Chapel, Gunnislake	141 houses	0.3 miles from station, potential of 423 residents
Double White Rise, St Ann's Chapel, Gunnislake	Housing development of 18 units	0.5 miles from Gunnislake station. Potential of 54 residents

[24] https://www.plymouth.gov.uk/sites/default/files/ConsideringSitesDevelopmentBereFerrersParish.pdf.

Location	Description	Likely Impact on Rail
The Market Garden - St Ann's Chapel, Gunnislake	49 new homes overlooking the Tamar Valley	1 mile from Gunnislake station, potential of 147 residents, distance from station may be a minor deterrent of rail use.
Tavistock	1,000 new homes	Although Tavistock is currently outside the main railway catchment, this development could coincide with the restoration of the railway branch in the future. The rail usage habits from Tavistock may be different to those indicated by the Tamar Valley user survey – e.g. take up might be greater.

7.3.2 Using the data from the developments for 273 dwellings (65 in Devon and 208 in Cornwall) noted in Table 31, we can illustrate the potential increase in demand for rail services and note the potential addition benefit value that will result. We have assumed that rail users will form 3% of the resident population, in line with the overall modal pattern indicated above in Figure B. However, through marketing and travel information provision for new residents, these developments could be targeted by DCRP and GWR to influence and encourage rail travel habits from an early stage, with a potential 5% take up of rail services.

7.3.3 In terms of the valuation, these new residences will have an economic impact, specifically the GVA and GDP values, assuming they accommodate additional rail users rather than existing rail users moving home. Fare revenue is estimated based on the averages of 386 single trips being made per passenger per year at £2.50 per trip.

7.3.4 As the terms of planning consent in Tamar Valley are directly related to proximity to public transport to avoid the generation of additional road traffic, it can be argued that as these houses have been made viable due to the presence of the railway, Council tax benefits of £682,500 to the local councils (£162,500 in Devon and £520,000 in Cornwall) have been included in the valuation. It should be noted, however, these figures assume that all 273 houses are completed and occupied, and the status of this at present is undetermined.

7.3.5 As previously noted, a development of 1,000 new homes has been proposed for Tavistock, and a Section 106 developer contribution has been outlined towards the railway restoration. This clearly is only viable because the Tamar Valley line (and Bere Alston station in particular) is in operation, so the value of the current line to viability of the housing plan is critical. The projections in Table 32 are based on usage patterns for the current service and do not include Tavistock, as the rail user survey provided no evidence that the service as currently configured attracted any passengers from Tavistock.

Table 32: Potential Future Impact for Rail Services

Station	Increase of Residents	Increase of Rail Users (5%)	Additional Future Benefit GVA @ 1%	Additional Future Benefit GDP	Additional Fare Revenue	Total Additional Benefit
Bere Ferrers	45	2	£347	£42,800	£1,930	£45,077
Bere Alston	150	8	£1,390	£171,200	£7,720	£180,310
Gunnislake	624	31	£5,291	£641,700	£29,915	£676,906
TOTAL	**819**	**41**	**£7,028**	**£855,700**	**£39,565**	**£902,293**

7.3.6 The £902,293 of additional value is that which could be attributed to the rail service if developments progress as indicated. This figure remains speculative and cannot therefore be included in the final monetary valuation of the Tamar Valley line as it currently functions.

Conclusions 8

8.1 Conclusions

8.1.1 Our analysis has found that the Tamar Valley Railway adds value on many different levels. As a transport link and service, it not only acts as a lifeline to communities on the Cornwall and Devon county border but also as the main suburban service into the west of Plymouth itself.

8.1.2 Its connection of remote wholly rural areas such as Gunnislake and Calstock to Plymouth means the line is a strong pillar of economic vitality to the Tamar Valley. Equally, the line rivals the road network with its more direct, faster and also cheaper route options. Indeed, George Cowcher, Chief Executive of the Devon Chamber of Commerce commented of the line:

"It is an important umbilical cord for that part of the world in bringing in workers, students and anyone who wants to make use of Plymouth's facilities. This is particularly the case in bringing workers in from the very far end in the very remote Gunnislake and crossing the Tamar.

"The line is a very important part of the infrastructure and certainly, in terms of leisure and tourism, it runs up a highly attractive area."

8.1.3 The profile and value of the areas connected by the railway for their richness of tourism and tourist attractions, and boosts to economy from visitors from far and wide, cannot be ignored; the line is not only a vital connector but a tourist attraction in its own right.

8.1.4 It is clear that the Tamar Valley Railway line has a positive impact across a great range of areas encompassing economic, social and environmental spheres, as set out in the summary of benefits below.

a) **Economic Impacts** – the rail service creates savings, income generation or otherwise brings direct or indirect financial benefit in the following areas:

- rail operator (GWR) – fares income, with an estimated annual revenue yield of £482,768;
- rail users – shorter travel times than other modes (travel time savings of £388,281), cheaper costs than driving (travel cost savings of £897,513) and greater journey activity options (travel time usage value of £195,034);
- local business and economy – generates and sustains trade (retail expenditure generated by rail users is estimated as £2.9m);
- the State – sustains tax income;

- regeneration and economic sustainability – boosts development and investment profile of Tamar Valley area;
- employers & employees – use of rail service by commuters, with an estimated total value of the employment from rail service of £2.6m;
- tourism – use of the rail service by tourists and visitors;
- volunteering – time contributed to railway and other community projects (estimated as £3,130 per annum);
- health – as part of active lifestyle, rail users draw less on NHS resources.

b) **Social Impacts –** the rail service has a range of positive social impacts as follows:

- meeting rail users travel needs – satisfaction with reliability, punctuality and journey times were the highest rated service aspects;
- access & connectivity – direct links to Plymouth intercity rail hub, considered more attractive than less direct road routes;
- enhancing social capital of Tamar Valley communities – accessing cultural and community assets;
- increasing social inclusion – travel options for those at risk of being marginalised (27% of rail users said that they had no other means of making their journey);
- Employment opportunities and work / life balance – retention of a larger and more diverse workforce in Tamar Valley;
- Volunteering – value of volunteering activity to individual and the community;
- Forming and changing lifestyles – encouraging modal shift and boosting confidence in rail use for future generations;
- Education – access to educational locations, supporting educational choices (16% of rail users surveyed were using the service for education purposes);
- Leisure and recreation – access to facilities and countryside (AONB) (with 26% of rail users making 50,208 journeys for leisure and recreation purposes);
- Health benefits – for individual benefit and fitness.

c) **Environmental Impacts** – use of rail instead of road vehicles reduces environmental damage (creating savings of £284,852), as follows:

- Carbon – rail is a sustainable travel mode allowing for vastly higher-occupancy travel per journey;

- Congestion – rail reduces car use at commuter peaks (if rail was not a travel option, 58% of those surveyed said they would use the car);
- Emissions – rail reduces CO2 pollution from motor vehicles;
- Habitat and biodiversity – rail is less damaging than most road vehicles;
- Landscape and townscape – rail is less intrusive and well embedded in the landscape.

d) **Other Impacts** – rail provides benefits in addition to those above:

- Wellbeing of Rail Users – rail is proven to be a safer mode than road transport according to Government statistics;
- Benefits for Non-rail Users – rail takes pressure off areas that suffer from traffic issues;
- Impact of Community Rail Partnership – DCRP has a positive effect on rail patronage;
- Cultural and heritage benefits – rail is a valued historical asset;
- Benefits to Policy and Planning of Strategic Bodies – Tamar Valley line is intrinsic to the integrity of many strategic plans.

8.1.5 These benefits have been qualified and quantified wherever possible through use of official data and statistics, recognised evaluation techniques, and feedback from rail users and other stakeholders. Table 33 below presents the monetised aspects of the valuation – the overall total gross value of the railway is **£13,239,225** per year (before any operational costs of the railway are factored in). This equates to **£69** per single journey.

8.1.6 Using the results of the rail survey, we also assessed options to amend and improve the rail service in a number of ways, with findings focusing on improvement of service frequencies and destinations. Increased patronage is likely to result from such changes, but these would, of course, need to be weighed against the investment required.

8.1.7 There is strong demand for a later evening service from Plymouth by both Devon and Cornwall residents. This would allow leisure and business travellers to depart from London, Bristol and Birmingham later than present as well as open up opportunities for people – young age-groups in particular to socialise in the evening, opening up the night-time economy. There was also demand for an improved frequency of service.

8.1.8 Overall, survey findings show that the rail service is highly valued both by rail users and wider stakeholders. The survey responses and very positive and appreciative views expressed provide ample testimony to the extent of the value it holds for local and wider communities.

8.1.9 The stakeholder research in particular puts a strong spotlight on:

- the value of the line in connecting employees and students with workplaces and places of learning respectively in Plymouth;
- the invaluable role the line plays in providing visitors with access to tourist hotspots (and indeed as a tourist attraction in itself); and
- a vital form of transport access – specifically quicker and much more direct alternative than routes provided by road to Plymouth; this point has strong marketing potential for the Tamar Valley Railway line in encouraging modal shift and new passengers.

8.1.10 *"The whole economic future of the area depends on access to the rest of the world – which is what the railway provides and there is no direct road to Plymouth so the railway is a lifeline,"* commented Councillor Dorothy Kirk.

Table 33: Summary of Monetised Valuation of Tamar Valley Railway

Aspect of Value	Devon Value	Cornwall Value	Total Value Per Year
DCRP funds (incl. Staff time)	£15,000	£15,000	£30,000
Fares Revenue	£251,039	£231,729	£482,768
Travel Cost Savings	£135,193	£762,320	£897,513
Travel Time Savings	£340,755	£47,526	£388,281
Travel Time Usage	£101,418	£93,616	£195,034
GDP Value Rail Using Employees	£1,605,000	£1,035,000	£2,640,000
Retail Expenditure	£1,498,052	£1,382,817	£2,880,869
Leisure Expenditure	£1,357,361	£1,252,949	£2,610,310
GVA of Areas Served by Rail	£610,000	£1,070,000	£1,680,000
Council Tax - Current	£35,000	£28,000	£63,000
Council Tax - Additional / Potential	£162,500	£520,000	£682,500
Direct Employment - Rail Staff	£125,000	£125,000	£250,000
Rail Employment Supply Chain	£75,500	£75,500	£151,000
Volunteer Time	£1,611	£1,487	£3,098
Fuel Cost Savings	£86,266	£79,631	£165,897
Energy Cost Savings	£29,312	£27,058	£56,370
Accident Cost Savings	£21,840	£20,160	£42,000
Particulates Savings	£6,025	£5,562	£11,587
CO2 Savings	£4,679	£4,319	£8,998
TOTAL	**£6,461,551**	**£6,777,674**	**£13,239,225**
Average Value Per Single Journey			**£69**

Appendix A: General Transport Survey

1. Introduction

1.1 TAS produced a general transport survey for the local community and residents asking for their views and travel behaviour on various modes of transport.

1.2 The survey included sections on bus travel, rail travel, taxi travel, other forms of transport, car travel and walking and cycling.

1.3 The aim of the survey was to:

- obtain a broader set of feedback from people who do not currently use the rail service;
- gain insight into general travel patterns and attitudes on transport; and
- inform the study of any measures that might increase use of the Tamar Valley Railway.

1.4 A link to the online survey was disseminated by press release to local and regional newspapers and via a local parish newsletter. Hard copies of the survey were available at local businesses which sell the carnet railway ticket for the line.

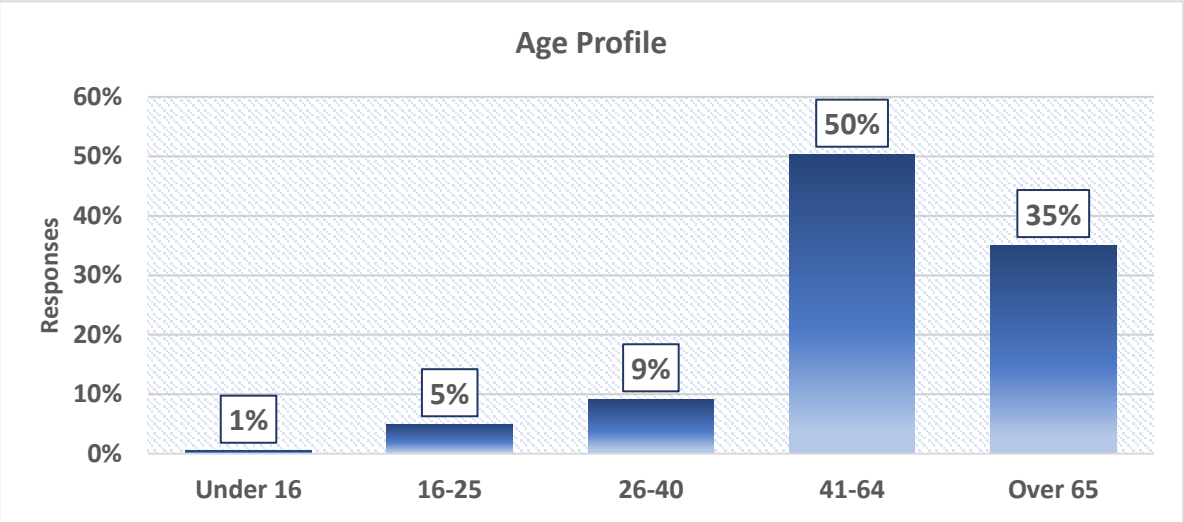
2. Survey Results

2.1 The survey attracted 499 responses in total. Below are the results of the survey starting with user profile, followed by views on public transport services in general and then responses for each travel mode.

Demographic Profile

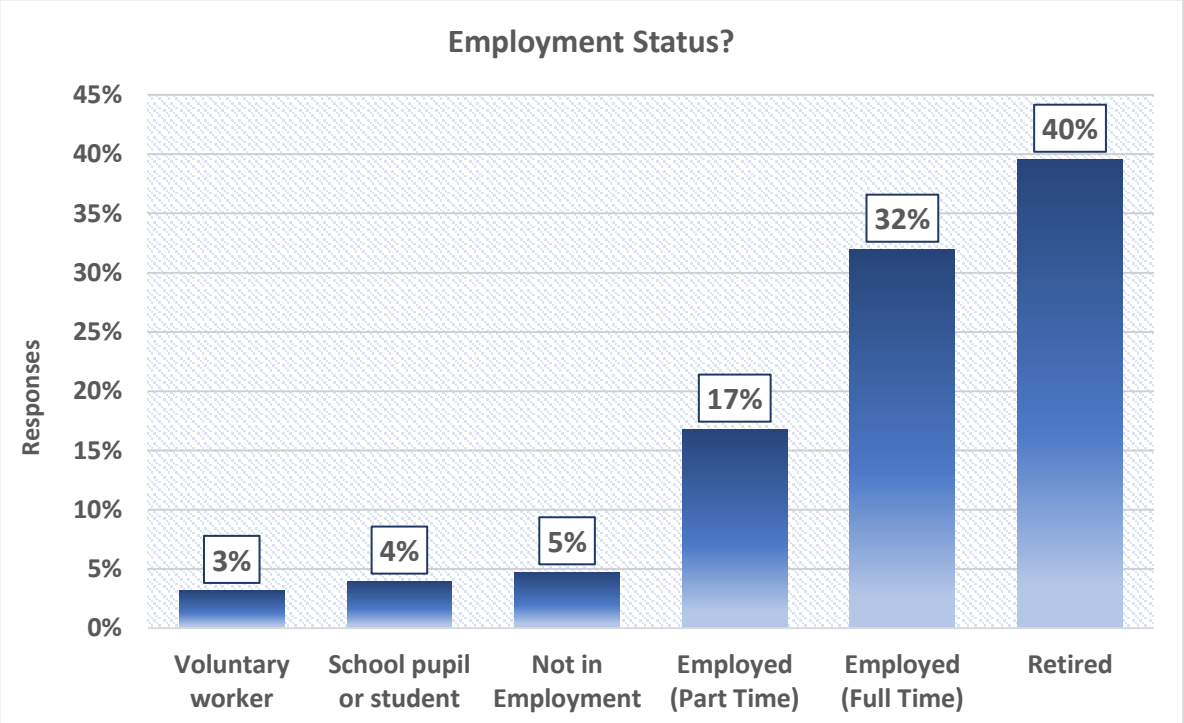
2.2 50% of the respondents were aged between 41 and 64. Young people made up a small percentage of respondents with only 5% aged between 16 and 25 and 1% below 16.

Figure A-A: Age Profile



2.3 40% of respondents were retired, 32% in full-time employment and 17% working part time. Only 4% were students or pupils.

Figure A-B: Employment Status



2.4 More respondents said they lived near a bus stop than they do to a railway station. 75% of respondents said they lived within reasonable walking distance of a railway station; 24% said they did not (and 1% did not know).

2.5 Meanwhile, 86% of respondents said they lived within reasonable walking distance from a bus stop; 12% said they did not (and 2% did not know).

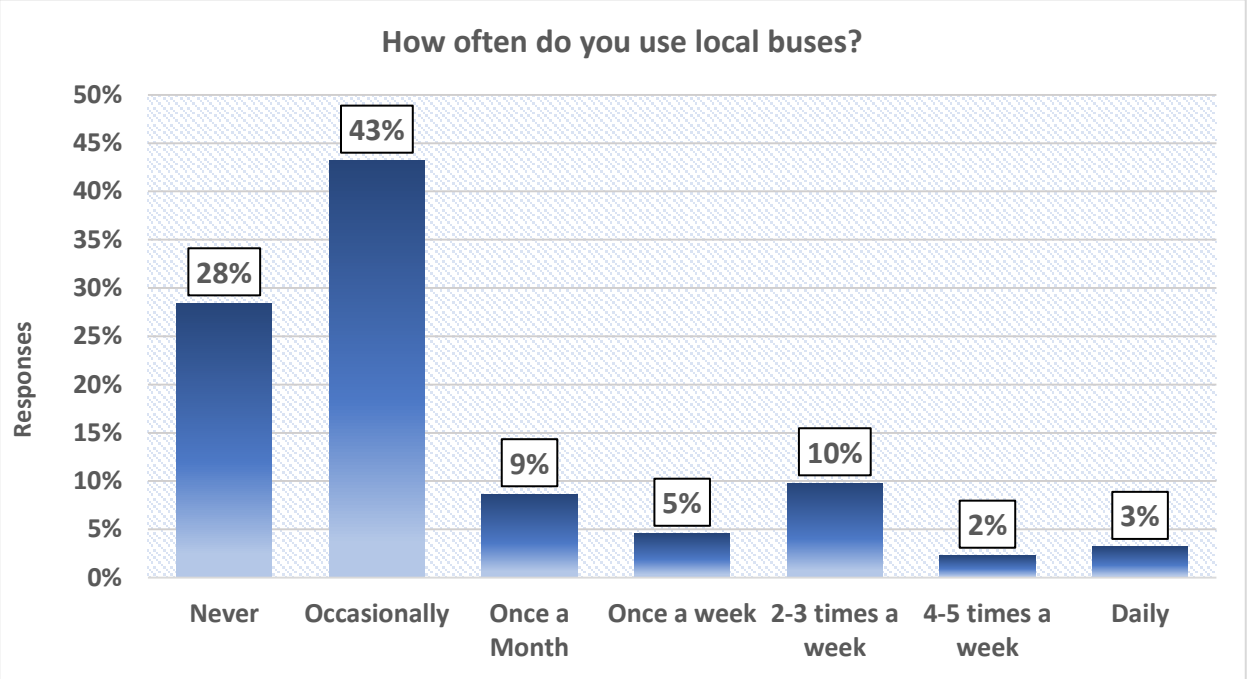
2.6 Respondents were asked how they felt about general information provided on transport availability.

- 49% said they were aware of what services were operating.
- 28% said they were aware of some services but not others.
- 10% said they knew where to find transport information.

Bus Travel

2.7 As Figure A-C below shows, the majority of people either never use a bus or do so occasionally; 10% use it 2-3 time a week and 9% once a month.

Figure A-C: Bus Travel – Frequency of Use



2.8 Service 79, operated by Plymouth Citybus was the most popular bus service used by 35% of respondents (see Figure A-D below). This service runs between Callington and Tavistock, and includes stops at:

- Calstock Quay;
- Gunnislake Railway Station; and
- Gunnislake Cornish Inn.

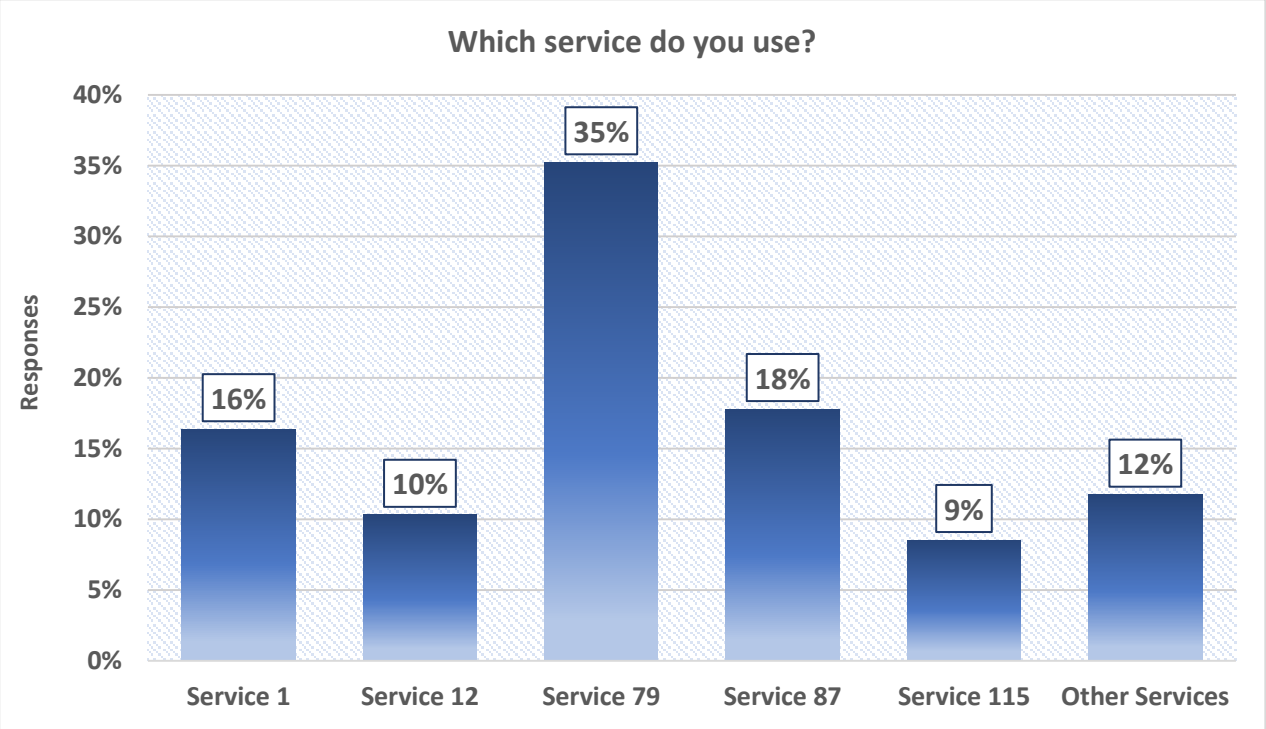
2.9 18% said they use the Target Travel operated 87 bus service which runs between Tavistock, Bere Alston and Bere Ferrers, and includes stops at:

- Bere Ferrers Railway Station (on some services);

- Bere Alston Railway Station (on some services);
- Bere Alston – Whitehall Drive;
- Bere Alston – Pounds Park; and
- Bere Alston – Edgcumbe Hotel.

2.10 16% said they use Stagecoach's service 1 which runs between Plymouth and Tavistock (and not covering any of the places served by the Tamar Valley Railway line).

Figure A-D: Bus Travel – Services Used



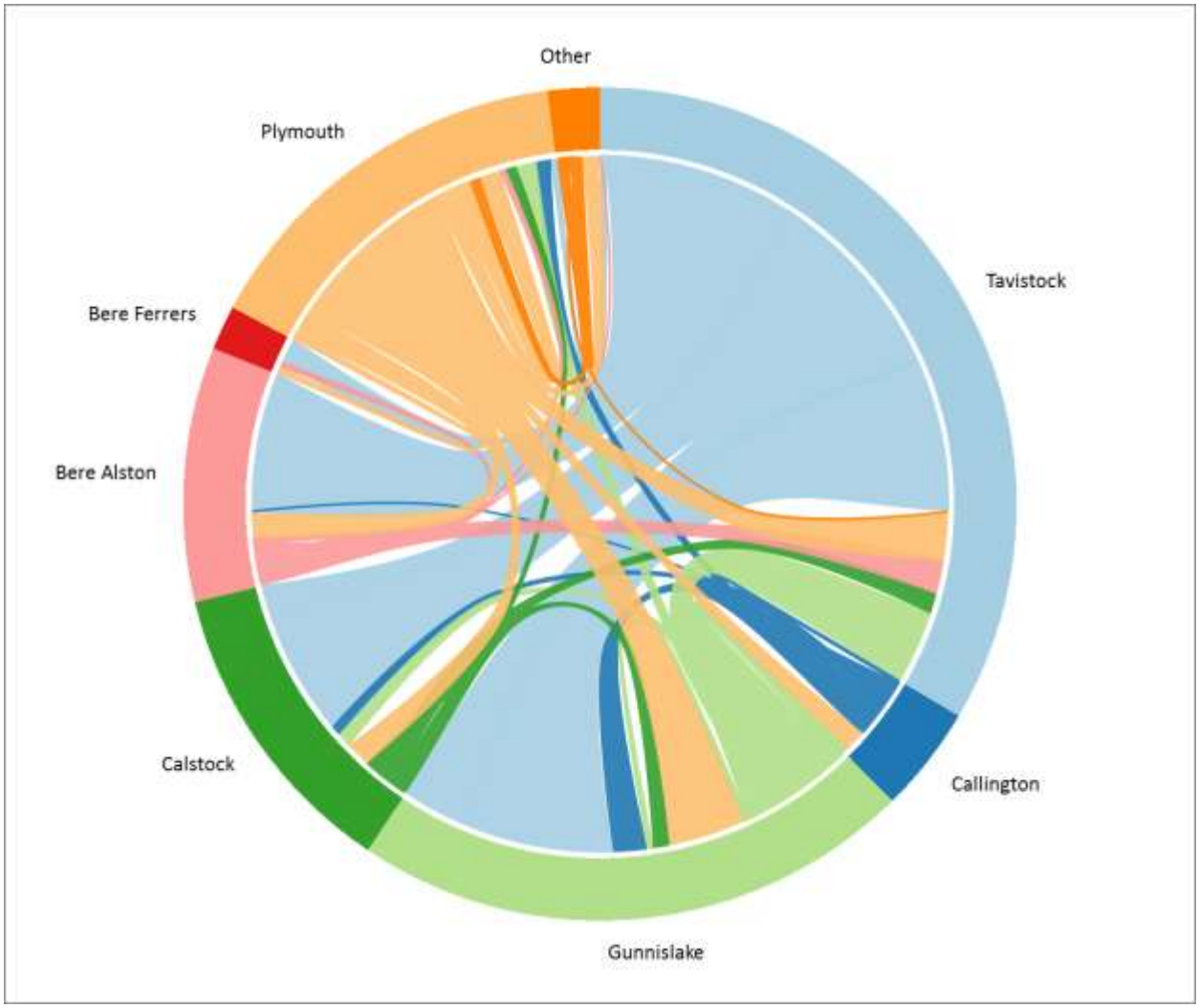
2.1 Table A-1: and Figure A-E below show the places respondents travelled to and from for their most frequent journey. The most popular journey was between:

- Tavistock and Gunnislake (cited by 59 respondents);
- followed by Tavistock and Calstock (43 respondents); and then
- Tavistock and Bere Alston (38 respondents).

Table A-1: Bus Travel - Points of Origin and Destination

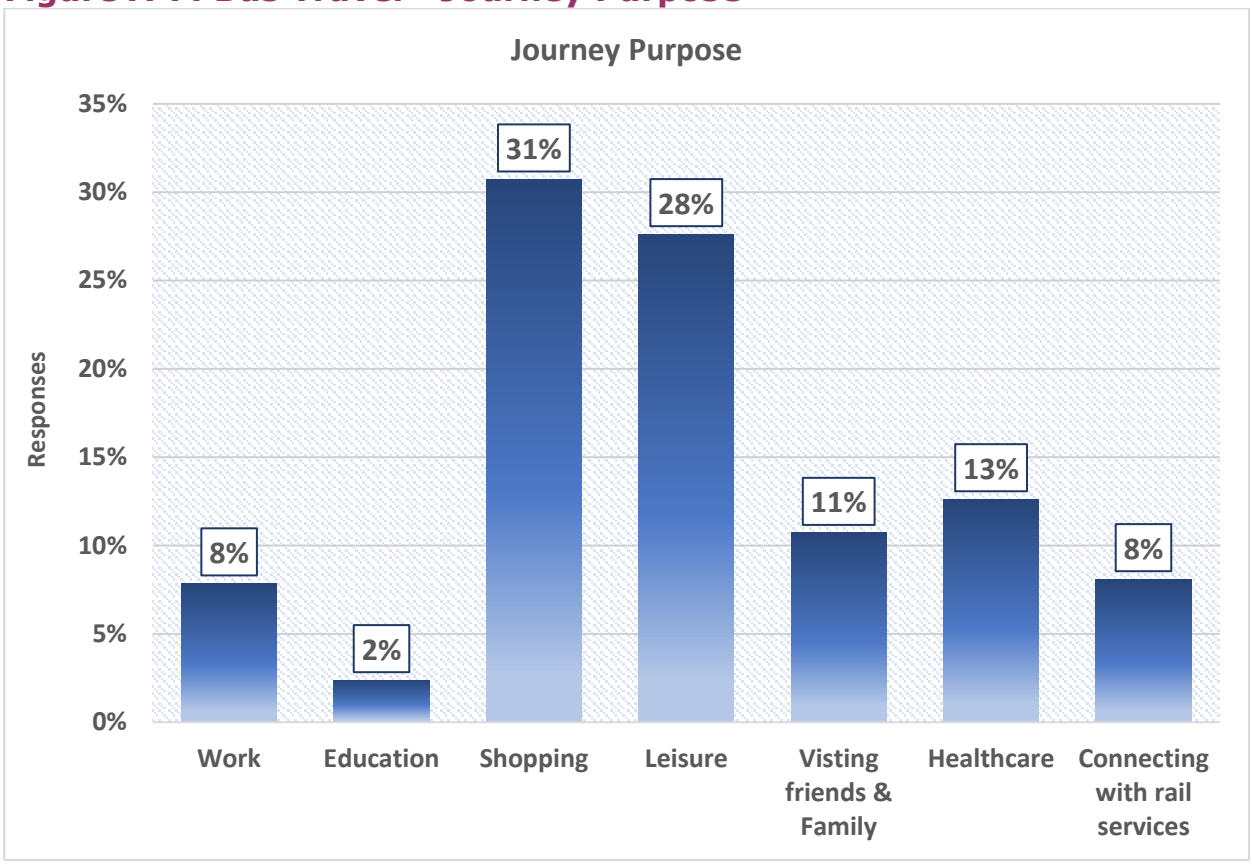
Bus – To or From	Tavistock	Callington	Gunnislake	Calstock	Bere Alston	Bere Ferrers	Plymouth	Other
Tavistock	0	0	59	43	38	7	2	0
Callington	1	0	9	3	1	0	4	0
Gunnislake	20	2	2	4	0	0	6	0
Calstock	6	0	5	0	0	0	3	0
Bere Alston	9	0	0	0	0	2	2	1
Bere Ferrers	0	0	0	0	0	0	0	0
Plymouth	13	6	21	7	7	2	6	5
Other	1	0	0	0	0	0	3	2

Figure A-E: Bus Travel - Points of Origin and Destination



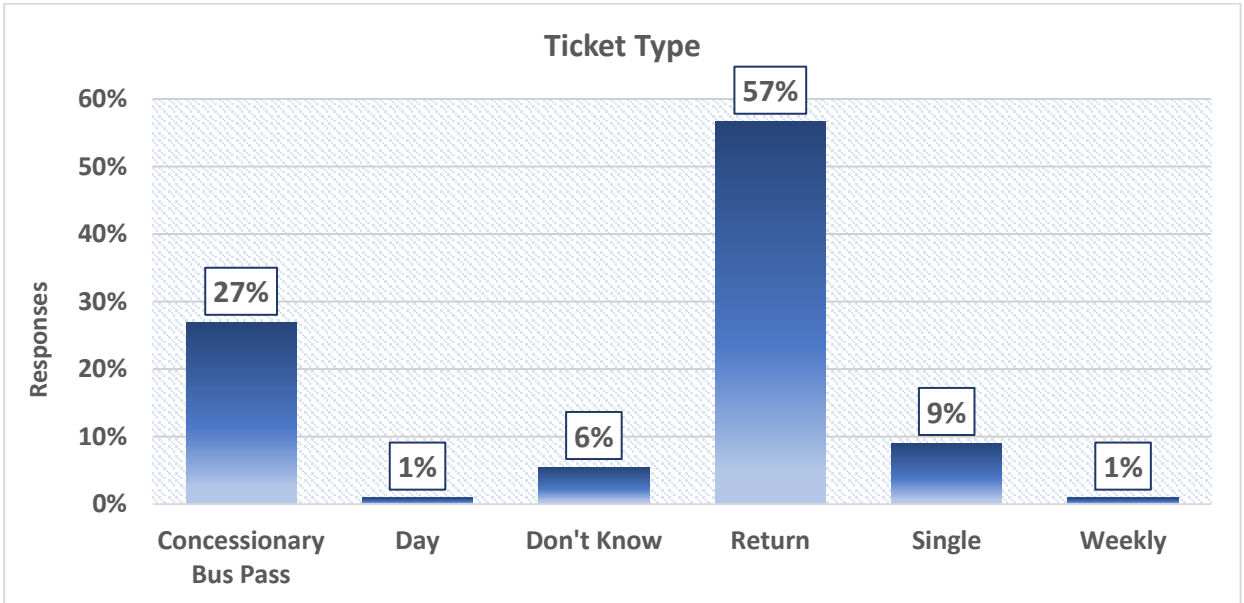
2.2 The most popular journey purpose for bus use was shopping (31%), followed by leisure (28%) and then healthcare (13%), as Figure F below shows.

Figure A-F: Bus Travel - Journey Purpose



2.3 When it comes to ticket type, 57% of respondents said they usually purchase a return ticket, 27% travel free via concessionary fares and 9% usually buy a single fare – as Figure A-G below shows.

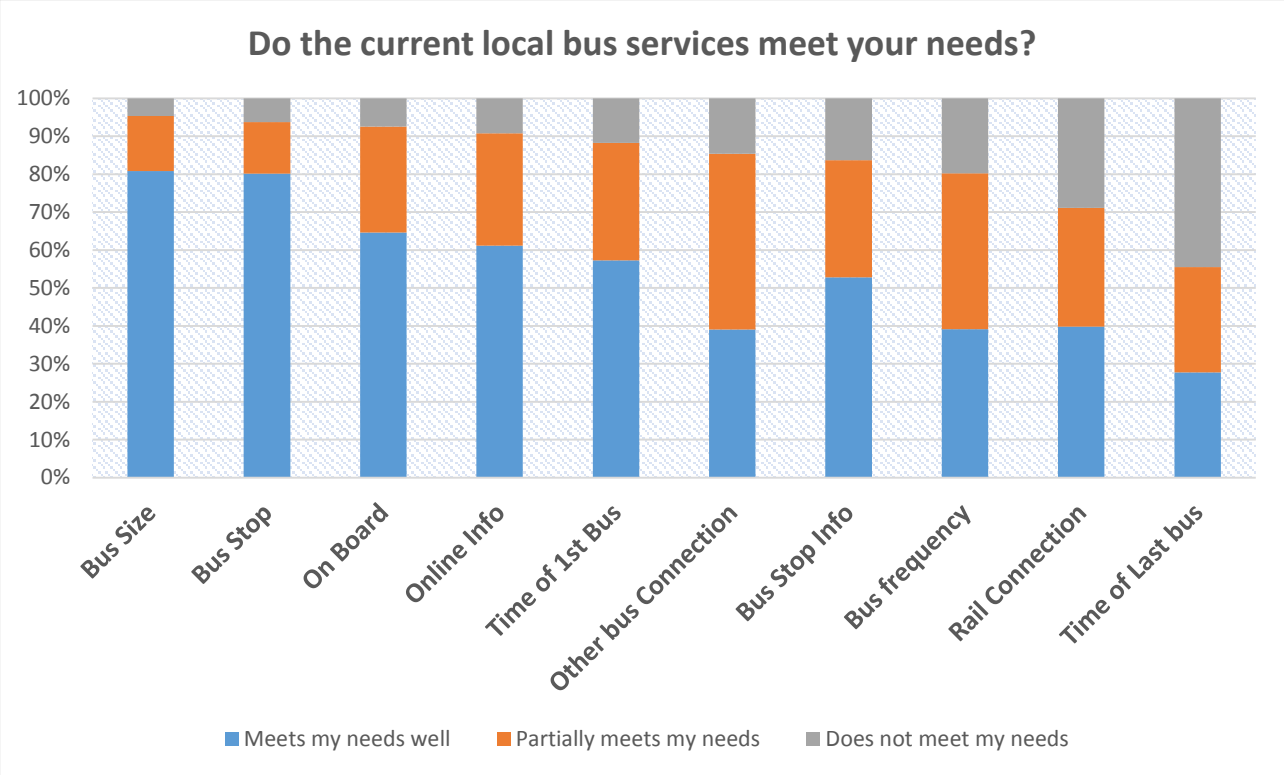
Figure A-G: Bus Travel - Ticket Type



2.4 Most respondents – 59% – felt that local bus fares offer fair value for money; 23% thought they were too expensive and 19% said they offered good value.

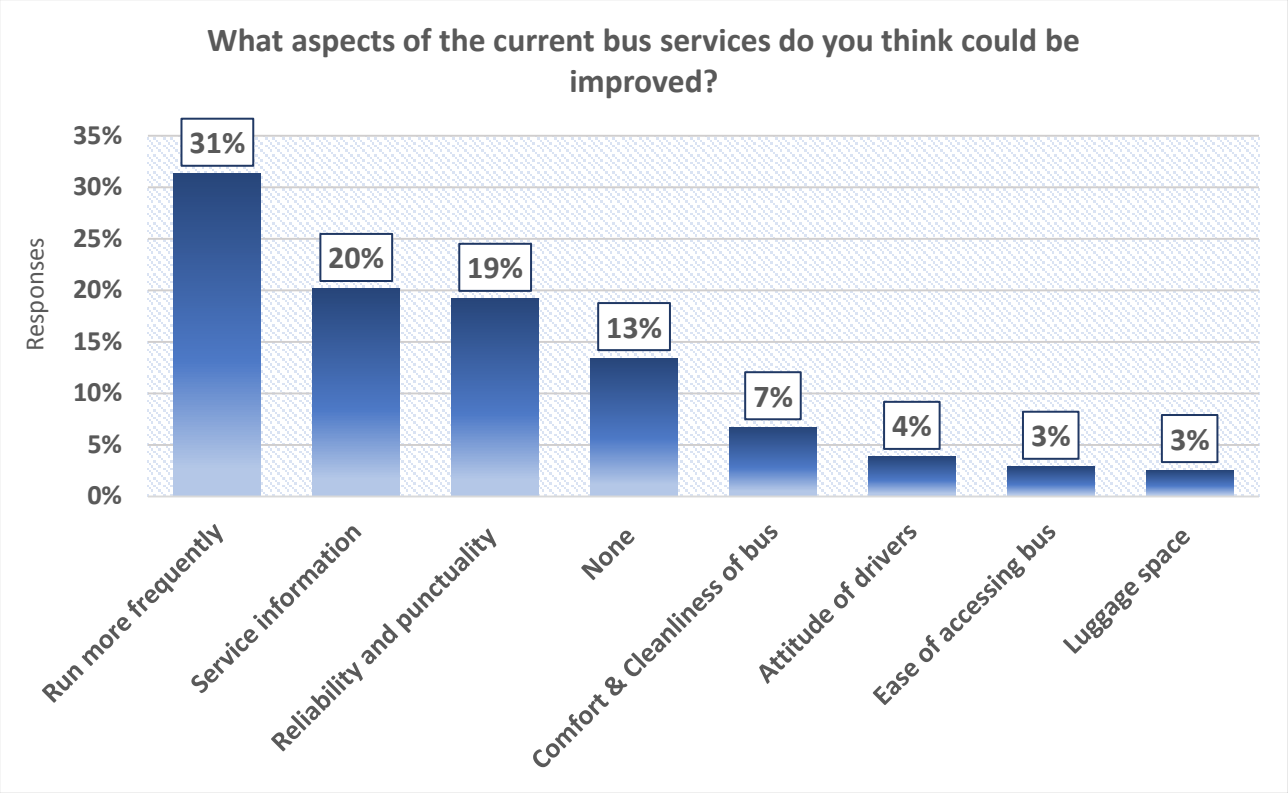
2.5 Figure A-H shows how well respondents felt the bus services meet their needs. Rail connection, bus frequency and the time of the last bus rated fairly low, although the time of the first bus attracted a relatively higher response.

Figure A-H: Bus Travel – Meeting Passenger Needs



2.6 Respondents were asked to choose areas where they felt bus services could be improved. Frequency was number one on the list, cited by 31% of respondents, followed by service information (20%) and reliability and punctuality (19%), while 13% identified no areas for improvement.

