

Camel Valley Active Travel Network Feasibility Study

September 2024



About Sustrans

Sustrans is the charity making it easier for people to walk and cycle. We are engineers and educators, experts and advocates. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute. Sustrans works in partnership, bringing people together to find the right solutions. We make the case for walking and cycling by using robust evidence and showing what can be done. We are grounded in communities and believe that grassroots support combined with political leadership drives real change, fast. Join us on our journey. www.sustrans.org.uk

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Our vision

A society where the way we travel creates healthier places and happier lives for everyone.

Our mission

We make it easier for people to walk and cycle.

How we work

- We make the case for walking and cycling by using robust evidence and showing what can be done.
- We provide solutions. We capture imaginations with bold ideas that we can help make happen.
- We're grounded in communities, involving local people in the design, delivery and maintenance of solutions.

What we do



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1 Introduction

Purpose of this study

This study, funded through the Community Capacity Programme which is part of the central Government's Shared Prosperity Fund, will assess the feasibility of the proposed Camel Valley Active Travel Network.

The network aims to build on the success of the existing Camel Trail from Padstow to Wenfordbridge via Bodmin, as well as the existing public transport network, thereby providing more of the Camel Valley region with increased multi-modal transport choice.

The network aims to do so through the strategic utilisation of interconnecting rural lanes that are already low-traffic; this study includes an assessment of the potential "network impact" of the routes on the wider transport network.

The study will:

- Build a strategic case for the network.
- Conduct and analyse traffic surveys.
- Appraise the network & its capacity to provide routes that are safe to navigate for everybody aged 8 to 80 and beyond.
- Detail likely design solutions.
- Detail potential solutions for more feasible routes where the routes are deemed unfeasible.
- Detail the next steps in developing the routes.

Excluded from the scope of this study is the following:

- An analysis of the routes through urban areas, including Bodmin, Camelford & Delabole.
- A full appraisal of any recommended traffic-free route.
- An appraisal of any existing traffic-free routes such as the Camel Trail or the Bodmin Parkway link.



2 Background and context

Active travel in the UK

In July 2020 the UK government published 'Gear Change: a bold vision for cycling and walking' outlining its intent to make cycling and walking the natural first choice for many journeys with half of all journeys in towns and cities being cycled or walked by 2030.

The plan - backed up by new funding for walking and cycling - sets out a vision for a step change in provision for active travel in this country.

The report notes the contribution made by active travel to:

- Health and well-being
- Easing congestion
- Increasing footfall for local businesses
- Reducing transport CO2 emissions
- Improving environmental and air quality

In addition, the government's second cycling and walking investment guide issued in 2022 sets out four objectives for 2025, to:

- Increase the percentage of short journeys in towns and cities that are walked or cycled to 46% in 2025
- Increase walking activity
- Double cycling
- Increase the percentage of children aged 5 to 10 who usually walk to school to 55% in 2025.

Active Travel in Cornwall

Cornwall is a region of poor transport infrastructure and high car dependence leading to large numbers of road collisions. This is highlighted by the Thriving Places Index; Cornwall scored 3.77 in 2022 for Transport which is low for England (1).

Cornwall Local Transport Plan

By 2030, Cornwall Council's ambition set out in the Cornwall Local Transport Plan (CTP) is for at least 50% of journeys under 5 miles to be completed via active travel, reducing transport emissions by 7%.

The plan also requires a 100% (doubling) increase in the number of people using public transport, reducing transport emissions by 10%. The following figure provides the hierarchy of priority given to road users under the plan.

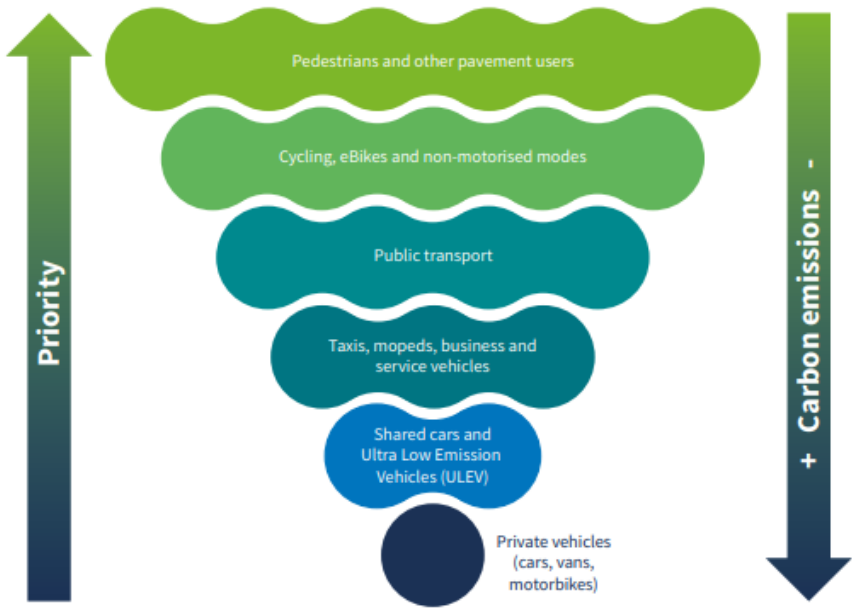


Figure 2.1 Modal hierarchy set out in Cornwall Transport Plan

20mph Roll-out

Agreement to deliver a county-wide 20mph speed limit roll-out programme received Cabinet approval in March 2023. The programme is being delivered across 4 years, reducing speed limits to 20mph in built up areas across the county.

The benefits to communities include:

- Making our streets safer; reducing casualties and community inequality.
- Increasing child and adult activity levels; improving health and wellbeing.
- Providing a safe environment; encouraging more people to walk and cycle.
- Supporting climate change declaration; lowering emissions and tackling congestion.
- Creating a stronger sense of place.

Cornwall has already delivered phase 1 of the programme, reducing speed limits in Camelford, Falmouth & Penryn. In April 2022, over 75% of the feedback from residents was positive, with positive reductions in mean speeds also recorded.

The roll-out is expected in the Cornwall Gateway in 2024/25 and in Wadebridge, Padstow & Bodmin in 2026/27.

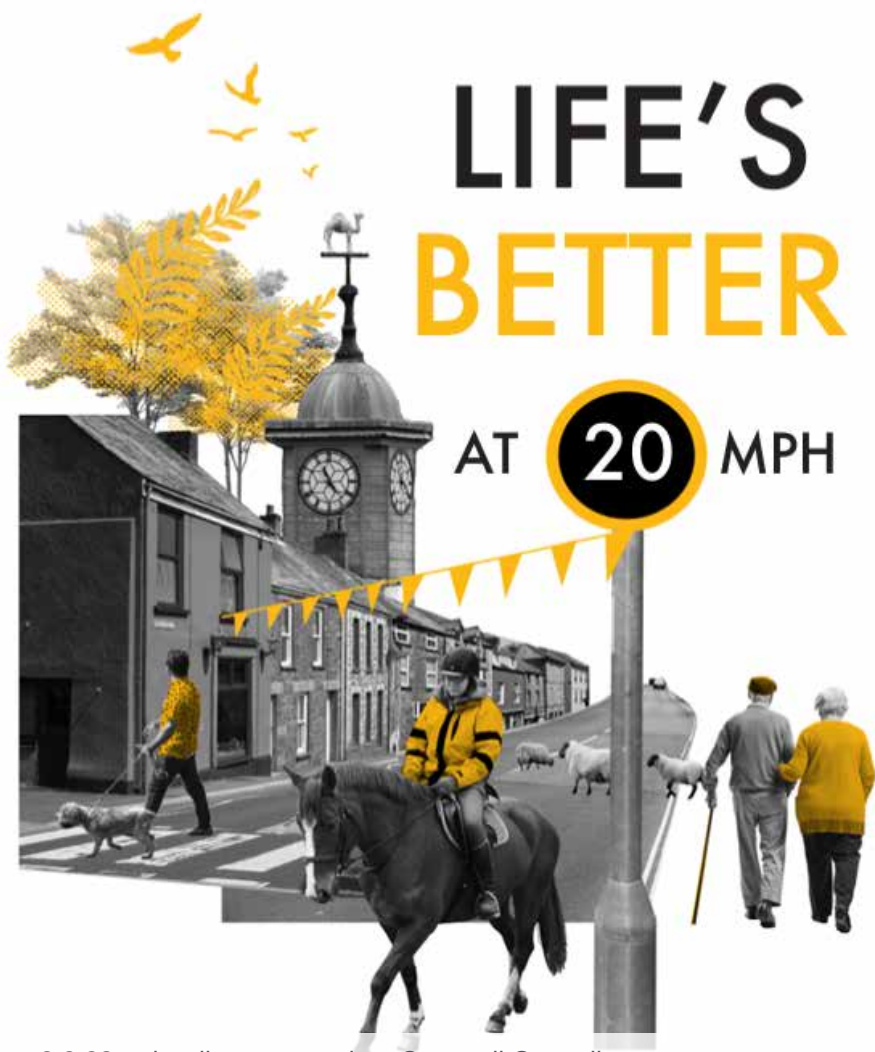


Figure 2.2 20mph roll-out campaign, Cornwall Council

Cornwall Council Business Plan 2022-2026

The mission: "working with communities for a carbon neutral Cornwall, where everyone can start well, live well and age well."

The plan makes the following priority outcomes, which each have an outcome delivery plan (ODP):

- A brilliant place to be a child and grow up.
- A thriving, sustainable Cornwall that offers a secure home, a decent income and a great environment for all.
- Vibrant, safe, supportive communities where people help each other live well.
- Supported by an empowering and enterprising Council that offers a consistently excellent customer experience and delivers great value for money.

Vision Zero South West

The South West Peninsular Road Safety Partnership Casualty Reduction Strategy (2020 - 2030) set out under Vision Zero South West, states that “perceptions of risk and harm have a direct impact on travel choices and can increase the reliance on travel by car for short distances. Conversely, a road network sufficiently free from harm; risk of harm and fear of harm supports wider environmental and public health ambitions and encourages and sustains the adoption of healthier, active modes of travel”.

It is Cornwall Council’s ambition to cut road deaths and serious injuries to zero by 2040 with an intermediate target to reduce current numbers by 50% by 2030. This ambition is part of the wider work being done by Vision Zero South West.

This ambition is particularly challenging in the rural context. The road safety charity, Brake states that:

“More than half of fatal crashes in Britain occur on rural roads. Per mile travelled, rural roads are the most dangerous roads for all kinds of road user”

“Speed is often a major factor in rural road crashes” with “Cyclists almost three times as likely to be killed on a rural road than an urban road”.

Safe Systems Approach

Vision Zero South West adopts the “Safe Systems Approach” to achieving this ambition of zero road deaths. The approach focuses on ensuring safe streets, safe speeds, safe vehicles and safe people, moving away from the traditional approach of engineering, enforcement, education and emergency services. Figure 2.3 details the Safe Systems Approach from the Vision Zero network website including what is means by “Safe Streets” and “Safe Speeds”.

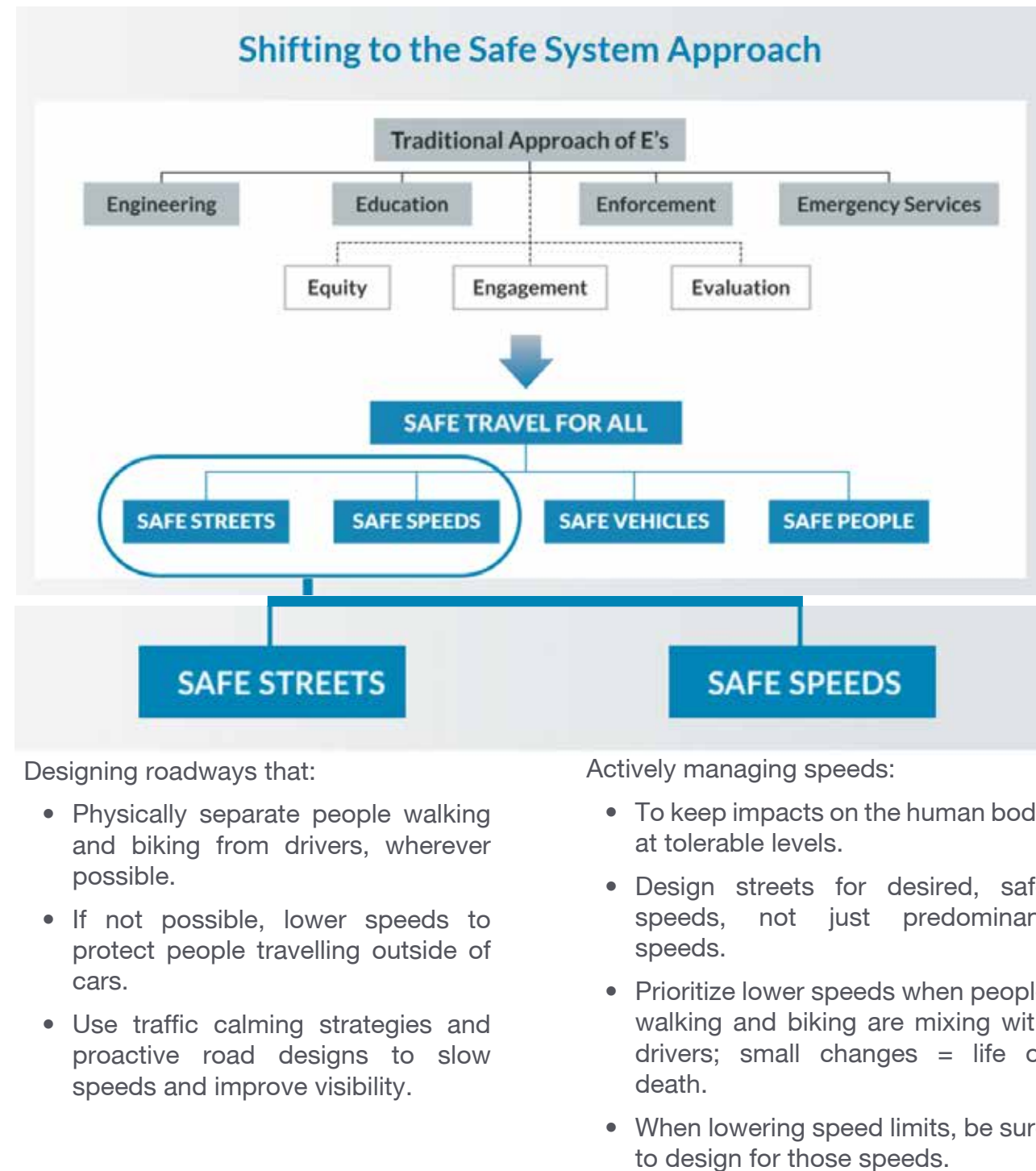


Figure 2.3 The Safe Systems Approach as defined by Vision Zero Network



Active Travel in the Camel Valley

1. Camel-Tarka Link report, 2005

Sustrans and the Institute of Transport & Tourism produced an economic assessment of the potential “Camel-Tarka Link” and a market feasibility study.

The study concluded that “a trail network that appeals to tourers as well as day and holiday cyclists would enable... gain[s] from an existing visitor base established by the Camel and Tarka trails over the last twenty years, but also to develop into other markets”.

2. Impact Assessment of the Camel Trail report, 2016

Commissioned by Cornwall Council, this report assessed the economic impact of the Camel Trail in 2016, including on employment and income in the area.

The study concluded that the user spend generated £13 million pounds of business turnover and supported approx. 260 actual jobs. The study found that the Camel Trail is a well used and well loved route by both residents and visitors, receiving almost 500,000 visits in 2015 with the majority of users cycling. It also found that the majority of users (79%) feel any future increase in capacity will have a negative impact upon their enjoyment of the trail, indicating that demand is on the verge of exceeding capacity.

3. The North Cornwall Trail Feasibility Study, 2021

This study investigated the opportunity to develop a former railway line into a multi-user route linking Wadebridge & Bodmin to Launceston. The study concluded that the following sections are of the highest value in the study area, whilst also being the least challenging to deliver:

- Delabole to Camelford Link.
- Port Isaac Road Station to Delabole.
- Delabole to Slaughter Bridge.

The following routes were deemed high value but very difficult to achieve (and could therefore instead be Quiet Lanes):

- Wadebridge to St Kew Highway.
- Camel Trail Extension from Wenfordbridge to Camelford.
- Launceston to Lifton.

It should be noted that Wadebridge to Sladesbridge/St Mabyn would be more deliverable and of high value still, and therefore the option to develop this traffic-free route has been included in the network.

This study provides an alternative option for developing an extension to the Camel Trail from Wenfordbridge to Camelford via Quiet Lanes.

4. Wadebridge & Padstow Local Cycling and Walking Infrastructure Plan (LCWIP), 2024

Cornwall Council commissioned Sustrans to develop an LCWIP for Wadebridge, Padstow and the surrounding region, which included Rock.

The study was mainly focussed on travel within the towns of Wadebridge & Padstow, however did highlight the importance wider links outside of the towns, including Quiet Lanes:

- Padstow to Rock.
- Rock/Pityme to Wadebridge.
- Wadebridge to Sladesbridge.
- Camel Trail to St Issey.
- Padstow to St Merryn/Trevone.

5. Riders, Walkers and Wheelers in Devon and Cornwall: What they want from National Highways, 2024

Transport Focus, an independent watchdog representing the interested of the users of National Highways’ roads, undertook an investigation of the network around the A30 between Bodmin and Trewint and provided recommendations for improvement to infrastructure to support connectivity in the area for those walking, wheeling, cycling or horse riding. The research, which involved key local stakeholder engagement, highlighted the issues of severance for walkers, wheelers, cyclists and riders along this section of the A30, with the existing infrastructure not sufficiently supportive.

The recommendations include:

- Increasing parapet heights on the over bridges.
- Reconnecting severed bridleways.
- Working with Sustrans to support the introduction of Quiet Lanes in the region, including traffic calming and speed limit reductions.
- Introducing additional crossings over the A30 where there is demand.

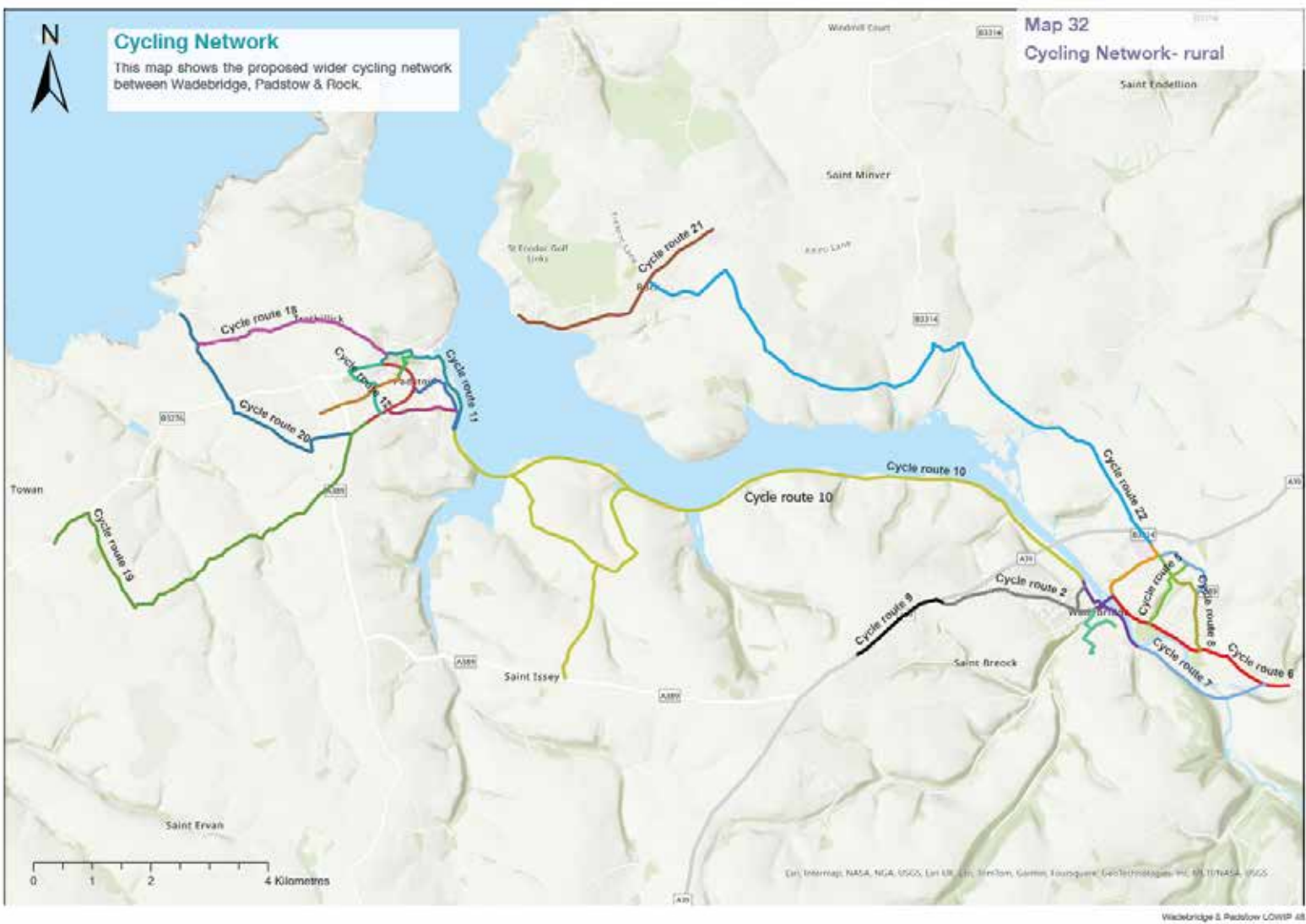


Figure 2.4 Wadebridge & Padstow Cycling Network (LCWIP)

Camel Valley Community Area Partnership

The boundaries of the Camel Valley Community Area Partnership can be seen in figure 2.5.

Some statistics relevant to transport, from the Cornwall Council Camel Valley CAP “Know your area” presentation (3):

- A specific challenge identified in the document was rural inequalities including access to services.
- 44% of the population are rural residents, compared with 34% across Cornwall (highlighting the potential challenges with respect to transport).
- Average travel time to the nearest hospital is 104 minutes versus 69 minutes across Cornwall.
- Average distance to a job centre is 9.7km.
- There is a higher number of youth unemployment claimants (aged 18-24) across the CAP than across Cornwall (4.1% versus 3.7%), with Bodmin at 5.6%. Transport poverty could be a key reason.

Camelford Neighbourhood Development Plan (NDP)

The NDP (2020-2030) Policy 3A supports plans for a Camelford bypass, noting the significant pollution and congestion problems the town faces with the A39 running directly through the centre of the town.

Any plans for a bypass should be developed alongside town-scale improvements to active travel, that enhance and recommendations from this report, which would align with Policy 3b to improve the air quality, and enhance and improve footpath and cycle path connections.

The policy states “proposals to enhance and improve footpath and cycle path connections around Camelford will be encouraged”.

Policy 3C suggests that Camelford’s bus service is limited and variable, suggesting the town could be facing transport poverty.

Policy 3D supports the provision of a pedestrian route alongside the B3266 to connect to the schools.

St Minver NDP

The plan emphasises the importance of strengthening transport resilience by reducing congestion, addressing traffic speed, improving parking and improving the footpath and cycle-path networks, recognising crucial links with Wadebridge for employment, school, leisure, retail and tourism.