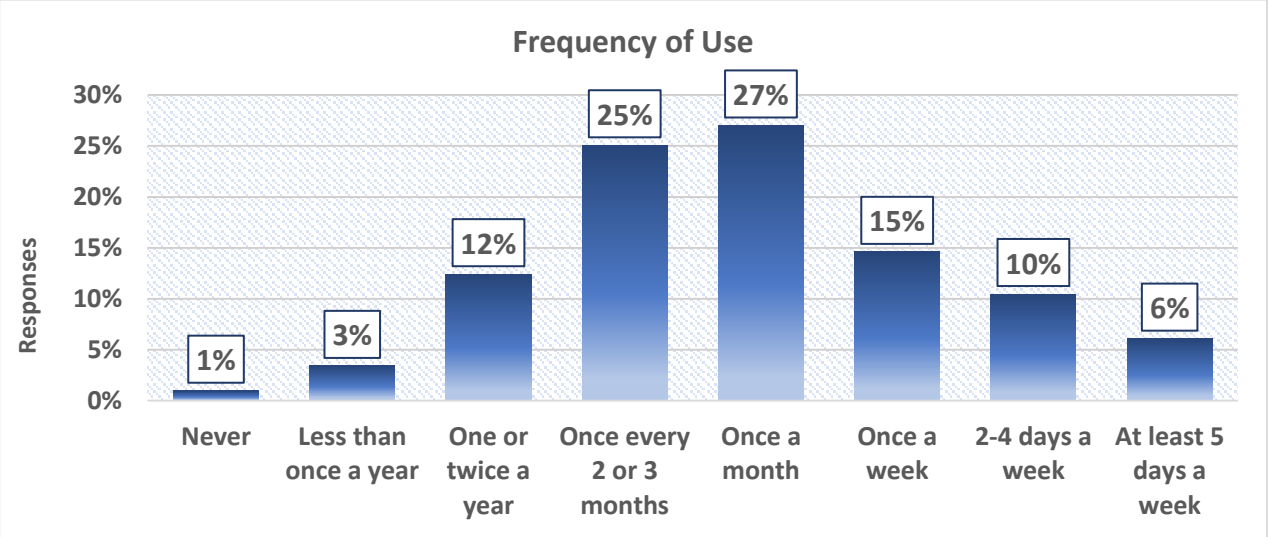
Figure A-I: Bus Travel - Areas for Improvement



Rail Travel

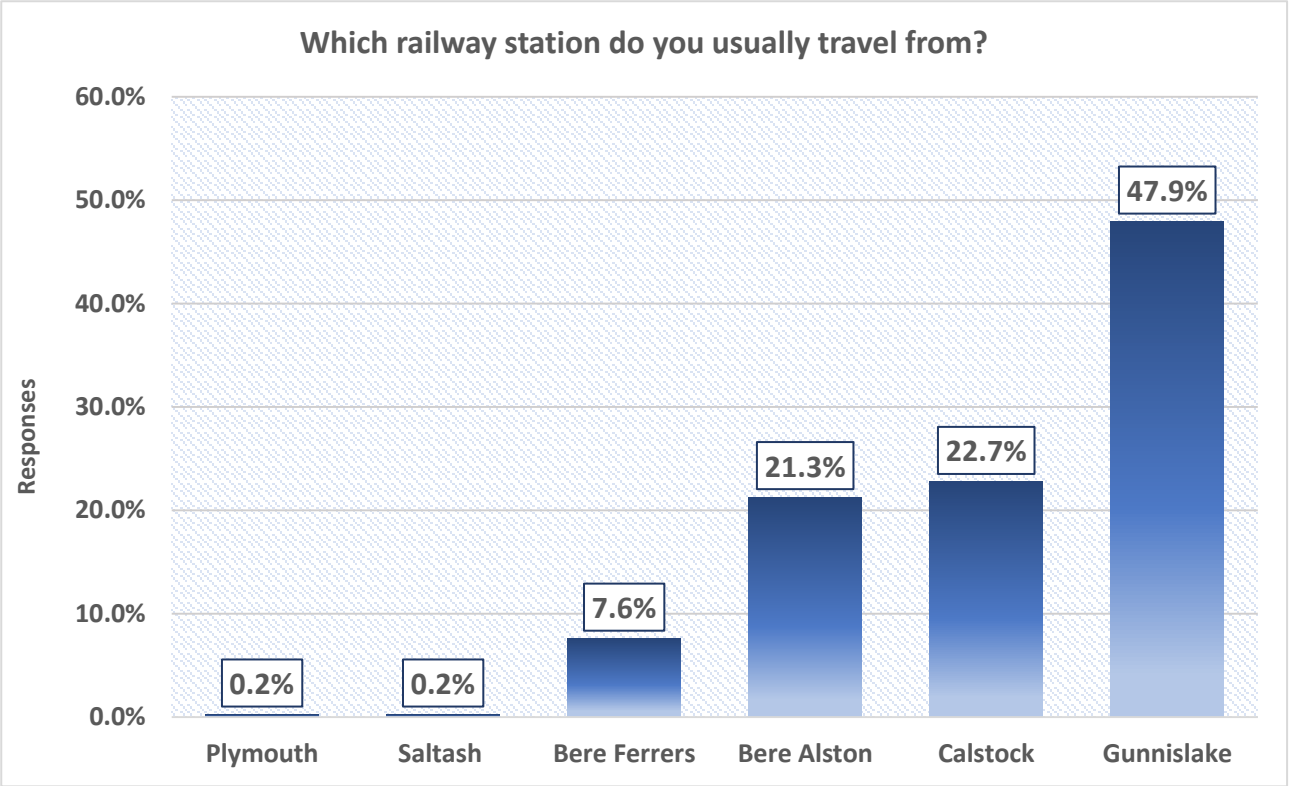
2.7 27% of respondents said they travelled by rail once a month, 25% every 2-3 months and 15% said they used the railway once a week. 10% are using rail more frequently – 2-4 days a week – and 6% are using rail at least 5 days a week, strongly suggesting for commuting to work.

Figure A-J: Rail Travel – Frequency of Use



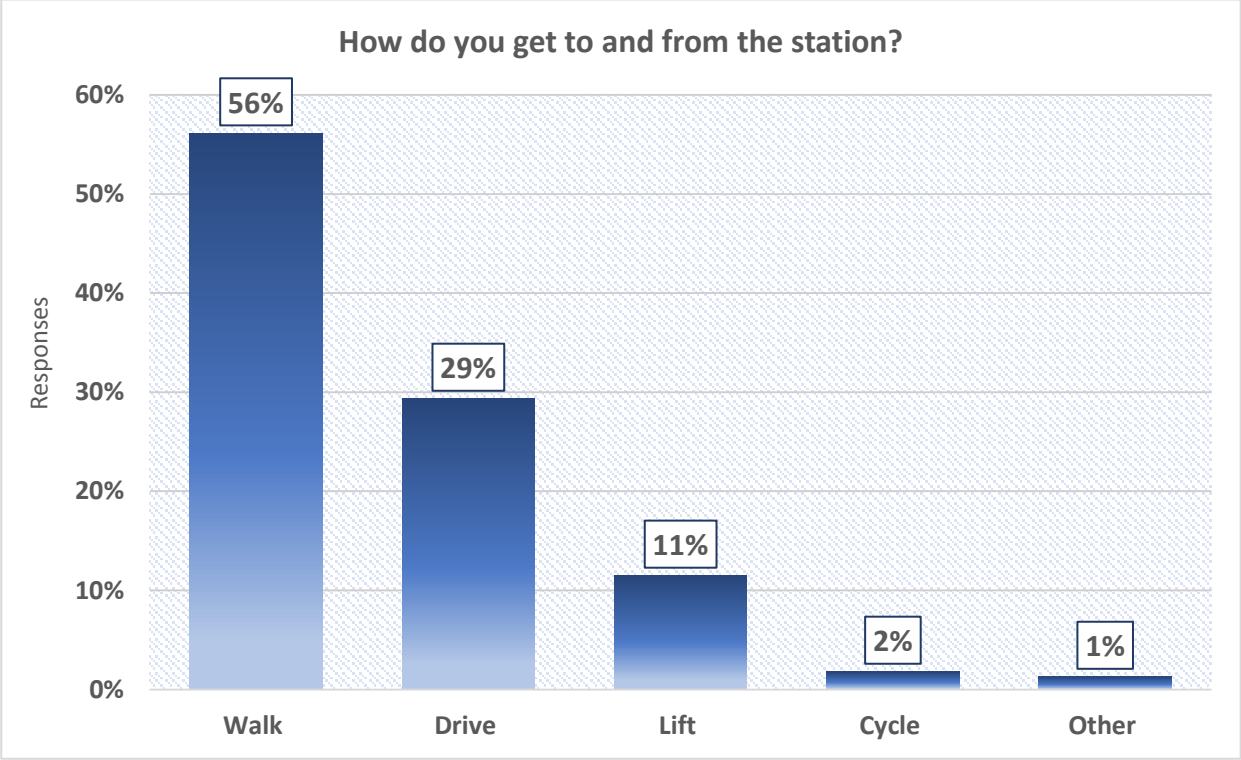
2.8 Most respondents said they travelled from Gunnislake railway station (48%), followed by Calstock (23%) and Bere Alston (21%).

Figure A-K: Rail Travel - Origin of Travel



2.9 56% of respondents said they walked to or from the station, while 29% drive and 11% said they get a lift.

Figure A-L: Rail Travel - Travel To and From the Railway Station



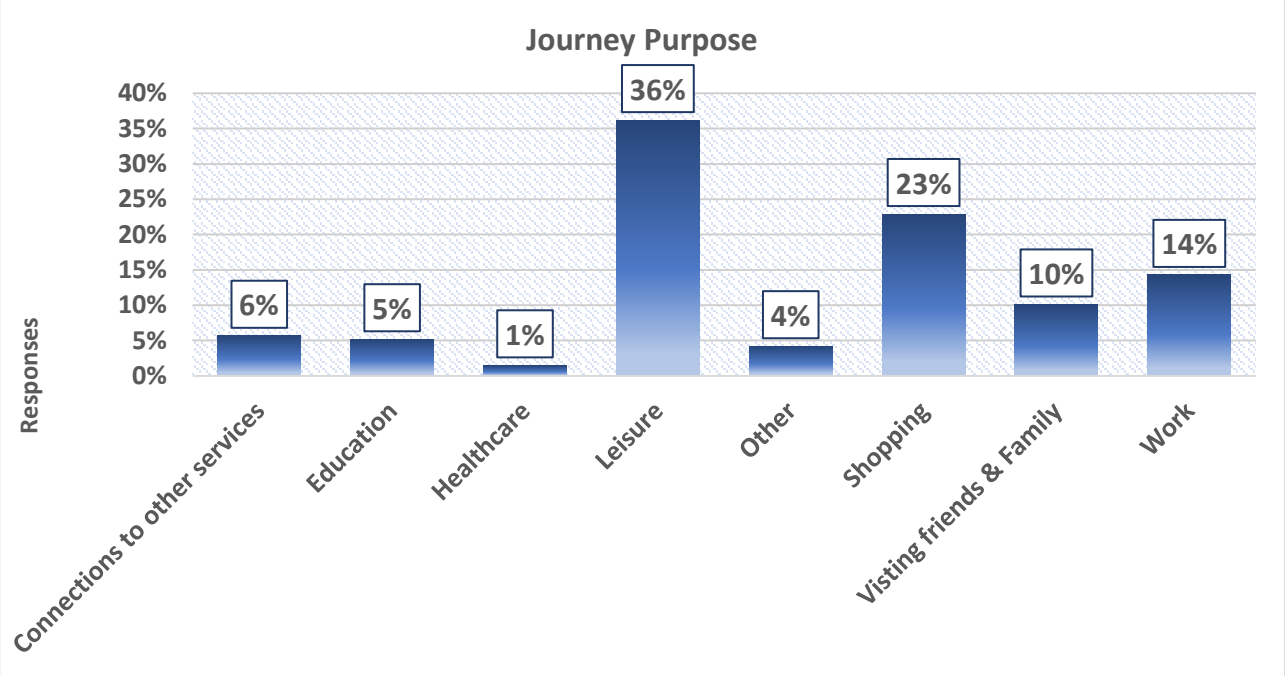
2.10 It is very clear from Table A-2 below that Plymouth is by far the most popular destination for rail travellers; London and Calstock also feature but are nowhere near the same scale.

Table A-2: Rail Travel - Destination of Rail Travel

Destination	Number of Respondents
Plymouth	360
London	43
Calstock	19
Exeter	10
Devonport	9
Gunnislake	8
Penzance	6
Bere Alston	5
Bristol	5

2.11 This time, leisure was the most popular reason for travel, for 36% of respondents. 23% travelled for shopping and 14% for work.

Figure A-M: Rail Travel - Journey Purpose



2.12 Figure A-N shows the most popular form of rail ticket purchased to be a day return by 63% of respondents, while the carnet discounted ticket from DCRP is the ticket that 14% of respondents usually buy.

2.13 Figure A-O shows the railcards respondents said they hold; most of these are senior railcards (48%) and 22% of respondents hold a Devon and Cornwall Railcard.

Figure A-N: Rail Travel – Ticket Type

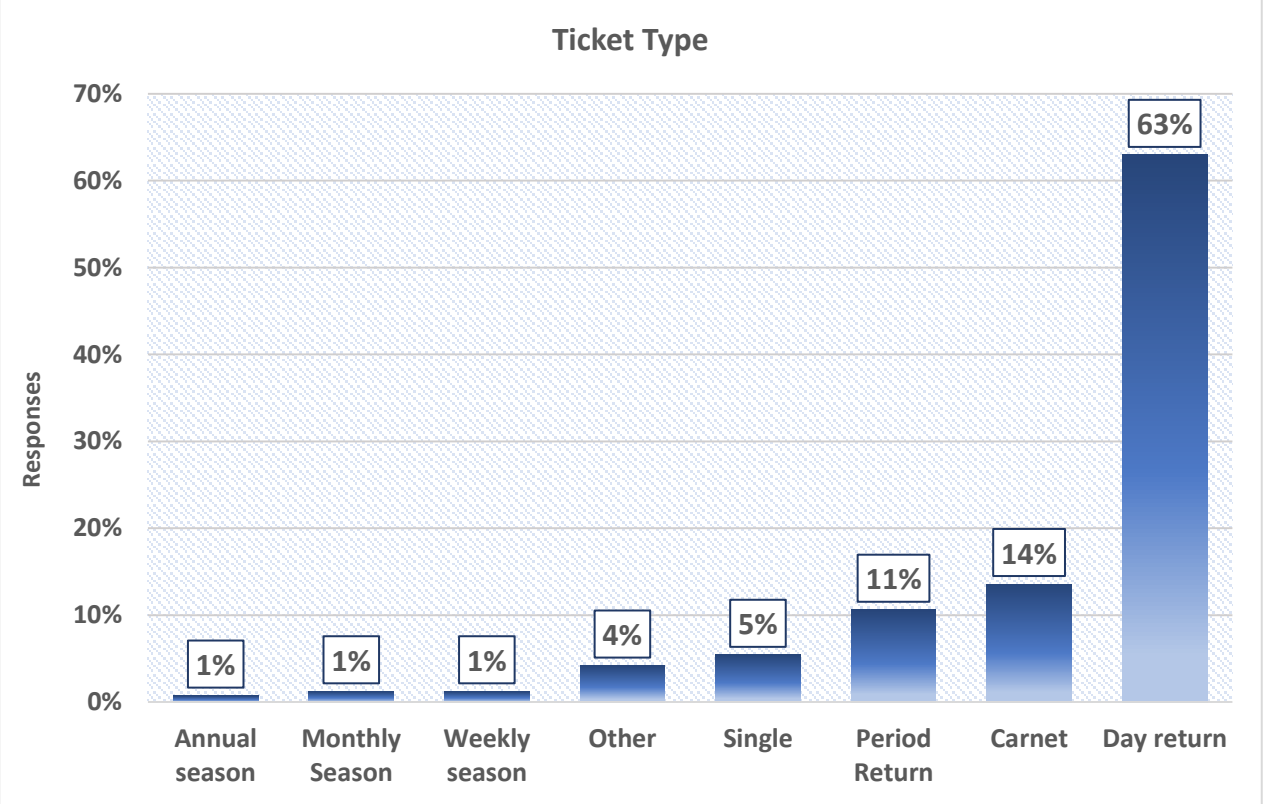
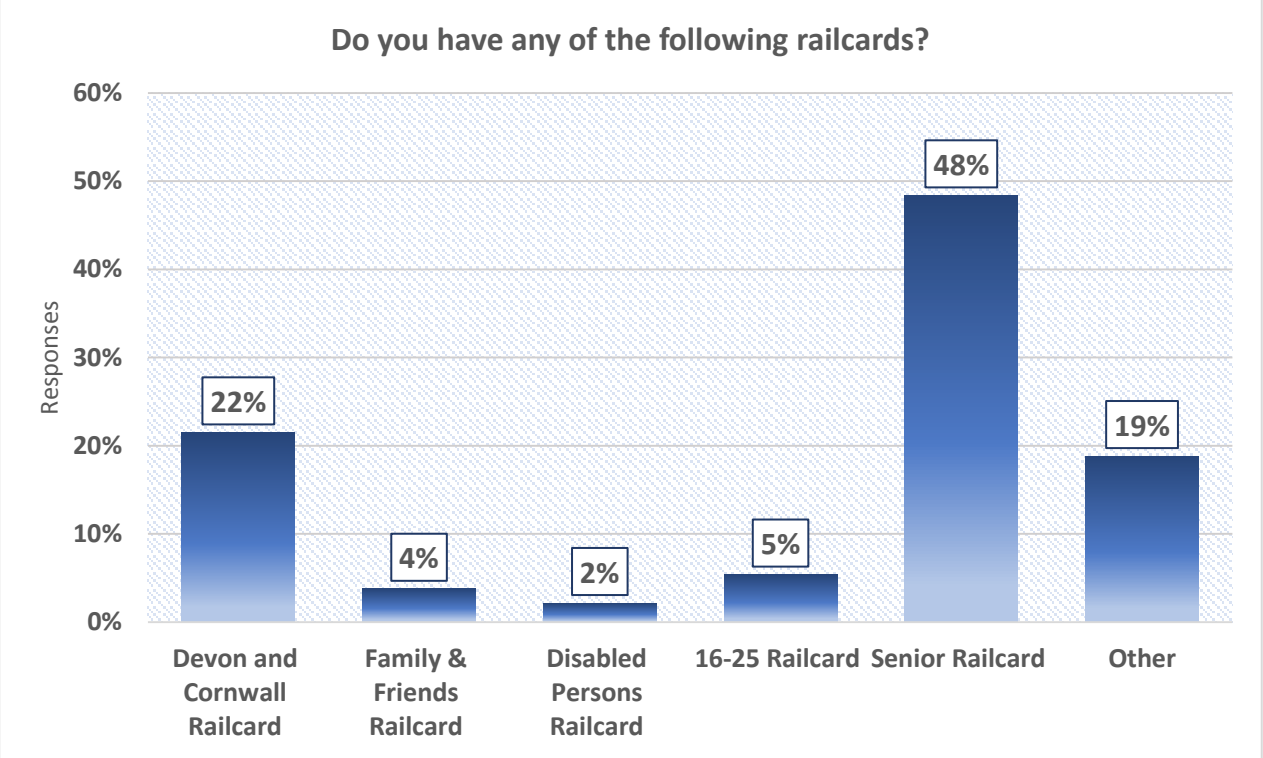


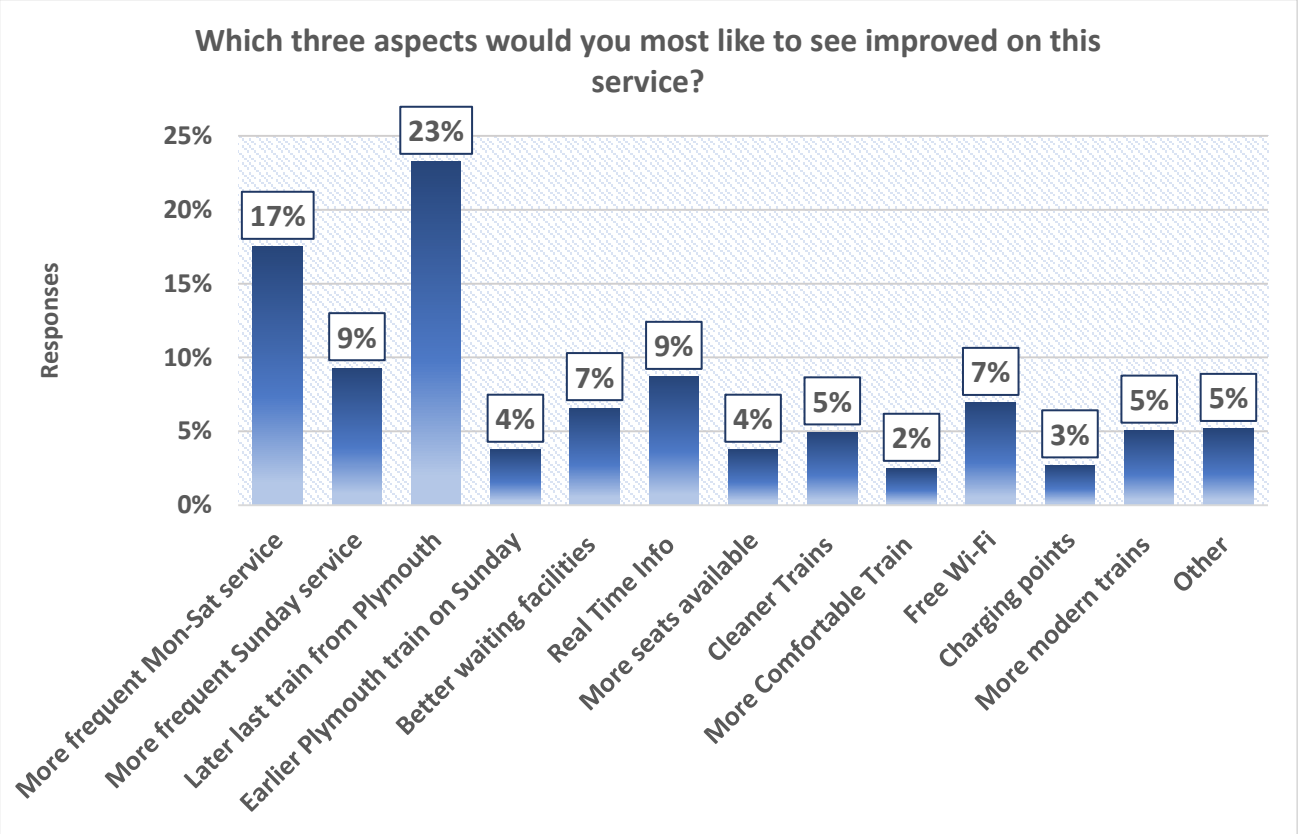
Figure A-O: Rail Travel – Railcards



2.14 Meanwhile, commenting on the value for money of local rail tickets, 47% of respondents thought they represented fair value for money, 34% thought they were too expensive and 19% felt they offered good value.

2.15 Respondents identified their top three priorities for improvement on the rail service they use most. Later last train from Plymouth was the most popular priority for 23% of respondents, followed by more frequent Monday to Saturday services (17%); more frequent Sunday service and the provision of real time information were joint third (9%).

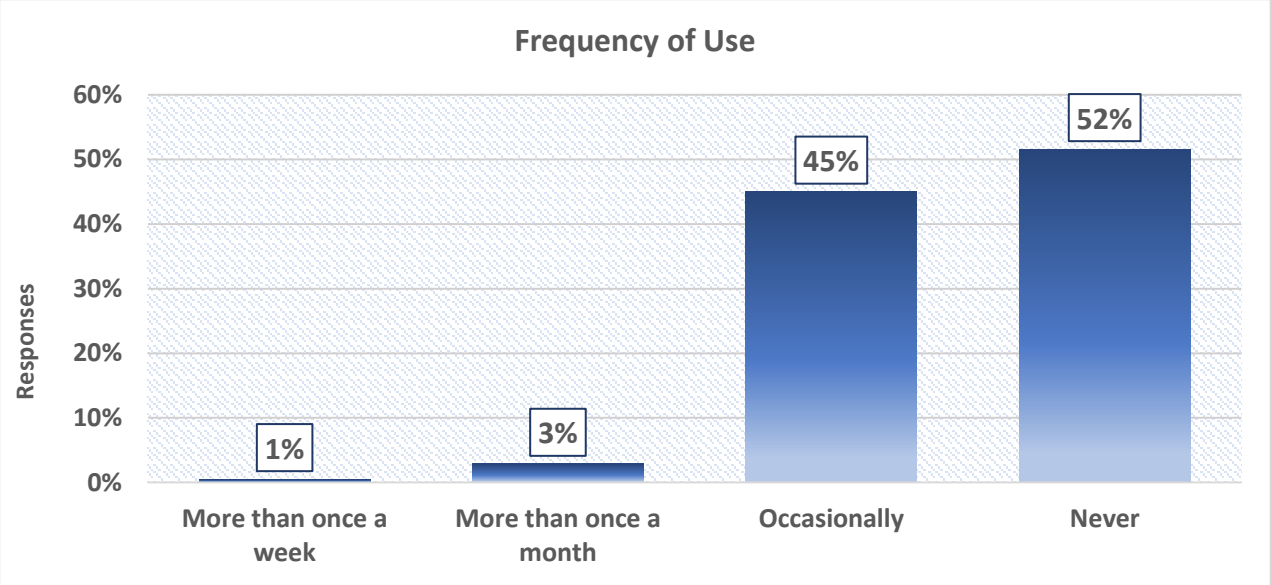
Figure A-P: Rail Travel - Top Three Priorities for Improvement



Taxi Travel

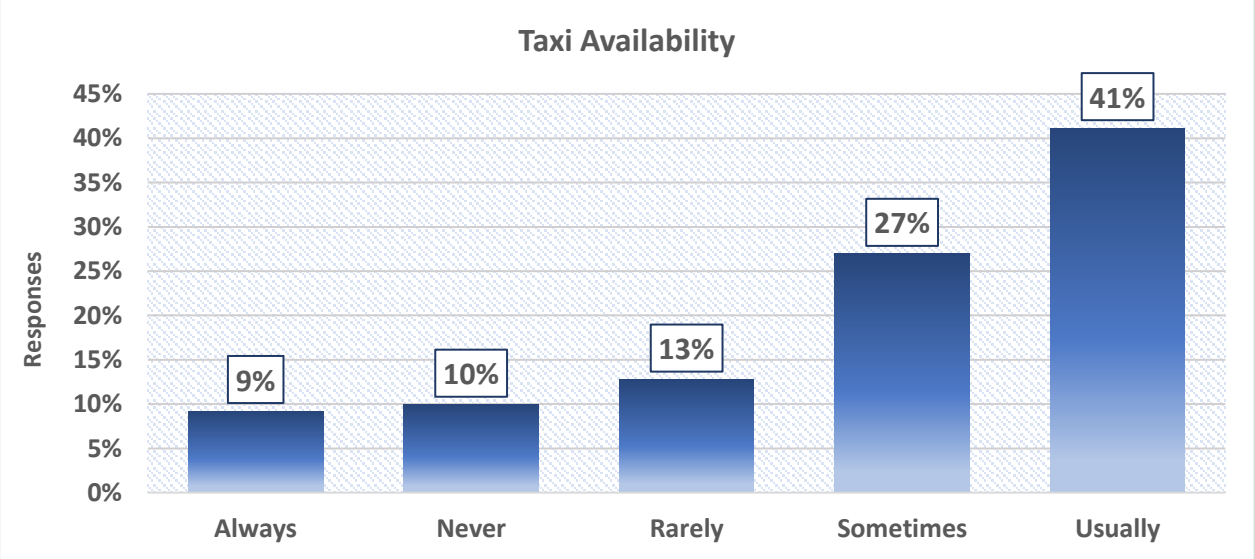
2.16 Taxi travel is not a regular source of transport for respondents. 52% said they never used local taxis, 45% said they occasionally travelled by taxi and only 1% of respondents said they used taxis more than once a week, as Figure A-Q shows.

Figure A-Q: Taxi Travel – Frequency of Use



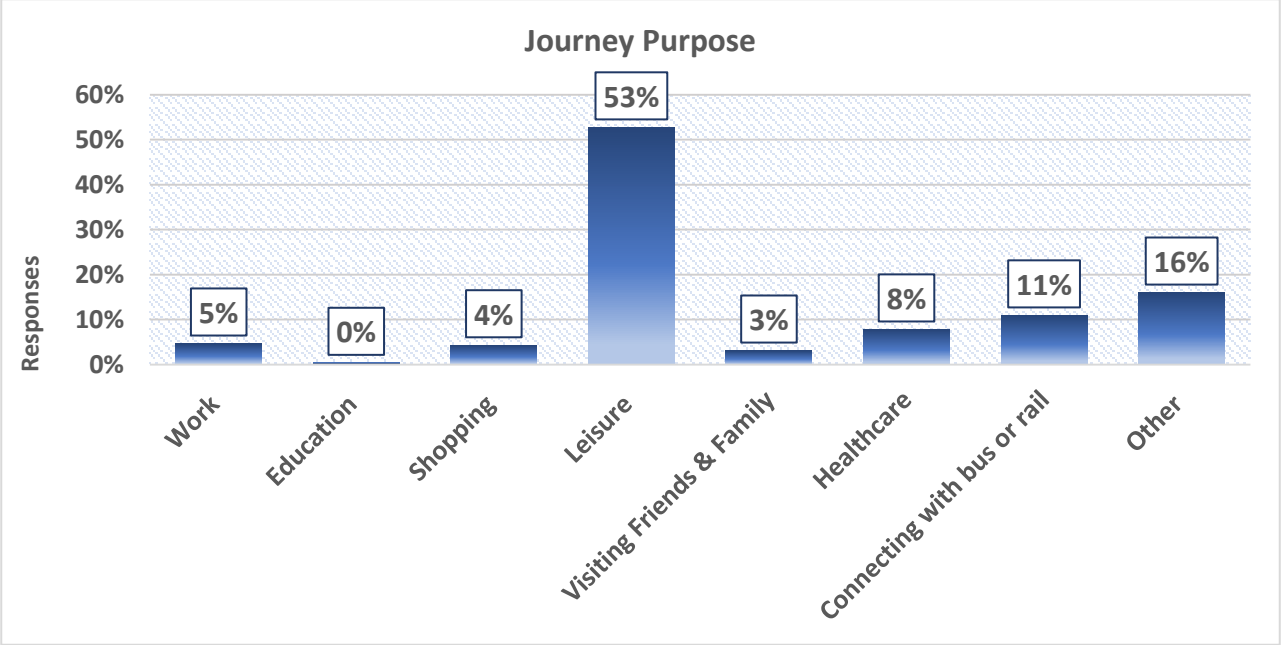
2.17 Respondents were asked if they felt they could get a taxi when they need one. 41% of respondents said usually; 27% sometimes and 13% rarely, (see Figure A-R).

Figure A-R: Taxi Availability



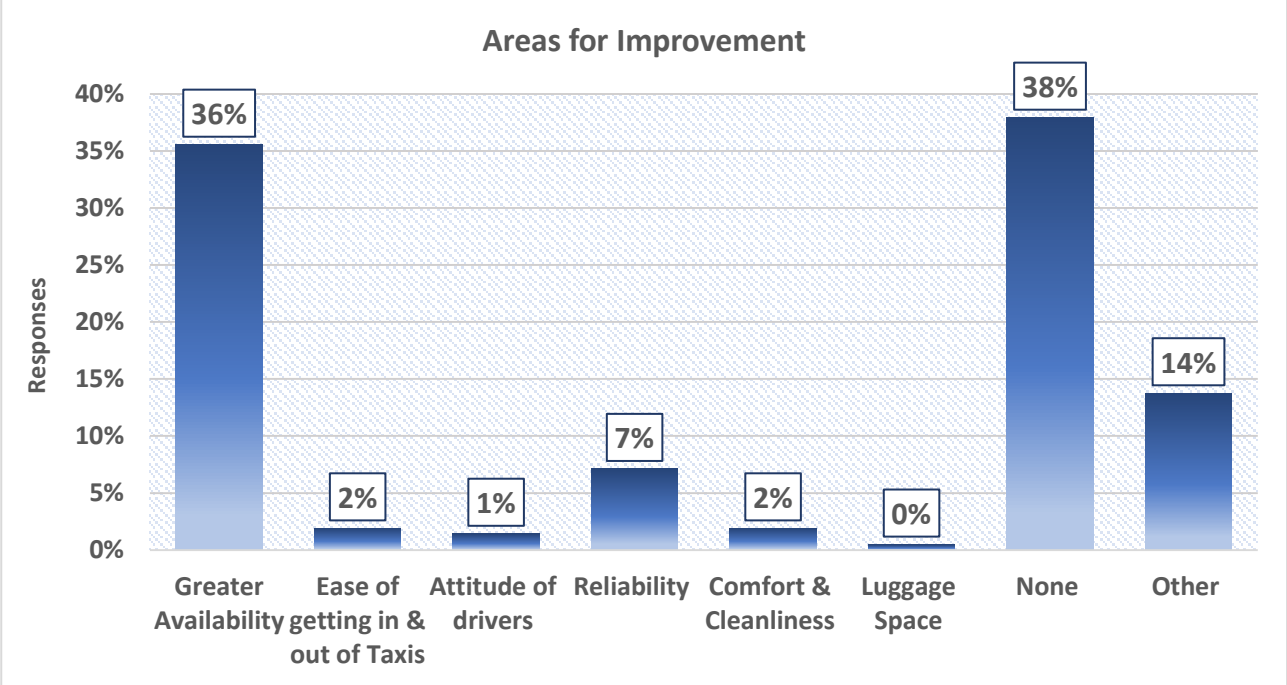
2.18 As Figure A-S shows, leisure was the most popular reason for travelling by taxi (53% of respondents).

Figure A-S: Taxi Travel – Journey Purpose



2.19 Asked about areas for improvement, 38% cited none and 36% greater availability (see Figure A-T below).

Figure A-T: Taxi Travel – Areas for Improvement



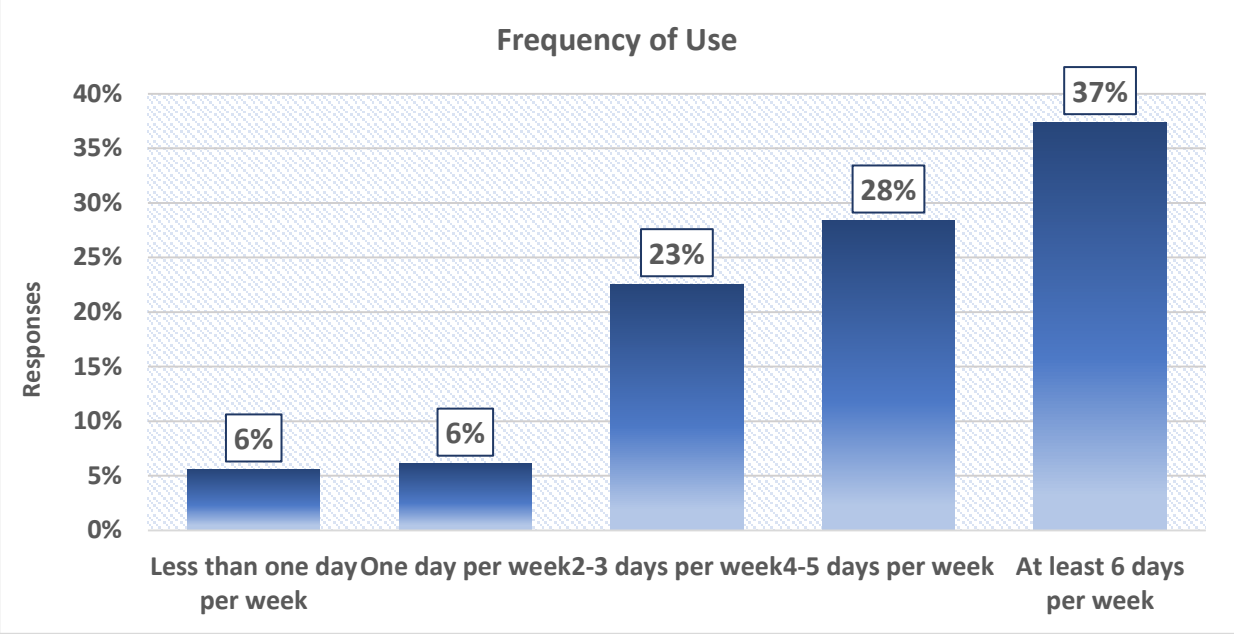
Other Forms of Transport

2.20 Respondents were asked if they use any other kind of transport service for regular journeys with a selection of options including Community Transport, car schemes and patient transport. Most respondents – 77% - said they travelled by car via a family member, friend or neighbour; 13% selected 'other' and 6% used Tamar Valley Community Bus.

Car Travel

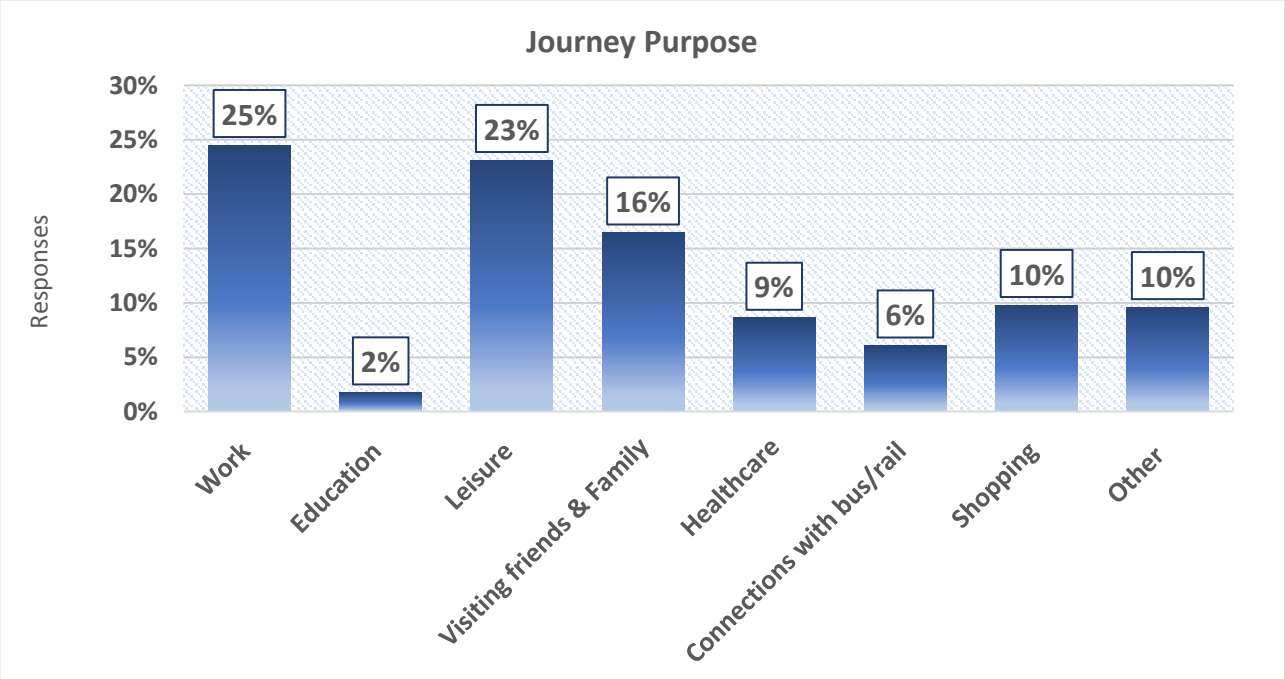
2.21 Most respondents are using their car on a very regular and more than weekly basis. 37% of respondents said they travel by car at least 6 days a week.

Figure A-U: Car Travel – Frequency of Use



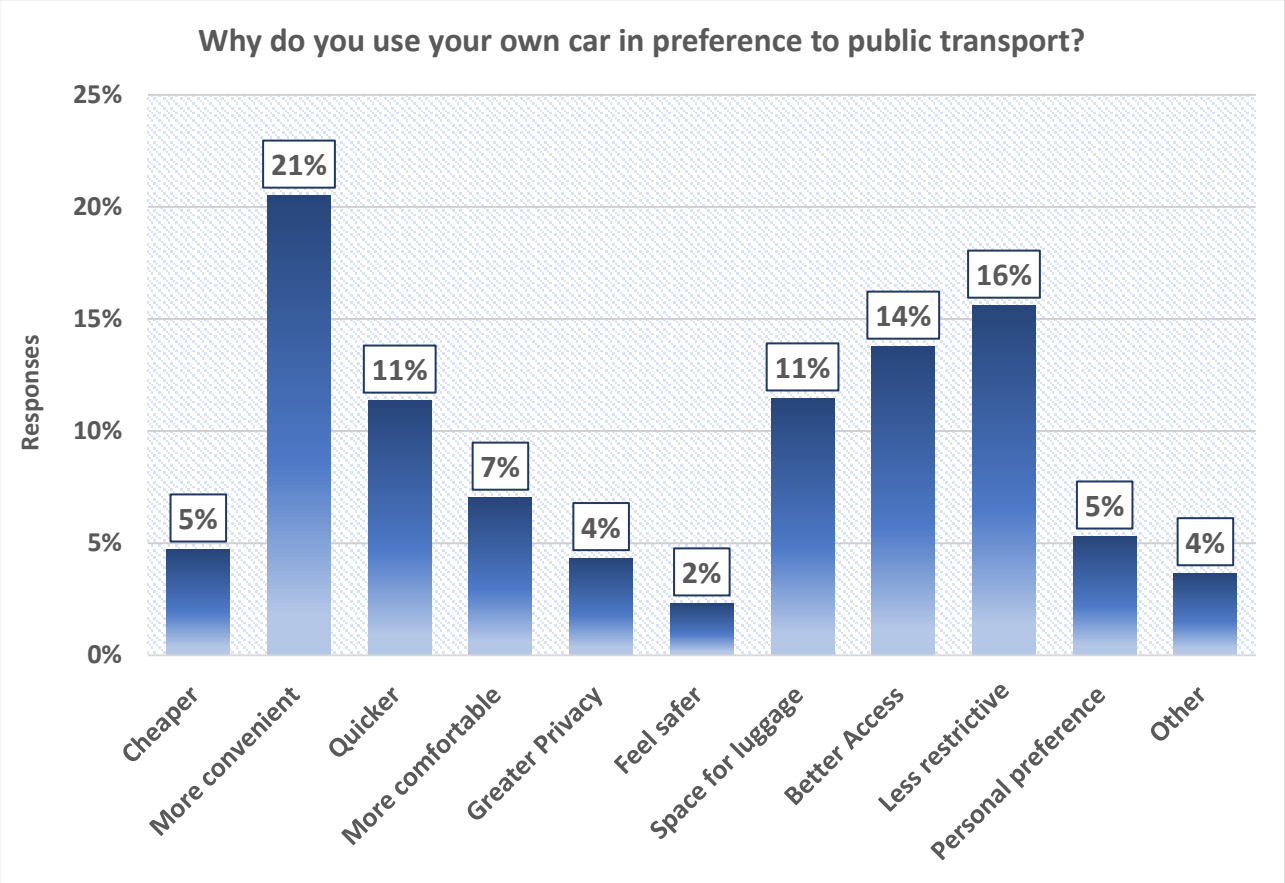
2.22 Work (25%) and leisure (23%) were the most popular reasons behind car travel, with 16% citing visiting friends and family (as Figure A-V below shows).