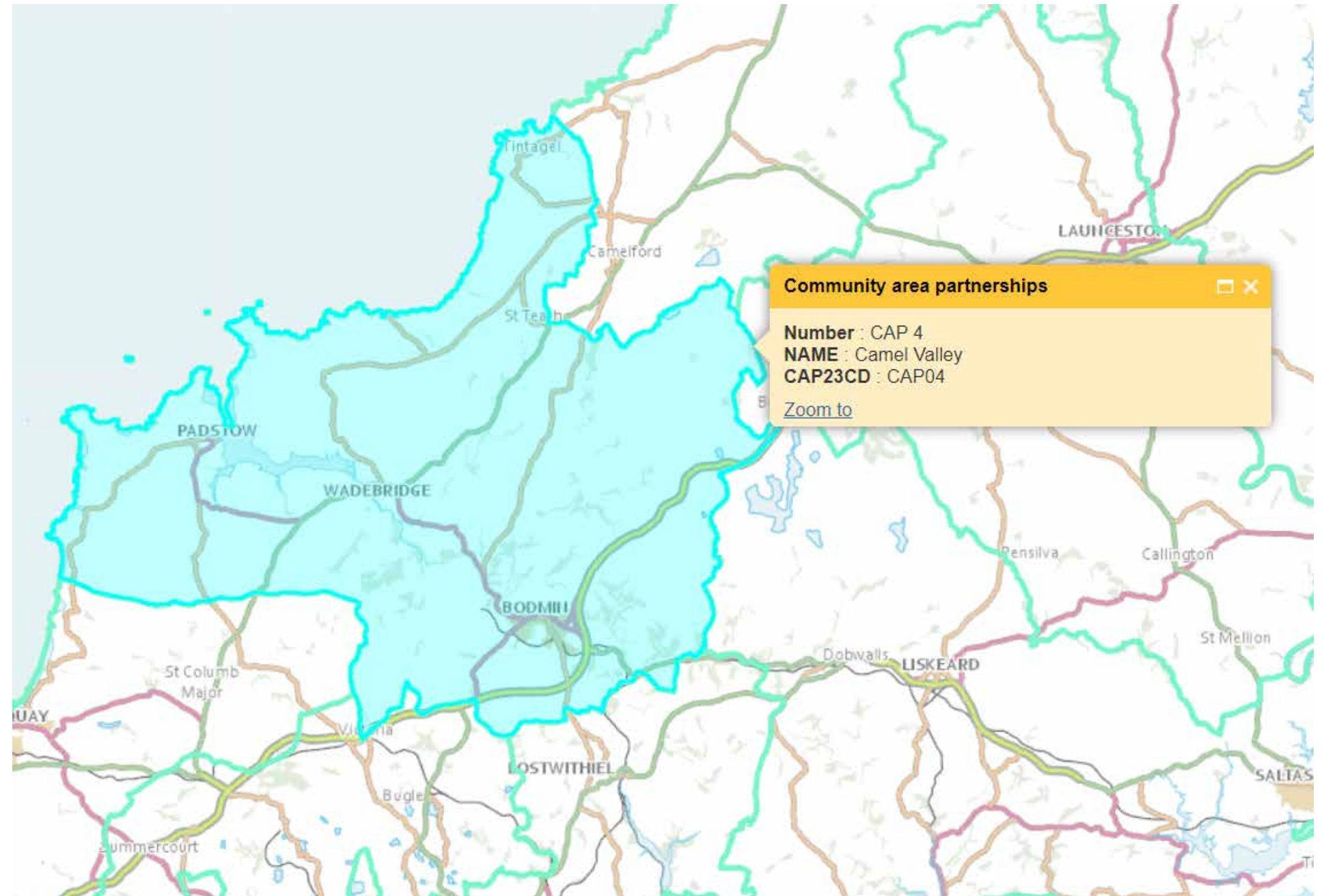


Figure 2.5 Map of the Camel Valley Community Area Partnership area

3 Quietways

What are Quietways?

Quietways are either:

- Rural lanes, where motor traffic speeds and volumes are sufficiently low for people walking, wheeling, cycling or horse riding, to comfortably share with motorised traffic. These can be formally designated as ‘Quiet Lanes’.
- Streets in built up areas where volumes and speeds of motor vehicles are low enough for people cycling to comfortably share the carriageway with motor traffic. In this situation people walking and wheeling will often be accommodated by one or more footways.

What are the key Design principles?

Key design principles are summarised below:

- In built-up areas where people are expected to cycle on the carriageway, motor vehicle volumes should be lower than 2,500 average passenger car units (PCU) per day. The speed limit should be 20mph, and people in motor vehicles should generally be driving at or below the speed limit.⁴ Where no footway is provided, the motor vehicle volumes or speeds may need to be significantly lower than this. In addition, peak flows should not be more than 10% of the 24-hour flow.
- In a rural setting achieving speeds of 20mph may be difficult, and so shared routes with speeds (and a speed limit) of up to 30mph will generally be acceptable with motor vehicle flows of up to 1,000 PCU per day. Again, peak flows should not be more than 10% of the 24-hour flow.
- People walking, wheeling, cycling (and where appropriate horse riding) should feel safe and comfortable to use the route, and all users should be aware of who they are sharing the surface of the lane or street with, with signage and markings used where appropriate.

How can existing streets, lanes and roads be made into Quietways?

Where existing volumes or speeds of motor vehicles are currently higher than this, these can be reduced through a variety of measures. These should be appropriate for the specific location, and can include:

- Lowering speed limits
- Quiet Lanes designation and signage (for rural lanes)
- Modal filters to prevent some or all private motor traffic passing along a street or lane
- Centre line removal, and/or reducing carriageway widths
- Surface changes and treatments
- Physical traffic calming features, such as speed cushions and build-outs
- Junction priority changes
- Changes in signage, including adding gateway features.

It is important that local communities are engaged in the process to achieve local support and make sure the solution meets the needs of all users. This is especially the case for some measures such as Quiet Lanes designation and modal filters.

What are the advantages of Quietways over Traffic-Free provision?

Quietways are a key solution to connect people for a number of reasons:

- In many places, there is insufficient space to build cycle tracks and other infrastructure next to roads.
- Traffic-free provision, such as cycle tracks or shared use paths, is often significantly more costly to implement. It also typically results in significantly more carbon emissions and environmental impacts from construction.
- Creating Quietways can help to create healthier streets. When volumes and speeds of motor vehicles are low, it is more typically a space that is desirable for people to spend time in as well as travel through.
- A Quietway is more likely to be overlooked and have natural surveillance than an isolated greenway, and therefore some people may feel safer (especially at night) to use one.

In particular, Quiet Lanes can help facilitate a rural modal shift though making people feel safer when using what are often already lightly trafficked lanes for walking and cycling. Within towns and cities, Quietways can also form a key element of the network, including by connecting people to and from the core routes in a local cycling network.



Figure 3.1 Examples of rural Quiet Lanes in the UK

Where can I find out more?

Key sources of design guidance are listed below:

- Local Transport Note (LTN) 1/20 – Cycle Infrastructure Design
- Manual for Streets and Manual for Streets 2
- CIHT Designing for Walking
- Traffic Signs Manual
- Inclusive Mobility
- Active Travel England Design Assistance and Scheme Review Tools
- Local Transport Note (LTN) 1/07 – Traffic Calming
- Traffic Advisory Leaflet 3/04 – Quiet Lanes

Design Process

Figure 3.2 sets out the process for determining the feasibility and the likely design criteria for a potential Quietway.

Key design features crucial to the success of Quietways include traffic calming (where speeds are too high) and traffic volume reduction (where there are too many vehicles).

Where Quiet Lanes are not deemed feasible, alternative routes should be sought, either by alternative Quiet Lanes, or the development of traffic-free routes.