Figure A-V: Car Travel – Journey Purpose



2.23 Respondents were asked why they use their own car in preference to public transport. Car travel was deemed more convenient by 21% of respondents. 16% said driving was less restrictive and 14% said it provided them better access. Speed was a fairly significant factor but not the most pressing, as identified by 11% of respondents; the same proportion cited having space for luggage.

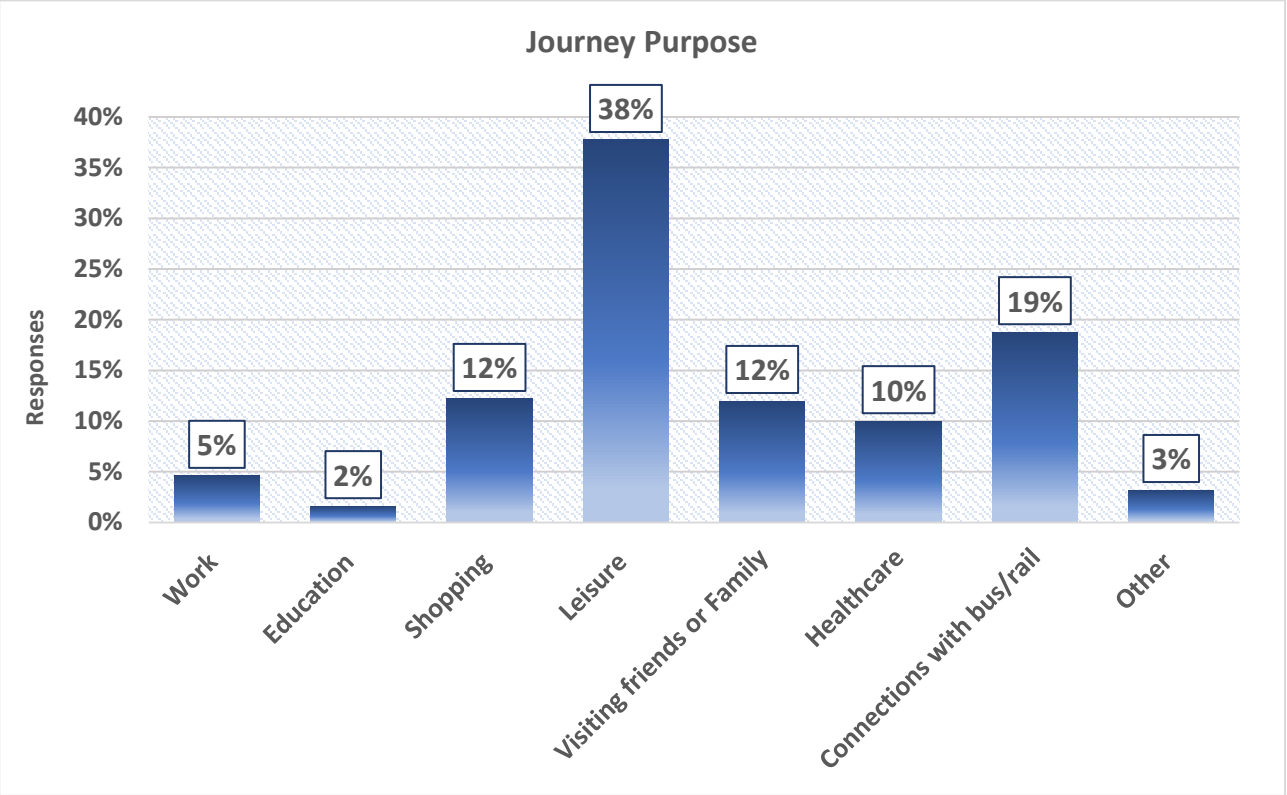
Figure A-W: Car Travel – Car versus Public Transport



Walking and Cycling

2.24 Leisure was the most popular reason for travel, for 38% of respondents, followed by 19% who walked or cycled to connect with public transport services. 12% travelled for shopping and the same proportion for visiting friends and family.

Figure A-A: Walking & Cycling – Journey Purpose



2.25 Asked if they felt there were adequate facilities to make short journeys by bike or on foot, 64% responded positively.

3. Conclusions on General Travel Survey

3.1 Car travel was by far the most popular mode of transport, with 94% travelling by car at least one day a week – 37% at least 6 days a week. This compares to 15% using rail services once a week and 5% of respondents using bus services once a week; only 1% use taxis more than once a week and no respondents said they used taxis on a weekly basis.

Value for Money

3.2 19% of respondents felt that rail services offered good value for money and the same amount for bus services.

Priorities for Improvement

3.3 When asked to identify priority areas for improvement for bus and rail services, better frequency was the top priority for bus services and for rail a later last train from Plymouth. Greater availability, meanwhile, was the most popular improvement identified for taxi travel.

Journey Patterns

3.4 The most popular bus journeys were between:

- Tavistock and Gunnislake;
- followed by Tavistock and Calstock; and then
- Tavistock and Bere Alston.

3.5 The top three points of origin for rail journeys were: Gunnislake then Calstock and Bere Alston. Plymouth is by far the most popular destination for rail travellers; London and Calstock also feature but are nowhere near the same scale.

3.6 14% of respondents said they usually purchase the carnet discounted ticket compared to 63% who normally purchase a day return.

Car versus Public Transport

3.7 Respondents were asked why they use their own car in preference to public transport. Car travel was deemed more convenient by 21% of respondents. 16% said driving was less restrictive and 14% said it provided them better access. Speed was a fairly significant factor but not the most pressing, as identified by 11% of respondents; the same proportion cited having space for luggage.

General

3.8 We know from journey comparisons made in the valuation aspect of this report, that Tamar Valley Railway line has the advantage over the car when it comes to journey time and speed and any marketing to attract people out of their car should focus on this. Although convenience of the car (its offer of near door-to-door travel) was the biggest attraction for driving over public transport, the speed and directness of the Tamar Valley Railway line over indirect road routes was a point raised by several organisations in the phone interviews for the stakeholder survey, including the Devon Chamber of Commerce

3.9 Top priorities for improving the rail services centre on the frequency and availability of services: later last train from Plymouth, more frequent Monday to Saturday service, and more frequent Sunday service being the top three priorities. These findings are strongly echoed by findings from the on-train survey, where 64% of passengers identified a more frequent Monday to Saturday Service as their top priority, and in second place, 50% requested a later train from Plymouth; 24% requested a more frequent Sunday service.

3.10 DCRP might consider a targeted consultation on a later train to Plymouth and on best desired timings specifically to gauge how many current and potential users would use the rail services more at a later point in the evening and what departure time would be most beneficial. An online poll on the DCRP website and via social media could assist here. If a later train was implemented, strong online and at-station marketing such as a poster campaign and leaflets would pay dividends.

Appendix B: Rail User Survey (On-train)

1. Introduction

1.1 TAS produced an on-train survey of rail passengers to gauge travel behaviour and satisfaction with various aspects of service.

1.2 Analysis covers 360 full responses; a number were removed from the results as answers were incomplete or unusable.

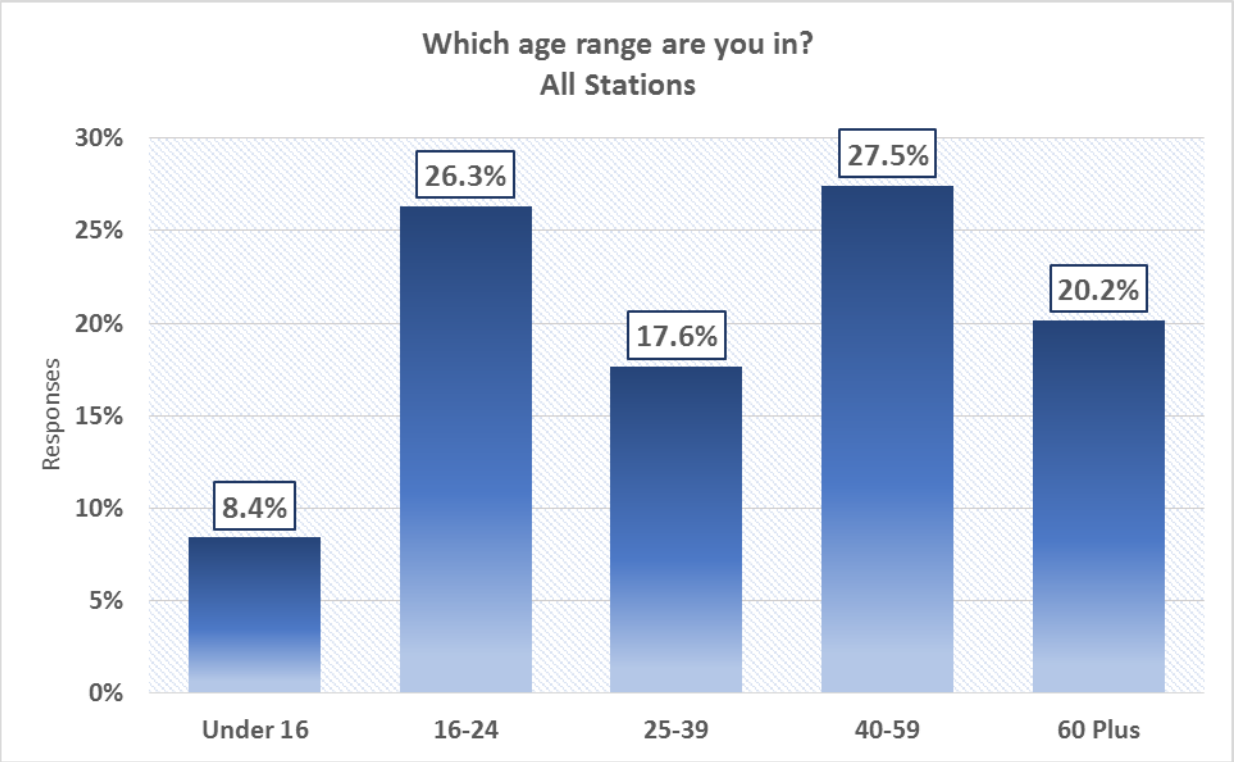
1.3 Survey results have been presented as a general overview of all responses and also analysed by: passengers travelling to or from Bere Ferrers and Bere Alston - the two stations in West Devon; and Calstock and Gunnislake – two stations in Cornwall.

1.4 The surveying took place on the following dates and times to cover peak, off-peak, weekday and weekend services: Saturday 20 January (0730 to 1345), Sunday 21 January (1000 to 1600), Tuesday 23 January (545 to 1730) and on Friday 26 January (1345 to 1730).

Demographic Profile

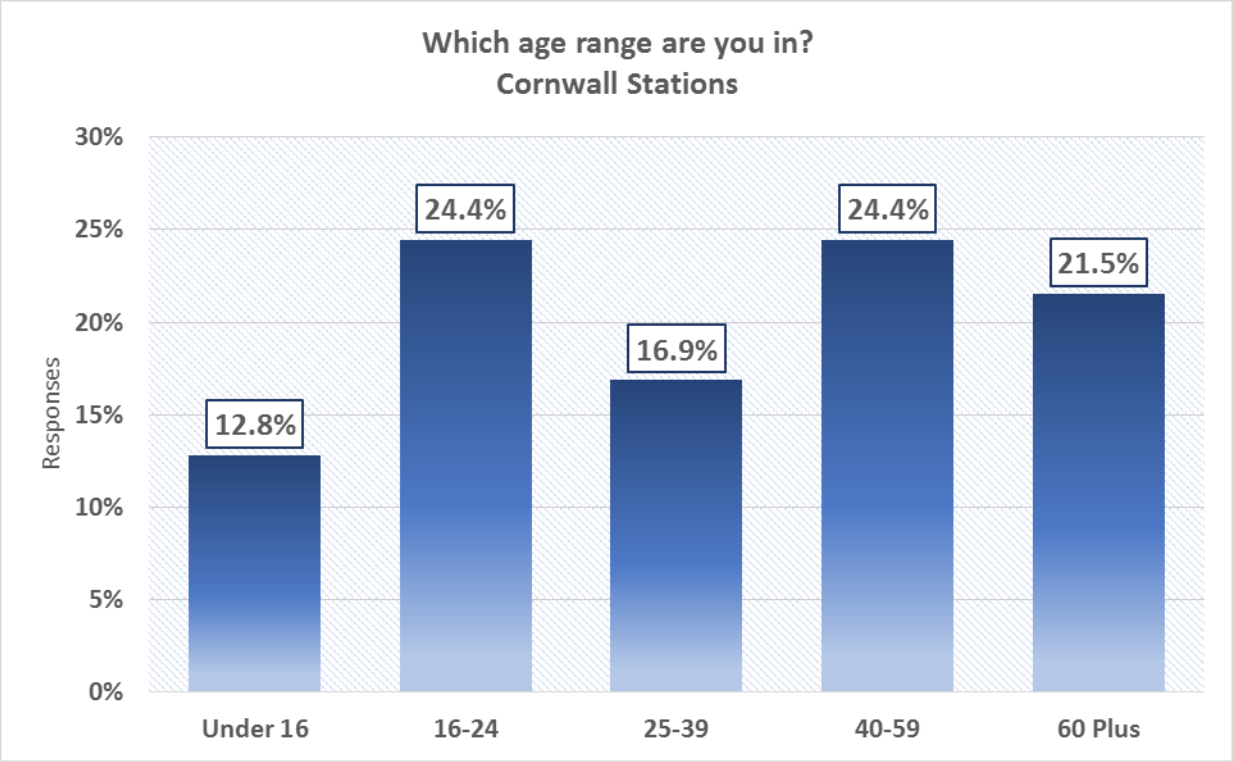
1.5 The majority of respondents in the survey fell into the 40-59 age bracket comprising 28%, followed by 16-24 (26%). Young people aged under 16 made up only 8% of the survey respondents.

Figure B-A: Age Profile –All Stations



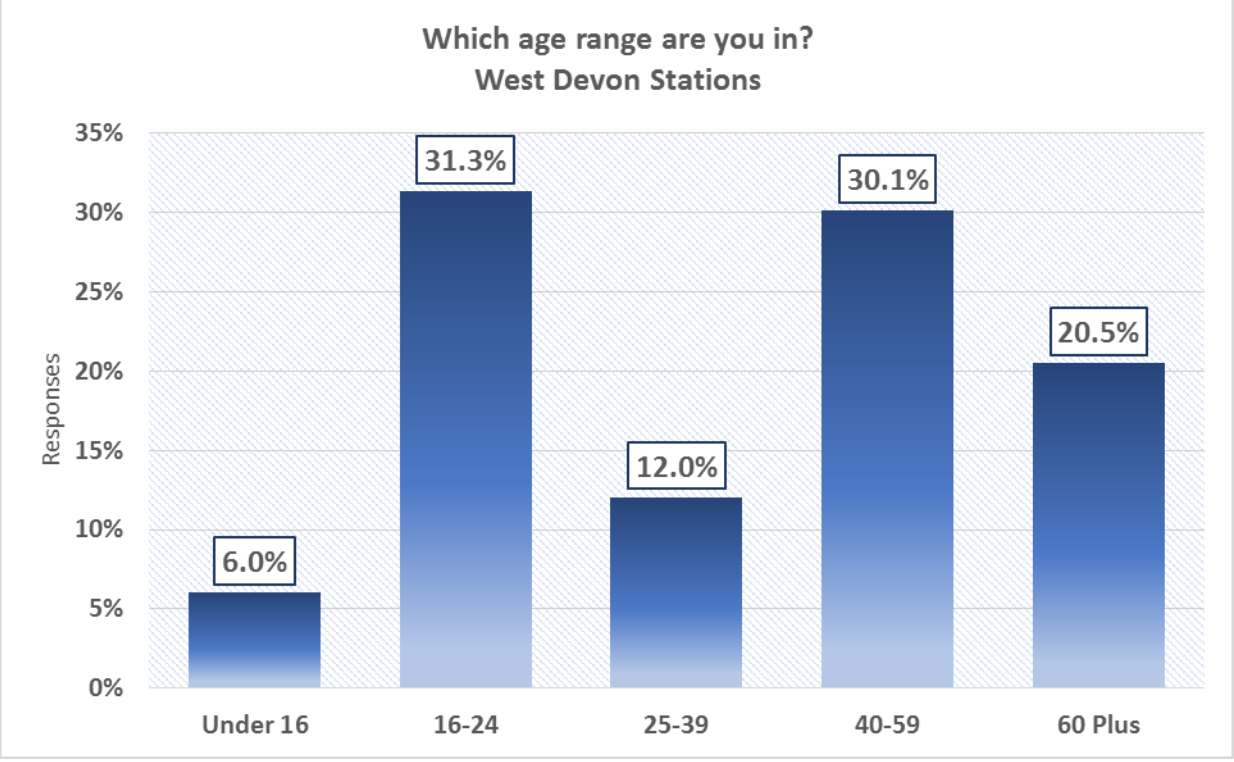
1.6 There was a higher proportion of under 16 year olds in Cornwall.

Figure B-B: Age Profile – Cornwall Stations



1.7 In West Devon, people aged 16-24 and 40-59 age brackets account for 61% of the respondents. The proportion of under 16s are significantly lower than in Cornwall.

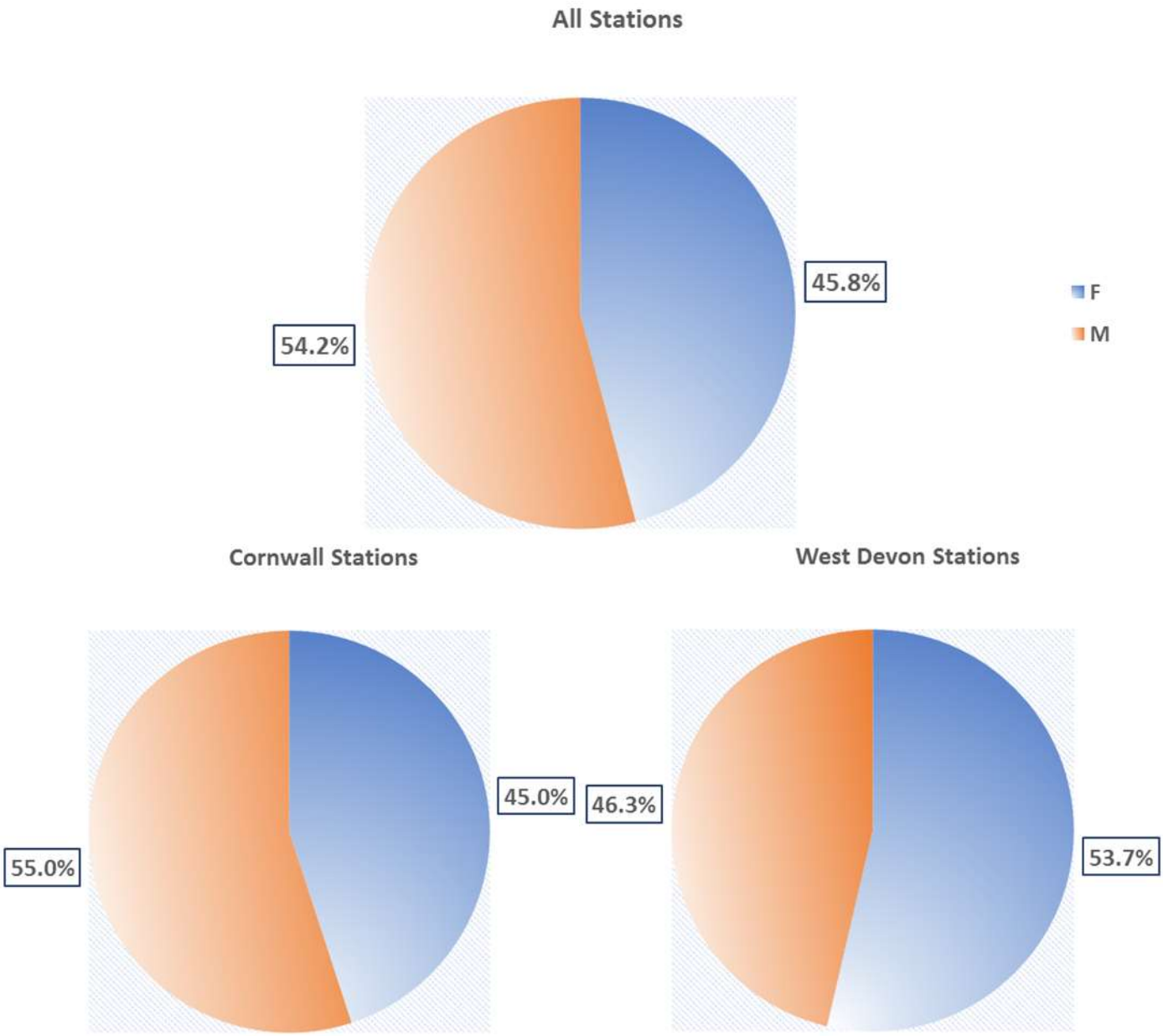
Figure B-C: Age Profile – West Devon Stations



Gender

1.8 54% of respondents were male across all surveys. This is similar for respondents coming from the Cornwall station where 55% were male. However in West Devon, 54% of respondents were female.

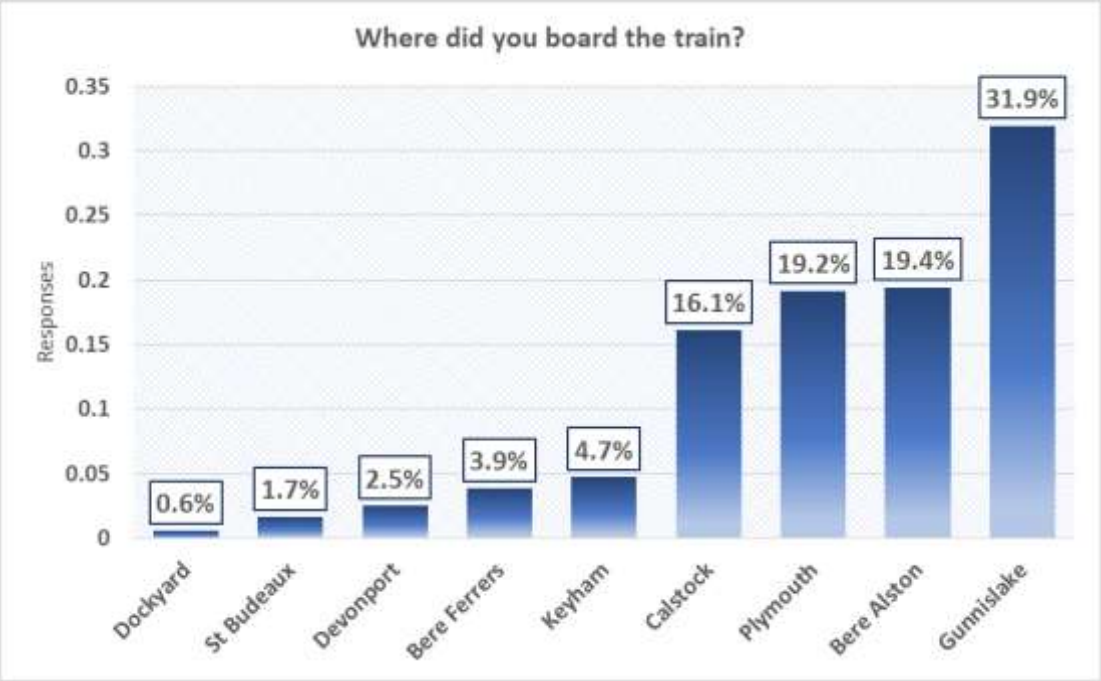
Figure B-D: Gender



Travel Patterns

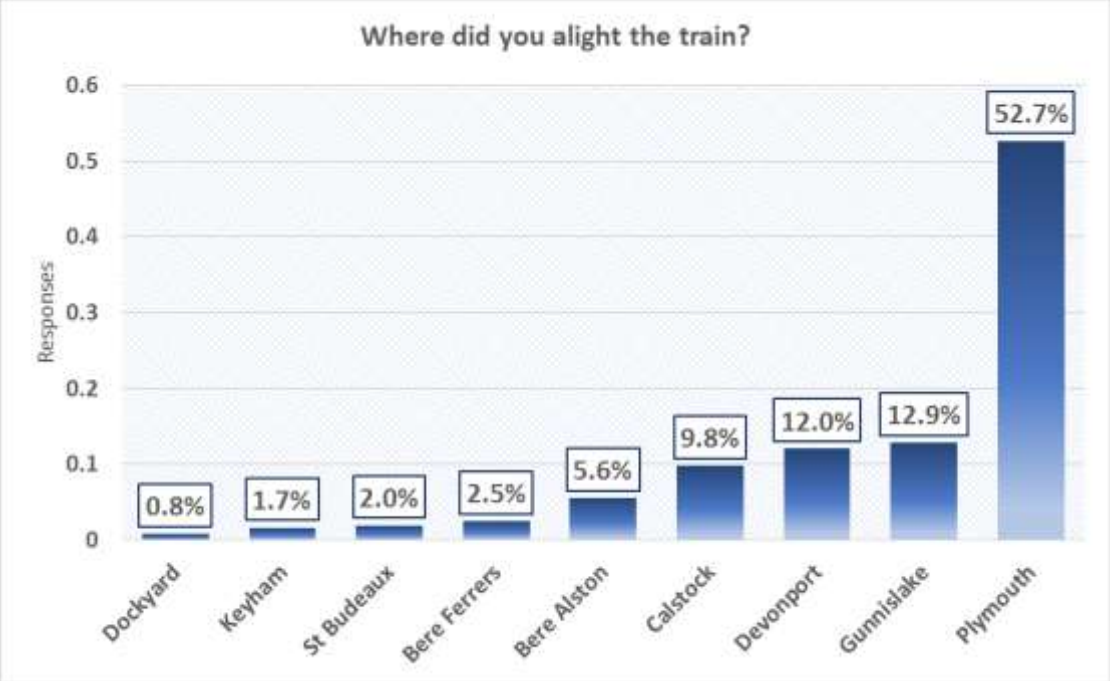
1.9 Gunnislake was the most popular railway station for boarding (32%), followed by Bere Alston (19%), Plymouth (19%) and Calstock (16%). 48% boarded from the two Cornish stations in total.

Figure B-E: Boarding Stations



1.10 Unsurprisingly, the majority of passengers were travelling to Plymouth with over 53% of passengers alighting at Plymouth railway station, 69% in total when including all stations within the Plymouth area.

Figure B-F: Alighting Station



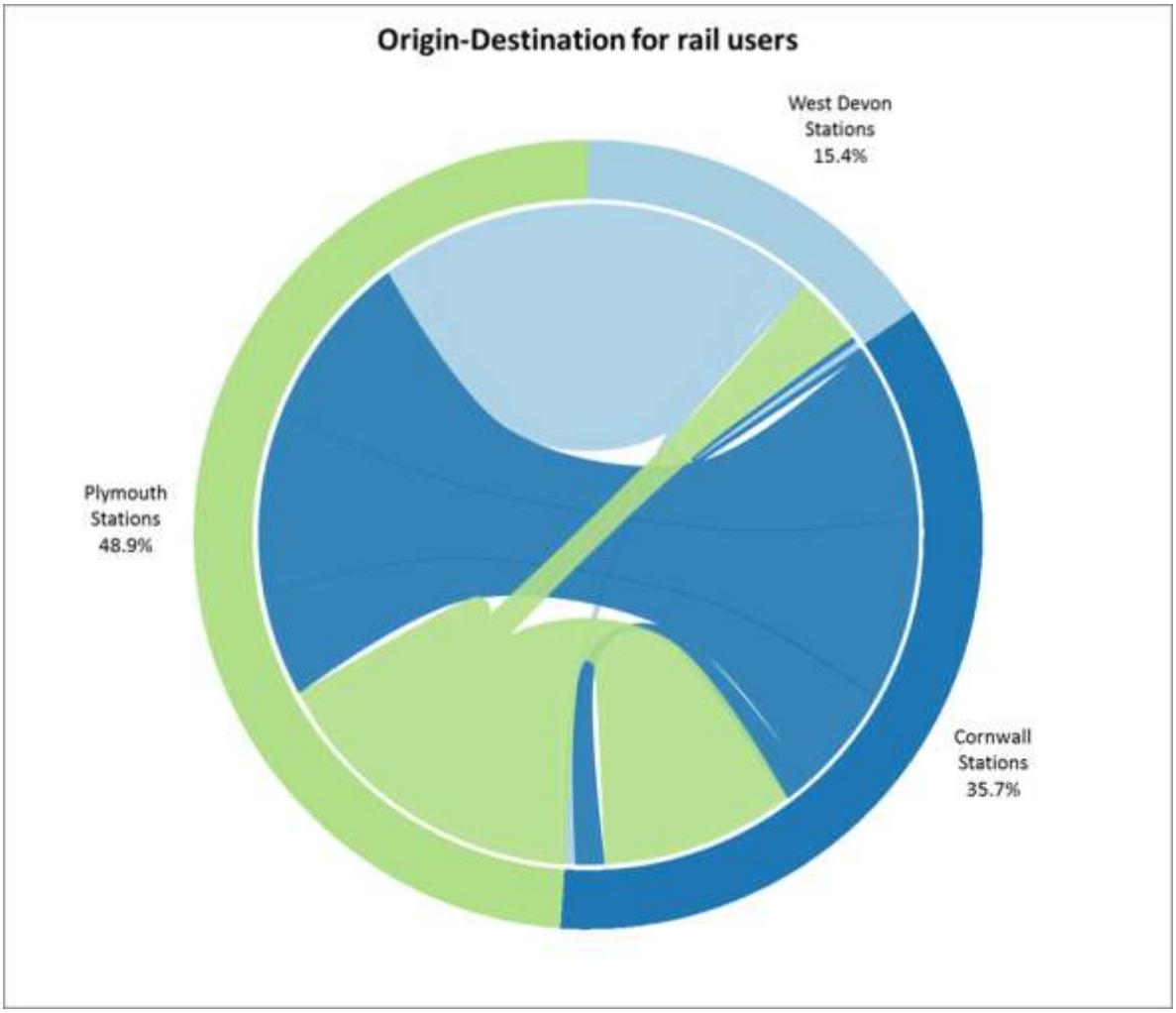
1.11 Figure B-G below shows travel between the stations within the three main districts of the study area: West Devon, Cornwall and Plymouth. Figure H includes all stations.

1.12 The majority of travel was to or from Plymouth with 49% (335) of journeys; 73% of these journeys were inbound journeys, with 48% coming from Cornwall and 22% from West Devon. The majority of travel was to or from Plymouth with 49% (335) of journeys; 73% of these journeys were inbound journeys, with 48% coming from Cornwall and 22% from West Devon.

1.13 Most of the 36% of journeys travelling to or from Cornwall were outbound (71%) and 66% of them heading to Plymouth. Of the inbound journeys, most came from Plymouth (with only 2% coming from West Devon and 4% coming from Cornwall).

1.14 92% of journeys in or out of West Devon were to or from Plymouth.

Figure B-G: Origin-Destination Analysis



Travelling to the station

1.15 59% of respondents walked to the station, while 31% of respondents travelled by car – more as a passenger (18%) than the 13% who drove.

Figure B-H: Mode to Station – All Stations

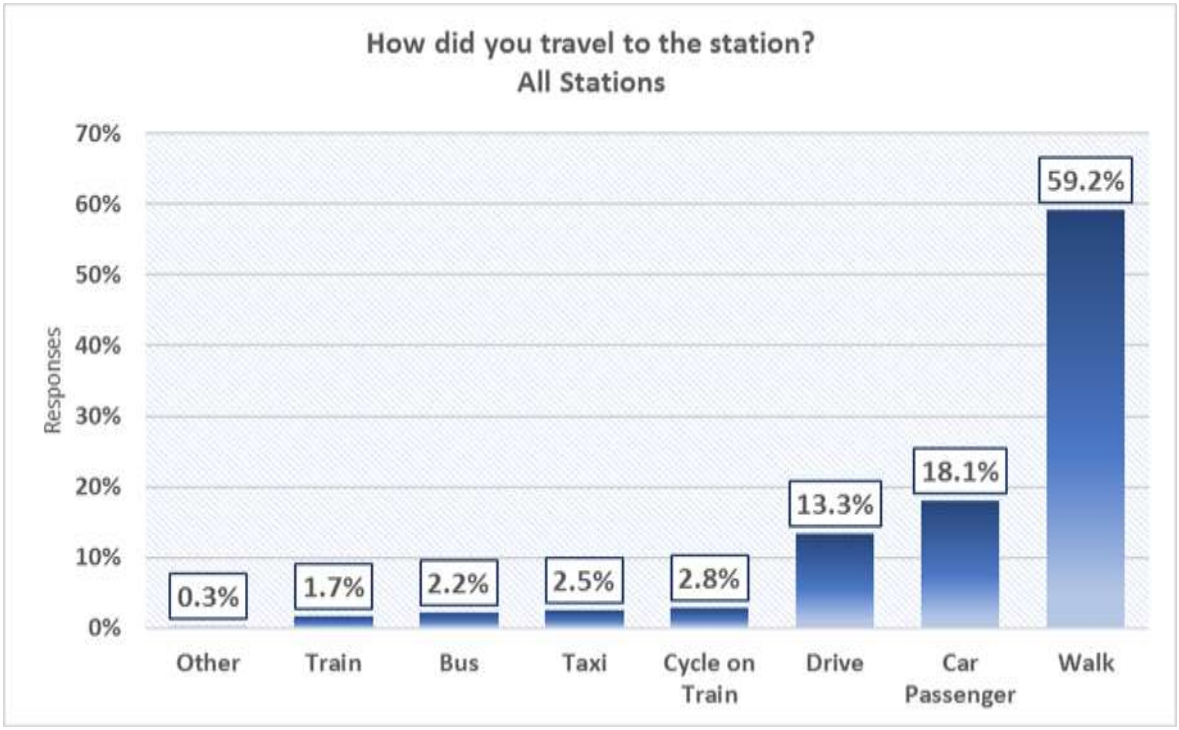


Figure B-I: Mode to Station – West Devon

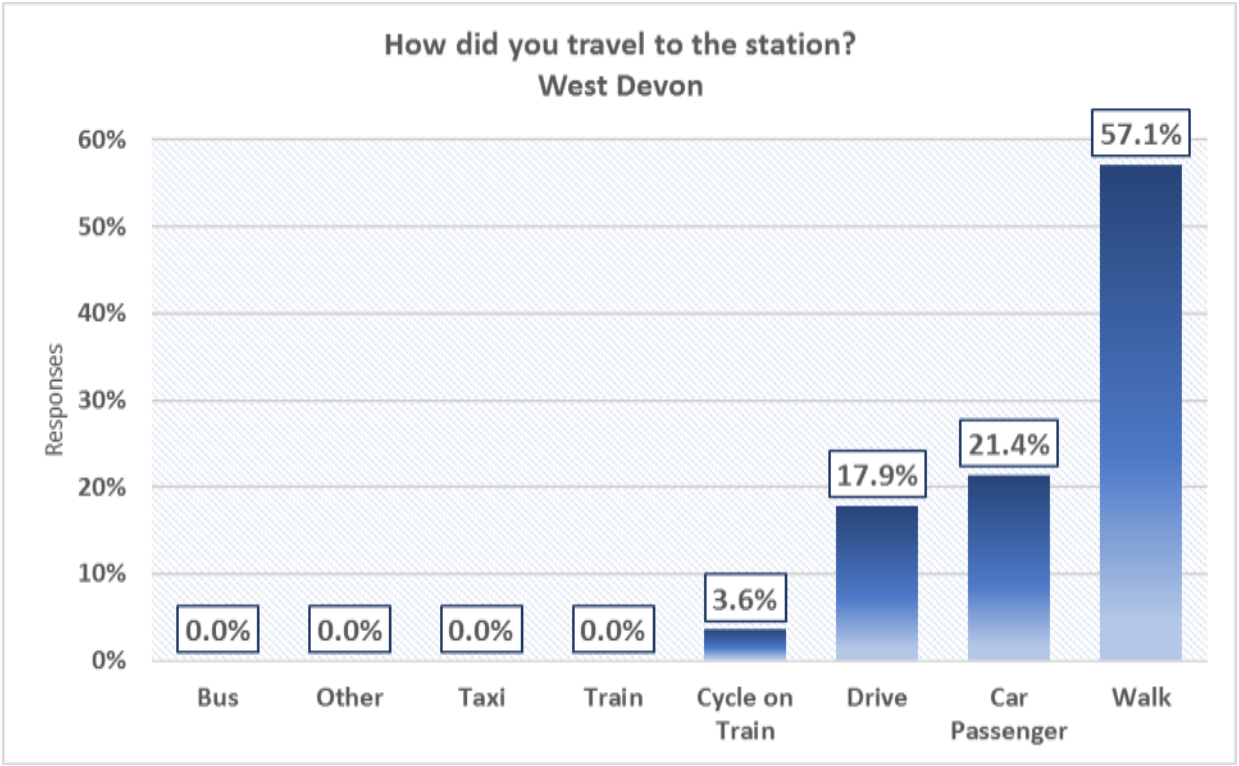
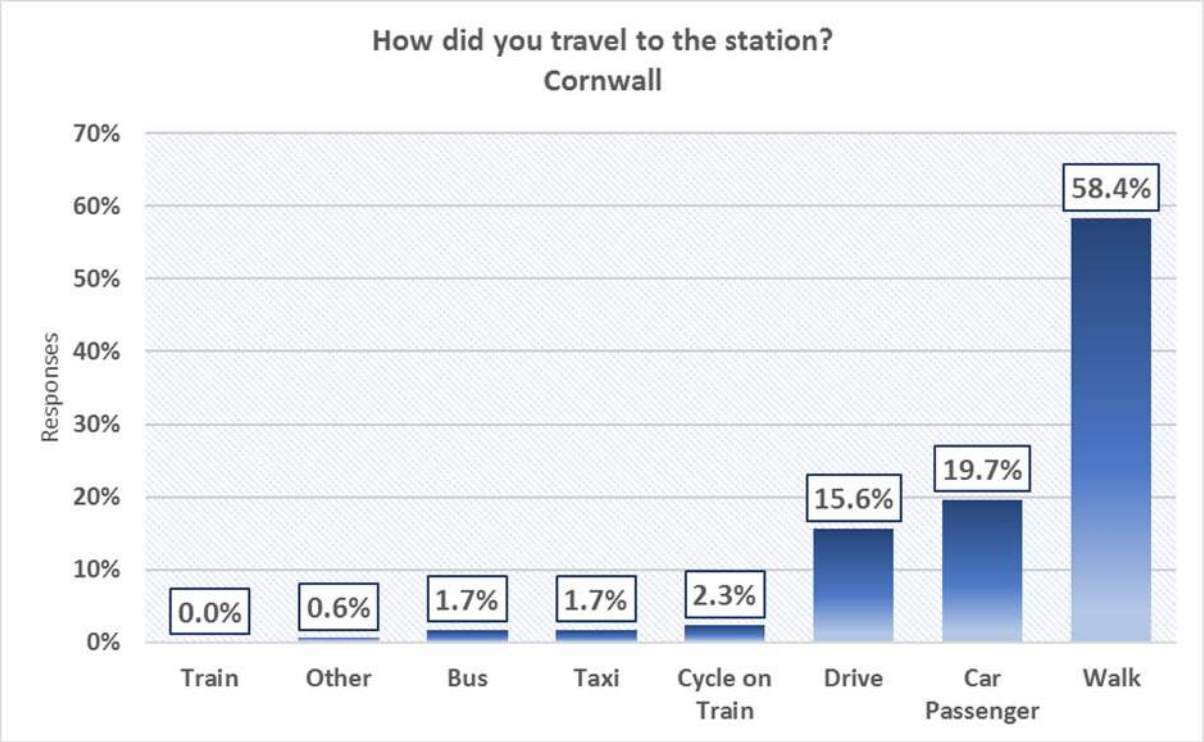


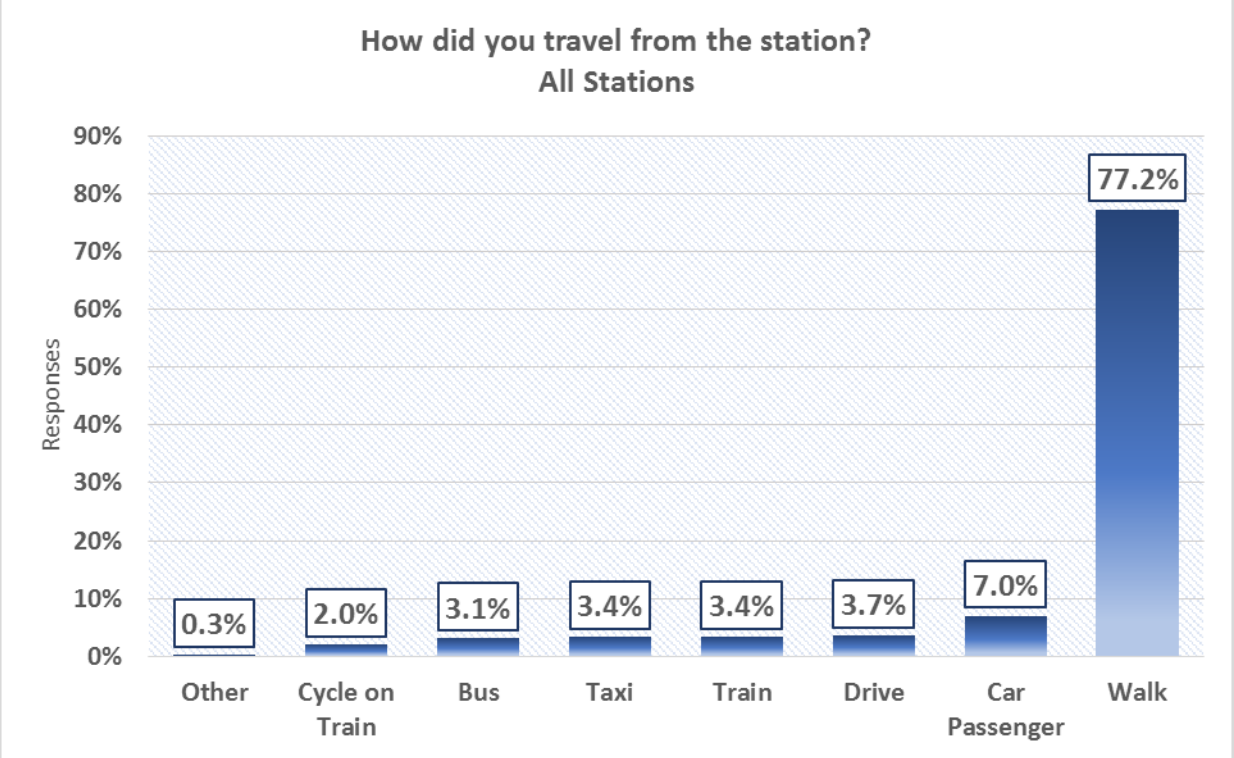
Figure B-J: Mode to station – Cornwall



Travel from Stations

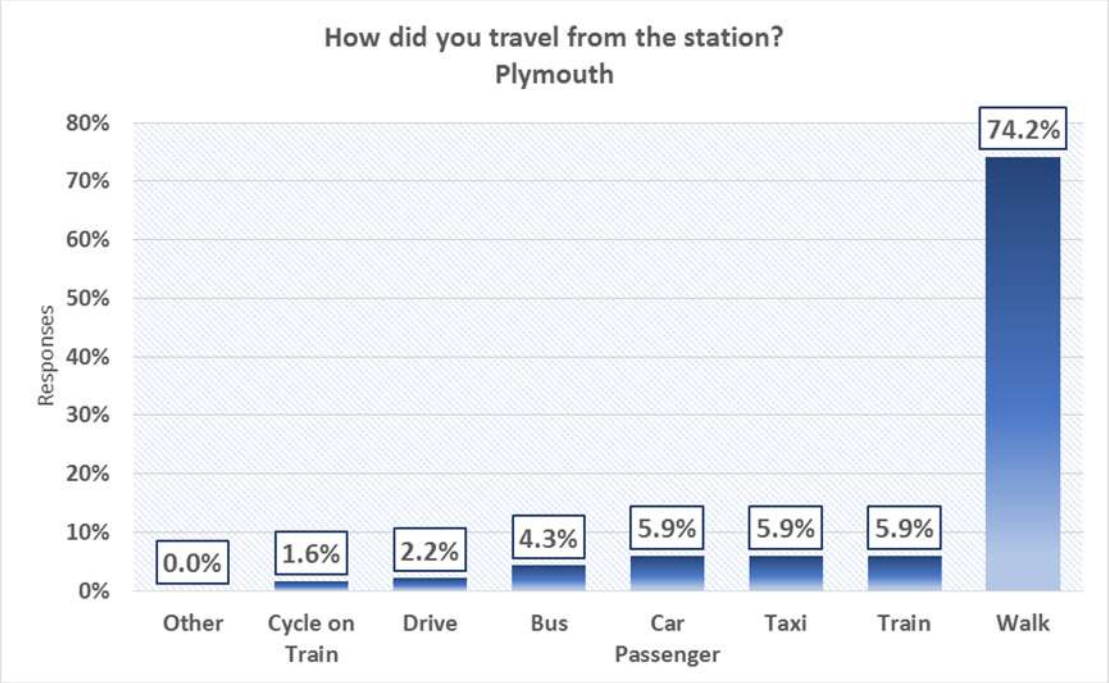
1.16 Walking was the most popular mode of transport when travelling from the destination station, for 77% of respondents.

Figure B-K: Travel from Station – All Stations



1.17 For passengers alighting at Plymouth, rail was the most popular mode after walking (6%) reflecting the onward rail journeys for users of the Tamar Valley Railway line.

Figure B-L: Travel from stations – Plymouth



Other Modes of Travel

1.18 Respondents were asked if there were any other modes of transport they might consider using for the journey they were taking. The results for all stations is shown in Figure B-M.

1.19 The majority of respondents (58.1%) would consider using a car if the train was not available. 26.7% had no other means of transport.

1.20 Figure B-N shows the figures just for the West Devon stations. The majority still would consider cars but it is a lower majority at 51.2%. There were no respondents who had no alternative transport that they would consider.

1.21 64.7% of respondents from Cornwall stations would consider using a car – as shown in Figure B-O; this is a significant increase compared to the West Devon stations. 1.2% of respondents would not consider an alternative transport mode.

Figure B-M: Other modes of transport – All Stations

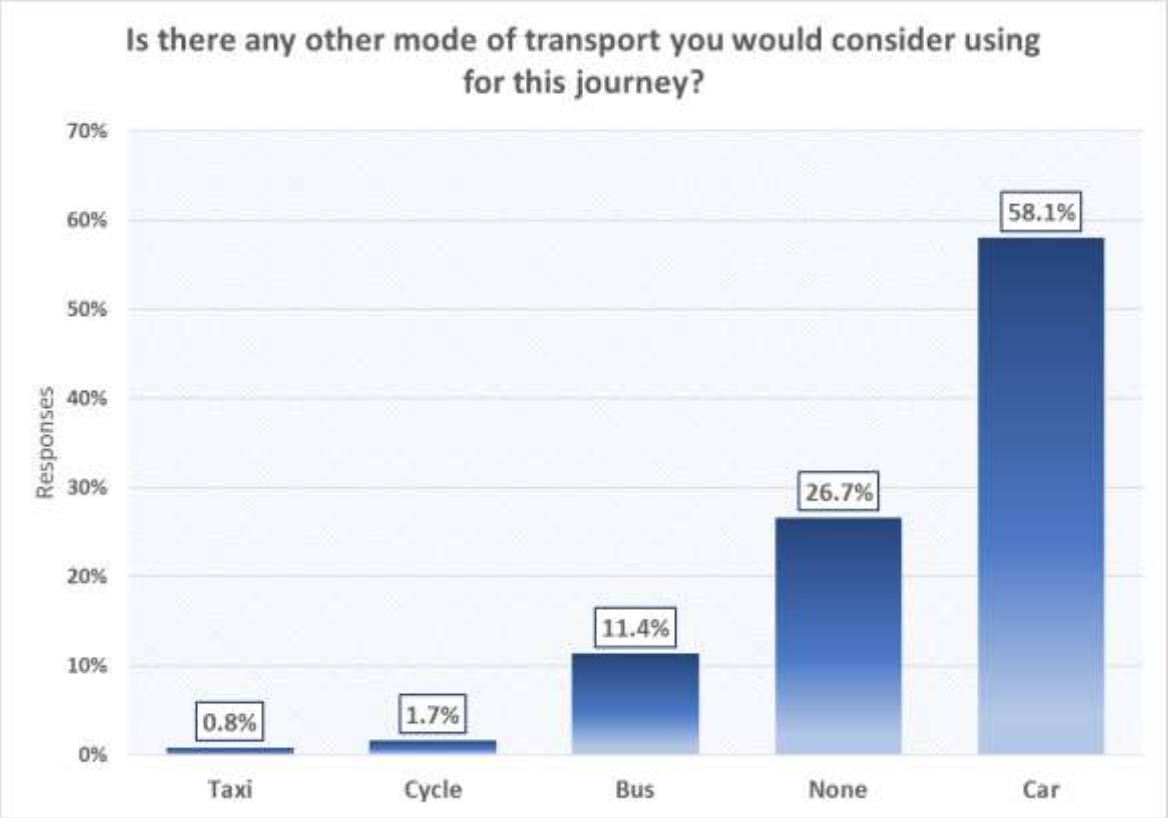


Figure B-N: Other modes of Transport – West Devon Stations

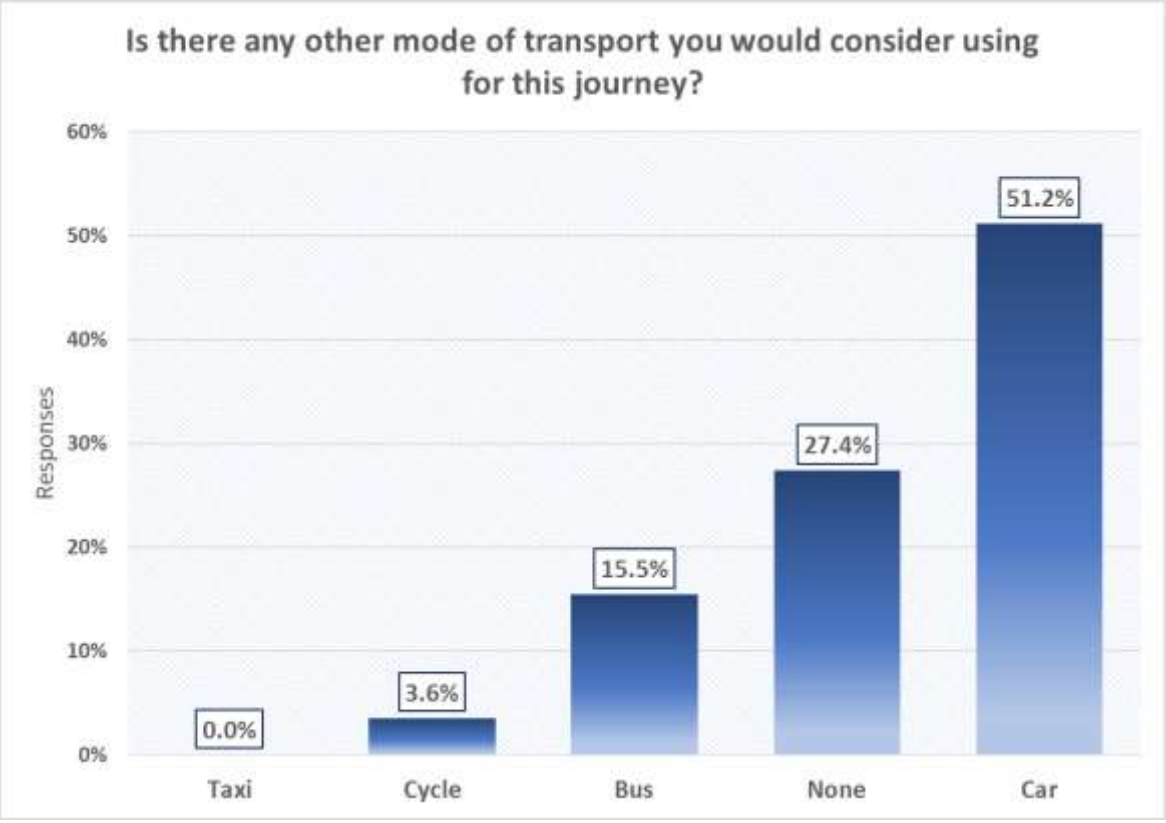
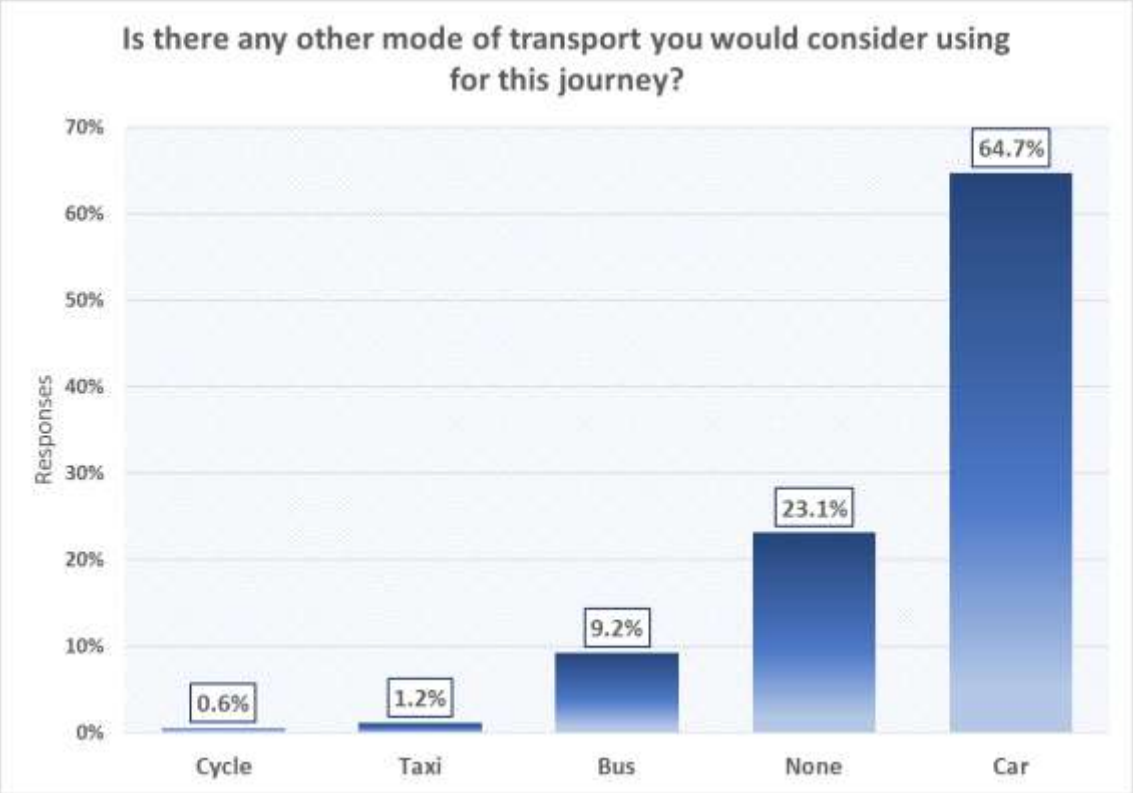


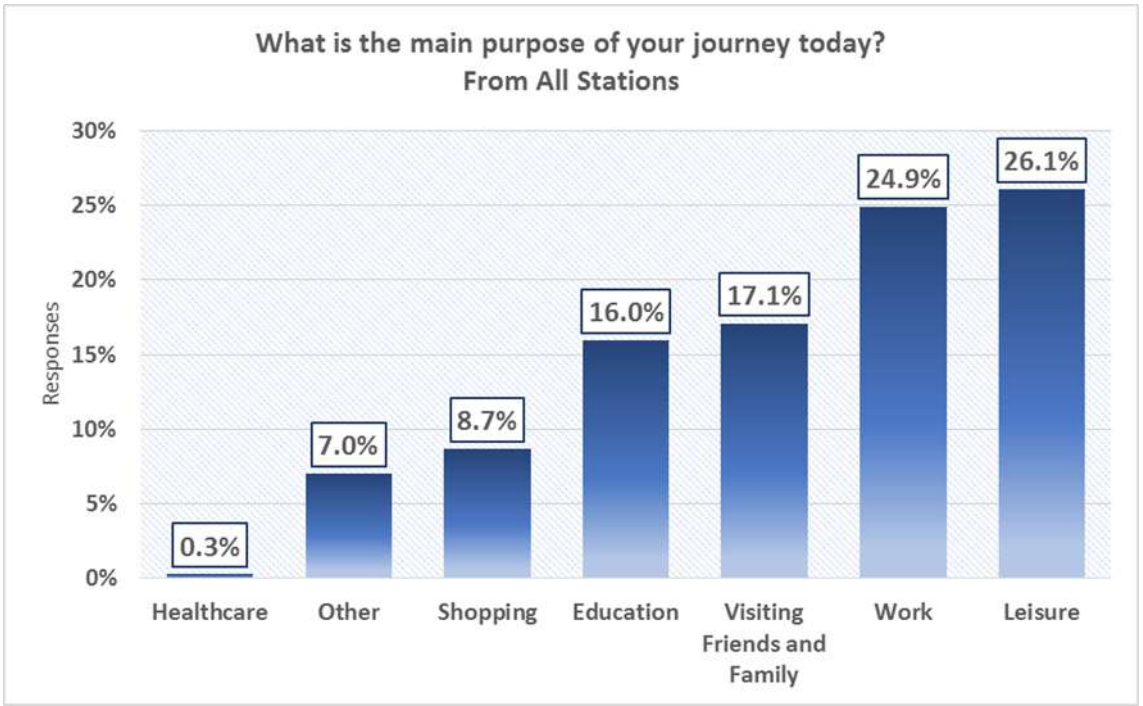
Figure B-O: Other modes of Transport – Cornwall Stations



Journey Purpose

1.22 Leisure was the most popular reason for travel – cited by 26% of respondents, closely followed by work (24.9%); 17% said they travelled to visit friends of family while 16% travelled for education.

Figure B-P: Journey Purpose – All Stations



1.23 Figure B-Q shows that for passengers travelling from the two West Devon stations, work is the most popular reason for travel (37%). Leisure, which was most popular for all journeys, was the journey purpose for only 11% of respondents.

1.24 For passengers travelling to West Devon, work is still the most common journey purpose given (31%). 24% said they were visiting friends and family and 21% said they were travelling for leisure purposes. No passengers travelling to West Devon cited it as a reason for travel.

Figure B-Q: Journey Purpose – From West Devon

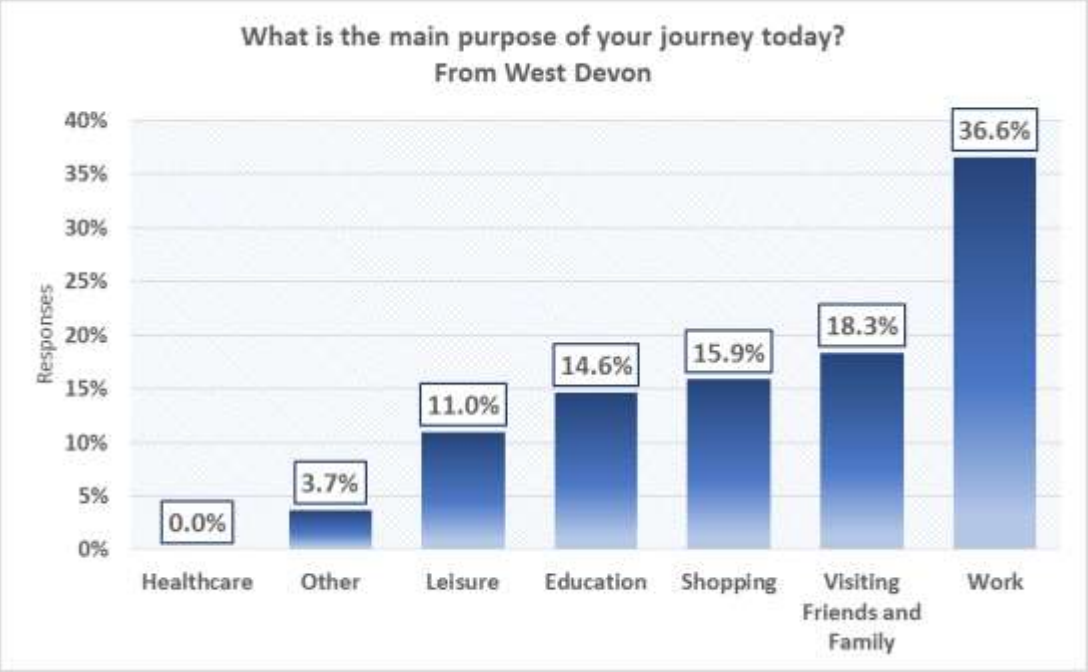


Figure B-R: Journey Purpose – To West Devon

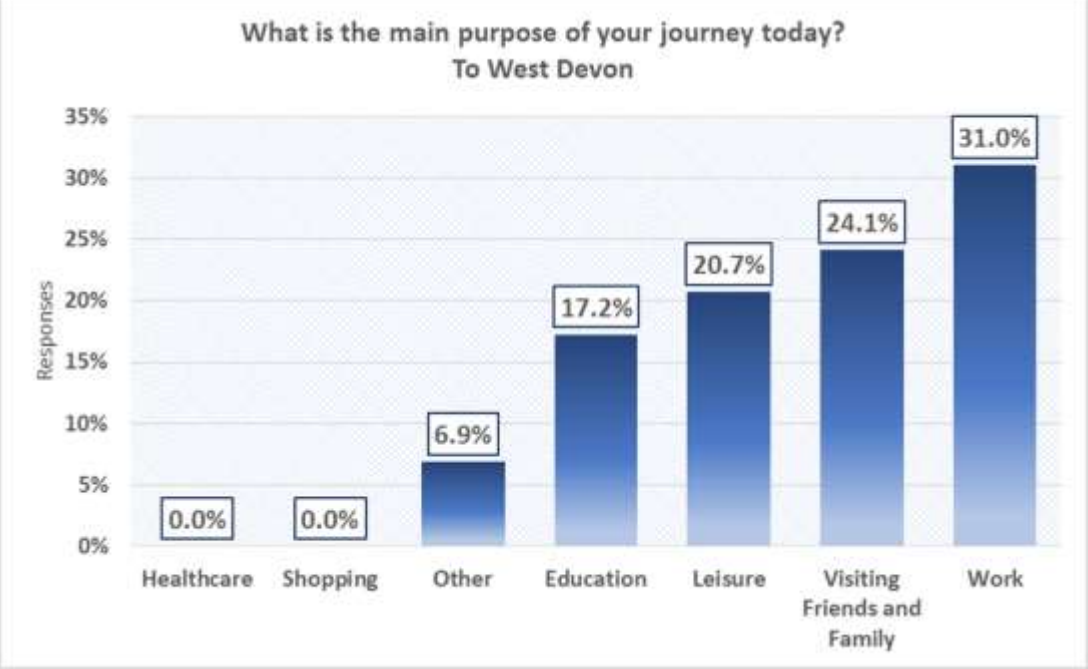
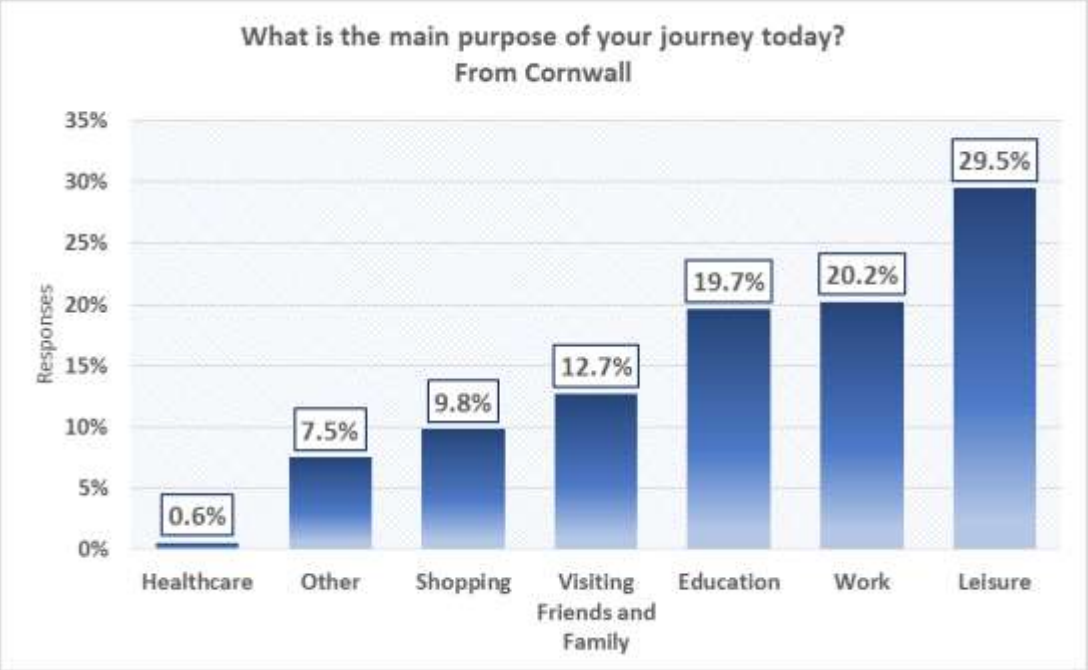


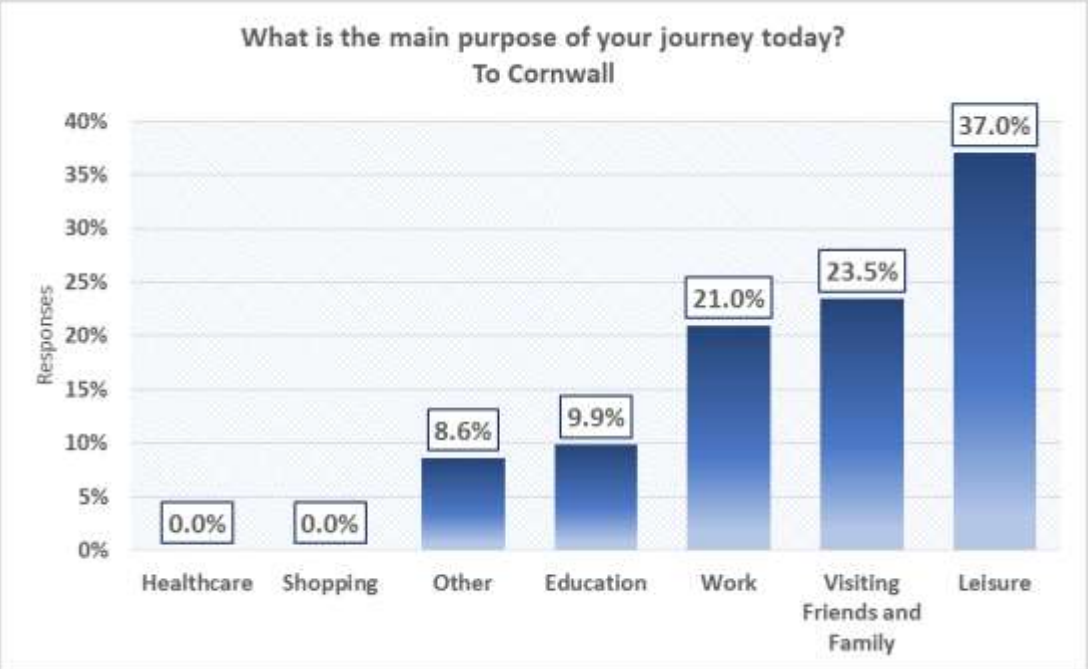
Figure B-S: Journey Purpose – From Cornwall



1.25 For travellers coming from Cornwall, Leisure is the main journey purpose, around 10% ahead of Work or Education. Visiting Friends & Family only makes up 12.7%, much lower than for travellers from West Devon.

1.26 Leisure makes up a larger proportion of the travel reasons for those coming to the Cornwall stations at 37%. Visiting Friends & Family had a much larger proportion at 23.5%. Again, no-one used the train for shopping indicating that any user travelling by train to shop does it in Plymouth.

Figure B-T: Journey Purpose – To Cornwall



Frequency of Travel

1.27 The three most common frequencies are all at least once a week, totalling 63% of journeys. This was very similar for passengers travelling from Cornwall stations, although 4% more passengers travelled at least 5 days a week indicating more frequent travels from these stations compared to the rest of the Tamar Valley line.

1.28 24% of all respondents travelled between 2 and 4 times a week, as Figure B-U below shows.

Figure B-U: Frequency – All Stations

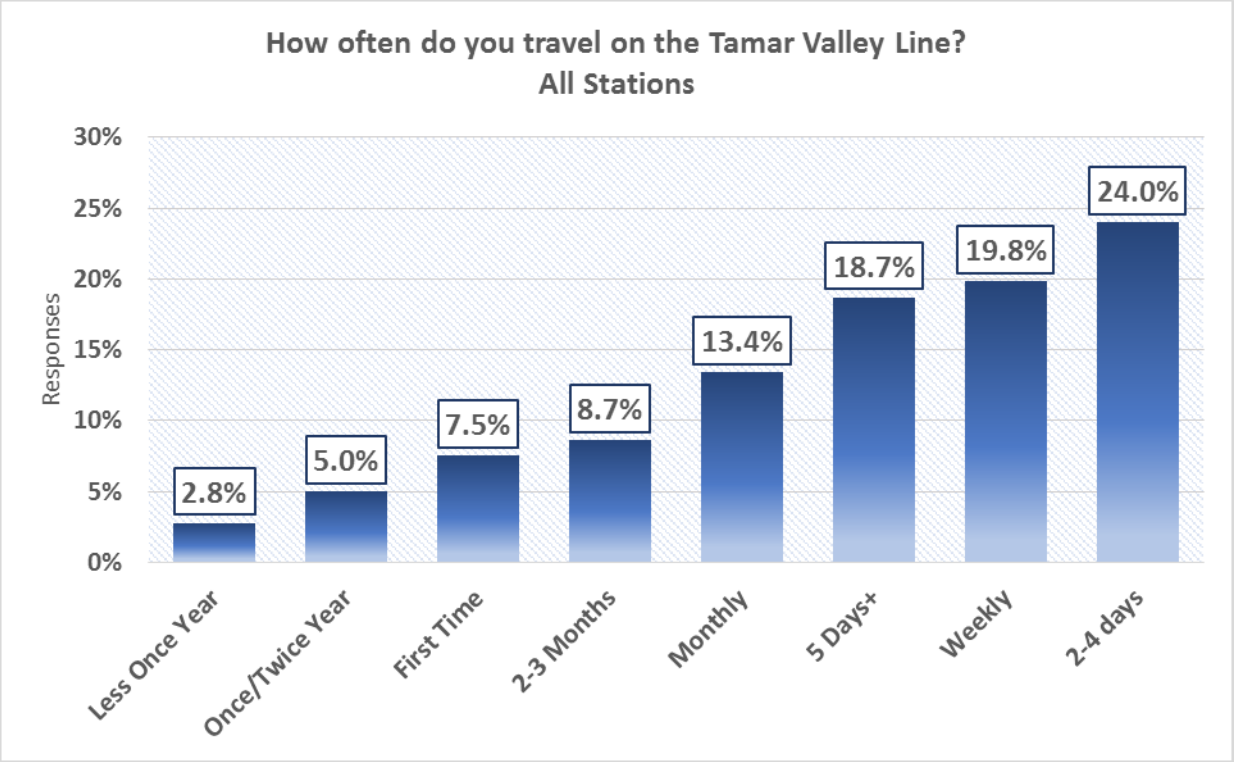
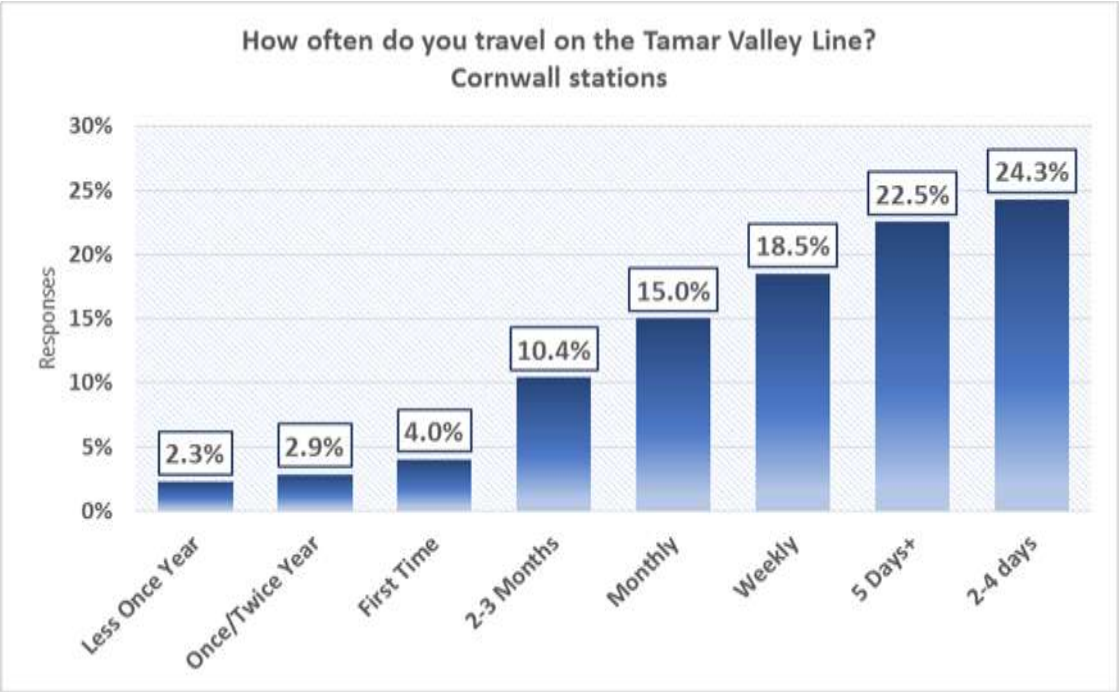
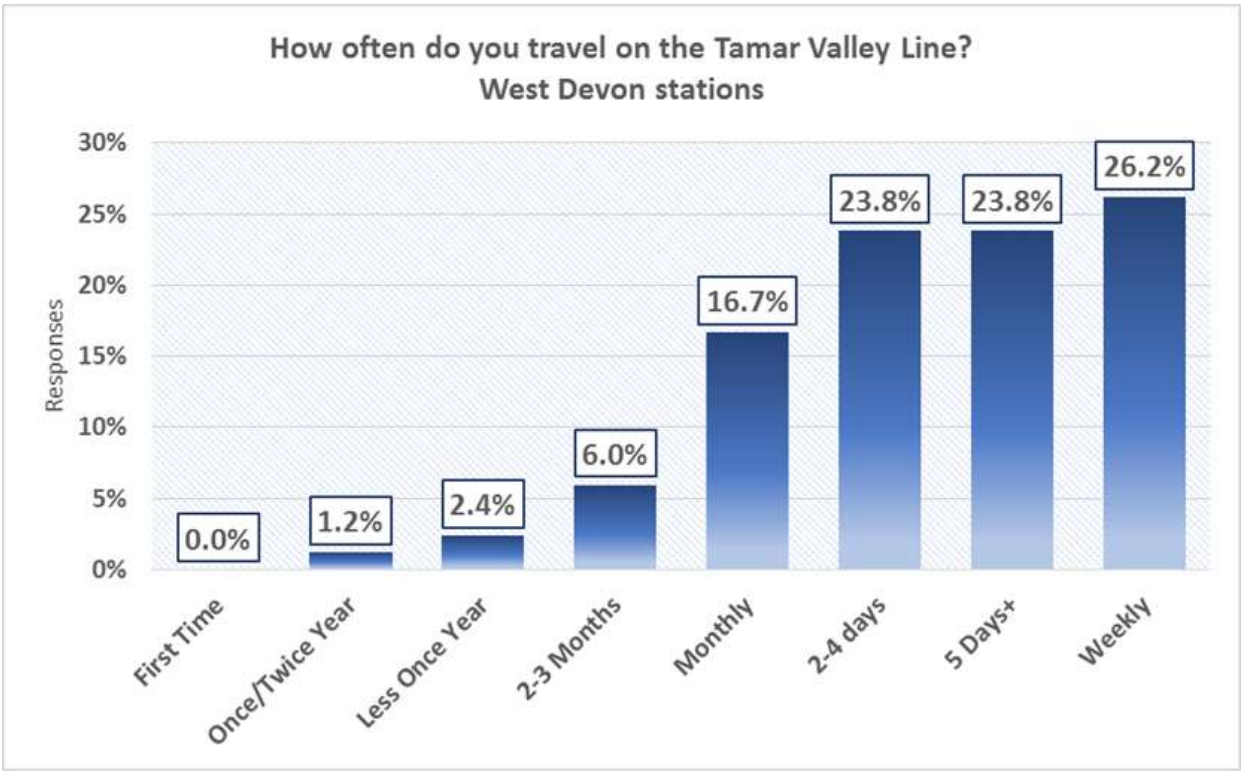


Figure B-V: Frequency – Cornwall Stations



1.29 In comparison, West Devon saw more passengers travelling more frequently, with 74% of passengers travelling more than once a week (see Figure B-W below).

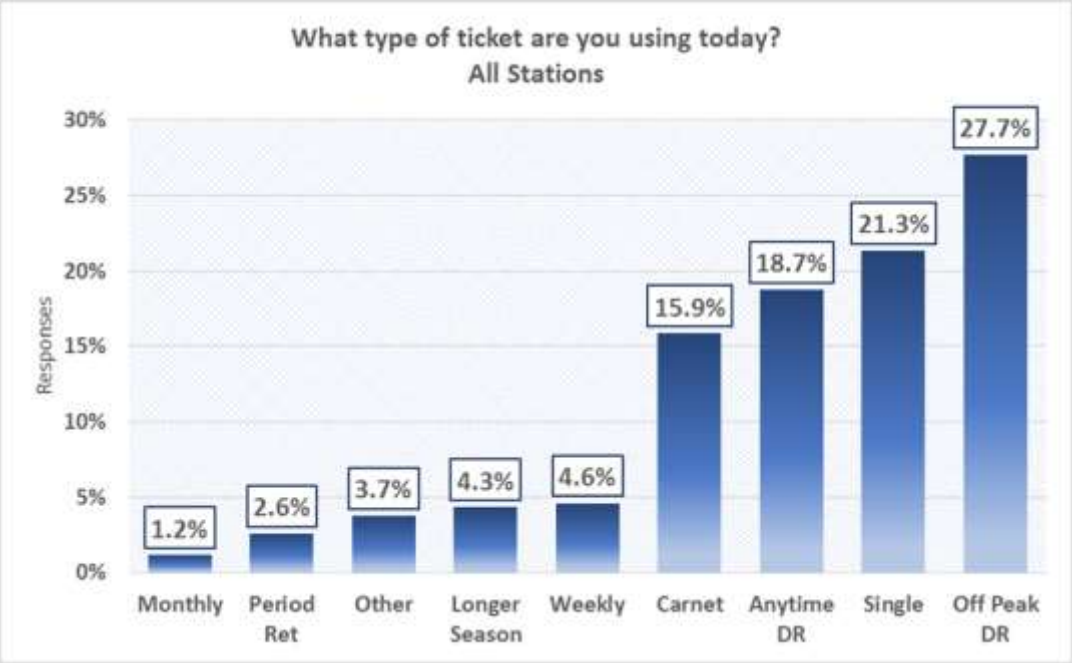
Figure B-W: Frequency – West Devon



Ticket Type

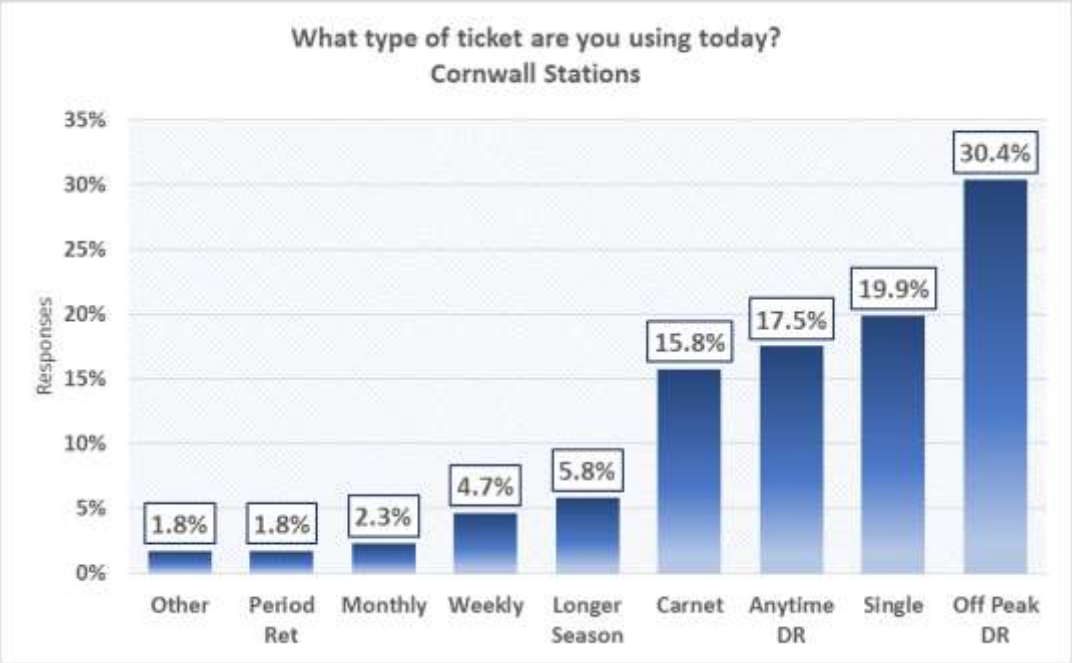
1.30 Off peak return tickets were the most popular tickets for 28% of respondents. 22% of passengers travelled on single fares and 19% travelled on Anytime day return tickets. Meanwhile, 16% of respondents used carnet tickets.

Figure B-X: Ticket Types – All Stations



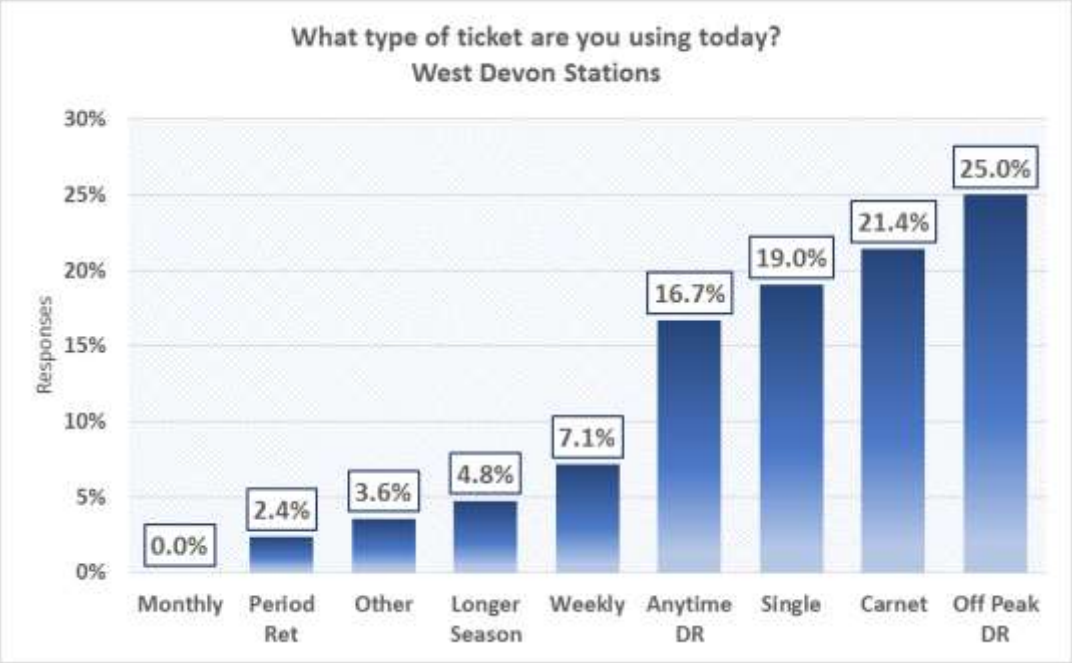
1.31 Over 10% more respondents in Cornwall were using Off-Peak day return tickets (30%), as Figure B-Y below shows.