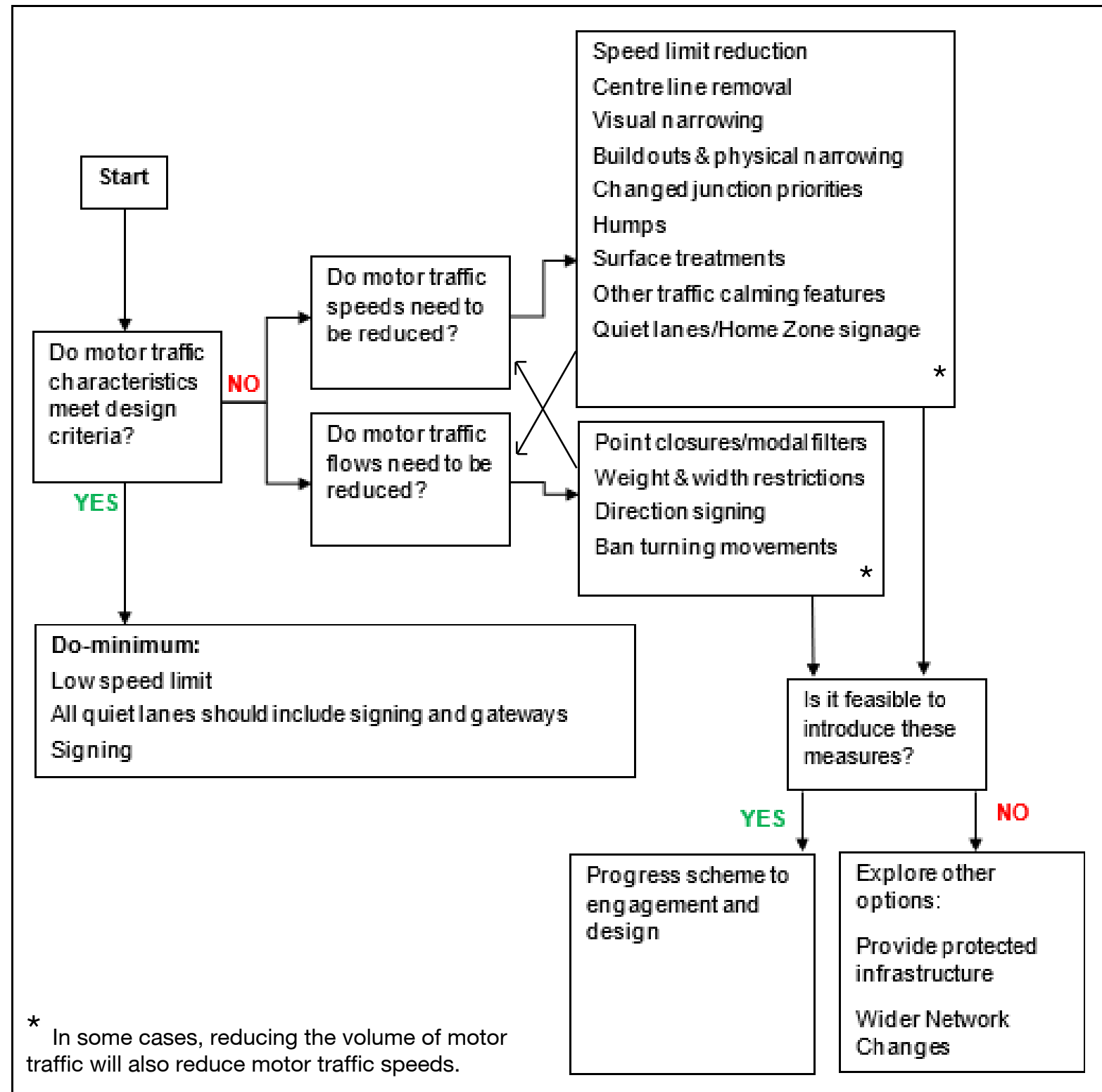


Figure 3.2 Quietway Design Process

Under-utilised Lanes Opportunity

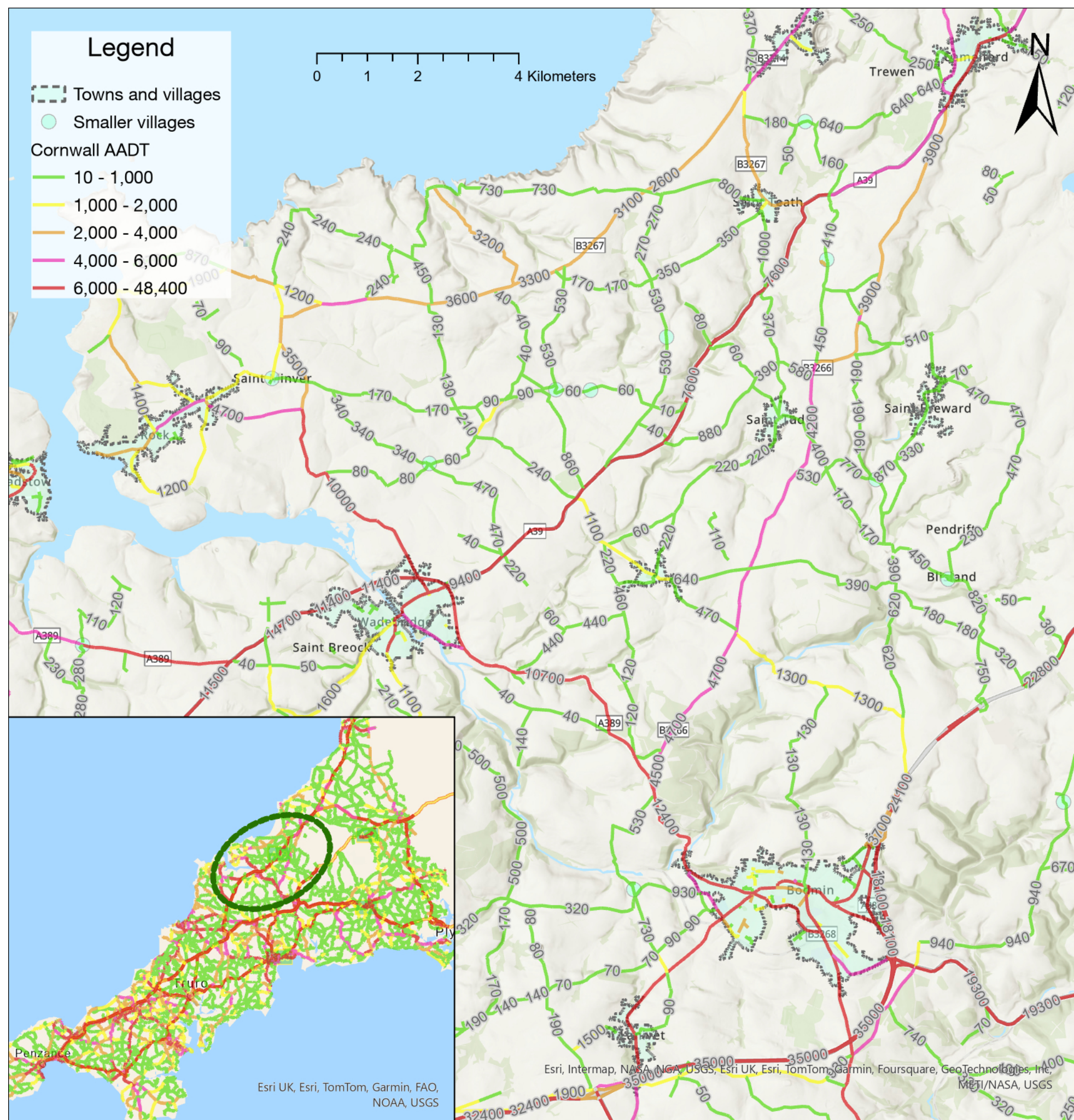
The routes highlighted green indicate roads in the Camel Valley region and across Cornwall that already have sufficiently low-volumes of traffic to meet the Government's volume criteria for mixed road-use (i.e. mixing walking, wheeling, cycling and driving).

However, due to a variety of reasons, these routes are not safe (both actual and perceived) and are therefore currently under-utilised, serving only a few types of road-users. “Feeling of Safety” is a key indicator in Active Travel England’s Route Check Tool, which considers 85th percentile speeds, uncontrolled crossings and volumes of motor-vehicles without segregated infrastructure.

By improving the safety (both actual and perceived) and accessibility of a network of existing under-utilised rural roads, we can provide many communities with the option to travel actively, without impacting negatively on their needs to also travel by car. As highlighted in chapter 2 of this report, speed reduction is key to achieving actual and perceived safety.

Quiet Lanes offer an alternative to traffic-free paths, that can be lower cost, and lower carbon by improving existing under-utilised infrastructure. This is particularly important for rural communities, where traffic-free alternatives (such as the development of old railway routes) have been deemed too expensive/ difficult in the short term.

NB. The data used in this visualisation is data from Cornwall Council and spans a large time-frame from 1994 to now. It is therefore only indicative of the opportunity presented. Further traffic surveys, as have been done for this study, would have to be carried out to confirm viability of these lanes for Quiet Lane status without traffic reduction.



4 The strategic case

Existing Infrastructure

The Camel Trail

The Camel Trail is a nationally significant route, much loved by the communities it serves as well as the holiday-makers it attracts, with up to 300 users a day on average. Whether learning to ride a bike, trialling an adaptive bike from one of the many businesses along the route, taking the dog for a walk or commuting to work or school, the trail has a purpose for everyone owing to its accessibility, attractiveness, comfort, safety and cohesion.

An Active Travel Network for the Camel Valley region marks an opportunity to connect more people to this trail, as well as alleviate the growing pressures on the trail (an issue raised during the engagement process of the Wadebridge & Padstow LCWIP). The network would undoubtedly have positive economic outcomes, by building on the existing user-base, as suggested by the Camel-Tarka Link economic study.

The National Cycle Network (NCN)

The NCN connects the Camel Trail to Saint Breward and Camelford. The route is mainly on-road and is considered “poor” in quality by Sustrans whose ambition is to upgrade it be safe for everybody aged 8 to 80, aligning with the ambitions of this study. As has been found in the North Cornwall Trail, a traffic-free option along the River Camel to Camelford would be challenging to deliver, owing principally to ecological and funding challenges. Therefore, a Quiet Lane designation marks a significant opportunity.

Public Rights of Way (PROW)

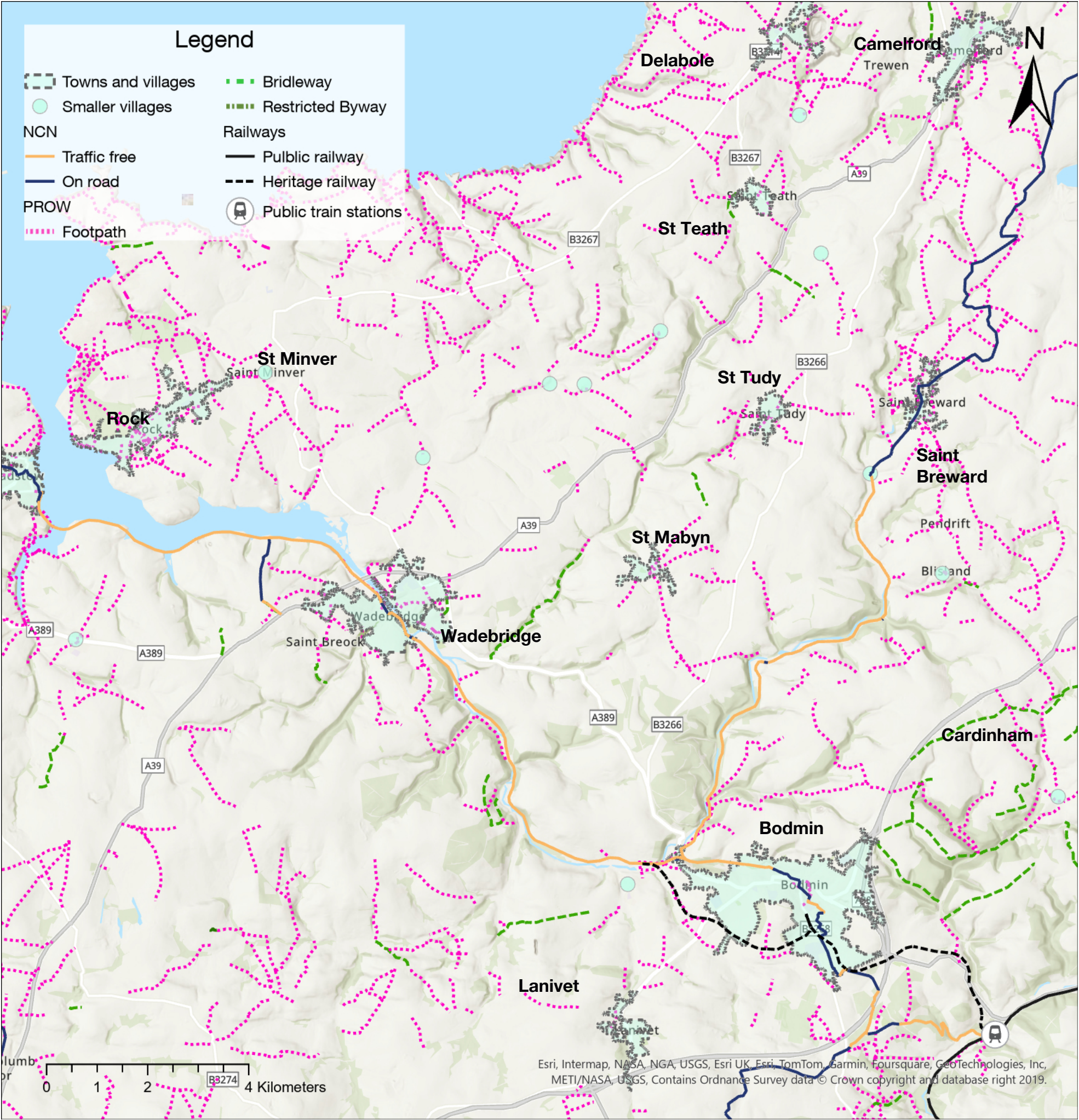
Existing PROW do provide some access to the landscape, however more often than not this access is limited and fragmented; severed by B and A-roads, as well as more minor but still high-speed rural roads and therefore rarely connects people to their destinations.

The PROW are also not accessible to all, and therefore cannot be used by disabled people or families with pushchairs. A Camel Valley Active Travel Network aims to address this inequality of access.

Public Transport

The Camel Valley region is connected to the railway network at Bodmin Parkway and is therefore not a key everyday transport option for the region.

There is a public bus network that serves some destinations in the region, mainly north-to-south connections with some towns, namely St Breward, Cardinham & Blisland no longer served by buses. The region north of Wadebridge and Bodmin is served by 2



buses, Route 95 and 96. Bus route 95 is every 2 hours, from 07:00 to 17:30; the route links Camelford to St Teath, St Kew Highways and Wadebridge in 30 minutes, closely matching the time taken to travel by car. Bus route 96 serves 5 buses per day between Wadebridge and Camelford, significantly longer than Route 95. The route links St Minver & Pityme, Delabole and Camelford.

Better served routes include Bodmin to Lanivet and to Bodmin Parkway, which have hourly services that run throughout the day.

Road Network

The A39 runs between Wadebridge and Camelford, and a series of B roads also run north to south: the B3266 runs between Bodmin & Camelford, and the B3314 between Wadebridge & Delabole via St Minver. These 3 roads act as significant barriers to active travel in the region, with no safe crossing locations.

Figure 4.1 is indicative of the existing design for rural lanes that links the region to the A and B roads. With wide junctions that encourage fast speeds, followed by narrow lanes with national speed limits, levels of real and perceived perceptions of safety for walking and cycling are low. A local desire to make these lanes an attractive place to be is obvious, with picnic benches, viewing spots and public toilets dotted along the rural road network.

The rural lanes in the Camel Valley are currently under-utilised offering the highways authority a poor return on investment for their maintenance costs; a Camel Valley active travel network could bring life to these rural lanes, by creating spaces where people want to be, and travel actively, as well as drive.

Experience from the Netherlands tells us that to improve congestion we must improve options for walking, wheeling or cycling through the provision of good quality infrastructure alongside behaviour change delivery. Indicating the importance of active travel in improving experience for drivers.



Figure 4.1 Rural Lane junction along the proposed network



Use case

Major population centres along the network include Bodmin, with a population of nearly 17000 people, Wadebridge, 7000 and Camelford, 3000.

The Camel Valley region is a thriving region of Cornwall, and improvements to the existing infrastructure to enable active travel could encourage the modal shift that the Cornwall Transport Plan aims to see, as well as boosting the local economy and local health outcomes.

Some of the key trip attractors & generators along the proposed network are:

- 12 rural primary schools (not including those in Bodmin, Wadebridge or Padstow).
- Access to employment centres such as Camelford, Delabole, Wadebridge, Bodmin and Rock, as well as small local businesses & schools.
- Organic grocery stores, and cafés such as the St Kew Farm Shop or the St Teath Village Hall, where locally grown organic vegetables are sold.
- Multiple pubs and live music venues such as the St Mabyn Inn.
- Woodland adventures in Cardinham Woods, an ancient replanted temperate rainforest, including walking, mountain-biking and children's arts and education trails.
- Tourist attractions such as the Delabole slate quarry, the Camel Trail, as well as the 12 rural campsites that can be seen dotted around the region.
- Bodmin Moor, a moorland and the Camel Estuary, both designated as National Landscapes.
- Natural swimming spots such as Delphy Pool.

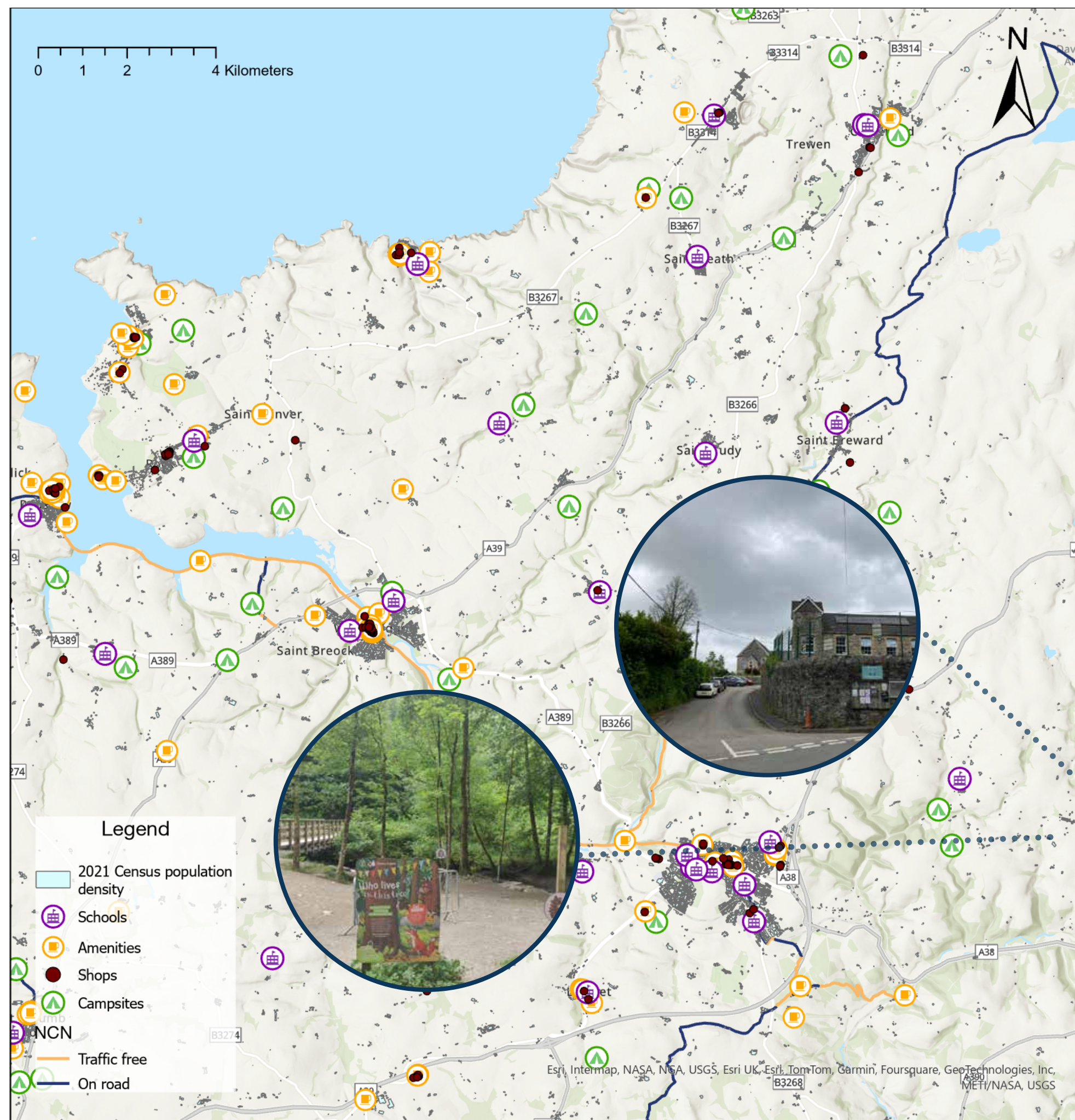
“A brilliant place to be a child, and grow up”

A key aim in the Cornwall Business Plan is “increasing children's physical activity and participation in sports”. Families are therefore encouraged to walk and cycle wherever possible. This project offers a means of enabling this in the Camel Valley; by providing safe routes, we can increase the independence of children living rurally, unlocking their potential.

“A thriving sustainable Cornwall”

This network offers an opportunity to revitalise towns, villages and hamlets across the Camel Valley region, by reducing congestion and boosting economic activity.

The plan also aims to “make our highways safe and healthy with more people choosing to walk, cycle and use public transport” which is directly aligned with the ambitions set out in this report.



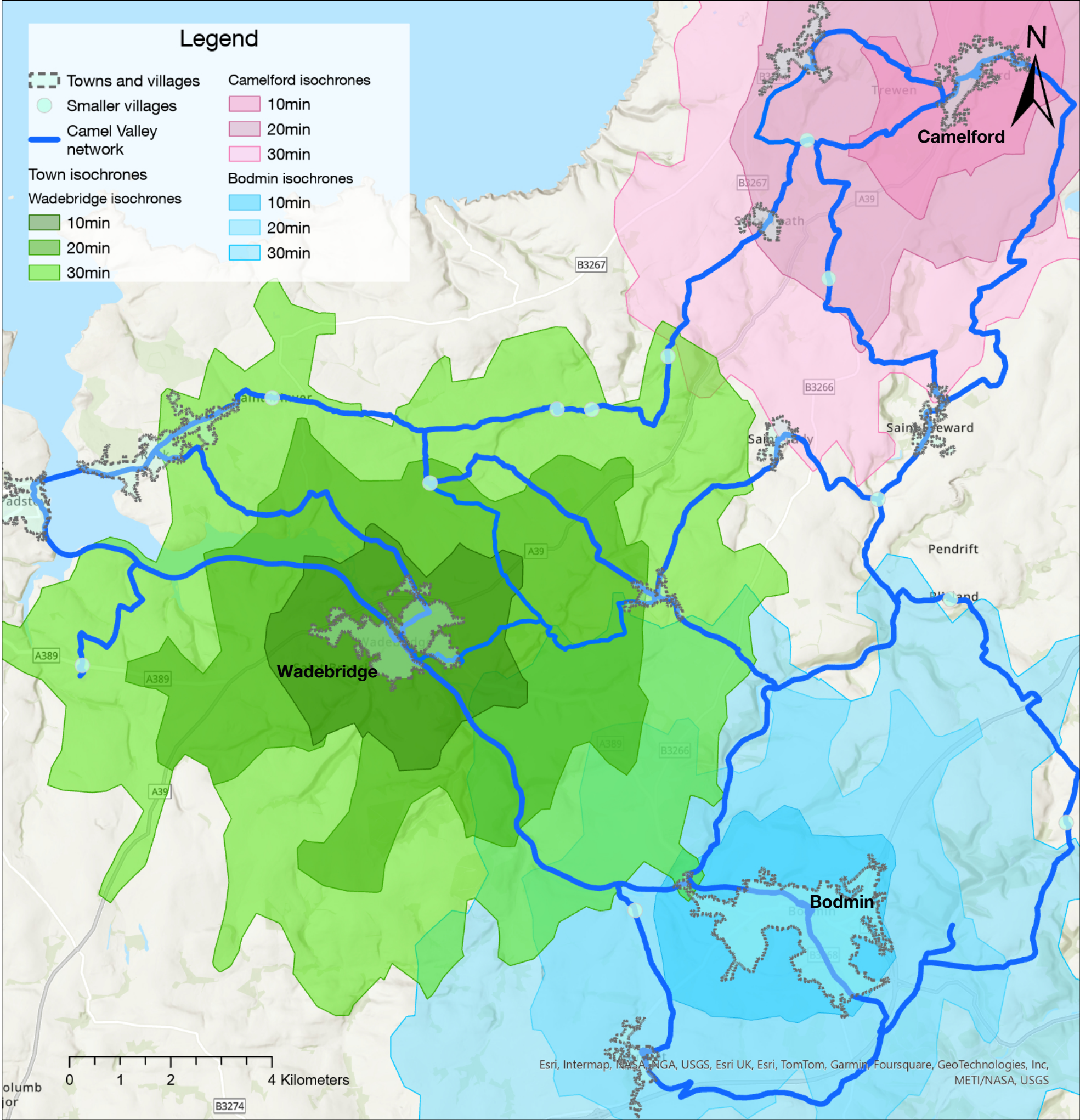
Travel times

The map provides isochrones showing travel times by bike from three of the biggest towns in the study, Wadebridge, Camelford & Bodmin. Each ring highlights distances that can be traveled within 15 minutes.

These isochrones were created using Openrouteservice, developed and provided by the Heidelberg Institution for Geoinformation Technology (HeiGIT) to offer routing services by using user generated, collaboratively collected free geographic data from Open Street Map.

The map highlights just some of the opportunity for short journeys by bike that a Camel Valley Network could unlock.