Figure B-Y: Ticket Types – Cornwall Stations



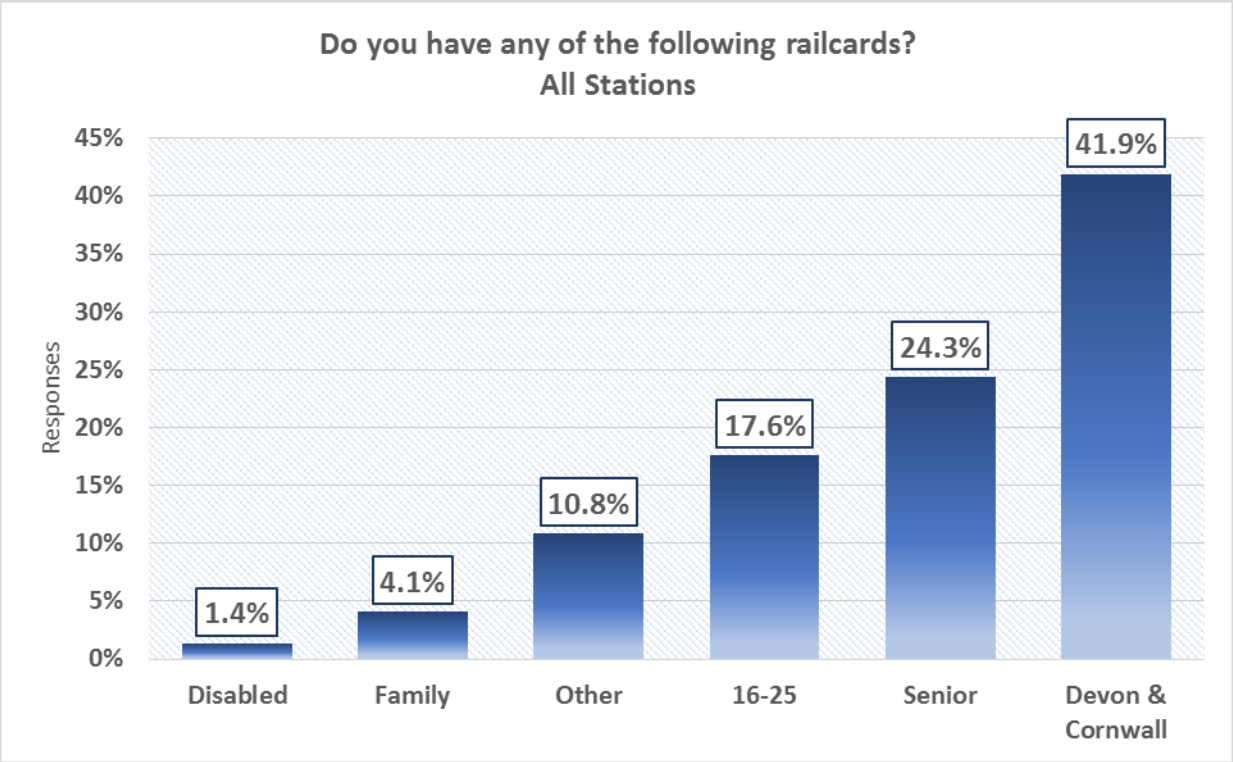
1.32 Figure B-Z shows that for West Devon stations, a significantly higher percentage of passengers were using the carnet tickets – 22%.

Figure B-Z: Ticket Types – West Devon Stations



1.33 The Devon & Cornwall railcard was the most popular card to be used by 42% of respondents, followed by senior railcards (24%), as Figure B-AA shows. Only 17.6% of respondents used a 16-25 railcard despite the 16-25 age bracket accounting for 26% of respondents.

Figure B-AA: Railcard Types – All Stations



1.34 West Devon saw significantly more respondents using a Devon & Cornwall railcard compared to other railcards, with 52% using this railcard, as Figure B-BB shows. 21.2% use a senior railcard, which is in line with the age profile of the survey respondents.

1.35 Respondents from the Cornwall stations follow much the same pattern as those from West Devon (see Figure B-CC).

Figure B-BB: Railcard Types – West Devon Stations

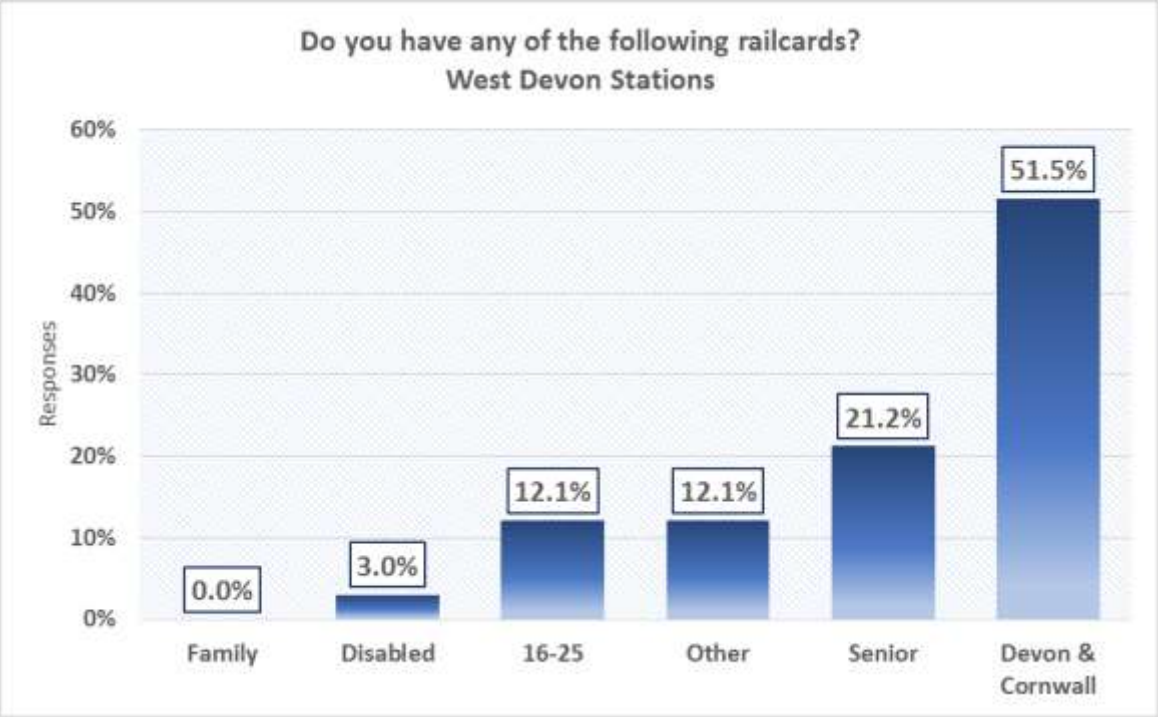
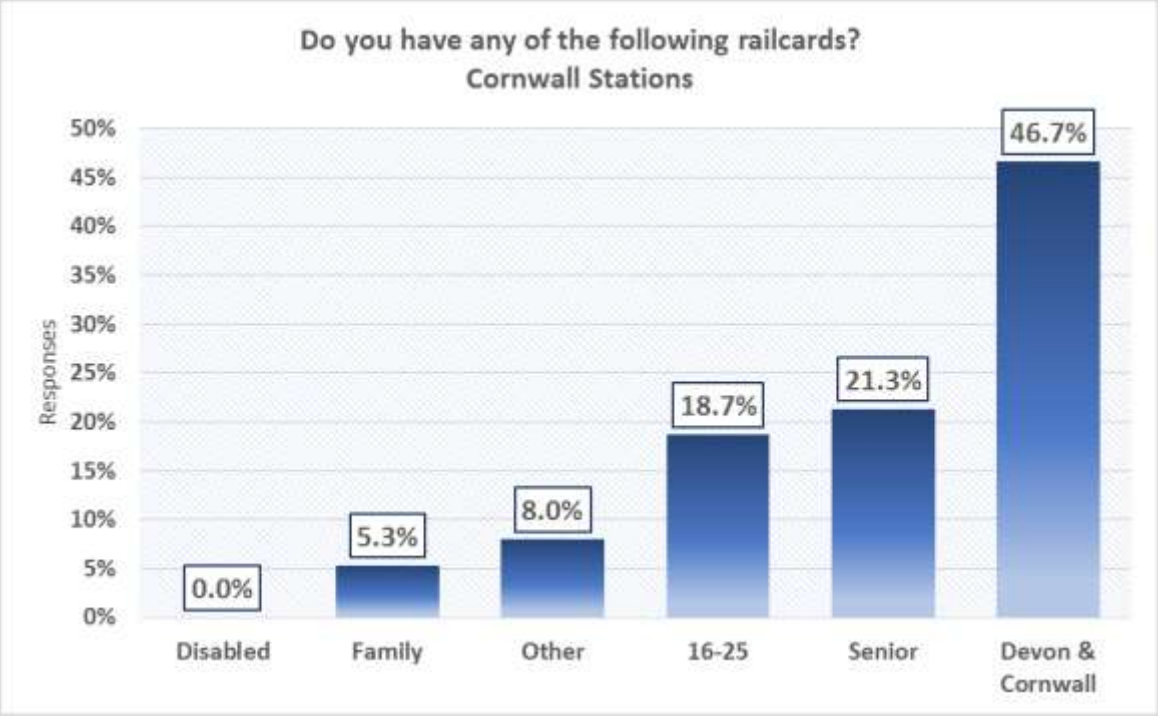


Figure B-CC: Railcard Types – Cornwall Stations



Shopping cost per Trip

1.36 Respondents were asked how much they usually spent on shopping per trip – set out in Figure B-DD below.

1.37 Most respondents spent less than £20 (48.1%) with a steady drop off of frequency as the amount increased. Slightly more people (3.5%) spent over £150 in comparison to those who spent £100 - £150 (3.2%)

1.38 Figure B-EE shows the cost of spending for those from West Devon stations. Most respondents spent £20-£49 (43.8%) which is significantly more when compared with respondents from all stations (32.3%)

1.39 Over twice as many respondents spent over £150 (5.5%) in comparison to those who spent £100-£150 (2.7%)

1.40 45.5% of respondents from Cornwall stations spent less than £20 as seen in Figure B-FF. There was an approximately 15% drop at each increase of spending.

Figure B-DD: Cost spent on Shopping

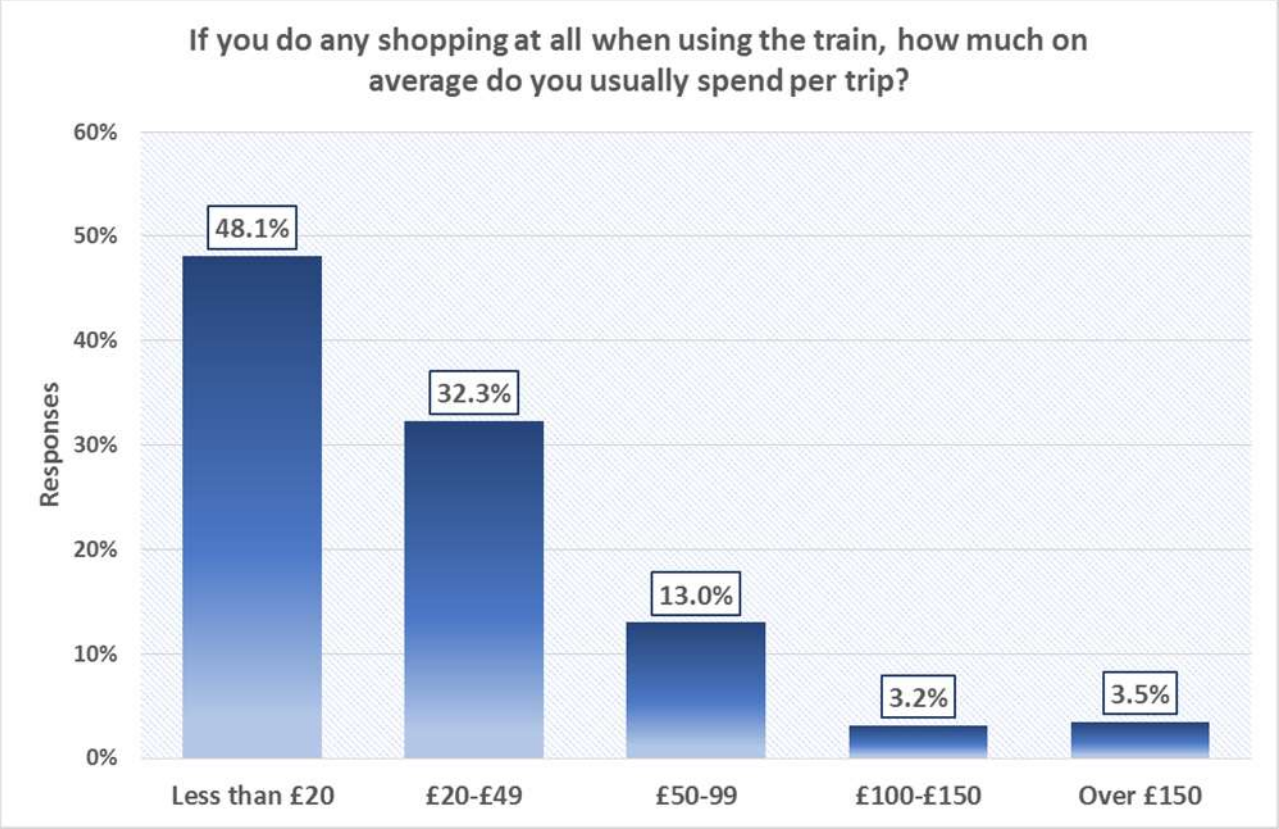


Figure B-EE: Cost spent on Shopping – West Devon Stations

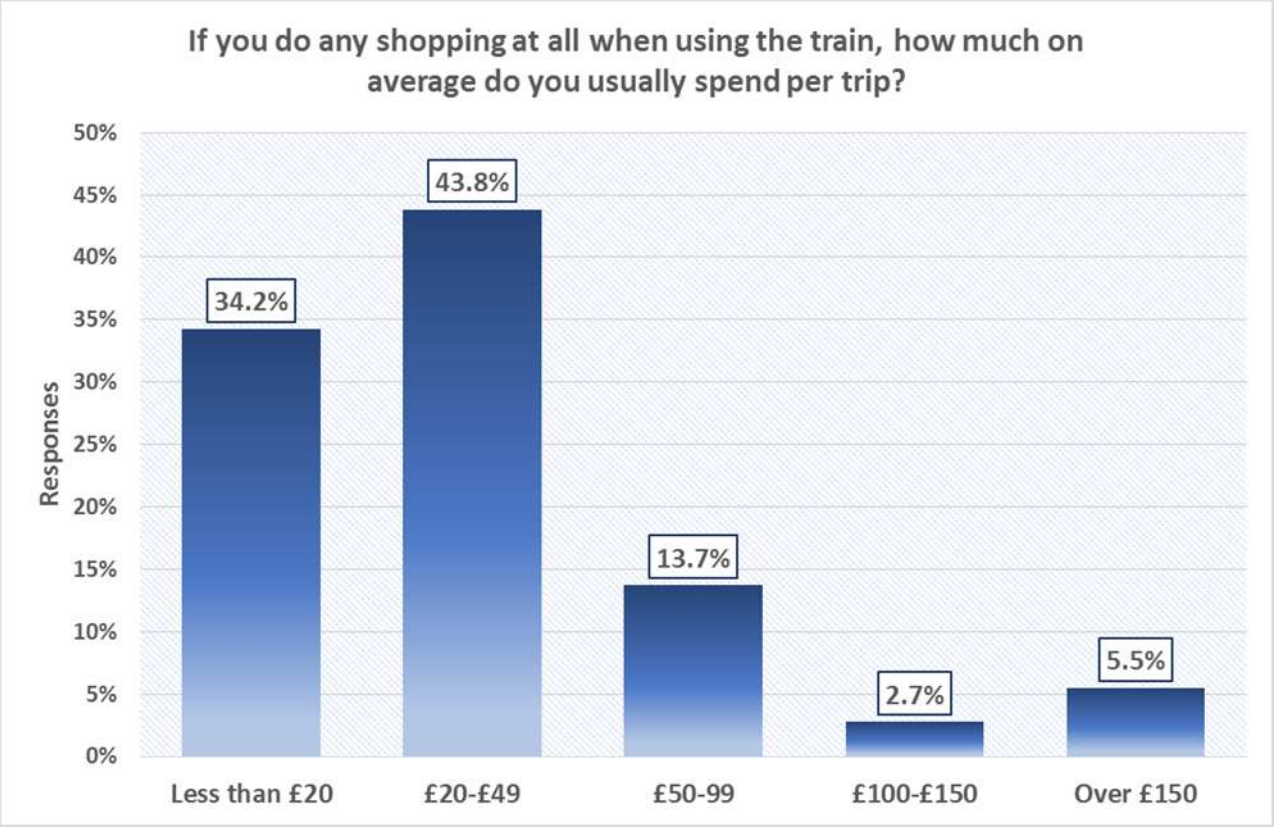
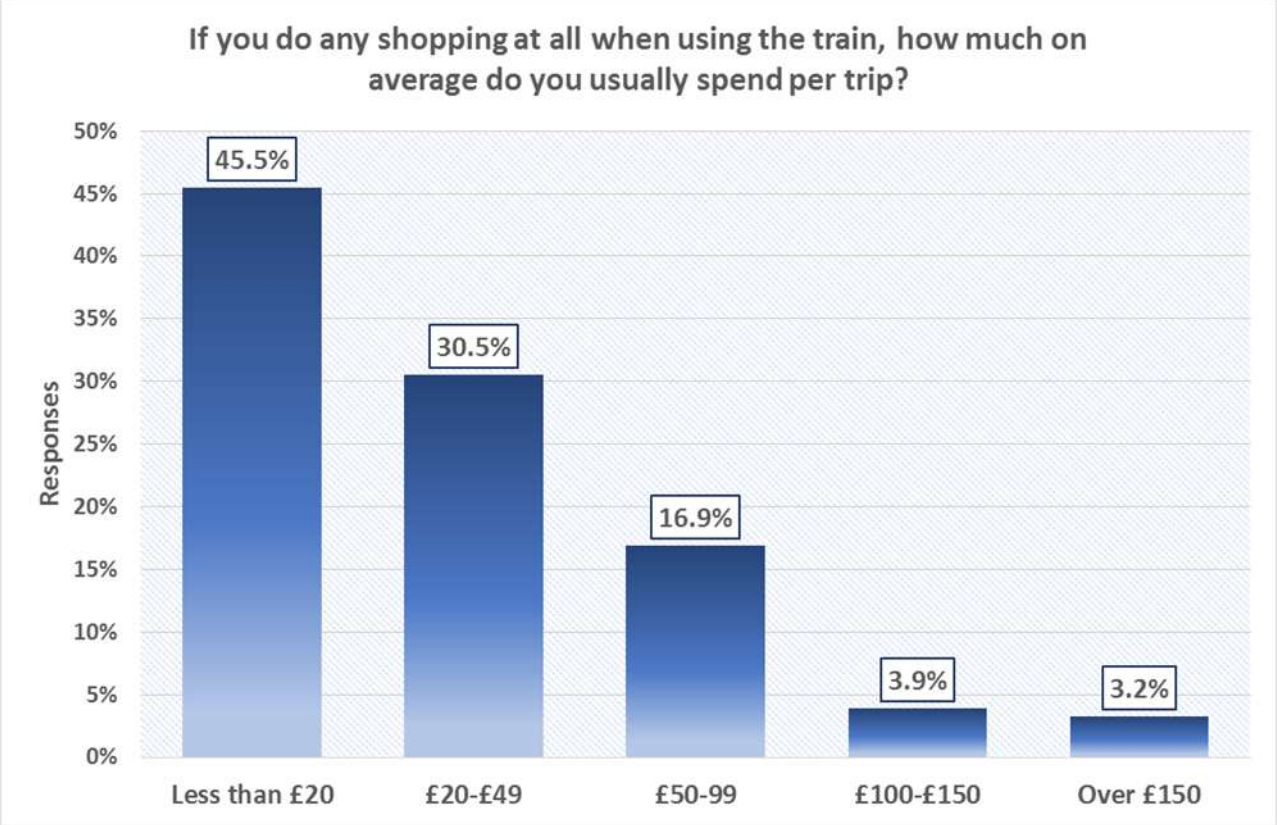


Figure B-FF: Cost spent on Shopping – Cornwall Stations



1.41 Respondents were asked how much they usually spent on Leisure per trip – set out in Figure B-GG below.

1.42 The majority of passengers (51.1%) spent on average less than £20 on Leisure. Only 4.8% of respondents spent more than £100 on leisure.

1.43 Figure B-HH shows that 57.3% of respondents from West Devon stations spent less than £20 on Leisure. No one spent over £150 with only 1.3% spending around £100-£150.

1.44 45.7% of respondents from the Cornwall stations spent less than £20 as shown in Figure B-II. This is a lower figure compared to those from West Devon stations but there is a significant increase of respondents spending £20-£49.

Figure B-GG: Cost spent on Leisure – All Stations

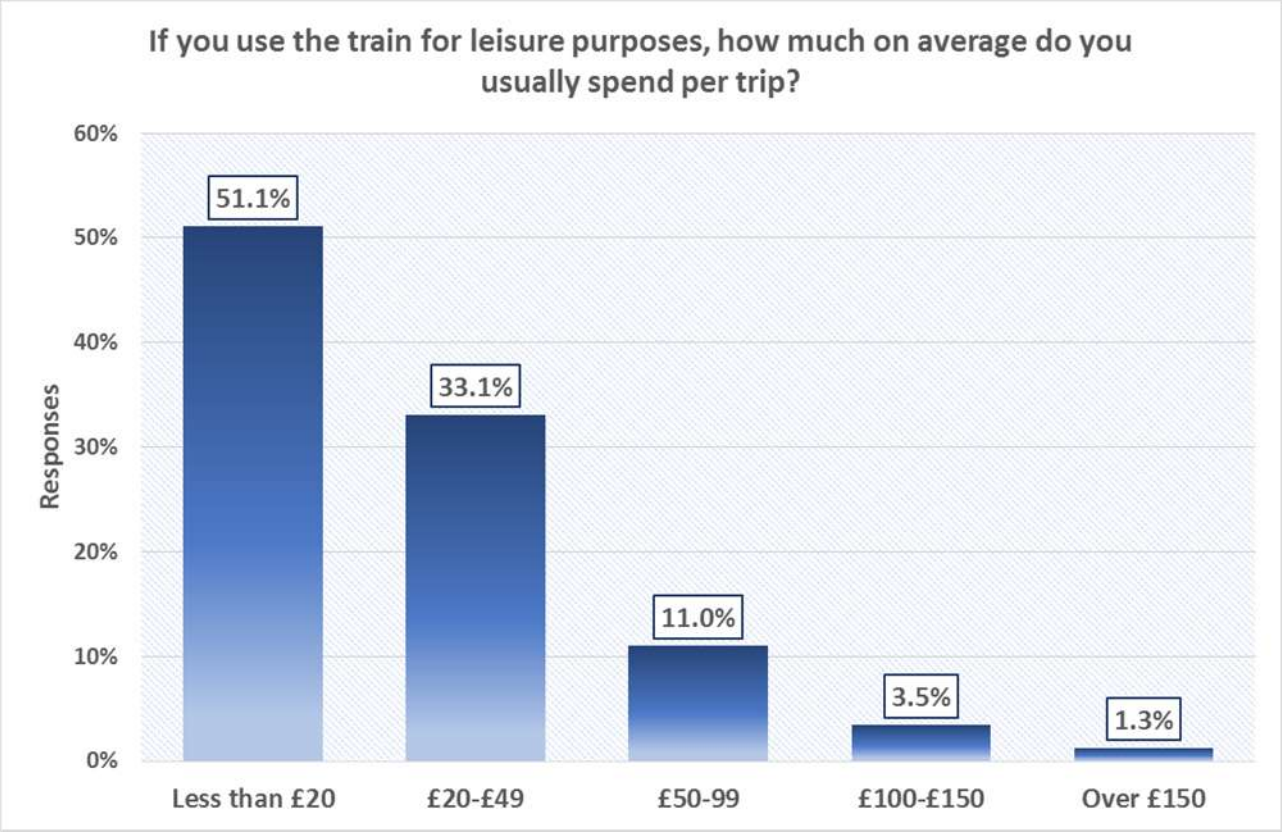


Figure B-HH: Cost spent on Leisure – West Devon Stations

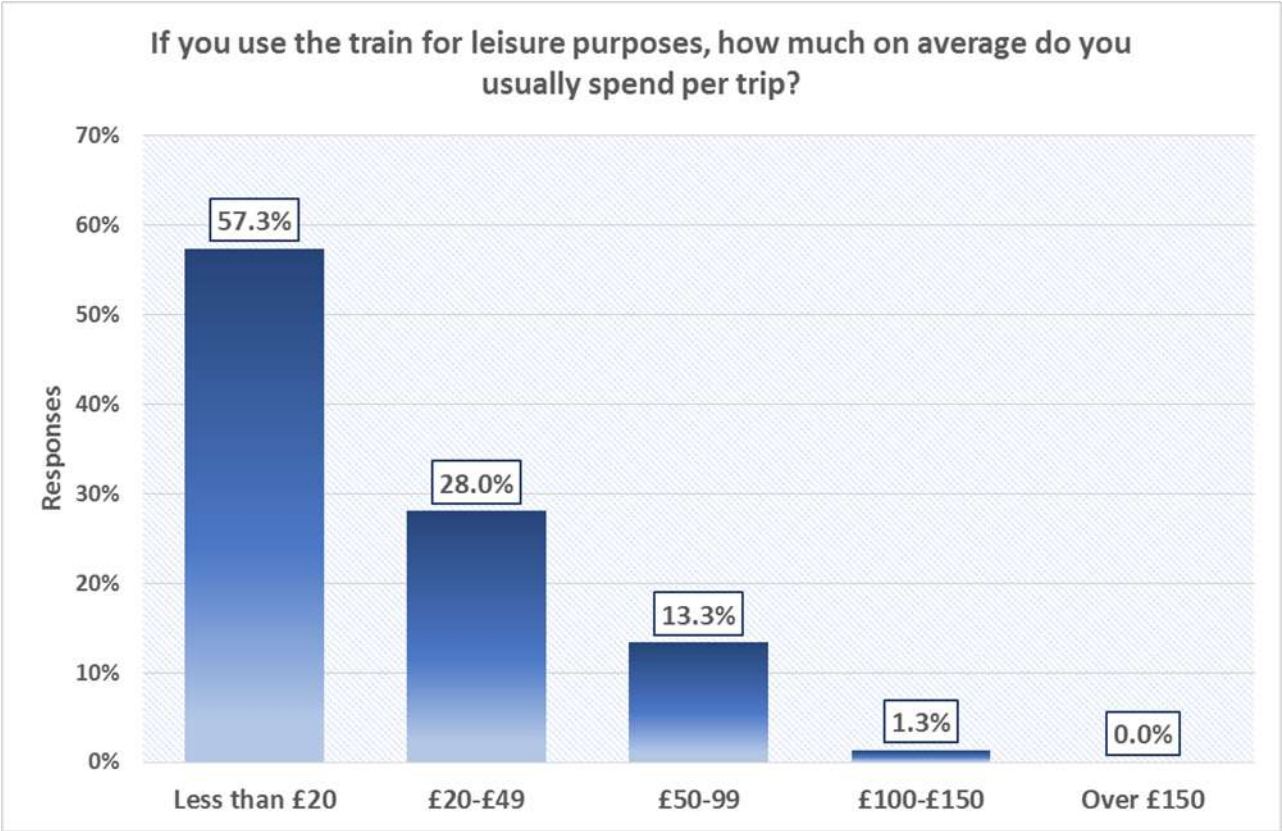
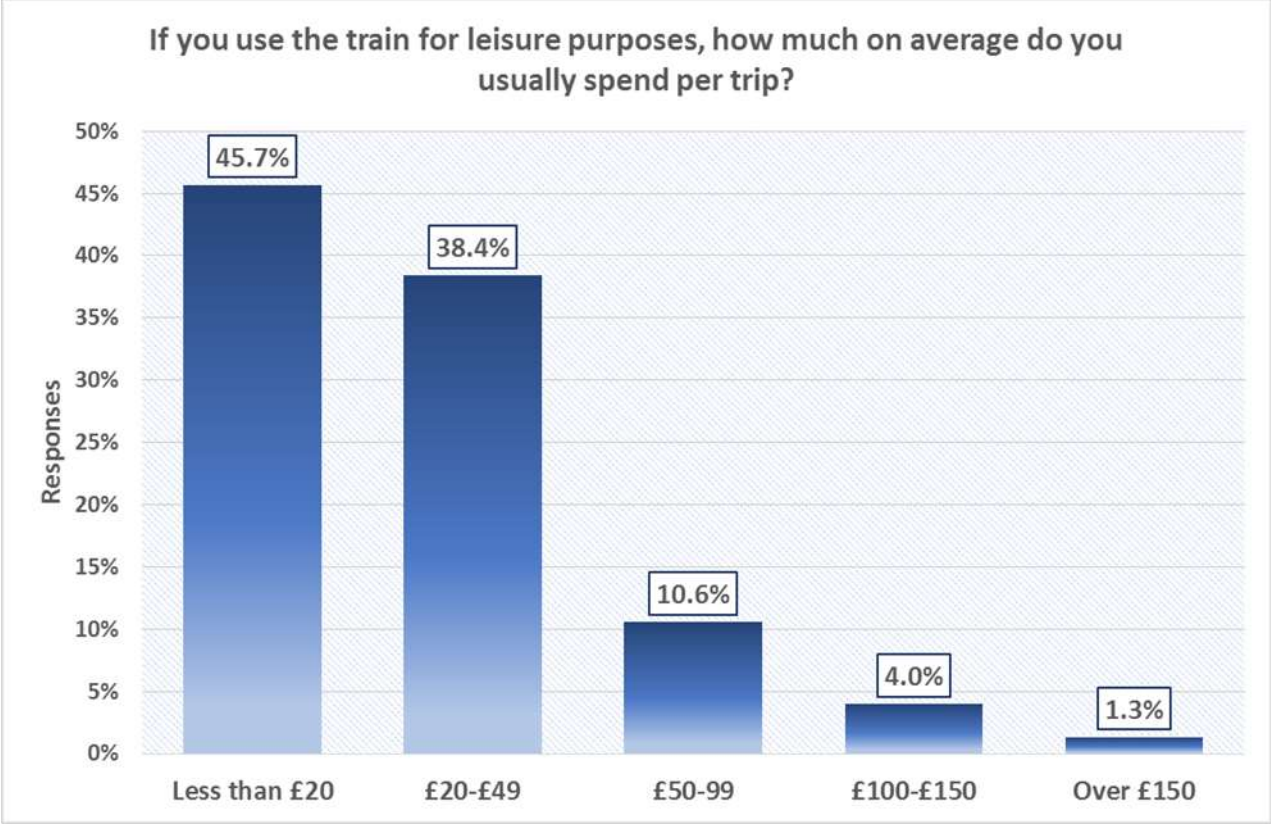


Figure B-II: Cost spent on Leisure – Cornwall Stations



Satisfaction Ratings

1.45 Respondents were asked to rate a number of aspects of the rail journey – from frequency of trains to upkeep of the station – set out in Figure B-JJ below.

1.46 Across all aspects of the service the opinion is very positive. No aspect has a negative rated majority, with only station facilities having less than a 50% positive rating.

1.47 Overall satisfaction is rated at a high level of 81% positive (fairly or very good). The most highly rated aspects were access to platform/station/train (87%), punctuality (83%) and convenience of destination (82%).

1.48 The most negative aspects were: station facilities (29% poor or fairly poor), presence of staff (16%) and frequency of trains (16%).

West Devon Satisfaction Ratings

1.49 Overall satisfaction in West Devon was 79%, as Figure B-KK shows. Two aspects were rated below 50% positivity: station facilities and frequency of trains.

1.50 Journey time and access to platform/station/train were the most highly rated aspects at 92% and 91% respectively (fairly or very good). Convenience of destination was the only other aspect to reach above 80%.

1.51 Highest rated negative aspects include station facilities (38% very or fairly poorly), presence of staff (22%), frequency of trains (19%) and value for money (18%).

Cornwall Satisfaction Ratings

1.52 Overall Satisfaction in Cornwall was 81% (fairly or very good). Station facilities and shelter & seating on the station were the two aspects to rate below 50% positivity.

1.53 The most positive aspects of the service were: access to platform/station/train (84% fairly or very good), punctuality of trains (84%) and availability of seats (83%).

1.54 Negative aspects included: station facilities' (30% fairly or very poor), shelter & seating on the station (17%) and frequency of trains (16%). Station facilities had the highest average score (39%).

Figure B-JJ: Rating Aspects

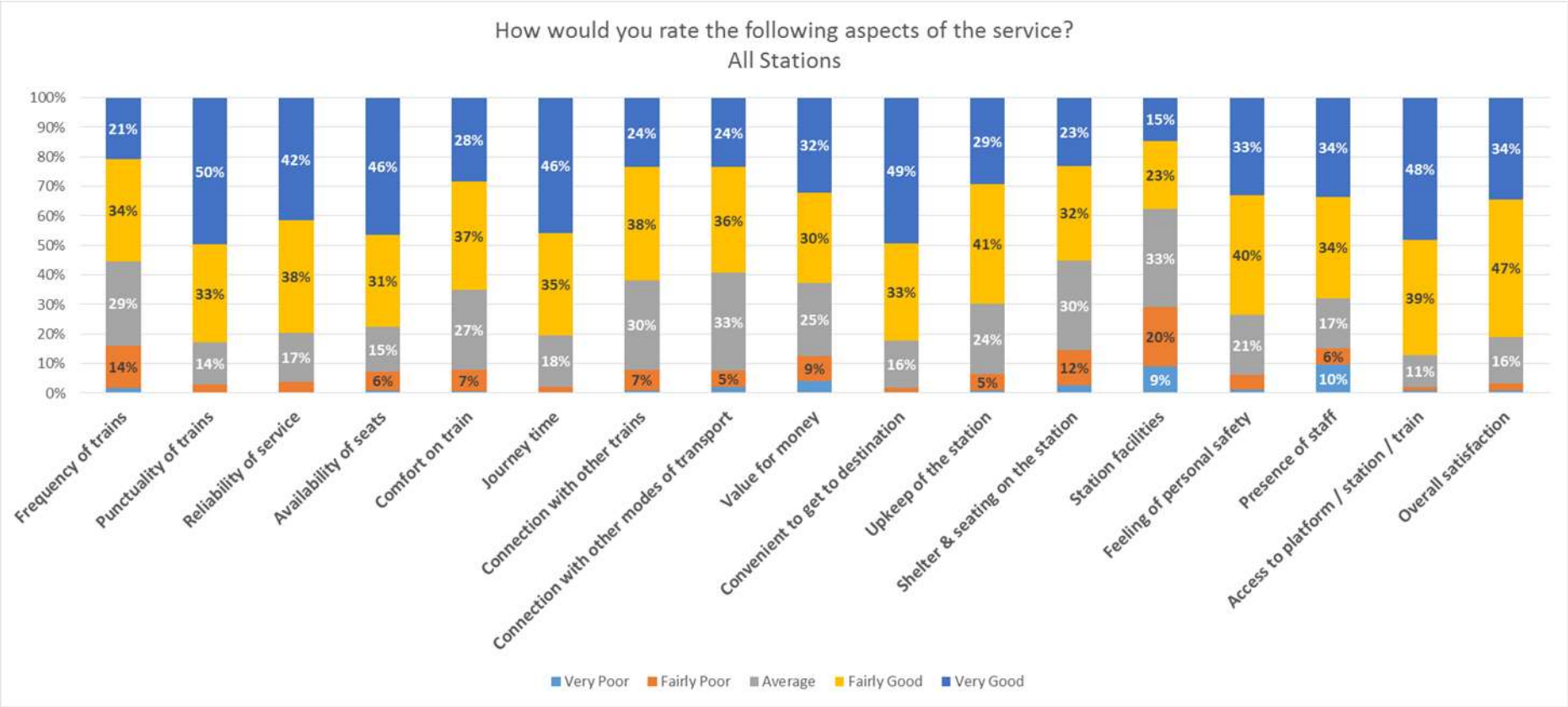


Figure B-KK: Rating Aspects – West Devon Stations

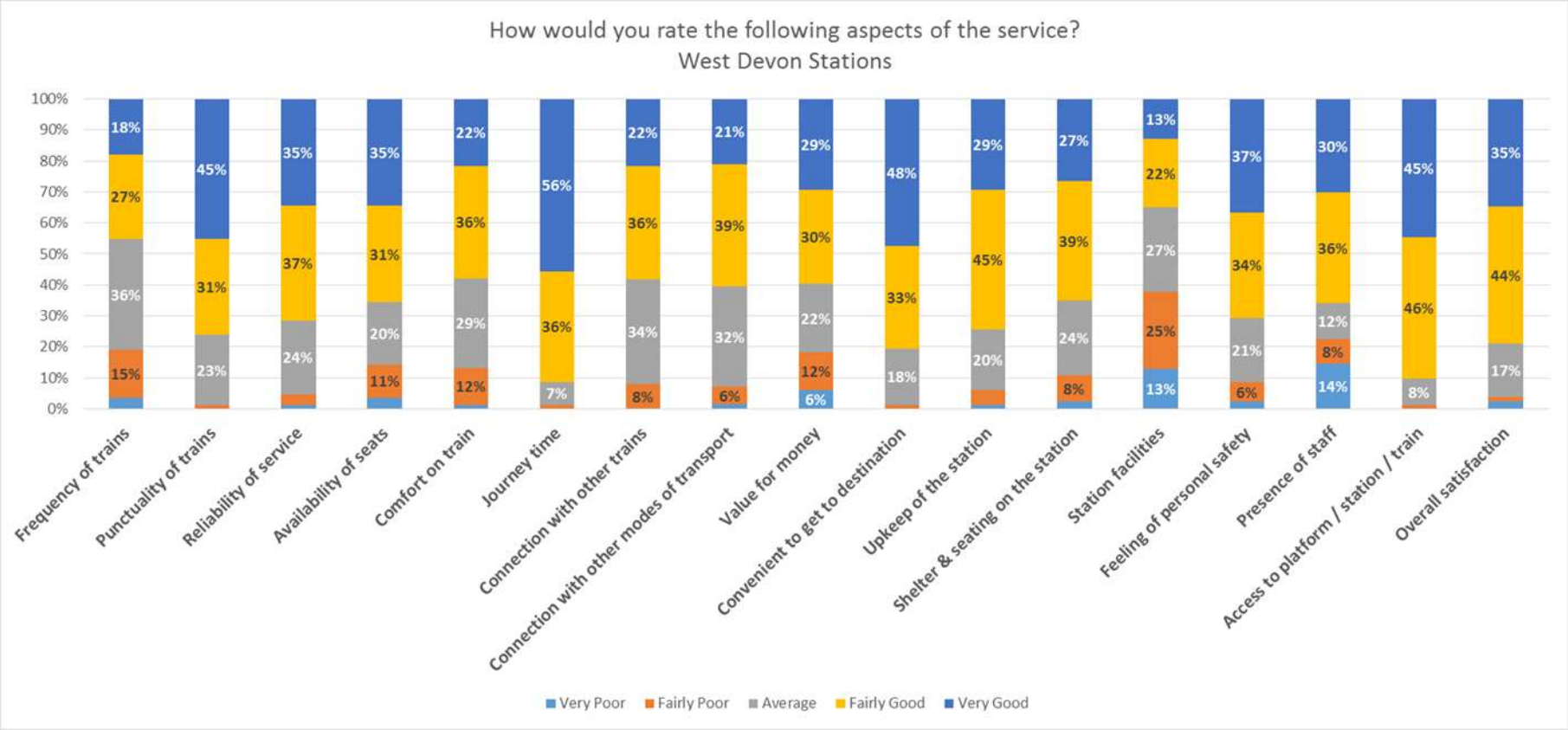
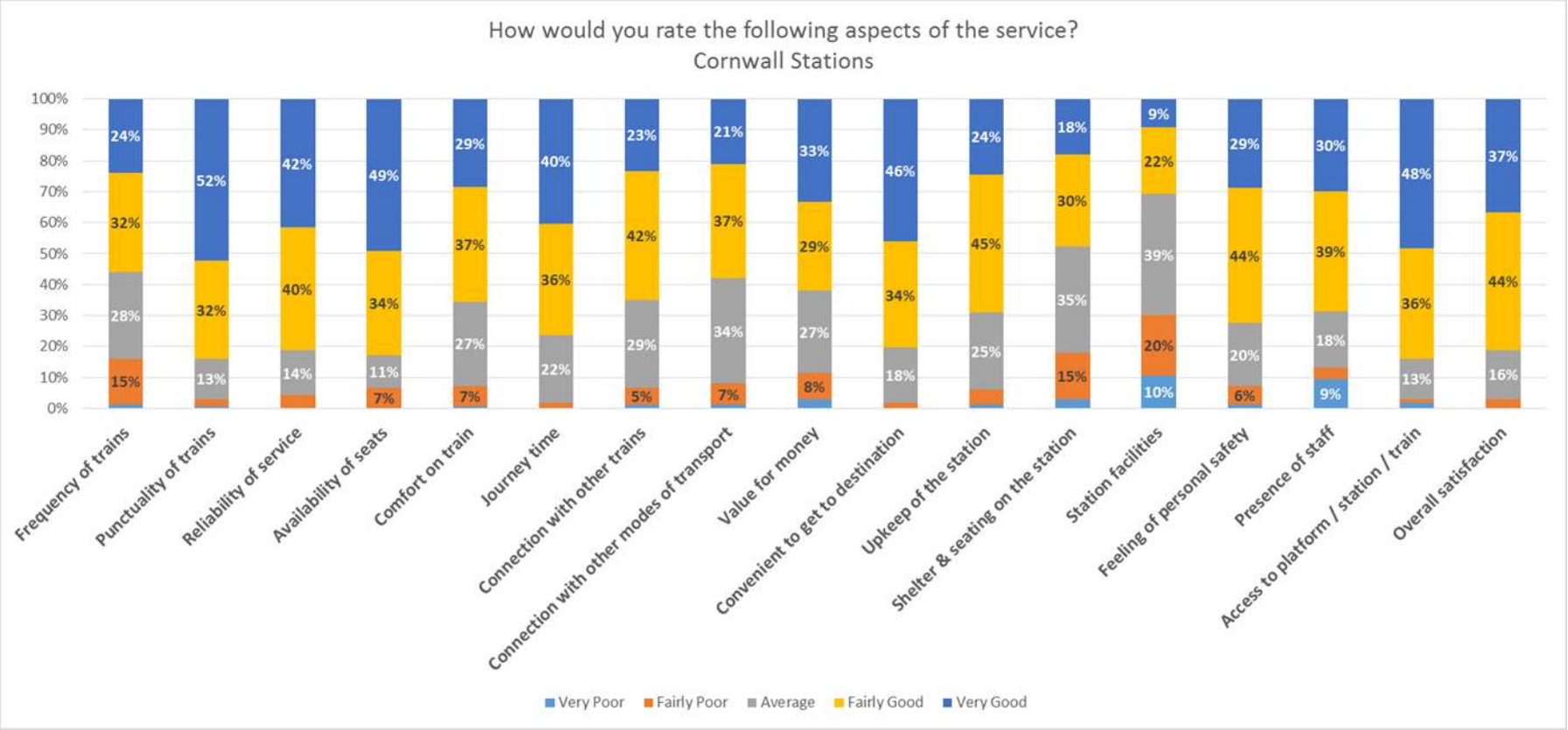


Figure B-LL: Rating Aspects - Cornwall Stations



Areas for Improvement

1.55 Respondents were asked to pick the three aspects they would most like to see improved, as summarised in Figure B-MM. More frequent weekday and Saturday services was the top priority for improvement for 50% of respondents, closely followed by a later last train from Plymouth (48%). Free Wi-Fi was the third most popular priority selected by 30%.

1.56 Figure B-NN shows the areas of improvement for passengers from Cornwall stations. The top priority was a later last train from Plymouth (51%), followed by a more frequent service on weekdays and Saturdays' (50%) and free Wi-Fi (31%).

1.57 For passengers travelling from the two West Devon stations a more frequent weekday and Saturday service (62%) service and a later last train from Plymouth (55%) were the top two priorities. 30% of respondents chose a more frequent Sunday service.

Figure B-MM: Areas for Improvement – All Stations

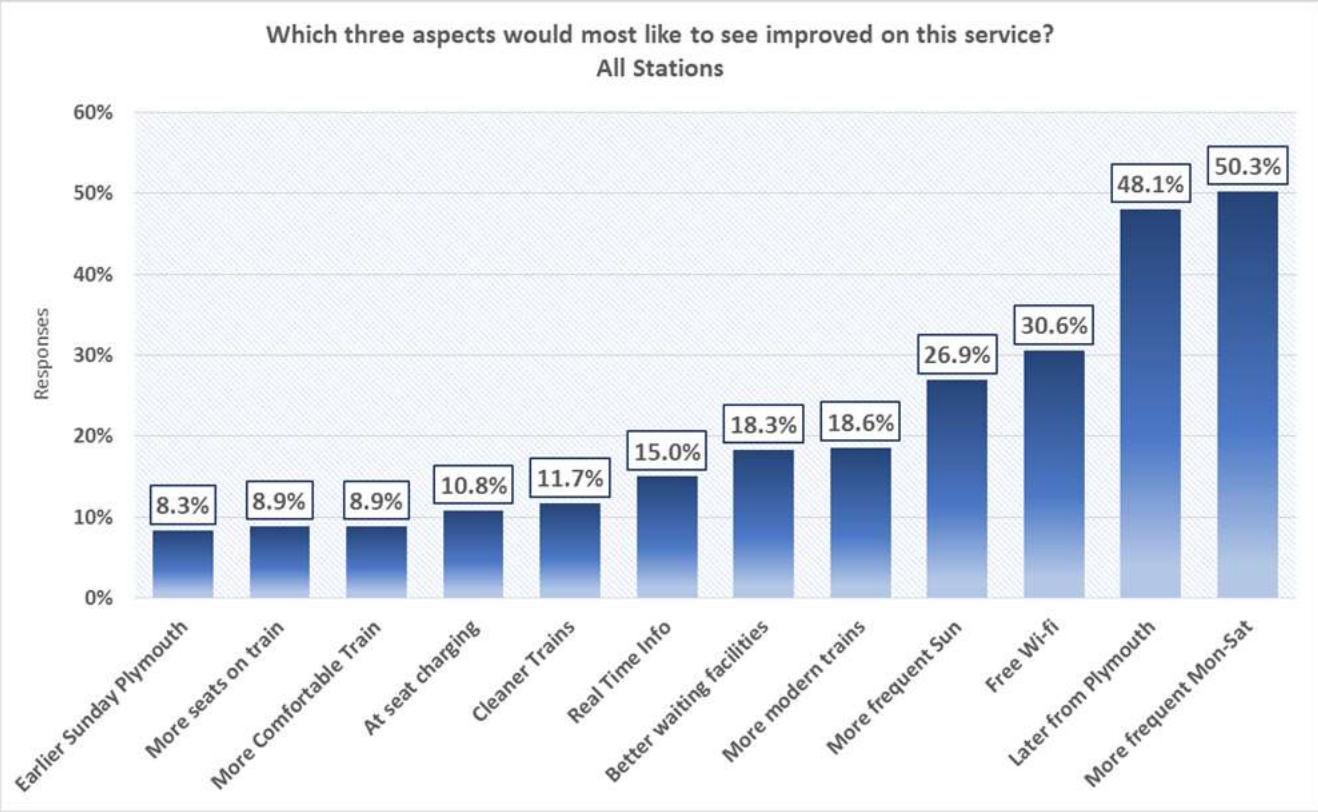


Figure B-NN: Aspects to be improved – Cornwall Stations

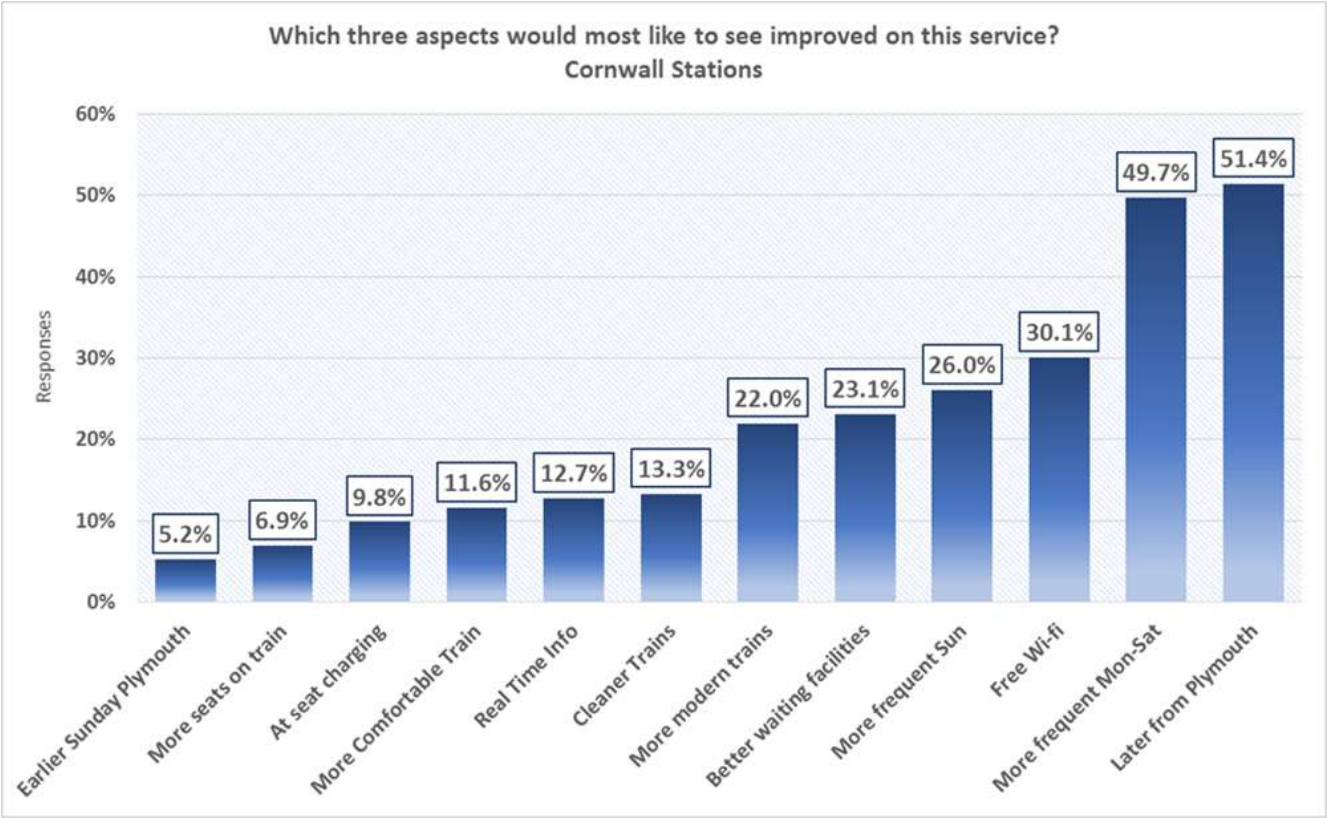
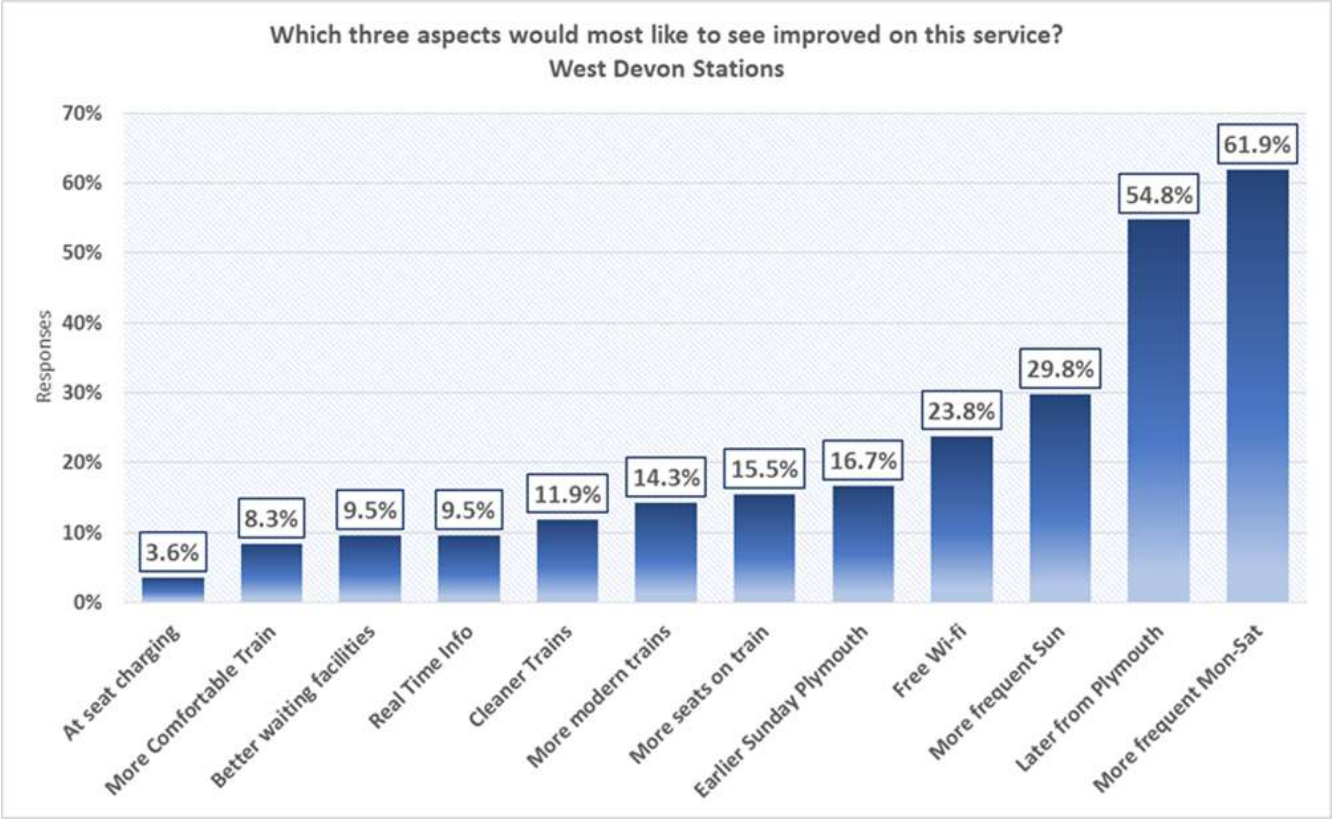


Figure B-OO: Aspects to be improved – West Devon Stations



1.58 Passengers were asked to rate the service provided by Great Western Railway (GWR). Overall passengers rated GWR's service highly positively with only 5% of travellers saying it was poor or very poor. 66% of passengers rated the service as good and 29% very good.

Figure B-PP: Rating of Great Western Railway service

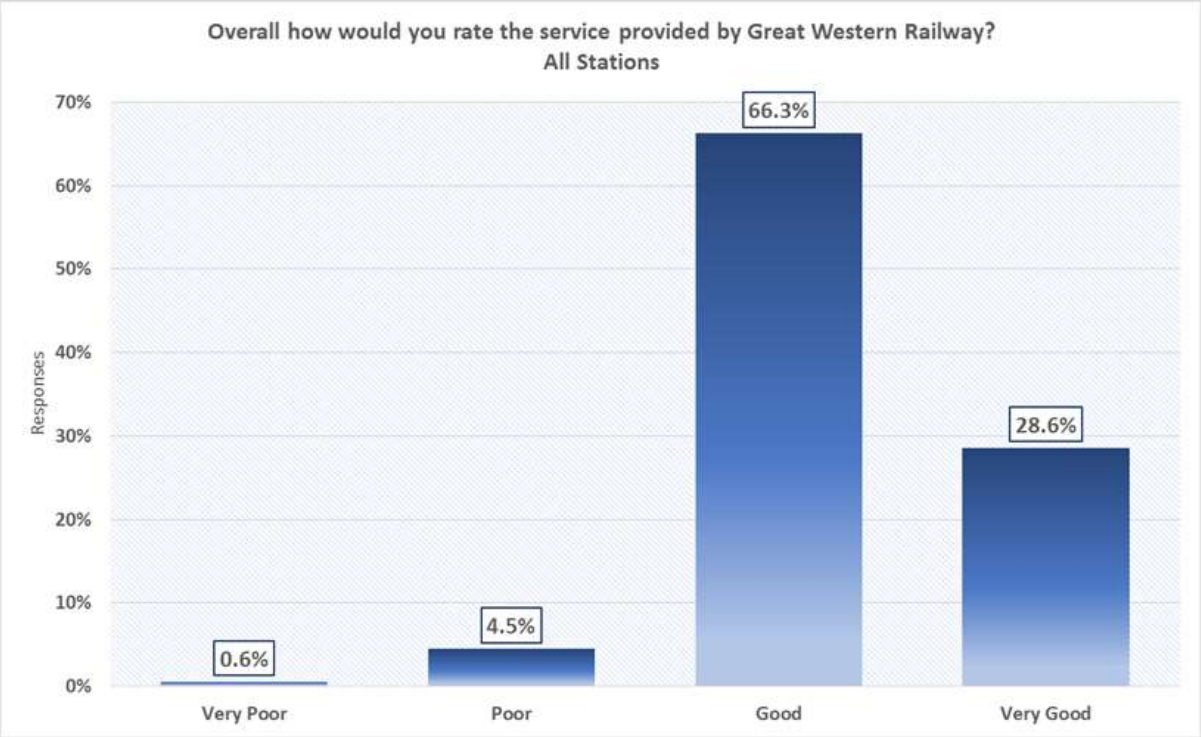


Figure B-QQ: Rating of Great Western Railway service – Cornwall Service

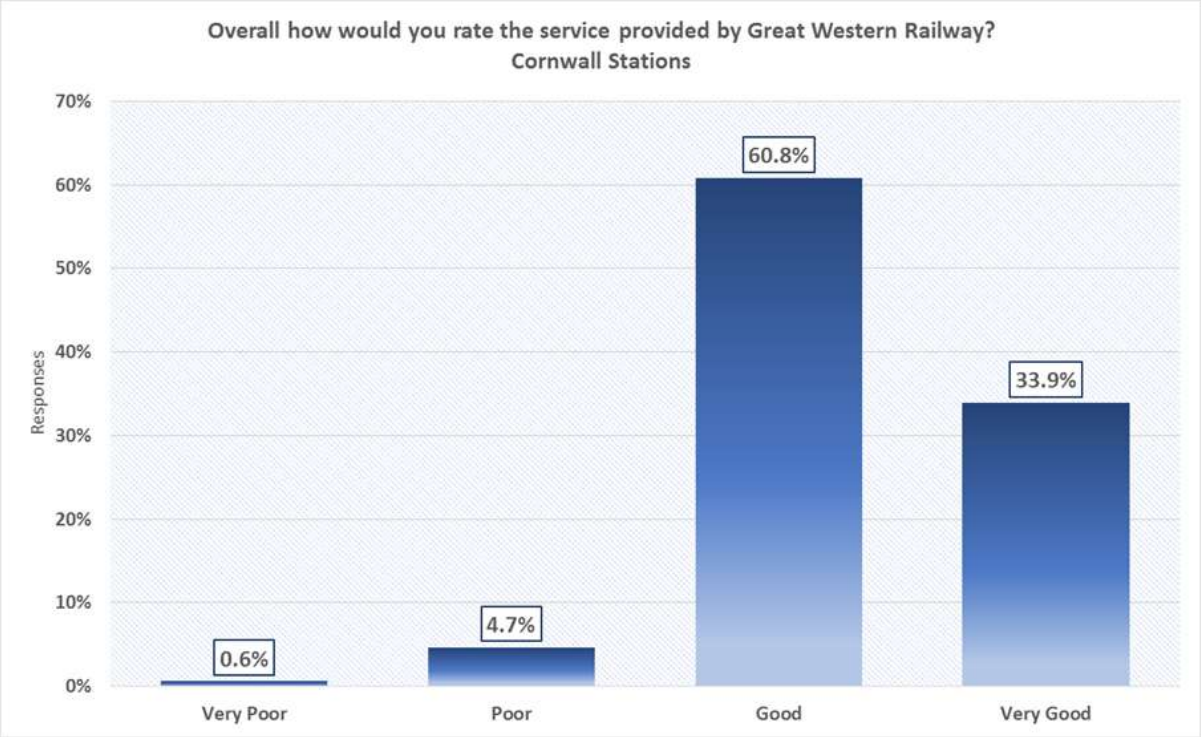
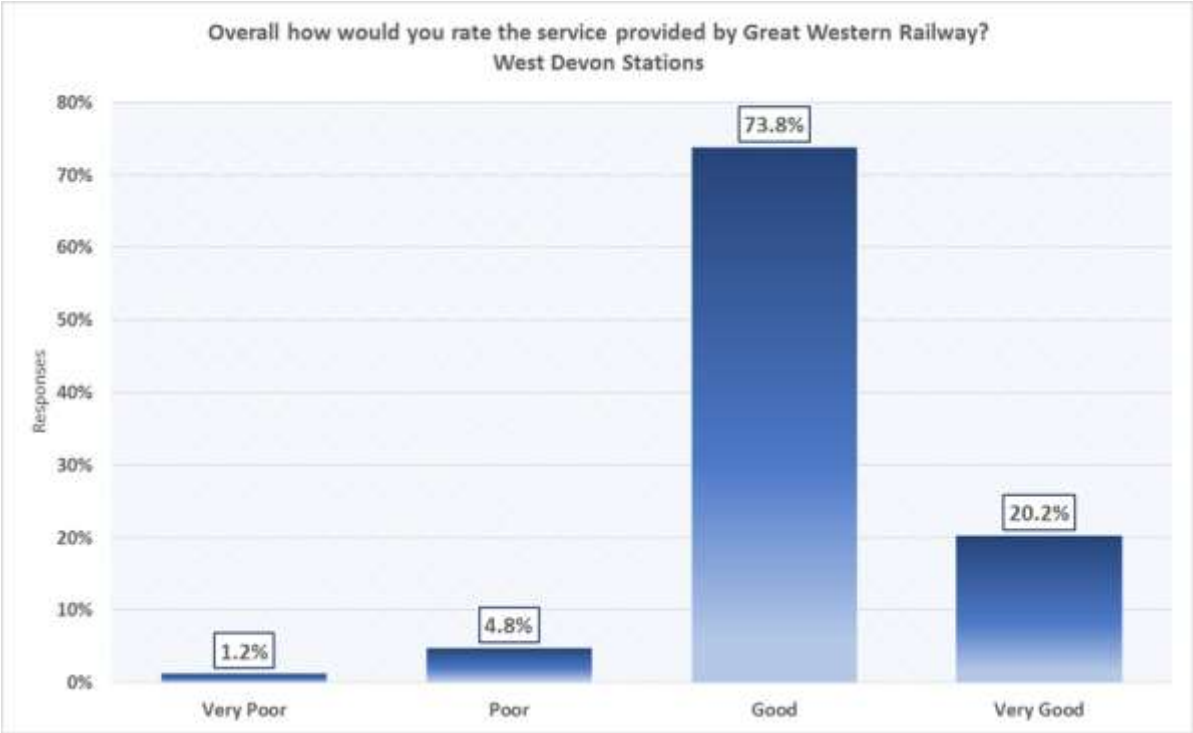


Figure B-RR: Rating of Great Western Railway service – West Devon Service



Economic Benefit

1.59 Respondents were asked whether they felt that the railway line was an Economic benefit to the Tamar Valley Area. The results are summarised below in Figure B-SS.

1.60 Respondents overwhelmingly felt that the line was economically beneficial with 93.2% agreeing to some degree with the statement. Only 0.9% of respondents disagreed.

1.61 91.6% of users from the West Devon stations agreed with the statement as shown in Figure B-TT. There were in fact no respondents who felt that the railway was not an economic benefit.

1.62 Figure B-UU shows the respondents from the Cornwall stations. 94.8% of respondents felt that the line was economically beneficial. There was a larger percentage of respondents who disagreed (1.2%) when compared with the West Devon stations.

Figure B-SS: Economic Benefit – All Stations

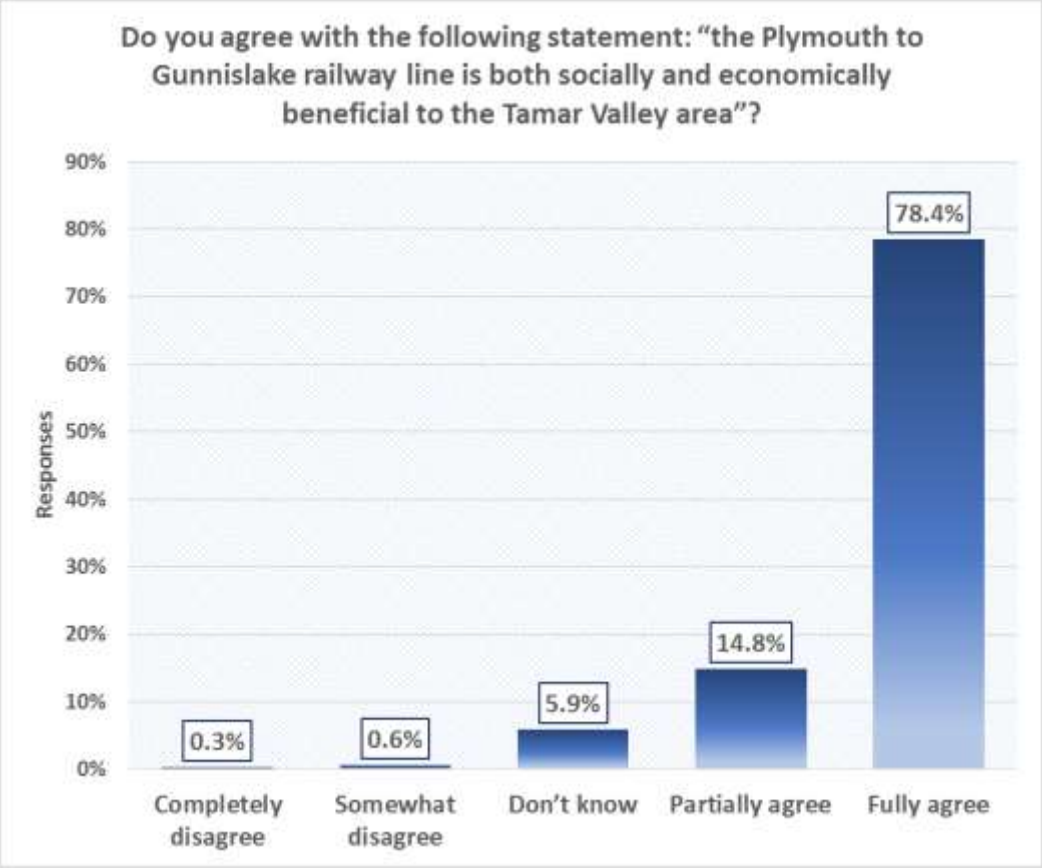


Figure B-TT: Economic Benefit – West Devon Stations

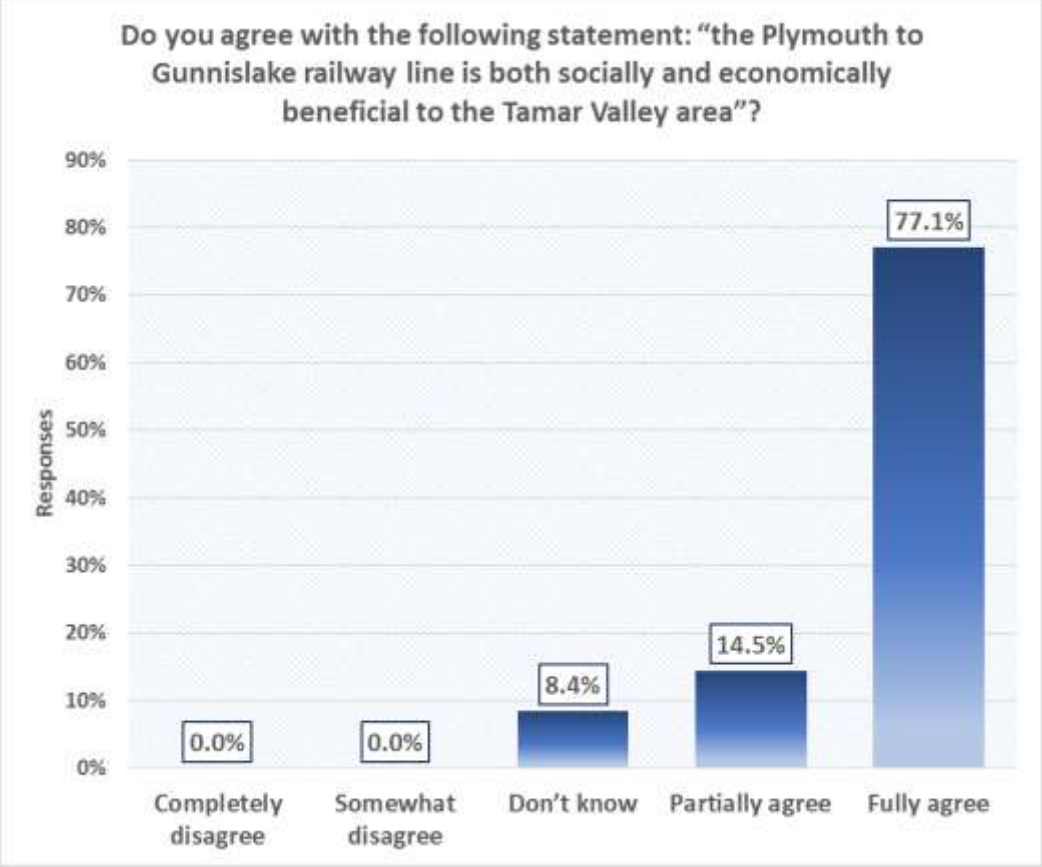
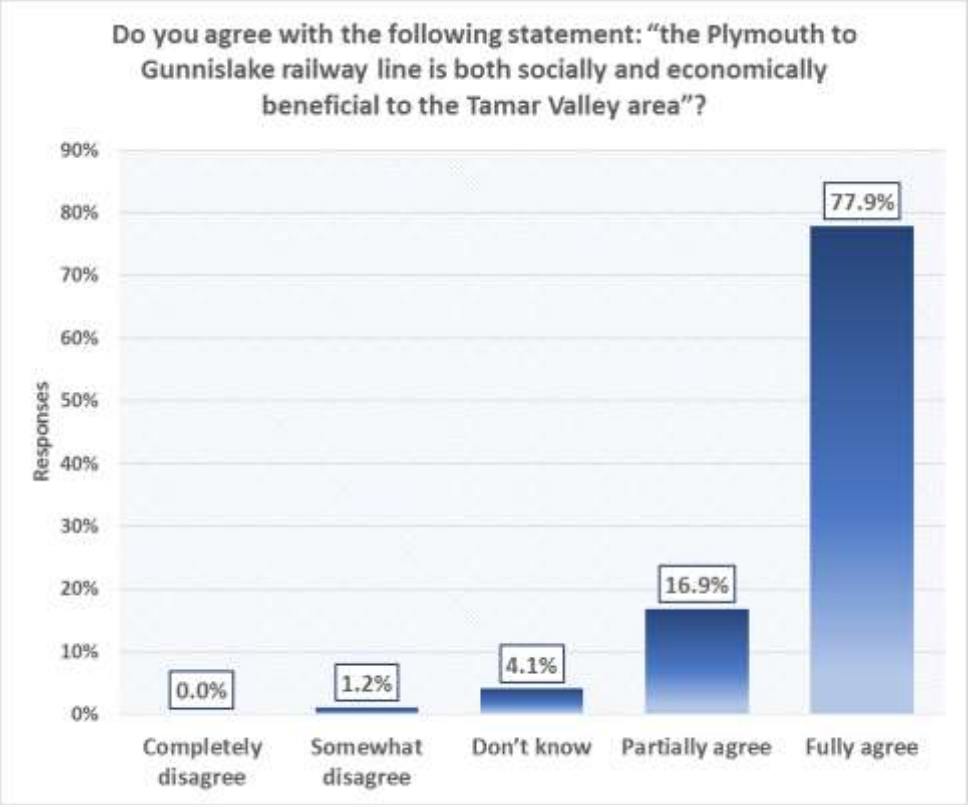


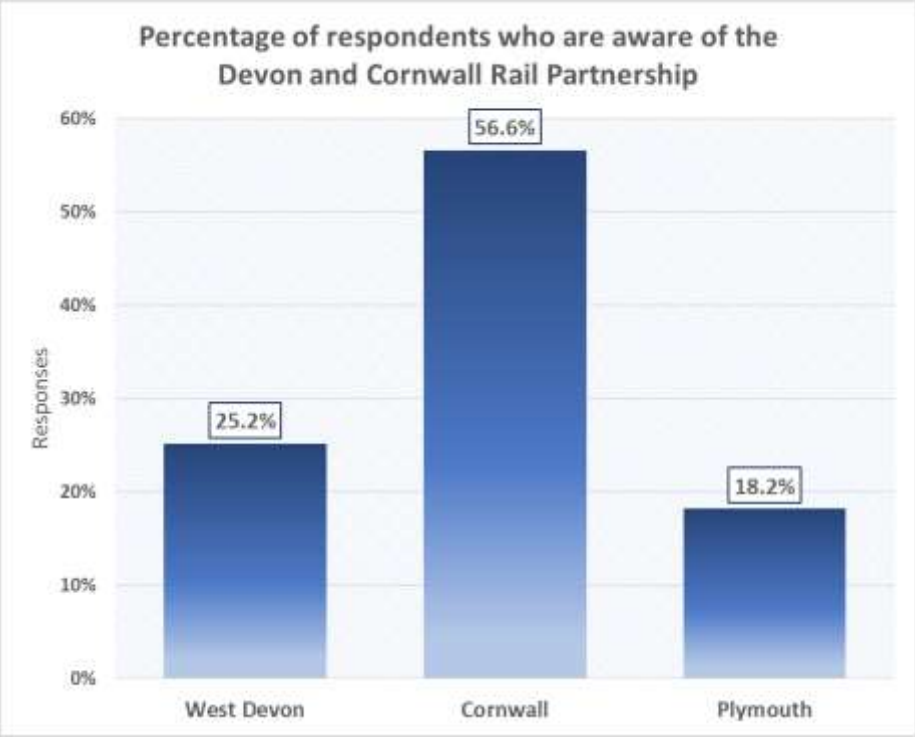
Figure B-UU: Economic benefit – Cornwall Stations



Awareness

1.63 Respondents were asked how aware they were of the Devon and Cornwall Rail Partnership. These results are outlined in Figure B-A. Out of the users who were aware the majority of were from Cornwall (56.6%)

Figure B-A: Awareness of Rail Partnership



2. Conclusions

Transport Mode

2.1 Walking was by far the most popular mode of transport to or from stations with over 50% walking to stations and over 70% walking from stations. Car use was significant when travelling to stations.

Journey Purpose

2.2 Leisure and work were the two main journey purposes although showing different priorities for different parts of the catchment. For Cornwall stations Leisure was the main journey reason but in West Devon it was Work.

Rail Ticket

2.3 Day return, single and carnet tickets were the most commonly used tickets with a significant fall in usage from them to the weekly/season tickets. Off-Peak Day Return was the most used across the survey with at least 25% of respondents buying them.

Rail Cards

2.4 The Devon & Cornwall railcard was used significantly more than any other railcard. However, there is a much larger number of possible users as 72% of respondents were eligible to use the railcard but only 42% of respondents did use it. By contrast almost all those eligible to use the Senior Railcard were actually using it.

Priorities for Improvement

2.5 Respondents prioritised a more frequent service on weekdays and Saturdays and a later last train from Plymouth.

2.6 Respondents perceptions of service aspects suggest that station facilities and the presence of staff would be two areas where improvements could be made. These were consistently the two areas rated most negatively.

Appendix C: Stakeholder Survey

1. Introduction

1.1 The purpose of the stakeholder survey is to pinpoint the views of organisations in Cornwall and West Devon on the economic value of the Tamar Valley Railway Line – whether, for example, it connects local businesses to their customers or provides a boost to the tourist economy.

1.2 TAS contacted approximately 200 local agencies and organisations via a short online survey of 10 questions about the economic benefits the line might bring:

- firstly to their area and region; and
- secondly to their organisation.

1.3 With input from DCRP and Councillor Dorothy Kirk, we compiled a database of stakeholders to consult from the following sectors:

- local authority – including Cornwall, Devon, West Devon and Plymouth councils;
- general business contacts – such as Chambers of Commerce and LEPs;
- major employers in Plymouth – such as Devonport Dockyard and Plymouth University;
- transport operators – including Network Rail and Plymouth Citybus;
- education – from university and further education levels to primary and secondary schools;
- health – from the NHS at Derriford Hospital to Bere Alston Surgery;
- tourism – such as Visit Cornwall, Visit Devon, Cotehele House and Tamar Valley AONB Centre;
- hospitality – such as Bed and Breakfasts, holiday cottages and local pubs and inns;
- local businesses and retailers – such as the post office at Gunnislake and all businesses stocking the carnet rail tickets for the line;
- voluntary, charity and community sector – including parish halls and charitable organisations in the area ;
- faith – a range of places of worship; and
- sports & outdoor pursuits – including bowling, cricket, football and boating associations and clubs.

1.4 Consultees were asked whether the line benefits:

- their workforce by enabling commuting;
- their workforce by enabling business trips; and
- their organisation by enabling customers to reach them.

1.5 The survey also asked them to identify the types of economic benefits they feel the line holds – via access to tourist attractions, retail and shopping and to places of education.

1.6 All questions on the economic value aspect were closed on the online survey with consultees provided with a list of options to choose from.

1.7 The second, more in-depth research took place via one-to-one telephone interviews and, as requested, by some stakeholders, email exchanges asking two central questions:

- What economic value do you think the Tamar Valley Railway holds for the areas it serves?
- Do you think the Railway holds economic benefit for your organisation and if so, how?

1.8 In both cases, prompted examples were provided to stimulate thinking.

1.9 30 organisations approximately were contacted by phone and at least half of them requested a follow-up email although most did not respond back. The feedback from these more detailed conversations are summarised in table form below in this Appendix.

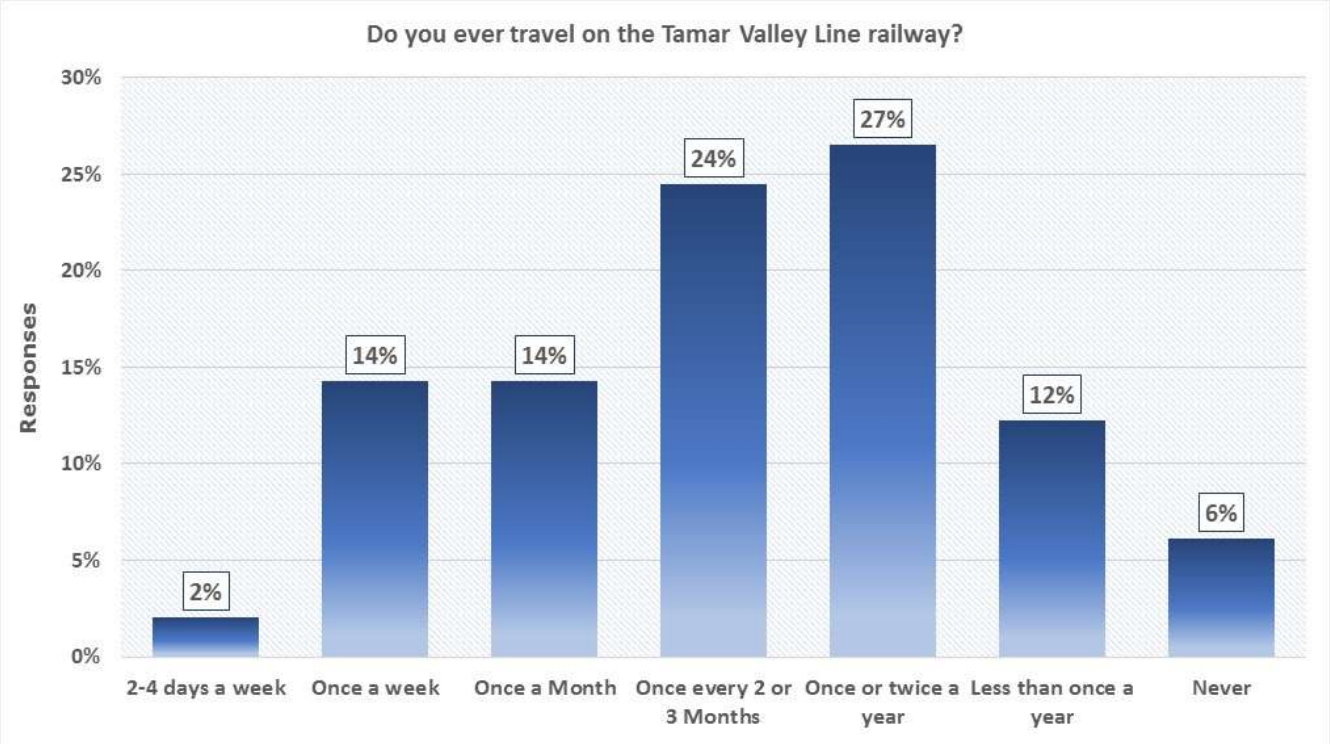
2. Online Survey Results – All Respondents

2.1 50 respondents answered the online survey of 10 questions; of these, 50% answered from organisations in Cornwall, 24% from Devon and 26% were from organisations which did not pertain to either Devon or Cornwall specifically. (The online survey results are repeated below separated into Devon and Cornwall results in isolation.)

2.2 The survey starts with very positive news: most people – 92% - had heard of the Tamar Valley Railway line.

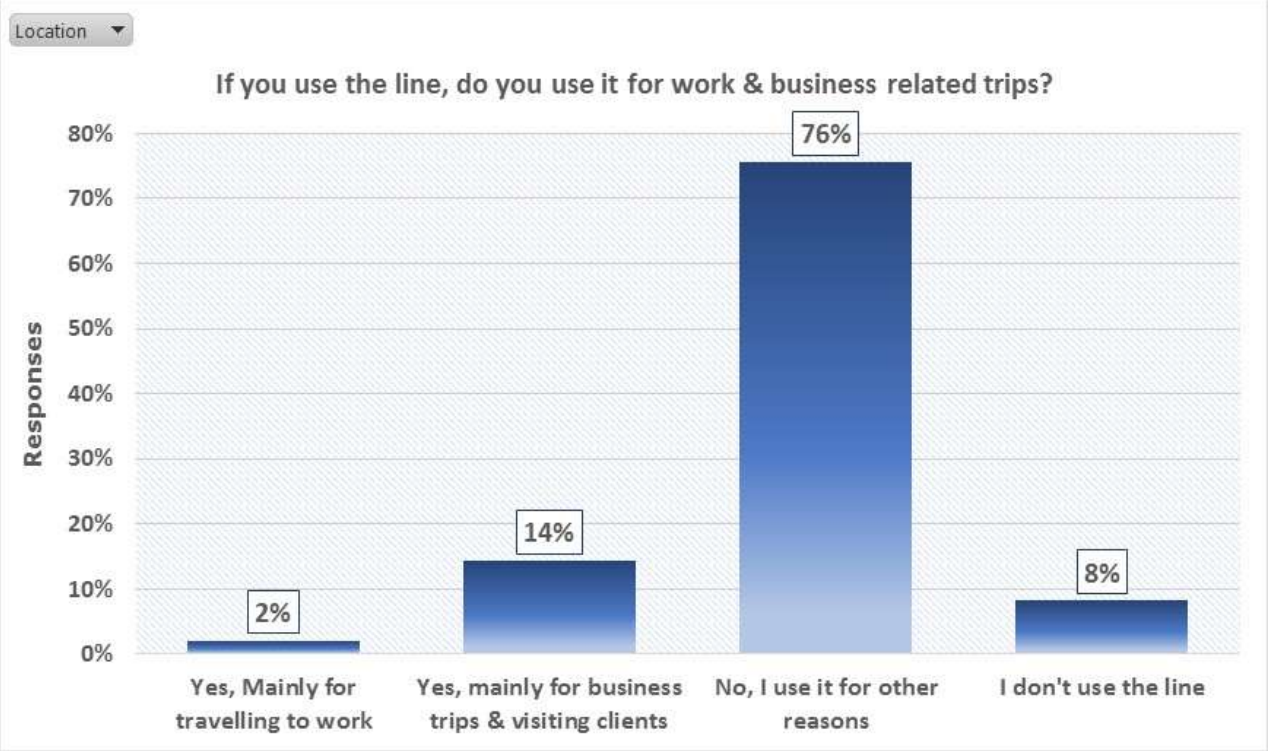
2.3 Asked about frequency of use, 6% said they never used the line at all. As Figure C-A below shows, the majority of consultees in the stakeholder survey only use the railway now and again with 16% using the railway one a week or more. Usage of the line amongst the stakeholder community is certainly sporadic: 27% use the Tamar Valley line once or twice a year; 2% said they used the line more than once a week.