- <20 minutes:
 - Camelford to Delabole
 - Camelford to St Teath
 - Delabole to St Teath
 - St Tudy to St Breward
- <30 minutes:
 - Bodmin to Cardinham Woods
 - Bodmin to Lanivet
 - Camelford to St Breward
 - Wadebridge to St Maby
 - Wadebridge to St Kew
- <1 hour:
 - Camelford to the Camel Trail
 - Bodmin to Blisland
 - Wadebridge to Rock/ St Minver
 - Wadebridge to St Tudy
- 1 hour:
 - Wadebridge to Camelford
 - Rock to Camelford
- >1 hour:
 - Bodmin to Camelford

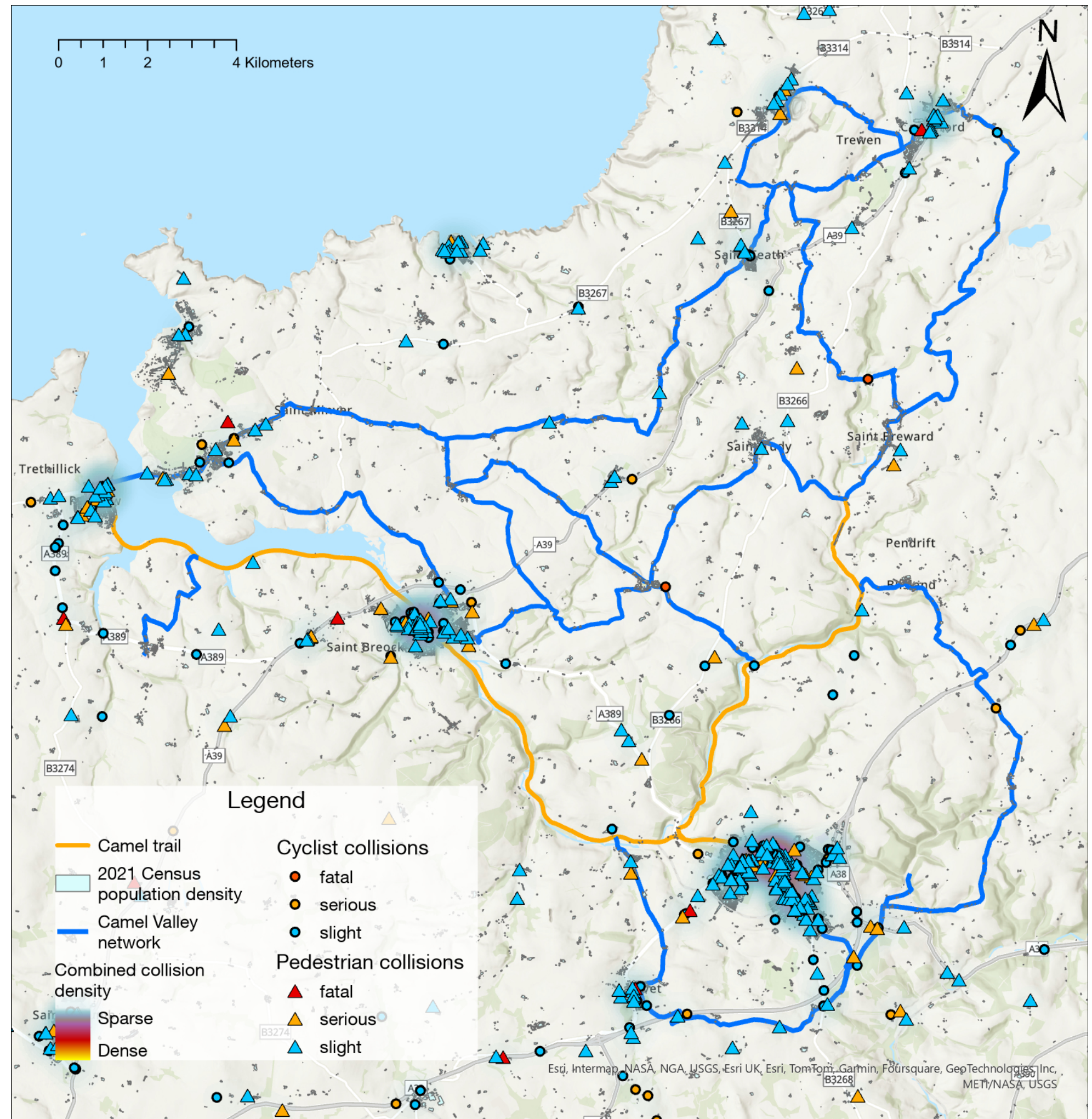


Collision Reduction

The map on this page provides pedestrian and cycle collision data along the routes in the network. The data is from Department for Transport (DfT) and the Police STATS19 database, and dates from the most recent 10 year period available, 2013-2022.

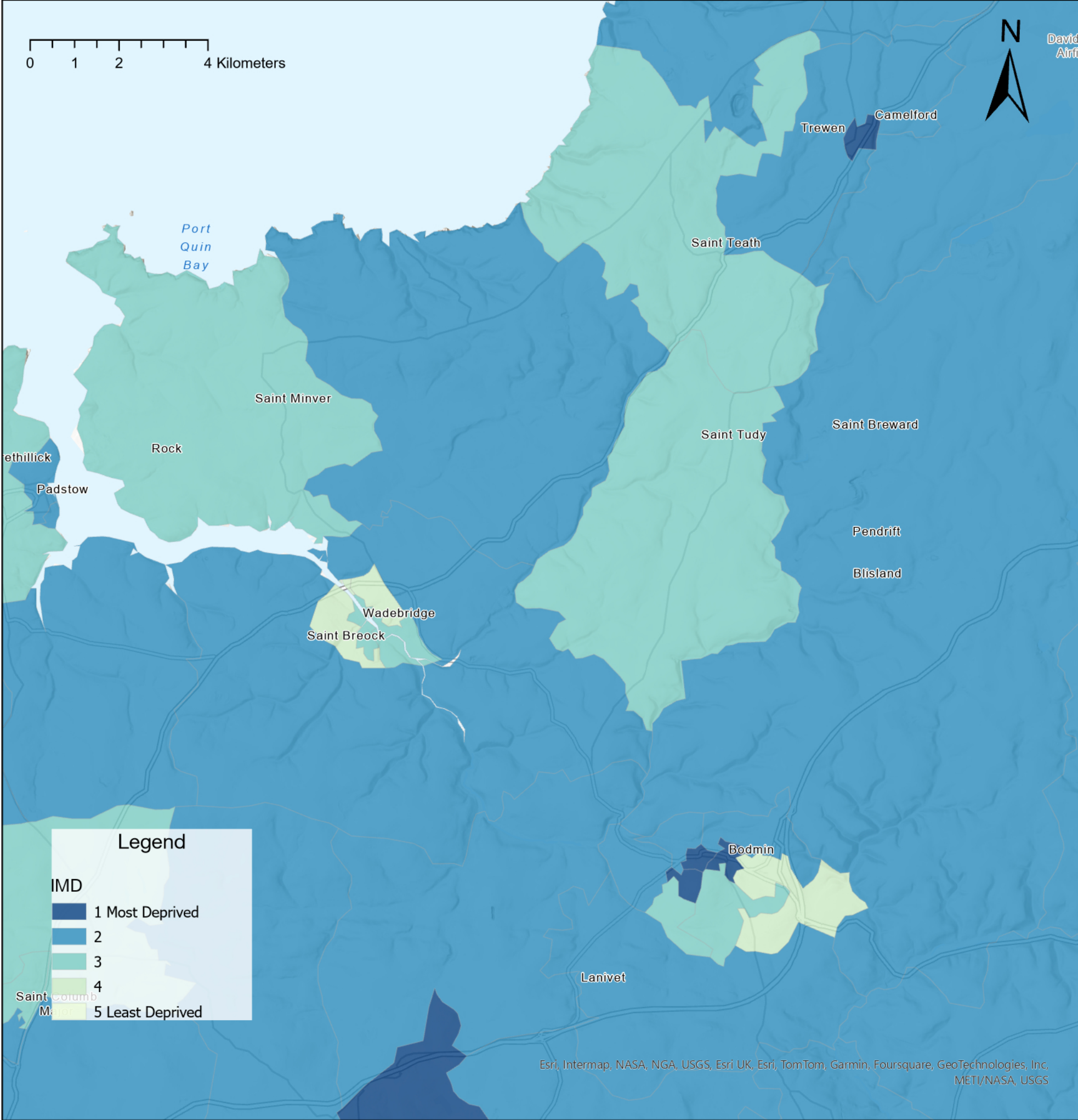
This map highlights two main fatalities that are on the route network. Any work to improve the infrastructure along these lanes will likely have a positive impact on number of collisions in the region aligning with Cornwall Council's goals to reduce collisions to zero by 2040.

The Cornwall Council website states that someone is struck at 20mph they have a 90% chance of survival compared to a 50% chance if struck at 30mph.



IMD

The map provides data for the indices of multiple deprivation (IMD) in the area, showing that significant deprivation exists, with some areas highlighted as amongst the most deprived in England.

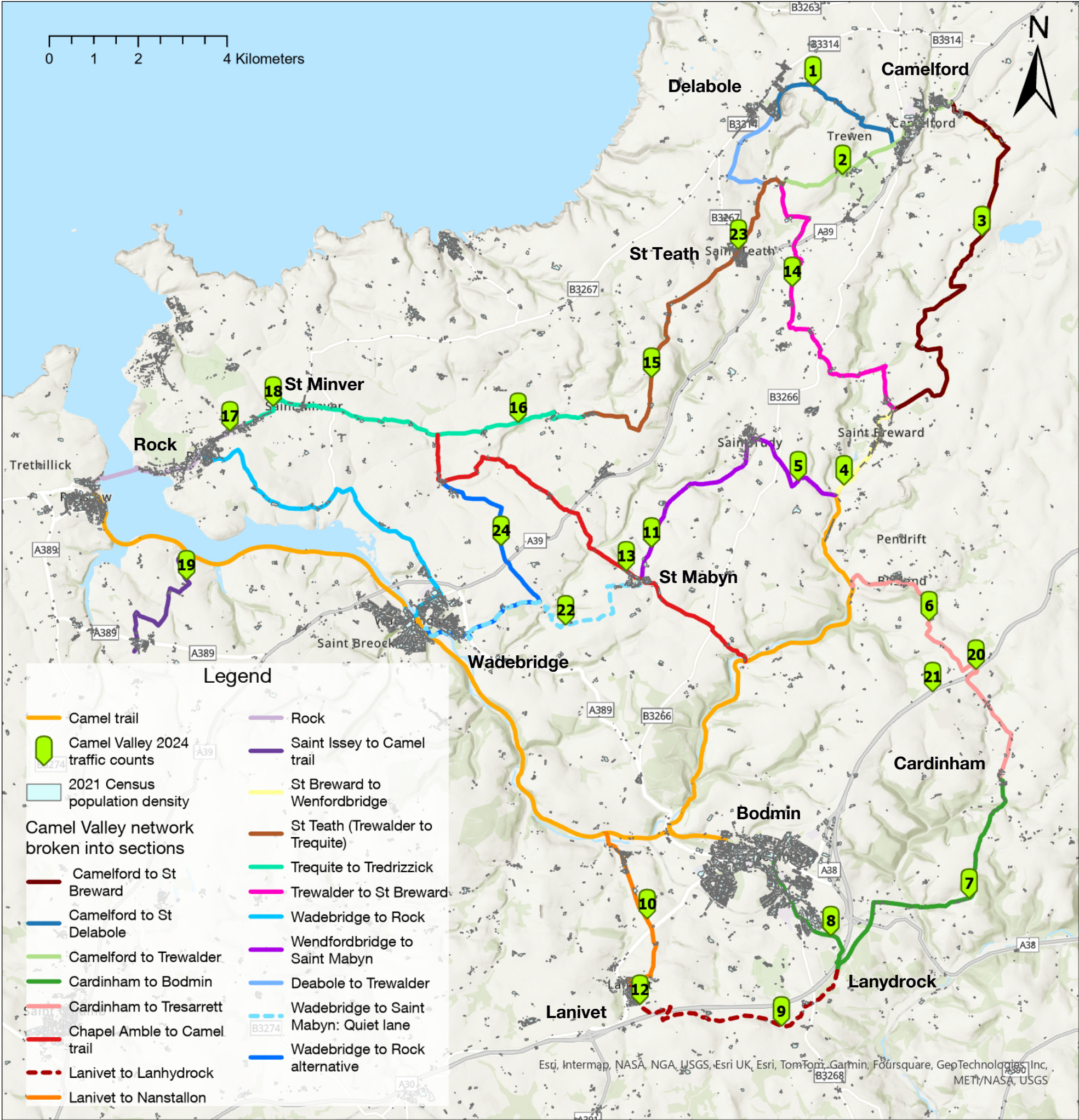


5 Traffic Surveys, 2024

To assess the feasibility of the network, it was broken down into individual routes, to which each was assigned a traffic survey location that was indicative of the nature of the route i.e. would represent the entire route.

Sustrans commissioned the surveys in May 2024, a neutral month, to provide an indication of the average annual daily traffic flows (AADT) and 85th percentile traffic speeds. The results are summarised here.

Count Ref	AADT	85thpercentile speed (mph)	HGV%
1	165	34	1.8
2	113	23	0.88
3	87	19	4.6
4	848	32	14.2
5	819	37	1.7
6	741	31	2.0
7	611	30	1.3
8	144	32	4.9
9	1467	37	1.43
10	1068	37	3.1
11	261	26	0.8
12	139	35	3.6
13	1065	32	1.7
14	233	32	2.15
15	463	32	4.1
16	69	27	11.6
17	4456	31	1.39
18	1140	25	1.22
19	69	21	0
20	439	35	4.6
21	776	32	1.6
22	198	19	19.2
23	1700	30	1.1
24	409	43	2.4



Survey Locations

1 - Camelford to Delabole



2 - Camelford to Trewalder



3 - Camelford to St Breward



4 - St Breward to Camel Trail



5 - St Tudy to Camel Trail



6 - Cardinham to Camel Trail



7 - Lanhydrock to Cardinham



8 - Bodmin to Lanhydrock (Respry Road)



9 - Lanivet to Lanhydrock



10 - Lanivet to Camel Trail (Nanstallon)



11 - Saint Mabyn to St Tudy



12 - Lanivet



13 - St Mabyn



14 - St Breward to Trewalder



15 - St Teath to Trewalder



16 - Trewalder to St Minver



17 - Rock



18 - St Minver



19 - St Issey to Camel Trail



20 - A30 bridge option 1



21 - A30 bridge option 2



22 - St Mabyn to Wadebridge



23 - St Teath



24 - Wadebridge to Rock (alternative)



6 Network appraisal

The feasibility of each of the routes on the network has been assessed to identify which of the routes are likely to be of the greatest importance and have the highest impact in terms of modal shift towards active travel, as well as being practically deliverable and feasible. The methodology assesses four key criteria: **Policy Alignment, Level of Service, Deliverability and Financial**. For each of the assessment criteria, the routes were scored Very Good (scoring 5 points, and highlighted green), Fair (scoring 3 points and highlighted amber) or Very Poor (scoring 1 point and highlighted red). The complete table is provided in a separate document, and summarised in this chapter.

Policy Alignment

Policy alignment is a critical factor to ensure implementation of a route fits with the wider transport objectives at a national, regional and local level. The documents consulted are:

- Cornwall Local Transport Plan (listed where routes provide connectivity to key local amenities within 5 miles)
- Cornwall Council Business Plan 2022-2026 (listed where routes connect schools or employment centres)
- Wadebridge & Padstow LCWIP (listed where the route direct aligns with the routes in the network)
- St Minver NDP (listed where the routes strengthen transport resilience by reducing congestion, addressing traffic speed, and improving the footpath and cycle-path networks, recognising crucial links with Wadebridge)
- Camelford NDP (listed where the route enhances cycle path connections around Camelford)
- 20mph roll-out (listed where the route aligns with 20mph plans

Where the route aligns with the above plans, the plan is named. If 3 of more plans are listed, the route is marked as green, 2 is amber and 1 or less is red.

Level of Service

Level of Service appraises the potential of the routes to provide a high quality route that is accessible to all aged 8 to 80 and beyond. The scores are based on what is possible, not what exists. An assessment of how coherent, direct, attractive, safe, comfortable and accessible, as per LTN 1/20, as well as their potential to for trip attractors and generators:

- Coherent; assesses route continuity and consistency i.e. does the route connects to trip generators & attractors, is it simple to navigate and of a consistent provision.

- Direct; how direct is the route relative to a straight line or the shortest road alternative. The route should preferably also be more direct than routes for private motor vehicles to encourage a modal shift towards walking and cycling for short journeys.
- Attractive, Environment and Character; Attractiveness in the ATE route check tool is defined by many factors. In this assessment places to rest and shelter are focused on. Environment and Character is taken from the ATE route check tab on Placemaking and assesses whether the route is scenic, along with if there are public spaces that are well designed (with appropriate materials and surfacing) that people are envisaged to spend time using.
- Safe; This is based on the Safety check tab of the ATE route check tool, primarily traffic speeds and volumes but also safe crossings. The average annual daily volume of vehicles (AADT) and the 85th percentile speed of motor vehicles was recorded in 2024 at the worst location, and assumed to represent the entire route (a note is made otherwise if not). It should be noted that under SA08 85th percentile speeds above 30mph result in a critical fail and red is over 25mph (previously 30mph). In this study, routes with 85th percentile speeds (following Quiet Lane implementation) with speeds below 20mph score green, between 20mph to 30mph amber, and above 30mph, red.
- Comfortable; The ATE route check/Street tab assess comfort on good quality, well maintained smooth surfaces and adequate widths for people walking and cycling. The latter is based on the recommendations from LTN 1/20 Section 5, with parts of the route which are too wide or encouraging dangerous overtakes recorded.
- Accessible; The ATE route check tool route/street tab factors that are included here are gradient, bus stops and access to public facilities like toilets. This project region has undulating terrain, defined by a river valley and its tributaries. Therefore only the routes with the steepest most inaccessible gradients (relatively to the rest of the network) are marked down, or routes with steep continuous sections where there is little opportunity for the creation of rest spots.
- Trip Attractors; Assesses key trip attractors in the vicinity of the alignment. Trip attractors include employment sites, schools, shops plus other amenities along with campsites. This is based on LCWIP assessment criteria. The travel times analysis map and public transport map was used to understand proximity of the attractors.
- Trip Generators; trip generators is defined by the population within an accessible 400m buffer of the route, and therefore the potential demand for it. This uses the Office of National Statistics (ONS) 2021 general census data, capturing the number of usual residents in households and community establishments. This analysis was done using ArcGIS Pro, where the Output Areas (OAs) - the lowest level of geographical area for census statistics - are clipped within the 400m route

buffer. In this assessment the population criteria is as follows: a total population less than 500 within 400m of the route extent scores red, 500 to 1000 yellow and above 1000 green.

Deliverability

Deliverability was evaluated using two key indicators:

- Network Impact; Estimation of how the route will impact on existing road users, including private cars and buses. This also includes how an at grade or grade separated crossing would impact a busy road the route crosses over.
- Practical Feasibility; How practically feasible is the route (assuming LTN 1/20 compliance for safety and accessibility whilst recognising the challenges of the topography) given challenges such as feasibility of traffic calming measures in reducing speeds or traffic reduction measures in reducing volumes as well as any likely challenges arising from landowners, ecology or planning.

Financial

Financial priorities gives a scoring based on a high-level estimation of how much the project would cost to deliver (assuming LTN 1/20 compliance for safety and accessibility whilst recognising the challenges of the topography). It should be noted that these costs are determined relative to the costs of the other routes.

Balanced Weighting Factors

Balanced weighting factors are applied which maintain the importance of the ‘Level of Service’ category higher than the other three categories, but reduce its weight. The applied balanced weighting factors are shown in the table below.

Priority Category	Criteria Assessed	Relative Weighting Factors	Balanced Weighting Factors
Policy Alignment	1	13%	20%
Level of Service Appraisal	8	67%	40%
Deliverability Priorities	3	13%	20%
Financial Priorities	1	7%	20%

The results of the process are found on the next page and the full prioritisation table can be found in the subsequent pages, with an explanation for each of the scores.

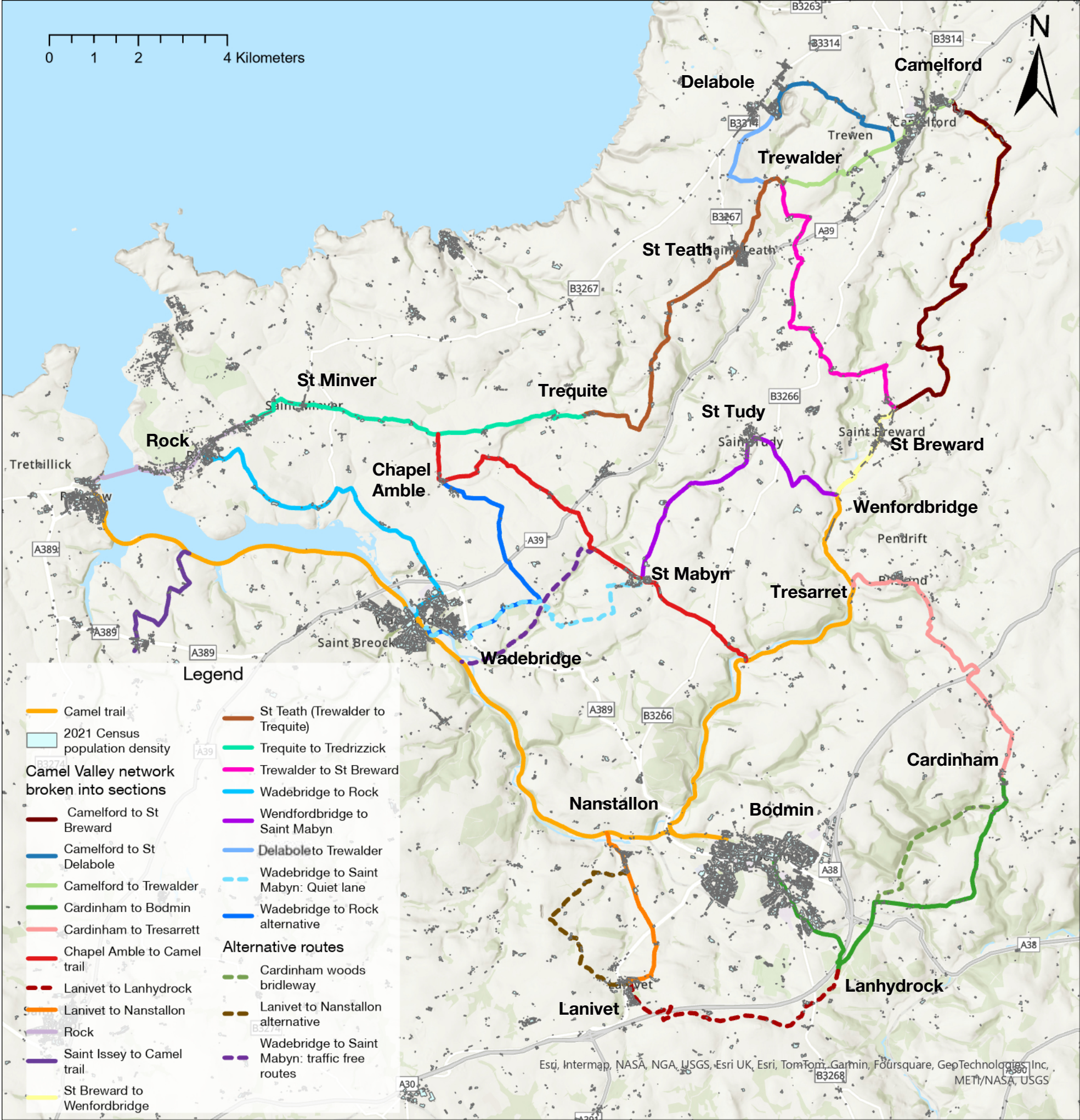
It should be noted that a red ranking does not mean the project is not deliverable or feasible, but that there may be more significant challenges associated with developing the route. Further, the analysis is intended for Quiet Lane feasibility, however has been applied in some cases for potential traffic-free alternatives.

Summary of Feasibility

A summary of the route prioritisation analysis can be found in the table below, with scores for the four assessment criterion and final RAG score. A Red RAG rating does not necessarily indicate infeasibility of a route. Scores of 7.5 or above are green, 5 or above amber and below 5.5 red. The full table is provided in the subsequent pages.