Figure C-A: Stakeholder Survey – Frequency of Use



2.4 As shown in Figure C-B, 14% of stakeholders surveyed said they used the line for business related trips – with the majority (76%) using the line for other purposes; only 2% said they used the line to commute to work.

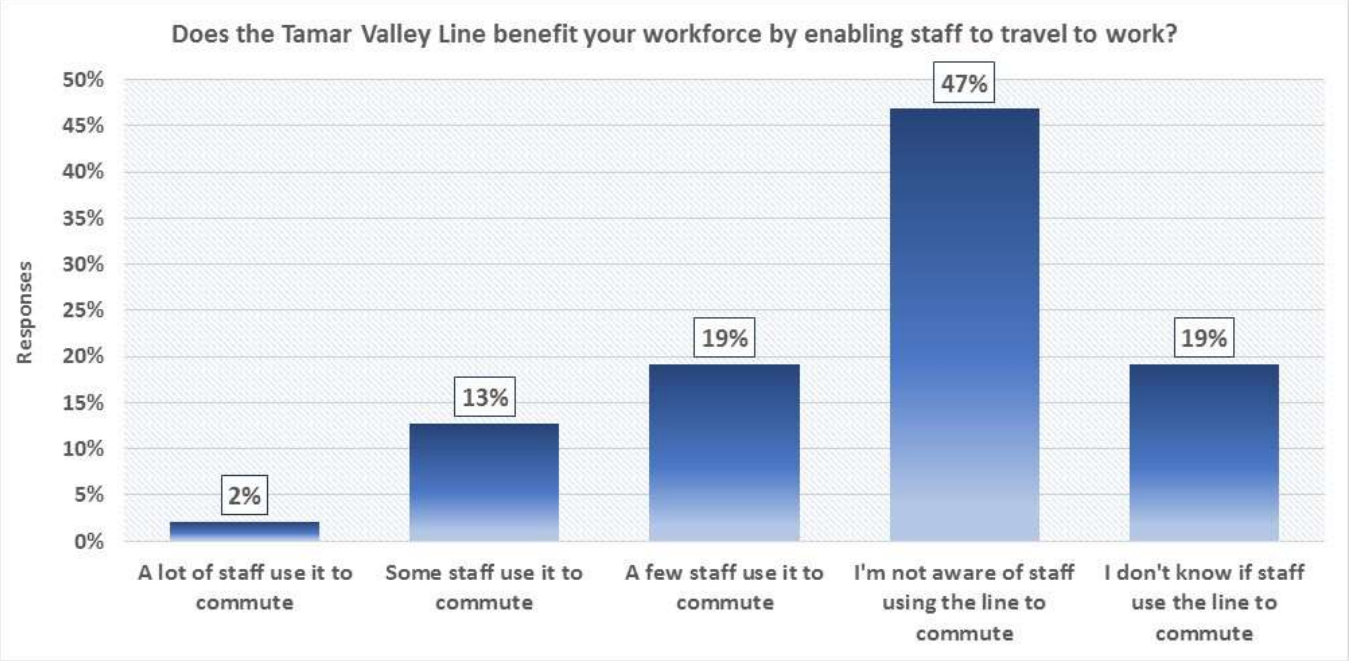
Figure C-B: Stakeholder Survey – Journey Purpose



2.5 Consultees were asked whether their staff use the line to travel to work; most (47%) were not aware of their staff using the line to commute, as

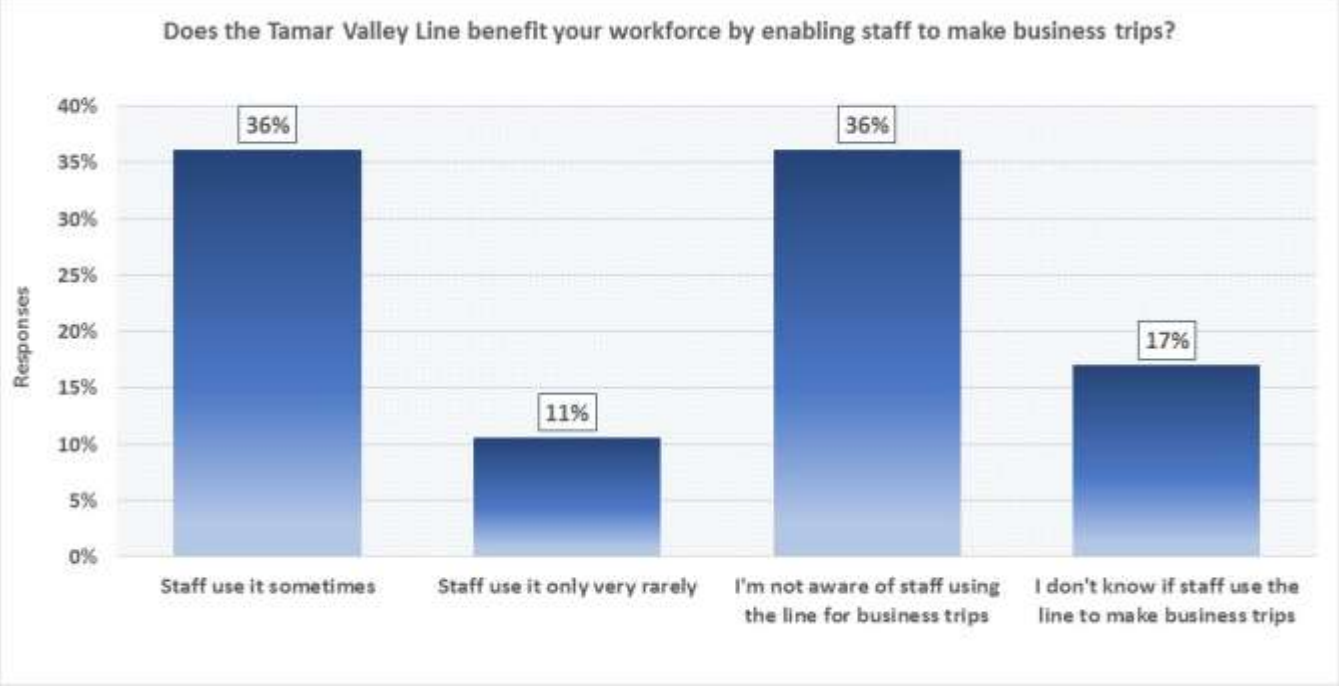
Figure C-C shows below. 34% said at least a few staff use the line for commuting – 2% cited a lot of staff, 13% said some staff and 19% a few staff.

Figure C-C: Stakeholder Survey – Benefit to Workforce: Commuting



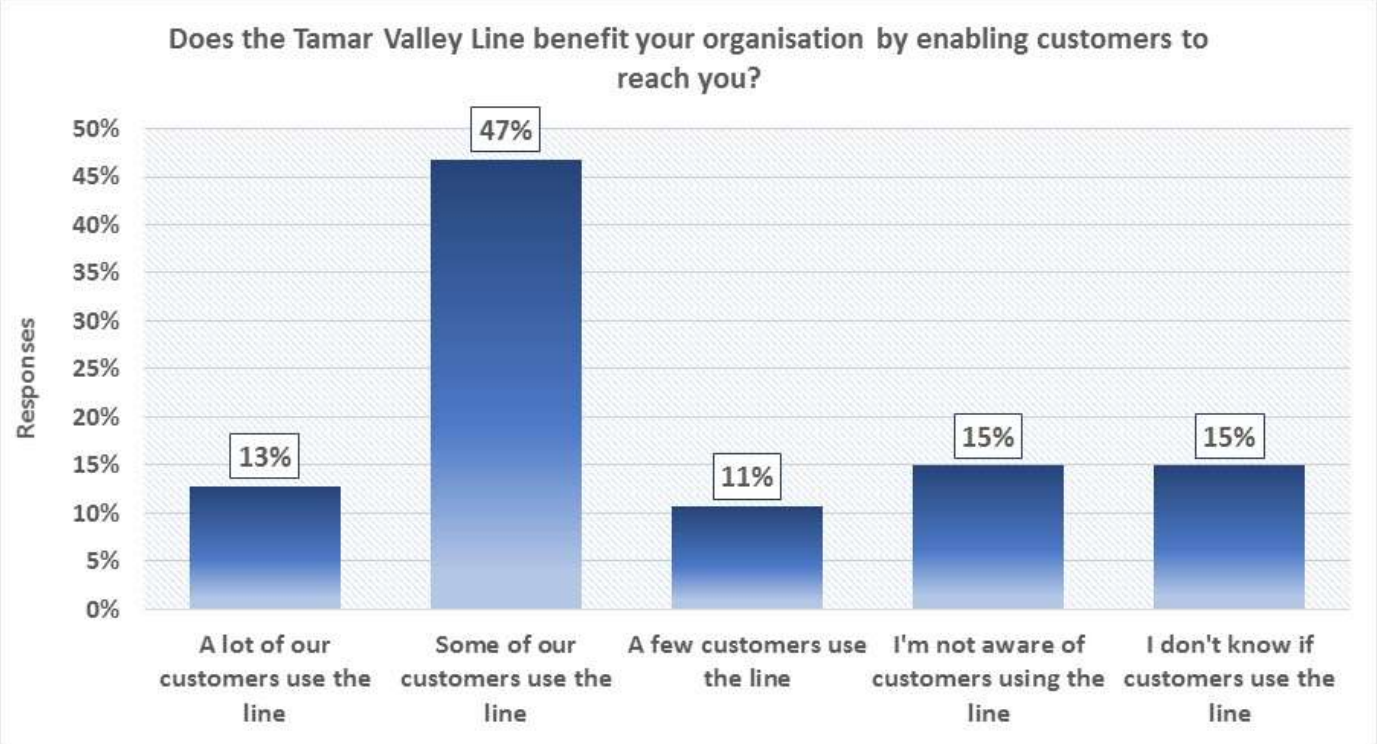
2.6 36% of consultees said staff sometimes use the line for business trips, as seen in Figure C-D below.

Figure C-D: Stakeholder Survey – Benefit to Workforce: Business Trips



2.7 The line plays a strong role in connecting organisations to customers – a healthy 60% said their customers use the line, with 13% of these using the line a lot.

Figure C-E: Stakeholder Survey – Connecting Customers



2.8 There was strong agreement from 100% of consultees with the statement: "*The Plymouth to Gunnislake railway line is economically beneficial to the Tamar Valley area*". As Figure C-F shows, 78% agreed most strongly (providing a rating of 5 out of 5) and 22% rated the statement 4 out of 5.

2.9 Responses to the statement this time pertaining to consultees organisations themselves was more spread out. Respondents were asked how much they agreed with the statement: "*The Tamar Valley line specifically benefits my organisation economically*."

2.10 35% of consultees agreed most strongly - rating the statement 5 out of 5; 22% rated the statement 4 out of 5; and 30% 3 out of 5.

Figure C-F: Stakeholder Survey – Economic Value & Tamar Valley

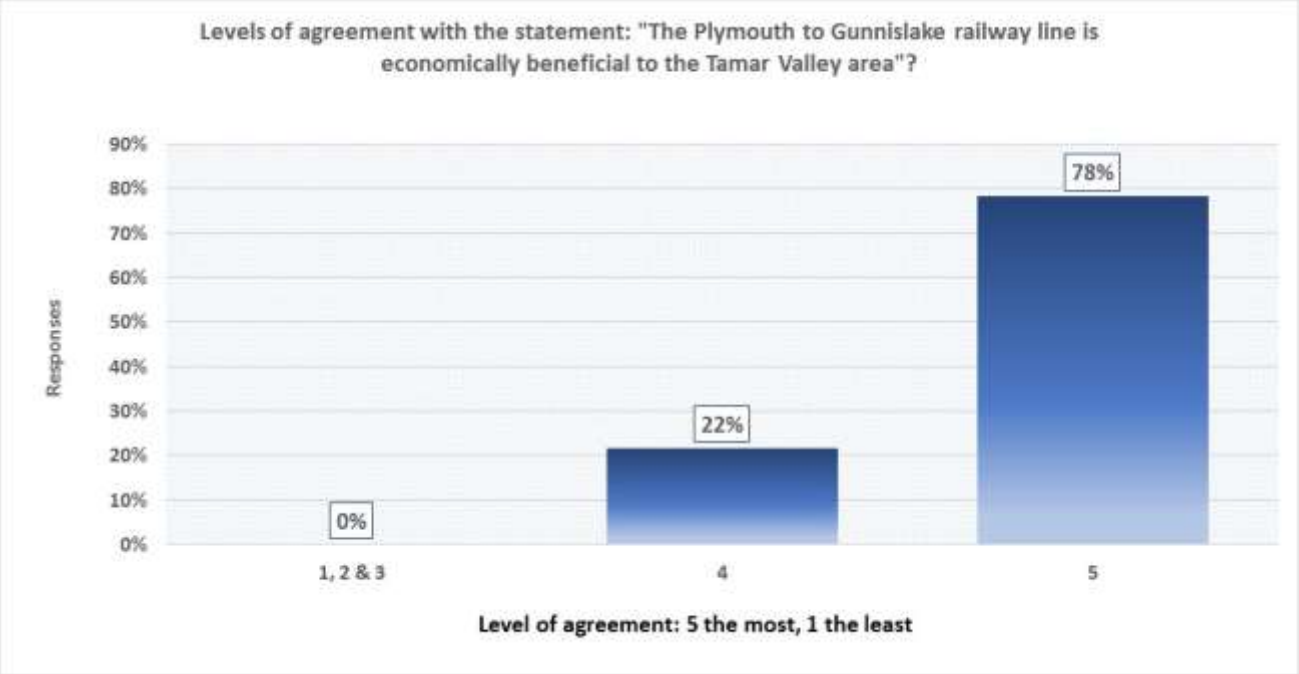
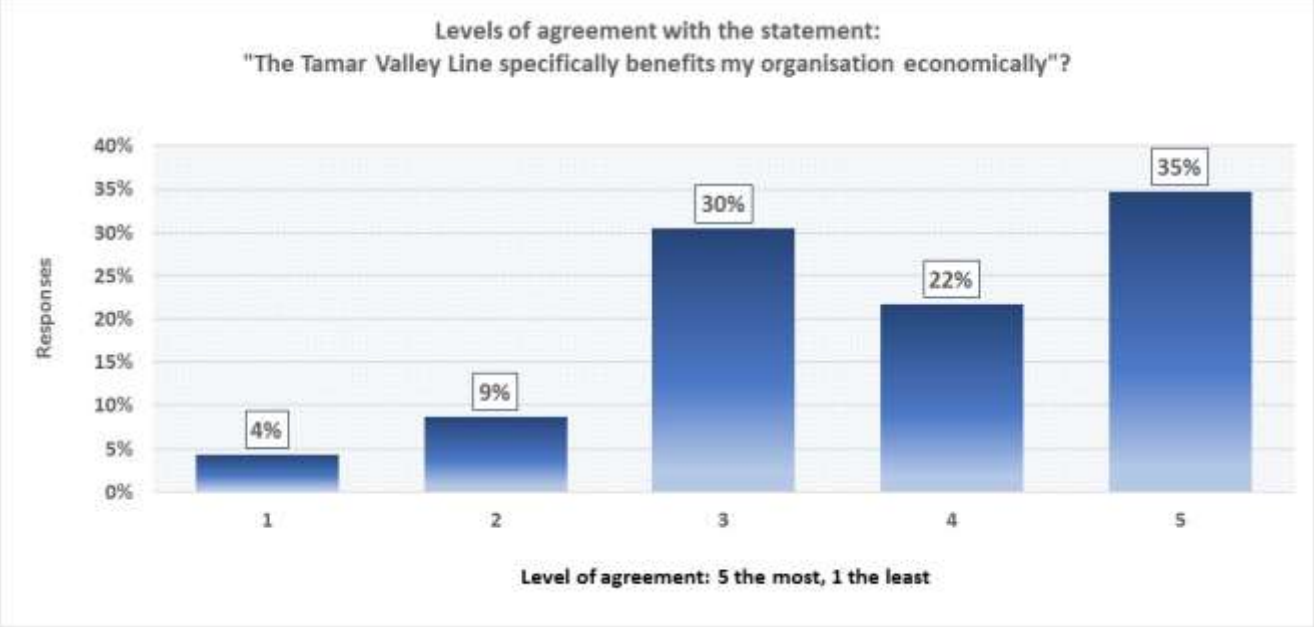


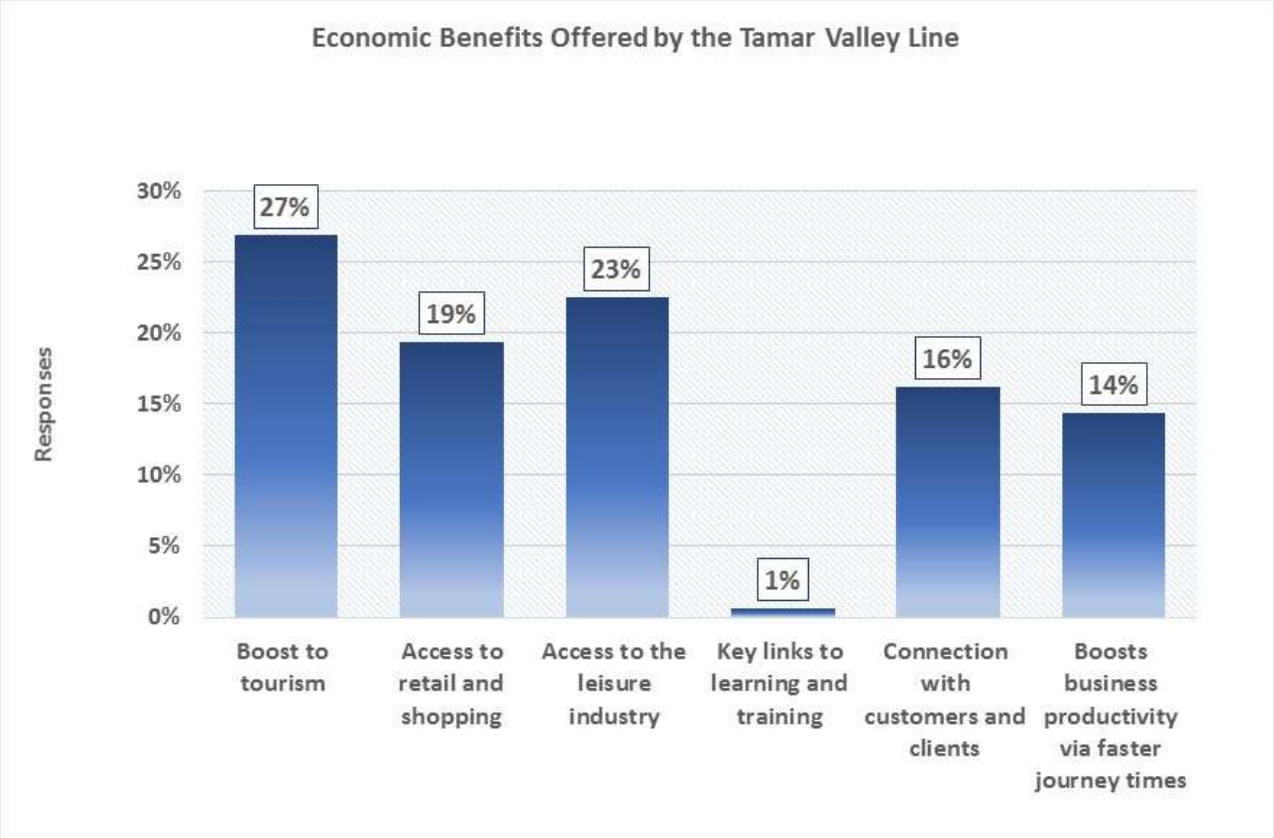
Figure C-G: Stakeholder Survey – Economic Value & My Organisation



2.11 Consultees were asked to identify which economic benefits they felt the line offers, from a prompted list. The results are set out in Figure C-H below.

2.12 'Boost to tourism' by providing access to tourist attractions was the most popular answer; 27% of consultees selected tourism, followed by 23% who identified access to the leisure industry and 19% who cited retail and shopping access. Only 1% felt there was value via links to education and training.

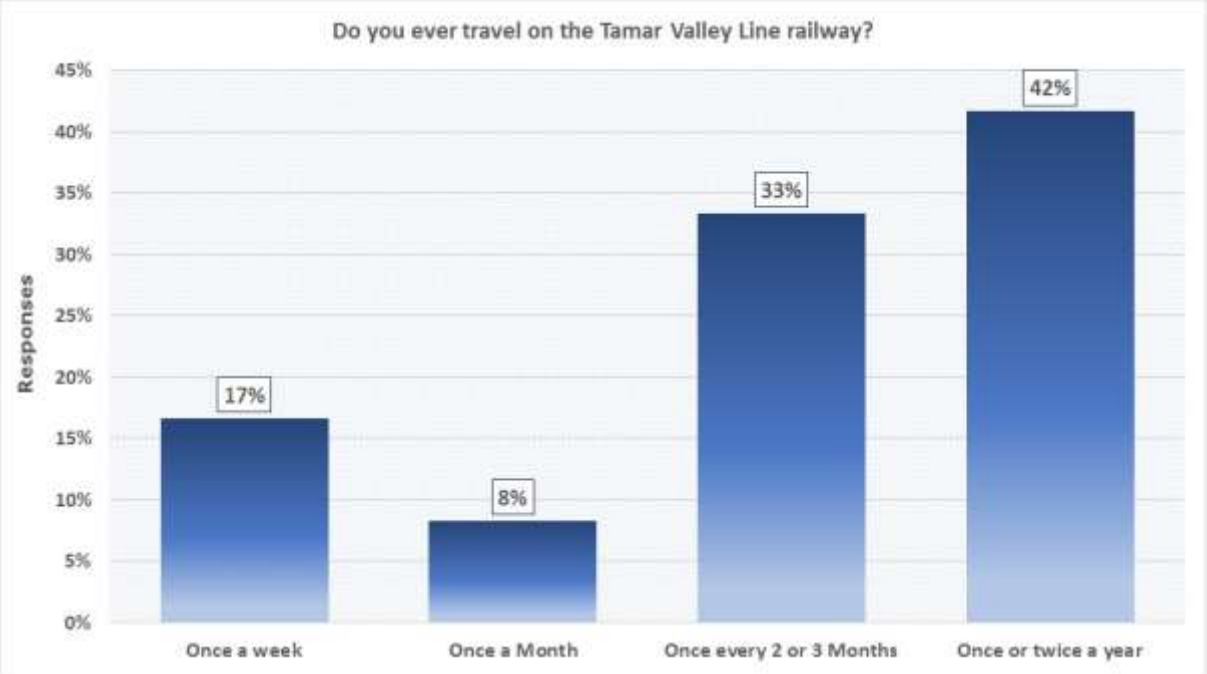
Figure C-H: Stakeholder Survey – Economic Benefits of the Line



3. Online Survey Results – Devon Only

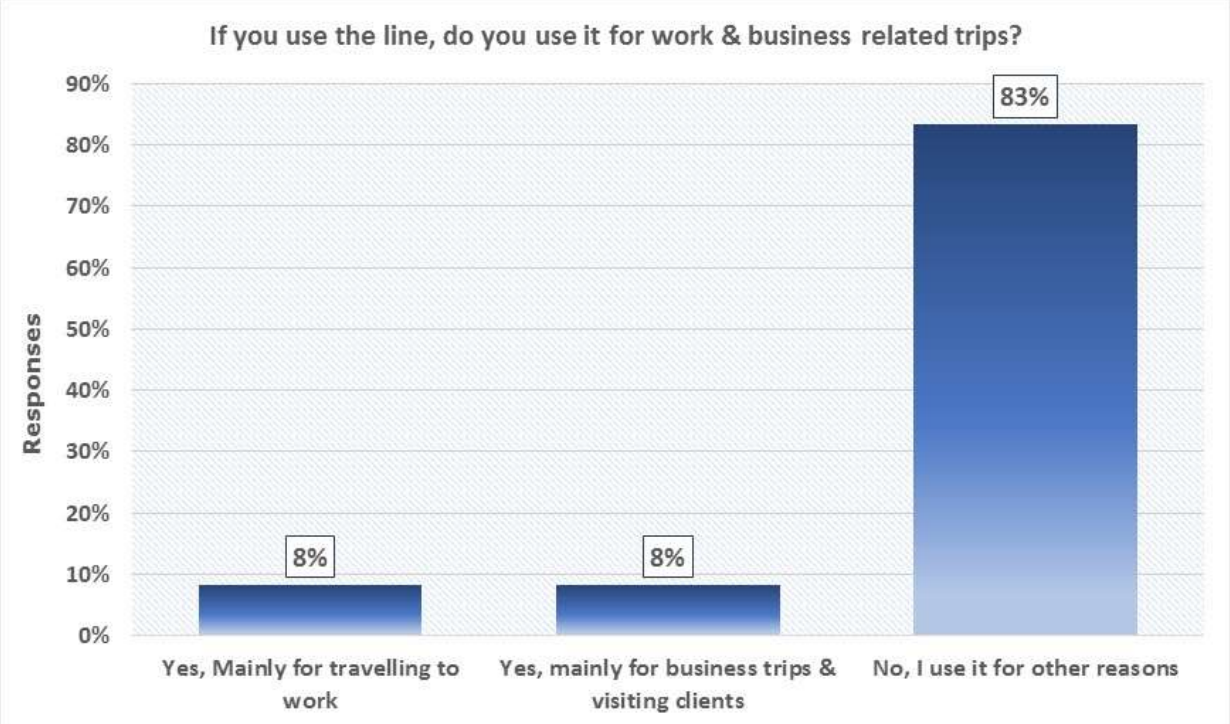
3.1 All respondents from organisations in Devon had heard of the Tamar Valley Railway line. Use of the line is not very frequent although 17% said they use it once a week.

Figure C-I: Stakeholder Survey – Frequency of Use



3.2 8% of consultees said they use the line for commuting and 8% said they use it for business trips.

Figure C-J: Stakeholder Survey – Journey Purpose



3.3 Most consultees (58%) said they were not aware of staff using the line to commute and 25% said a few staff use the line for this purpose (as Figure C-K shows). 33% of consultees said they were aware of staff using the line for business trips.

Figure C-K: Stakeholder Survey – Benefit to Workforce: Commuting

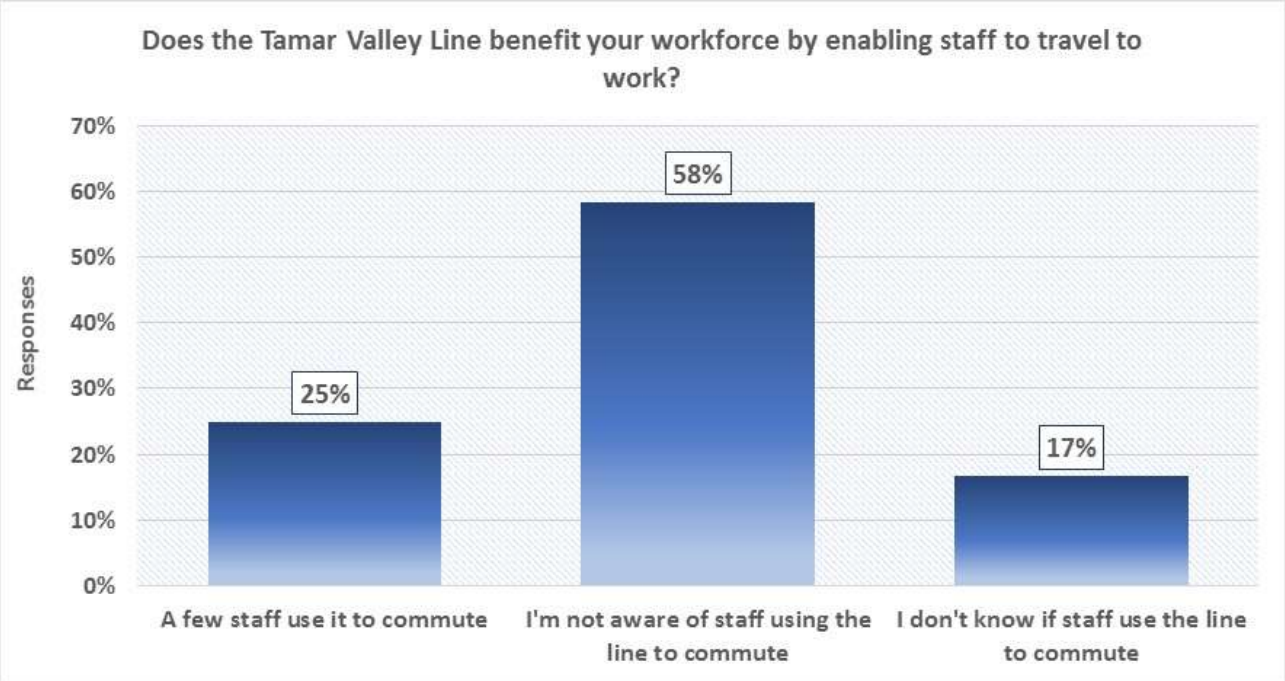
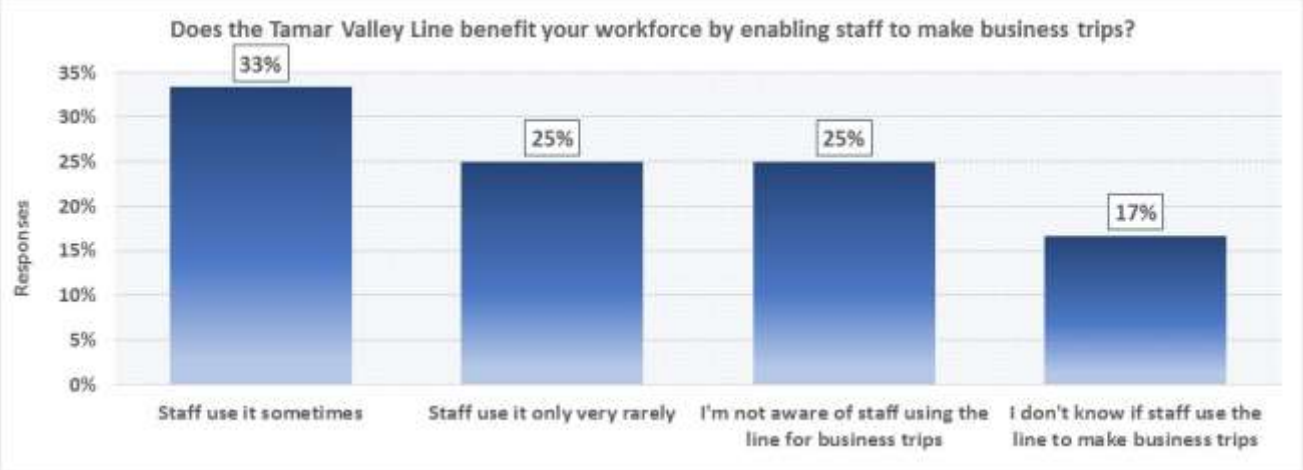
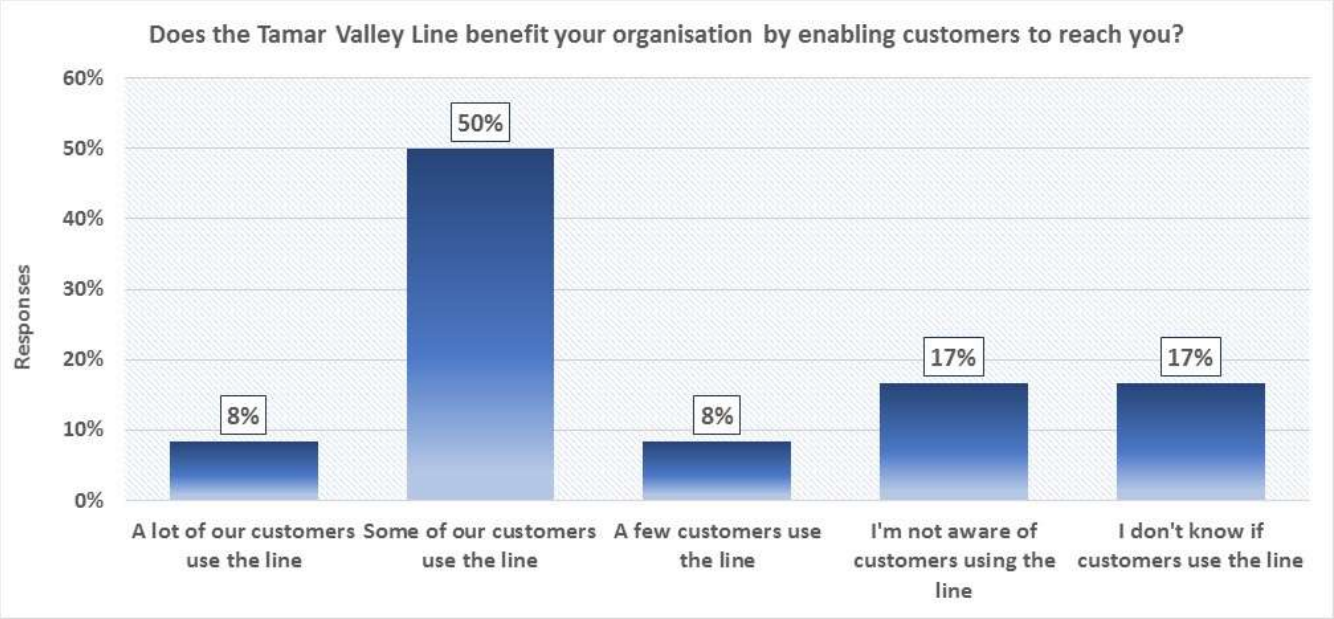


Figure C-L: Stakeholder Survey – Benefit to Workforce: Business Trips



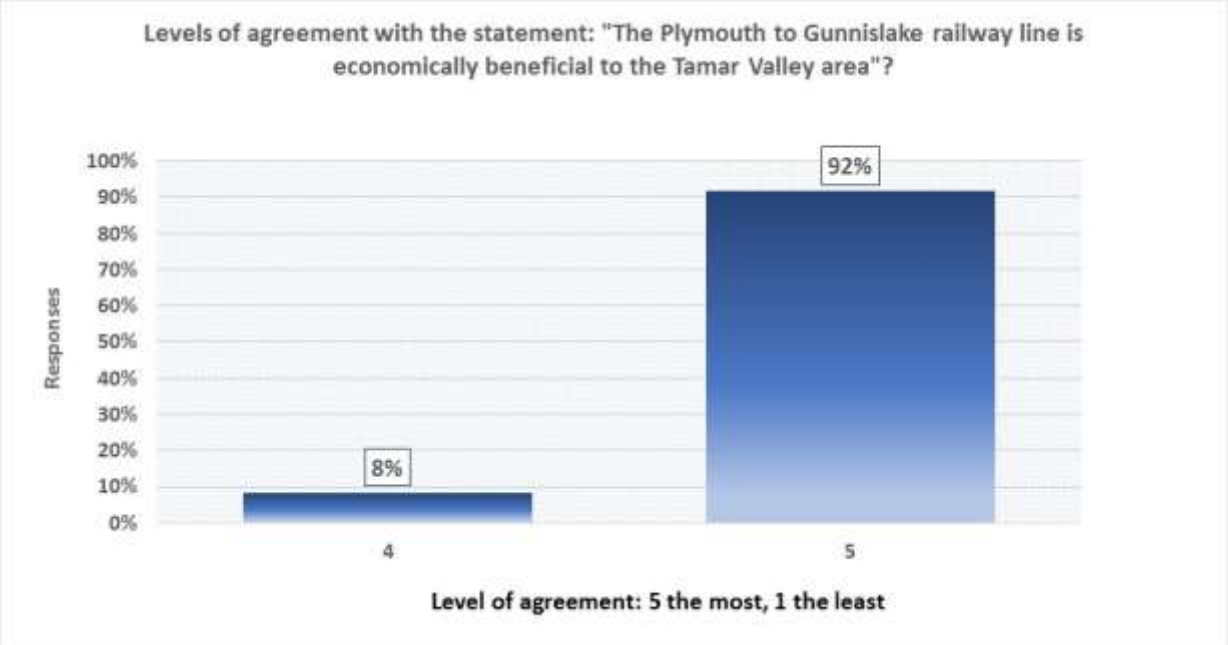
3.4 As Figure C-M shows, 58% of consultees said that the line connects at least some of their customers to them.

Figure C-M: Stakeholder Survey – Connecting Customers



3.5 Figure C-N meanwhile, shows very strong agreement from consultees that the line is economically beneficial to the Tamar Valley with 92% rating the statement below 5 out of 5 and the small remainder 4 out of 5.

Figure C-N: Stakeholder Survey – Economic Value & Tamar Valley

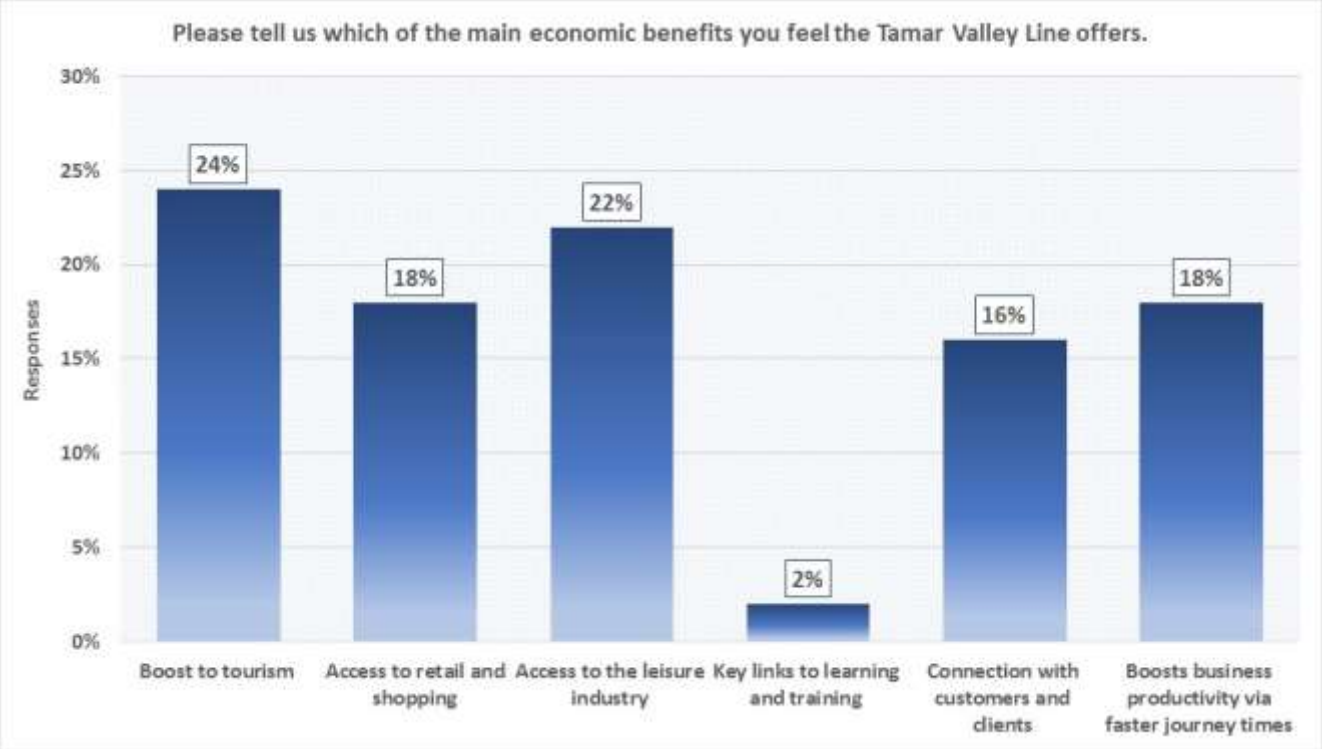


3.6 The case is less clearcut when rating the statement on economic value to their organisation, as Figure C-O shows below.

Figure C-O: Stakeholder Survey – Economic Value & My Organisation

3.7 Boost to tourism was the most popular economic benefit offered by the line for consultees in Devon (24%), closely followed by access to leisure (22%). Devon consultees, in contrast to those from Cornwall, rated boosting business productivity with faster journey times as important (18%).

Figure C-P: Stakeholder Survey – Economic Benefits of the Line

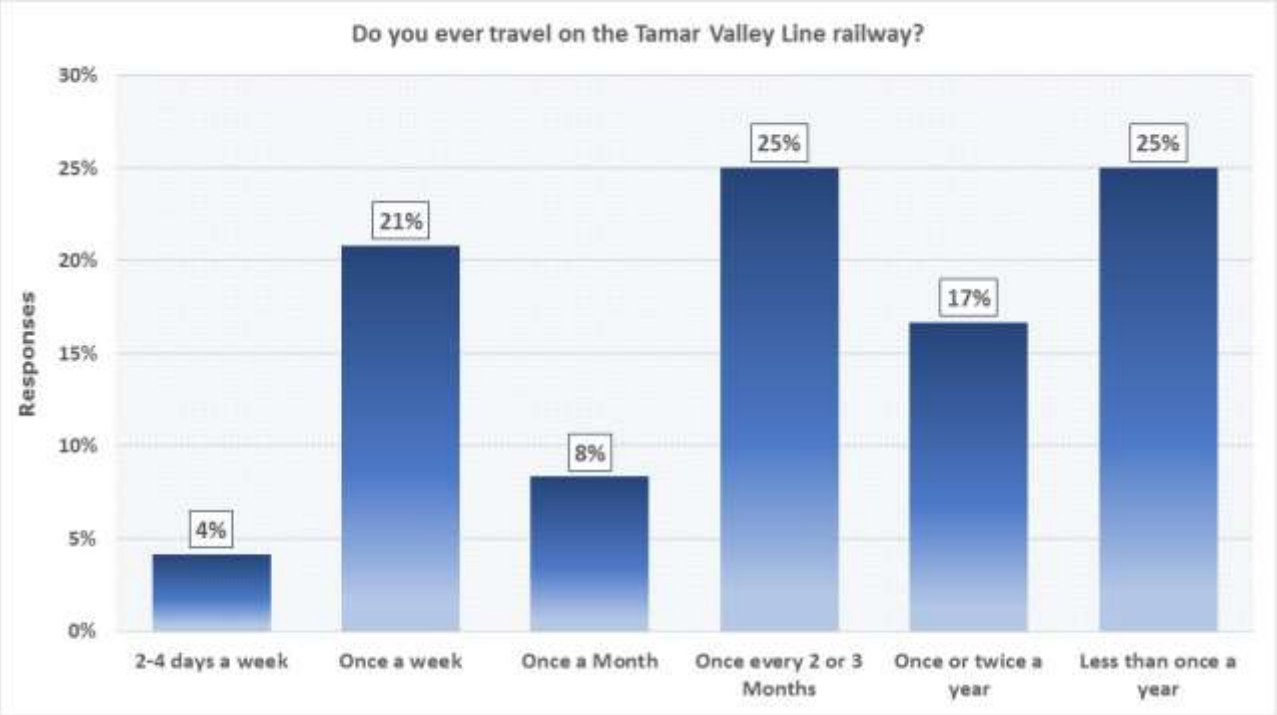


4. Online Survey Results – Cornwall Only

4.1 All respondents from organisations in Cornwall had heard of the Tamar Valley Railway line. Only stakeholders whose organisations did not cover Devon or Cornwall specifically had not heard of the line.

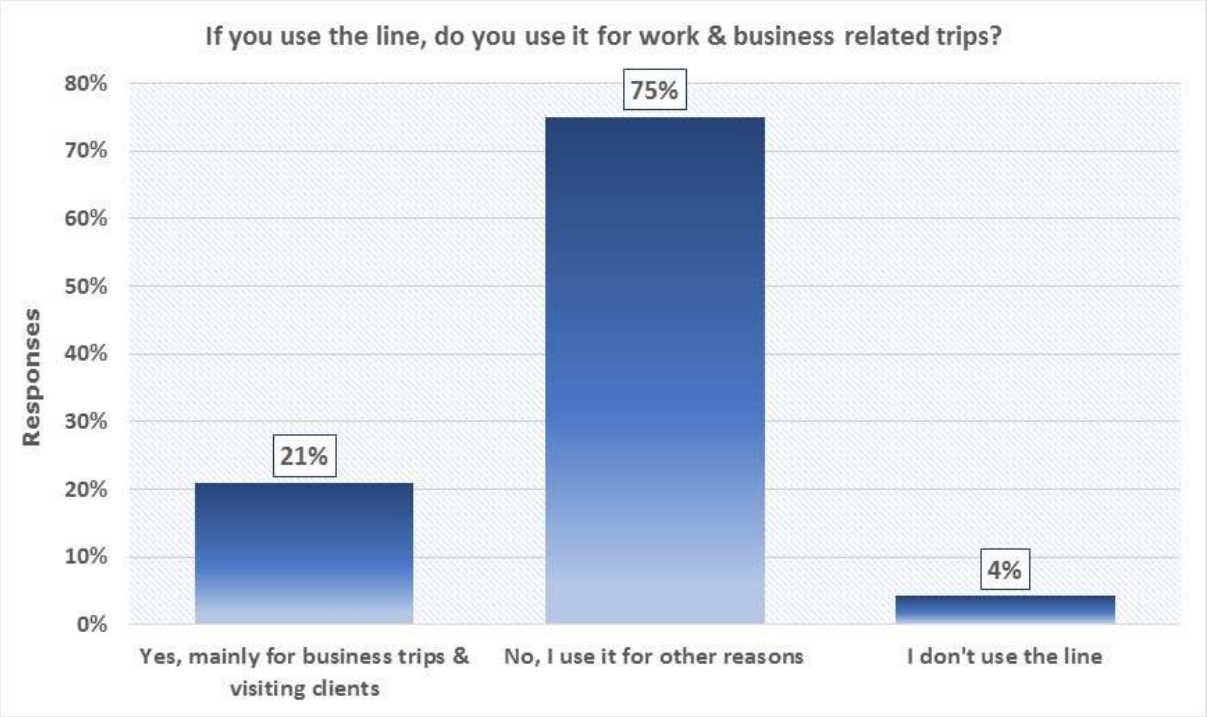
4.2 Use of the line by Cornwall consultees was more frequent than in Devon. 21% said they used the line at least once a week (17% in Devon). 25% of respondents use the line every 2 or 3 months and the same again never use it (less than once a year), as Figure C-Q shows below.

Figure C-Q: Stakeholder Survey – Frequency of Use



4.3 While no respondents in Cornwall said they are using the line for commuting (compared with 8% in Devon), many more Cornwall consultees said they travel on the line for business trips – 21% in Cornwall compared to 8% in Devon.

Figure C-R: Stakeholder Survey – Journey Purpose



4.4 Fewer respondents said they were not aware of staff using the line to commute than in Devon – 44% in Cornwall (compared to 58% in Devon). 20% of consultees in Cornwall said some staff use it for commuting, as shown in Figure C-S.

4.5 44% of respondents Cornwall said they were aware of staff using the line for business trips (see Figure C-T).

Figure C-S: Stakeholder Survey – Benefit to Workforce: Commuting

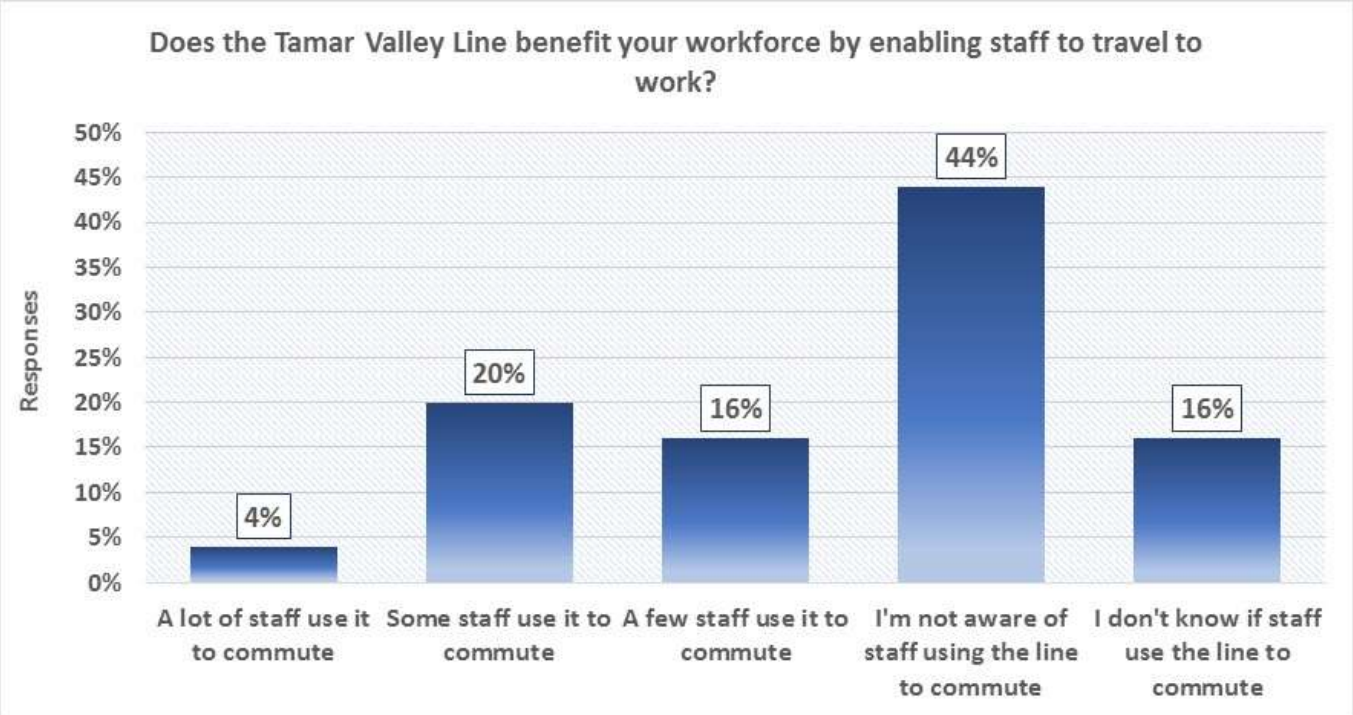
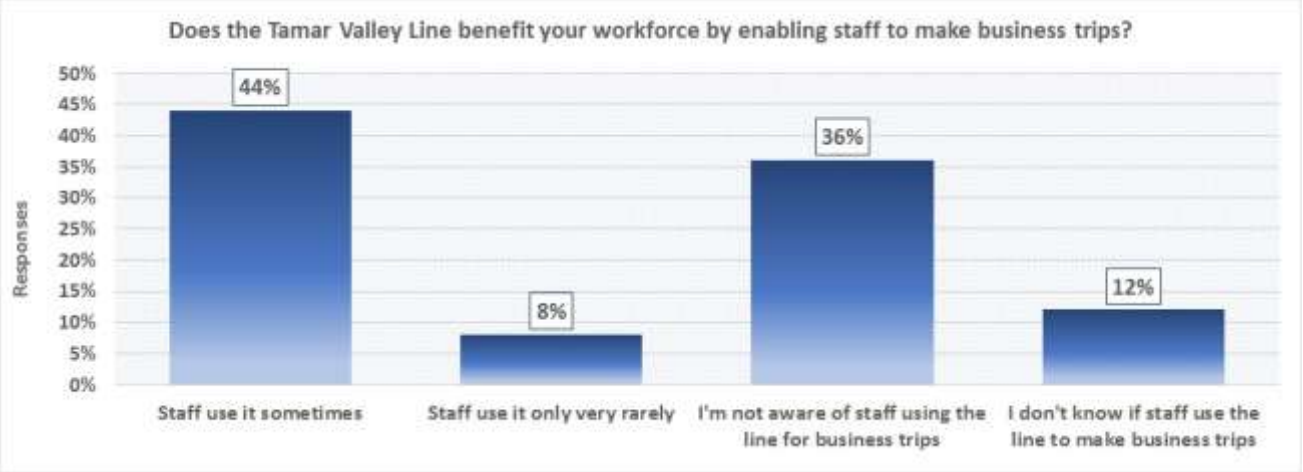
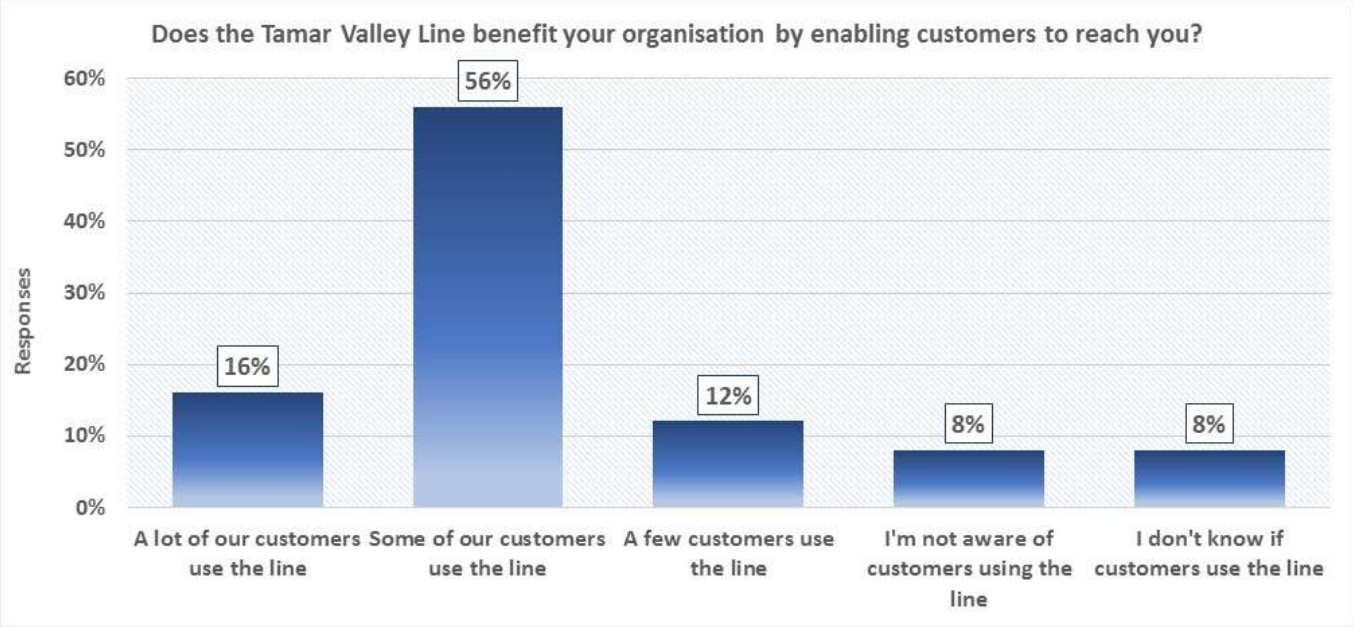


Figure C-T: Stakeholder Survey – Benefit to Workforce: Business Trips



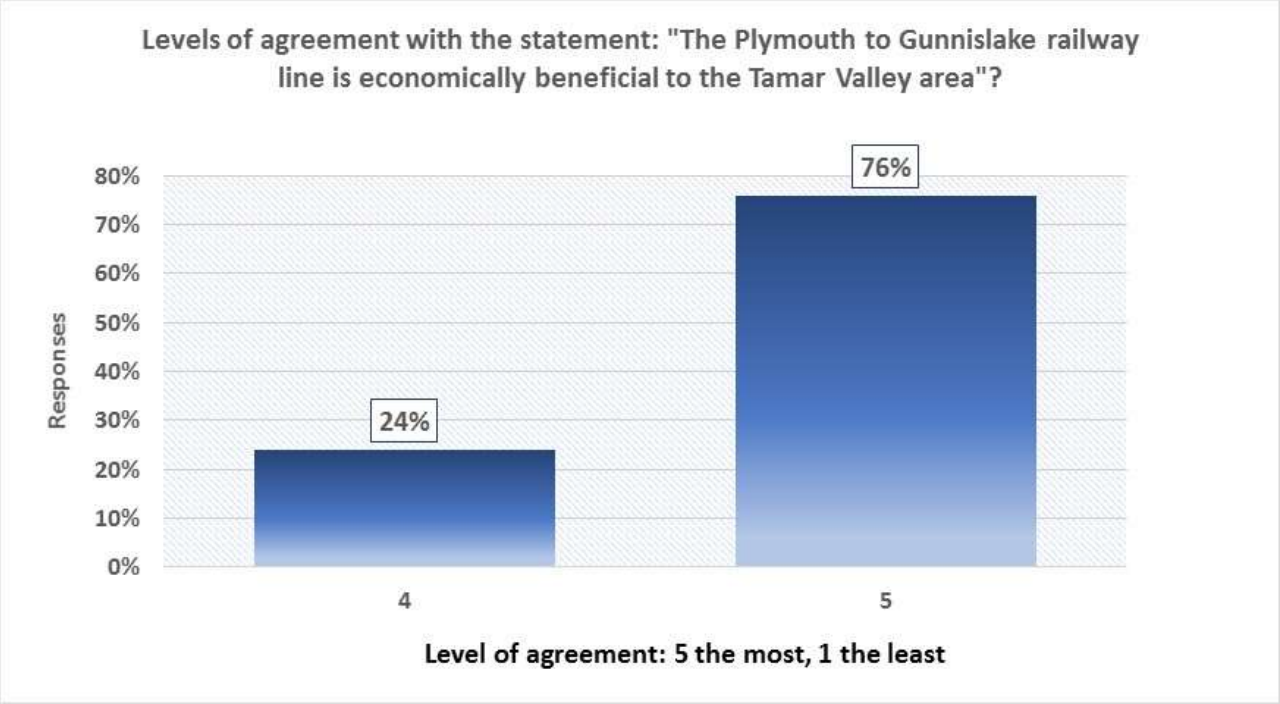
4.6 72% of consultees said that the line connects at least some of their customers to them which is very good news indeed (and compares with 58% in Devon).

Figure C-U: Stakeholder Survey – Connecting Customers



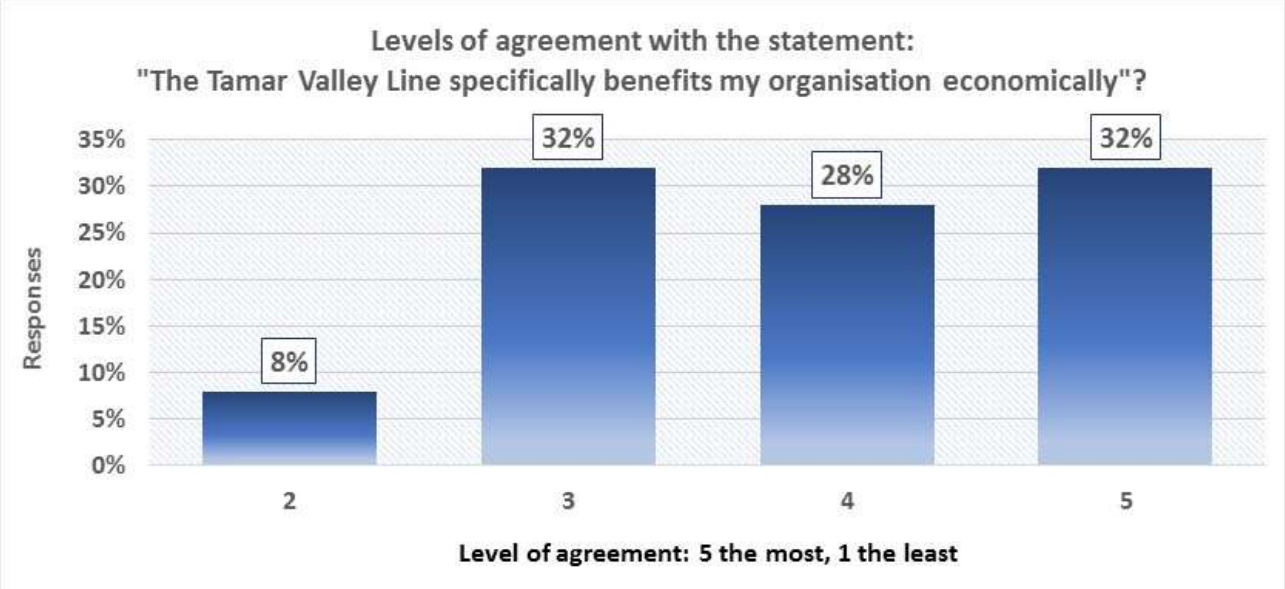
4.7 Figure C-V again shows strong agreement from respondents that the line is economically beneficial to the Tamar Valley although less in Cornwall rated the statement 5 out of 5 (76% in Cornwall, compared to 92% in Devon).

Figure C-V: Stakeholder Survey – Economic Value & Tamar Valley



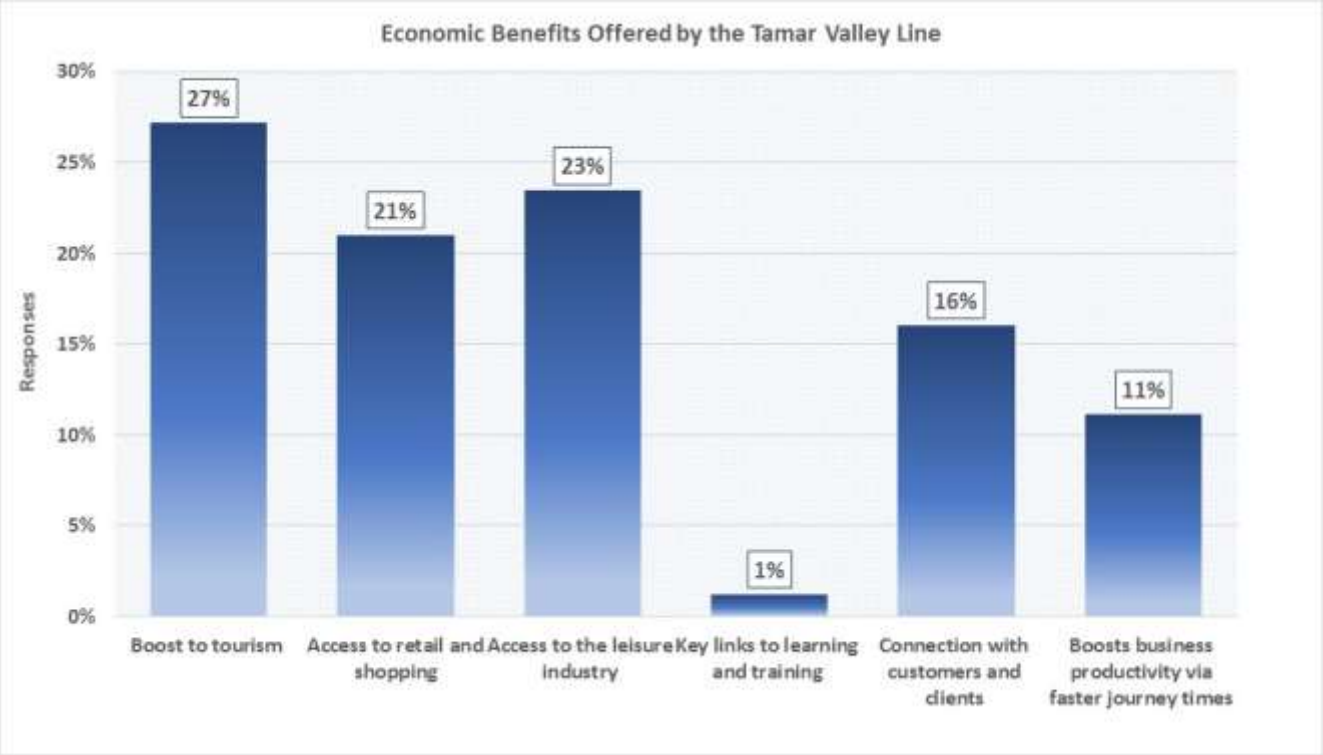
4.8 As previously, agreement relating to the economic value to their organisations is more split across respondents, as Figure C-W shows.

Figure C-W: Stakeholder Survey – Economic Value & My Organisation



4.9 The top three economic benefits for consultees in Cornwall are tourism (27% in Cornwall; 24% in Devon), access to leisure (23% in Cornwall; 22% in Devon) and access to shopping and retail (19% in Cornwall, compared to 18% in Devon).

Figure C-X: Stakeholder Survey – Economic Benefits of the Line



5. In-depth Stakeholder Research – Results

5.1 Table C-1 below summarises the results of input from 13 stakeholders who were asked the following two questions:

- *What economic value do you think the Tamar Valley Railway holds for the areas it serves?*
- *Do you think the Railway holds economic benefit for your organisation and if so, how?*

5.2 The table is split up to reflect the main types of economic benefit to the areas affected by the line.

Table C-1: In-depth Stakeholder Research – Overview

	What economic value do you think the Tamar Valley Railway holds for the area?						Do you think the railway holds economic benefit for your organisation?
Stakeholder or Organisation	**Employment & Workforce Benefits**	**Tourism Links**	**Access to Education & Training**	**Retail & Shopping Opportunities**	**Links to Leisure**	**Boost to Business Productivity – via faster journeys**	
Devon & Cornwall Stakeholders							
South West LEP (Transport Advisor)		Important for providing links to the Tamar Valley AONB.				Rail transport assists with both strategic connectivity and for local transport movements – particularly access to urban areas and also very rural areas. The impact is two-way: both economically and in terms of providing links to the Tamar Valley AONB.	The LEP is a very small organisation of five staff and very much a virtual one so travel is limited. They do not use the line for commuting but they may use it for work projects.
Forestry Training Service (requested anonymity), South West	The line is important for people working in Plymouth and especially to teens for access to Saturday job opportunities and younger adults who don't drive.	There is no doubt that Tamar Valley Railway encourages tourists into the area - mainly day trippers. Groups come up from Plymouth for walking trails. Families like to come up to Calstock to drink by the river while the children play on the play boat; there is a very relaxed atmosphere.	The line is very important for those children that go to Plymouth schools and older ones to the colleges. It saves parents having to be involved in transport which has an economic value (e.g. they are then availability for work).	Access to retail and shopping is good and can be cheaper than driving and parking. The line allows access on to other towns and cities, like Exeter and Truro.	Local walking groups use the line. It allows teens to access leisure facilities in Plymouth independently, which is hugely advantageous. Unfortunately there is little evening service so transport back is by shared taxi.		The line allows trainees/delegates who don't drive or don't have access to a vehicle to access some of the courses that are run locally.
Devon Stakeholders							
Devon County Council	The line is very important in providing access to work.		Facilitates access for those who don't have a car to get to Plymouth College.			Economically, the line is important in terms of connection with Devon – especially the Bere Alston and Bere Ferrers section of the route. Without the line, there is a very circuitous route via Tavistock. The importance of the line is best underlined when there are difficulties with it and getting rail replacement is very challenging.	The value of the line applies less to Devon County Council staff and more to the connection afforded to Plymouth.

	What economic value do you think the Tamar Valley Railway holds for the area?						Do you think the railway holds economic benefit for your organisation?
Stakeholder or Organisation	**Employment & Workforce Benefits**	**Tourism Links**	**Access to Education & Training**	**Retail & Shopping Opportunities**	**Links to Leisure**	**Boost to Business Productivity – via faster journeys**	
Devon Chamber of Commerce	From an employer's point of view, the line brings in workers from the Tamar Valley. It is particularly vital in bringing in workers from the very far end in the very remote Gunnislake and across the Tamar.	The line is a very important part of the infrastructure in terms of leisure and tourism and runs up a highly attractive area. Much like the Tarka line, branch lines in the area are attractive in themselves. It also enables access to National Trust properties and other attractions to people travelling from the SW to the UK and beyond.			See tourism column.	The rail link is very attractive as the road connections are not direct.	Devon Chamber is a small workforce of nine staff and no one travels in from the areas served by the line.
Visit Plymouth – Visitor Services Assistant		The core recommendation by Visit Plymouth is the links the line offers to Gunnislake and Calstock – where people can visit National Trust houses particularly Cotehele House which is a short walk along the river and very beautiful. This is forever the recommendation during the summer and the line is perfect from Plymouth: it is cheap and takes tourists through lots of natural countryside. The line is very well used.					Not used for commuting or business purposes.
Bere Alston Surgery – Practice Manager		The line offers value via tourist links.	Some people use the line to get to school or college in Plymouth.	The line offers "a little" value in terms of access to retail and shopping and also leisure.			The line is not used by staff or patients.

	What economic value do you think the Tamar Valley Railway holds for the area?						Do you think the railway holds economic benefit for your organisation?
Stakeholder or Organisation	**Employment & Workforce Benefits**	**Tourism Links**	**Access to Education & Training**	**Retail & Shopping Opportunities**	**Links to Leisure**	**Boost to Business Productivity – via faster journeys**	
City College Plymouth			Support for transport focuses on buses since they are cheaper than trains. Where no suitable bus service exists the student will get a travel grant that may or may not be spent on train travel. Adults who qualify will also get a grant but it is left to them to choose their mode of transport.				There are staff who use the rail link to commute to work - this is generally a much quicker mode of transport than by car; from Calstock, the journey time to Devonport is 30 mins and a 40 min journey time from Gunnislake.
University of Plymouth	Any provision which gives easier access for residents in rural areas to employment, shops and education can only be a good thing.		During the 2017 travel survey for staff and students, no students were commuting to the University by this route. It may be an attraction for a very small number of students, however looking at their most recent travel data it is certainly not a benefit for students at this time.				During the 2017 travel survey for staff and students, 6 staff were commuting to the University by this route. Clearly this line does hold benefits for our organisation mainly by providing a mechanism for which staff can travel to work other than by car.
Cornwall Stakeholders							
Gunnislake Primary School – Teacher	A high percentage use the line in terms of tourism and commuting; "it's beautiful".						As a small school, there are only a few staff but a high percentage use the line to travel to school. School children use the line to reach the school and every year they are able to take a group of school children for free on the line as a familiarisation exercise – with the aim of encouraging them to use the line further.
John Brown's Convenience Store			The line is very important for students and communities and is well used.			The roads to Plymouth are very poor and so rail is an important short-cut.	Doesn't bring customers in, no.

	What economic value do you think the Tamar Valley Railway holds for the area?						Do you think the railway holds economic benefit for your organisation?
Stakeholder or Organisation	**Employment & Workforce Benefits**	**Tourism Links**	**Access to Education & Training**	**Retail & Shopping Opportunities**	**Links to Leisure**	**Boost to Business Productivity – via faster journeys**	
Cornwall Councillor (Dorothy Kirk)	The line makes a huge difference to employment and income: average salary in Cornwall is £15k p.a. and in Plymouth it is over £20k. One of the large employers in Cornwall is Ginsters; connection to Plymouth means links to the Dockyard, energy plant and centres of education. A lot of naval officers live in places like Calstock – away from the city and in attractive, less populated areas.	Sustainable tourism is being promoted and without the line, bus travel takes far too long. Turner's paintings in the area – especially of the Tamar Valley – draw people to the area. A recent Sky One series (Delicious) featuring Dawn French was shot in Calstock. Cllr Kirk also assisted a Japanese film crew making a film featuring the Tamar Valley Line for broadcast in Japan.	40 pupils travel on the line a day as it provides access to a grammar school, City College FE and state / Catholic schools. The University is also very close to the railway and, with the cost of fees, more students are living at home so need to commute.			The connections afforded by the line are absolutely vital - and mean access to the rest of the world and there is no direct road to Plymouth "so the railway is a lifeline".	
Gunnislake Post Office	The line is important for people working in Plymouth.		The line is important for people going to school in Plymouth. Her son uses the line for getting to Devonport High School for Boys.	The line serves people who need to get to Plymouth for shopping.			To a certain extent, the line does attract clients to the post office (although a walk down the hill to reach it can put them off). As the post office sells railway carnet tickets, this does attract rail users into the shop.
Calstock Bear Necessities Mobile Shop	The line is great for commuting for those who work in Plymouth.	The line is great for tourism.		The line is great for shopping.	It is not so useful for going out in the evening (which it would be if it ran later in the evenings).	The line would be even better if it stopped at Tavistock.	The shop has not been owned over a summer yet but lots of tourist visitors providing custom to the shop are anticipated. People do come in on the way to the railway station and some ask for train times. The line does provide economic benefit to the shop and since selling carnet tickets for the line, a lot more people come to the shop.

	What economic value do you think the Tamar Valley Railway holds for the area?						Do you think the railway holds economic benefit for your organisation?
Stakeholder or Organisation	**Employment & Workforce Benefits**	**Tourism Links**	**Access to Education & Training**	**Retail & Shopping Opportunities**	**Links to Leisure**	**Boost to Business Productivity – via faster journeys**	
Calstock Refugee Outreach Group		The railway is a vital link to the Outreach Group in connecting the rural community of Calstock with refugees and asylum seekers in Plymouth who are often isolated and orientating themselves to a new city/region. The train forms a part of the experience of leaving Plymouth to come to Calstock where the group is warmly welcomed.	She attends work at Plymouth University and is on the train with a lot of others accessing schools, colleges of FE and HE.		Approximately 5-6 events a year are run in which groups of between 20 (smaller craft and activity groups) and 120 (larger celebrations for Firework night and Refugee Week) attend. The group has also had a more regular attendance at activities such as table tennis over the past 8 years of running. The train enables the young people of Calstock to develop their independence by using a safe and regular train route between Calstock and Plymouth.		The line enables refugees and asylum seekers who the group supports to travel and connect with communities of Plymouth and Calstock in the Refugee Outreach group.

6. Testimonials from Stakeholders

6.1 Conversations and interactions with stakeholders during the more in-depth research provided invaluable statements of support and value for the line. These have been captured below:

Table C-2: Statements of Support for the Tamar Valley Railway

Stakeholder	Quotation
Dorothy Kirk, Cornwall Councillor	*"The whole economic future of the area depends on access to the rest of the world – which is what the railway provides and there is no direct road to Plymouth so the railway is a lifeline."*
George Cowcher, Devon Chamber of Commerce	*"It is an important umbilical cord for that part of the world in bringing in workers, students and anyone who wants to make use of Plymouth's facilities. This is particularly the case in bringing workers in from the very far end in the very remote Gunnislake and crossing the Tamar."* *"The line is a very important part of the infrastructure and certainly, in terms of leisure and tourism, it runs up a highly attractive area."*
Jo Thomas, Visitor Services Assistant, Visit Plymouth	*"The main thing Visit Plymouth recommend the line for is the links to Gunnislake and Calstock – where people can visit National Trust houses particularly Cotehele which is a short walk along the river and very beautiful. This is forever the recommendation during the summer and the line is perfect from Plymouth – it is cheap and takes tourists through lots of natural countryside. The line is very well used."*
Rosie Brennan - Calstock Refugee Outreach Group	*"In our Outreach Group, the railway is a vital link which connects the rural community of Calstock with refugees and asylum seekers in Plymouth who are often isolated and orientating themselves to a new city/region."*
Jo Stirling – Owner of Calstock Bear Necessities Mobile Shop	*"We would really struggle if we did not have the Tamar Valley Railway line. It is a really valuable transport network and most of the village think the same."*
Dianne Evans - City College Plymouth	*"We do have staff who use this rail link to commute to work - this is generally a much quicker mode of transport that by car - from Calstock, the journey time to Devonport is 30 mins and a 40 min journey time from Gunnislake."*

7. Conclusions on Stakeholder Survey

7.1 The line is very highly valued as a 'lifeline', an 'umbilical cord' connecting workers, students and tourists to Plymouth and to a highly attractive tourist area and AONB – namely the Tamar Valley. The line itself is a tourist attraction as well as being connected to a range of tourist hotspots. Access and connectivity between remote rural areas and Plymouth and 'the rest of the world' was a key theme, as was its role supporting the economy of the area by connecting residents with places of work and study and facilitating visitors from the South West and well beyond. Indeed, when given a list of specific economic benefits, tourism, leisure and shopping were the top three chosen by online respondents.

7.2 People agree generally that the Tamar Valley Railway line benefits the areas it serves; however individual consultees had more difficulty identifying the specific benefits for their organisations. However, the line is used to some degree for commuting and also business trips and it is the contact and connection with customers that emerges as important in both the online and in-depth surveys. Three local businesses that sell carnet tickets for the railway said this has led to extra custom. Overall, 60% of the online respondents said their customers use the line, with 13% of these using the line a lot.

7.3 Our research suggests that the line plays an important role connecting students with schools and colleges such as City College Plymouth, but feedback from the University of Plymouth suggested that no students used the line to reach them (though this may be a result of them living closer to or in Plymouth).

7.4 The in-depth research with stakeholders puts a strong spotlight on:

- the value of the line in connecting people to Plymouth – particularly in connecting employees and students with workplaces and places of learning;
- the invaluable role the line plays in connecting visitors to tourist attractions (and indeed as a tourist attraction in itself);
- a vital form of transport access – specifically quicker and much more direct alternative than routes provided by road to Plymouth; this point has strong marketing potential for the Tamar Valley Railway line in encouraging modal shift and new passengers.

Appendix D: Background to Evaluation Methodology & Rail Evaluation Studies Elsewhere

1. Evaluation of Rail – General

1.1 Many valuation studies of transport interventions are intended to provide an appraisal over a period of time in order to chart deviations from a baseline, using techniques that enable 'like-for-like' or 'before-and-after' comparisons. This is especially employed for periodic cost-benefit studies that seek to value investments over a period of time against 'returns' that may be social, economic, or environmental.

1.2 Much of the evaluation work that has been undertaken on rail services and infrastructure projects is primarily concerned with presenting a cost-benefit case that might be used to justify or appraise an investment in a new or upgraded service by weighing this outlay cost against fares revenues and a range of additional benefits that can be monetised in a way to allow a mathematical cost benefit ratio to be arrived at. Many of the most common appraisal and evaluation techniques e.g. Treasury Green / Magenta Books, Transport Analysis Guidance (WebTAG) are designed with this kind of cost-benefit evaluation in mind. These standard methodologies are not entirely suitable for this study of the Tamar Valley Line, however, although some aspects of these approaches have been utilised.

1.3 This valuation study has been commissioned by DCRP to further inform its own objectives (primarily to sustain and increase patronage on the adopted rail lines). As DCRP is not the funder or operator of the service, the valuation required is not part of a process that seeks to ascribe a precise financial value (return) against a capital contribution and amortised ongoing operational costs (investment). Unlike some railway lines, the valuation applies only to passenger services as freight is no longer conveyed on the route.

1.4 The interest of the DCRP is to obtain a valuation of the service by its user communities – this will indicate the relative values that are placed on the service by its local stakeholders and will present a "snapshot" rather than a data set that is designed to justify a specific investment return. The valuation will, however, form a primary evidence base of why the service is worthy of continued development and growth. Where useful, this study has considered some of the issues that are raised by the option of an extension of the service to Tavistock – these are restricted to the likely implications for users and the communities involved, and no attempt has been made to apply the cost-benefit framework to this matter.

2. Challenges of Rail Valuation

2.1 Valuation analysis of passenger transport is limited by

a) the data that is available,

b) that which can be gleaned or collected, and

c) how sound any assumptions can be in respect of information that cannot be readily obtained.

2.2 Rail offers more limited scope in identifying journey purpose than other modes. Community transport / demand responsive transport offers the greatest scope because each journey origin and destination is logged; conventional bus services are less precise but some assumption can be made where, for example, bus stops serving specific sites (hospitals, colleges, trading estates) enable journey purposes to be identified.

2.3 Rail services, with only station-to-station connectivity, require more detailed investigation regarding travel habits, hence the emphasis on passenger surveys as the primary data source. The only assumptions that can be made relate to journeys for commuting purposes – the majority of patronage of the services at peak commuting times are workplace or education journeys. Disincentives such as reduced likelihood of getting a seat, and higher fares at peak, have the effect of reducing travel for other purposes on services before, say, 09.00. Off peak journeys, whilst still providing for workplace and education purposes, are likely to be for other reasons.

3. Previous Approaches to Rail Evaluation - General

3.1 A recent document from Scottish Government *Guidance for the Evaluation of Rail Projects* (2015) states as part of its literature review that: *"Very few government funded ex-post evaluations of rail projects had been carried out at a Scottish, UK or even at European level. Most evaluations of rail projects were carried out only one to two years after roll-out, resulting in patchy information on the impact of schemes."*[25]

3.2 Some studies have taken a 'before' and 'after' approach to the analysis of travel habits following specific service improvements, such as the 2008 *Highland Rail Partnership Invernet 1 Rail Evaluation Study*[26] which sought to analyse journey origins and destinations and evaluate the benefits of the service for the passengers, rather than the Government investment levels.

3.3 Community Rail Partnerships, under the auspices of the Association of Community Rail Partnerships (ACoRP) have benefited from a range of case studies and evaluation guidance, such as the *The Value of Community Rail Partnerships* report (2008) and more recently *The Value of Community Rail Partnerships and The Value of Community Rail Volunteering* (2015). The focus of these has mostly been on undertaking an evaluation of the functions of the Partnership itself (such as volunteering and marketing effectiveness), and infrastructure improvements.

3.4 Less common are studies which seek to exclusively measure the more holistic impacts that benefit the communities that are served by a particular rail line.

[25] https://www.transport.gov.scot/public-transport/rail/evaluation-of-rail-projects/
[26] http://www.fofnl.org.uk/newsletters/0508/050803.html

The principle difficulty here is firstly data availability – much valuable activity is not subject to any kind of formal or organised collection or reporting. Secondly, where community benefit can be identified and defined (and even quantified), it is difficult to apply measurement or valuation in any precise way.

3.5 Previous studies that are more closely aligned to the present requirements of DCRP are:

- *Valuing Rural Rail Branch Lines* (Department of Geographical Sciences, Plymouth University 1996) – this is an early guide to rural rail evaluation which sets out a coherent approach that considers the following aspects:
  - Revenue Value – fares generation;
  - Economic Spin-Off Value – impact on local economy, and how this generates through several levels of supply and demand;
  - Employment Value (direct and secondary) – rail industry workers, plus employment resulting from economic activity stimulated by railway;
  - Environmental Value – a range of impacts that reduce environmental damage and risk;
  - Social Value – benefits for communities and individuals;
  - Potential Accessibility Value – how the rail network contributes to accessibility planning.
- *What Use are Rural Railways? - The Social, Economic and Environmental Benefits of Rural Railways* (Transport 2000 Trust in association with Transport Research & Information Network, 1997) and *The Social, Economic and Environmental Benefits of Rural Railways* (Transport 2000 Trust in association with Transport Research & Information Network, 1998)[27] – although now 20 years old, these related reports (which have much material in common) include useful historic background on rural rail issues, and evaluation approaches. They also include case studies to present the overall case for the benefits of rural rail services in general, including Devon's Barnstaple line. They seek to present the value of rail as part of the wider transport network but do not attempted any monetisation of this value.

[27] https://acorp.uk.com/research-projects/archive/past-reports/

- *The Economic Value of Rail in the North of England* (PTEG / SYSTRA 2014)[28] – this study looks at the benefits and impacts of the whole rail network in the North of England (using demographic and patronage statistics) and argues that the rail network provides £4.30 of economic value for every £1 of government support.

- *What is the Contribution of Rail to the UK Economy?* (Rail Delivery Group / Oxera 2014)[29] – an overall assessment of the economic impact of rail at a national level, this provides some useful methodology to enable monetisation of some rail benefits.

- *Larkhall – Milngavie Railway Project Evaluation Study* (SYSTRA, 2015)[30] – although concerned with the cost-benefit analysis, this report includes some consideration of economic benefits.

3.6 Aspects of these studies have been considered and in some cases adapted into the valuation framework employed here for the Tamar Valley Line.

[28] http://www.urbantransportgroup.org/system/files/general-docs/The%20Economic%20Value%20of%20rail%20in%20the%20North%20of%20Englandv_FINAL_0.pdf.
[29] https://www.oxera.com/getmedia/802a4979-8371-4063-ad24-8a81ed6c8f82/Contribution-of-rail-to-the-UK-economy-140714.pdf.aspx?ext=.pdf
[30] http://www.starconference.org.uk/star2015.html