The highest scoring routes are B3266 to St Maby, Camelford to Trewalder, Wadebridge to St Maby, Camelford to Delabole, CamelfordtoStBreward,StBrewardtoWenfordbridge&Wadebridge to St Maby (traffic-free). Three routes were not considered feasible for purely Quiet Lane implementation: Wadebridge to Rock (a route via St Maby is instead recommended), Bodmin to Cardinham (further feasibility to assess traffic-free alternatives is recommended) & Lanivet to Nanstallon (an alternative Quiet Lane route has been recommended). Other routes that scored low are those that required crossings of A and B roads due to potentially prohibitive costs of bridges or controlled crossings, however, are still considered feasible.

Route	Priority Scores				Score out of 10	RAG
	Policy	Strategic	Deliverability	Financial		
Relative Weighting	0.2	0.4	0.2	0.2		
Camelford to St Breward	1.2	3.0	2.0	2.0	8.2	G
Camelford to Delabole	2.0	3.4	1.6	1.2	8.2	G
Camelford to Trewalder	1.2	3.4	2.0	2.0	8.6	G
Cardinham to Bodmin	2.0	2.4	1.6	0.4	6.4	A
Cardinham to Tresarret (Camel Trail)	0.4	3.0	1.6	1.2	6.2	A
Chapel Amble to Camel Trail	1.2	2.8	0.8	0.4	5.2	R
Lanivet to Lanhydrock	0.4	2.4	0.4	0.4	3.6	R
Lanivet to Nanstallon	0.4	2.6	0.8	0.4	4.2	R
Rock	2.0	3.2	1.2	0.4	6.8	A
Saint Issey to Camel Trail	0.4	2.8	2.0	2.0	7.2	A
St Breward to Wenfordbridge	1.2	3.2	2.0	1.2	7.6	G
St Teath (Trewalder to Trequite)	1.2	3.4	1.6	1.2	7.4	A
Trequite to Tredizzik	1.2	2.8	1.2	0.4	5.6	A
Trewalder to St Breward	0.4	2.2	0.8	0.4	3.8	R
Wadebridge to Rock	1.2	2.2	0.4	0.4	4.2	R
Wendfordbridge to B3266 (Part of Wenfordbridge to St Maby)	1.2	2.4	0.8	0.4	4.8	R
B3266 to St Maby (Part of Wenfordbridge to St Maby)	1.2	3.8	2.0	2.0	9.0	G
Wadebridge to St Maby	1.2	3.2	2.0	2.0	8.4	G
Lanivet to Nanstallon alt	0.4	2.8	2.0	2.0	7.2	A
Delabole to Trewalder (traffic-free)	1.2	3.0	1.6	0.4	6.2	A
Wadebridge to St Maby (traffic-free alternative)	2.0	3.6	1.6	0.4	7.6	G



Detailed Feasibility

Criteria Assessed	Camelford to St Breward		Camelford to Delabole		Camelford to Trewalder	
Policy Alignment	Camelford NDP, Cornwall Transport Plan		Camelford NDP, Cornwall Transport Plan, Cornwall Council Business Plan, 20mph roll-out.		Camelford NDP, Cornwall Transport Plan	
Coherent	This is a logical route over Bodmin Moor, connects two communities to each-other and the Moor.		A coherent route connecting Camelford with the centre of Delabole. Preferred solution from Camelford town centre needs feasibility work.		The route is consistently quiet in nature, and easy to navigate.	
Direct	Fairly direct. Small sections of route could be developed to improve directness in the future.		Direct route that is more direct than the route for motor vehicles (according to SatNav data).		The most direct route for cyclists with little deviation.	
Attractive	Rest benches are already present, with opportunities for more across Bodmin Moor. The scenic route also passes through the centre of St Breward, with an attractive village green and playground.		Route has a scenic view of the working quarry, which is one of the oldest in the country. Whilst there are no existing rest spots along the route, there are plenty of opportunities to install benches.		A scenic route, past a Grade 1 listed medieval church, and a river. Existing rest spots, and opportunity for more.	
Safe	AADT is 87. 85thpercentile speed is 19mph. The route already meets Quiet Lane criteria for vehicle speed and volume. It is likely that this data is representative of the entire route.		AADT is 165. 85thpercentile speed is 34mph. The volume of vehicles is under recommended maximum of 1000 vehicles a day. It is expected that speeds can be reduced through traffic calming, Quiet Lane designation and reduced speed limit to 30mph.		AADT is 113 and 85thpercentile is 23mph. The route already meets Quiet Lane criteria for vehicle speed and volume. It is estimated that this data represents the entire route.	
Comfortable	Steep gradients are short in length, with regular rest spots to aid comfort. Carriageway is often narrow at 3m with plenty of passing places. Increased maintenance may be required to ensure no growth in the middle of the road, reducing comfort for some users.		Carriageway width is 3.0 to 3.5m (acting as informal passing places). This width is expected to facilitate a comfortable experience for active travel.		Lane width is mostly 3m, with existing passing places. Increased maintenance may be required to ensure no growth in the middle of the road, reducing comfort for some users.	
Accessible	Steep gradients are short in length. There are public facilities in both St Breward and Camelford, including toilets in the latter.		The route provides a more direct active travel connection between two towns that share bus route 96, utilising existing lanes via a steep valley.		The route features significant gradients into and out of the valley. There are no bus stops along the route, or public facilities in the vicinity of Trewalder.	
Trip Attractors	Connects Camelford to St Breward over 6 miles. St Breward has another primary school, pub, village hall and war memorial. The route is also a beautiful leisure route, providing access to Bodmin Moor.		Connects Camelford to Delabole, which is also a large town (relatively) with a school, shops and restaurants and a working slate quarry which acts as a tourist attraction. You can also walk to the sea from Delabole. This route was a key route when looking at the Propensity to Cycle Tool online.		Whilst Trewalder is small, the route forms part of the key connection between St Teath and Camelford which are only 4 miles apart. The route also connects the Bowood Golf Club and a holiday park, just outside Camelford, as well as the river and church.	
Trip Generators	Population within 400m of the route is estimated at 640.		Population within 400m of the route is 709.		Population within 400m of the route is 1413.	
Network Impact	Route is very quiet and will likely only require signage and wayfinding. Uses a minor road that does not impact on the main route cars take.		Route is mainly a local route (google maps suggests it is slower than the B3266 and B3314), and therefore is unlikely to impact the wider network.		Although this is the most direct route for motor vehicles to Trewalder, a faster route from Camelford is available using the A39. This suggests this route would have little network impact on motor users.	
Practical Feasibility	Required interventions that are principally signage (including speed limit reduction) and wayfinding, as well as rest benches at regular intervals.		Sympathetic rural traffic calming is required such as a chicane feature or other horizontal deflection, along with Quiet Lane signage (including speed limit reduction), wayfinding and rest spots.		Quiet Lane signage (including speed limit reduction) and rest spots are principal measures required. Rest spots might be harder to install in the steeper Lanteglos valley. The surface quality of the carriageway should also be improved around Lanteglos.	
Funding/cost	Minimal and low-cost interventions expected to be required. Good community co-discover and co-design will be key.		Minimal and low-cost interventions required with some slightly more expensive interventions (relatively).		Minimal and low-cost interventions expected to be required.	

Criteria Assessed	Cardinham to Bodmin		Cardinham to Tresarret (Camel Trail)		Chapel Amble to Camel Trail	
Policy Alignment	Cornwall Transport Plan, Cornwall Council Business Plan, 20mph roll-out		Cornwall Transport Plan		Wadebridge & Padstow LCWIP, Cornwall Transport Plan	
Coherent	Further feasibility is required to determine a coherent route; this study has determined that Quiet Lane designation is not an option for sections of this route.		This route is the logical and easiest way to take to get between Cardinham and Tressaret, which also links in to the village of Blisland. Fairly easy to navigate with existing signage.		This is a linear route that is easy to navigate. The character of the route changes throughout, and therefore this route is marked down for consistency.	
Direct	Route deviates slightly to the south-east of Bodmin to utilise the safe bridge crossing over the A30.		The route is mostly direct, following the existing road network.		The route is mostly direct, following the existing road network.	
Attractive	Further feasibility is required to determine an attractive route; this study has determined that Quiet Lane designation is not an option for sections of this route. The region is densely wooded, offering attractive opportunities.		Attractive high point, with views across Bodmin Moor. There are also plenty of rest spot opportunities.		There are some rest spots in St Mabyn. Both Chapel Amble and St Mabyn also feature nice green spaces for rest spots. This is a scenic and attractive rural route.	
Safe	Traffic count 7 (between A38 and Cardinham): AADT is 611 and 85thpercentile is 30mph. At this location, this count suggests Quiet Lane criteria has already been met for speed and volume. However this is not representative of the entire route. Traffic count 8 (Respry Road): AADT is 144 and 85thpercentile speed is 32mph. It is expected that traffic-calming, speed limit reduction and Quiet Lane designation should be sufficient along this section of the route. Additional data from Cornwall Council: Turfdown Road (north of A38) = 1800 in 2015. This is appropriate for Quiet Lane designation. Turfdown Road (south of A38) = 4600 in 2007. This is not appropriate for Quiet Lane designation, and further feasibility is required to find a solution to this section of the route.		The bridge (traffic survey 20): AADT is 439 and 85thpercentile is 35mph. Alternative bridge option (traffic survey 21): AADT is 776 and 85thpercentile is 32mph. Whilst traffic survey 20 has higher existing speeds, it is expected that these can be reduced to required levels through traffic-calming, speed limit reduction and Quiet Lane designation. The alternative bridge option has higher gradients and passes close to an A30 junction, suggesting potential high-speed conflict between motor vehicles and cyclists/pedestrians. Therefore, with lower traffic-volumes, the bridge of survey 20 is anticipated to be the safest option. Traffic count 6: AADT is 741 and 85thpercentile speeds are 31mph. It is expected that traffic calming, speed limit reduction and Quiet Lane designation would be sufficient to bring the speeds to required levels for safe route provision. This count is assumed to be reflective of the rest of the route.		AADT is just over 1000, and 85thpercentile is 32mph. Interventions to calm traffic below 30mph are therefore required, along with speed limit reduction and Quiet Lane implementation. Quiet Lane interventions alone may bring volumes below 1000 without the need for direct measures such as reduced access signage.	
Comfortable	This route varies significantly on comfort, and it rated low due to the unresolved section along Turfdown Road which does not have available widths for segregated provision for walking and cycling. Further feasibility is required to determine a solution for comfortable provision here.		The route is mostly 3m wide, with passing places roughly every 50m. Some sections are wider, at 5m and require careful design to ensure no dangerous overtakes that may reduce comfort.		The route is mostly 3m wide, with passing places roughly every 50m. Some sections are wider, at 5m and require careful design to ensure no dangerous overtakes that may reduce comfort.	
Accessible	The route does cross bus stops for the Route 11 service at the A38 roundabout. The route also enables access to toilets and welfare facilities in Cardinham woods.		There are notably steep gradients (14%) into Cardinham and Blisland. The route does not feature any bus services. Cardinham and Blisland do however have public facilities.		Gradients on this route are relatively flat. There are some public facilities in St Maybn which also has bus stops for route 96.	
Trip Attractors	This route connects Bodmin, the largest town in the area to Cardinham with 7 different schools, a town and bus interchange hub. The route also goes via Cardinham Woods a large section of replanted ancient woodland hosting different activities for families and people of all ages. It also links to multiple cafés and shops along the way, including a small-scale organic farm.		Links Cardinham & Blisland to the Camel Trail, and provides the option of a circular route via Bodmin. The route also connects two schools.		Connects Chapel Amble, a hamlet with a pub and post office to the Camel Trail, as well connecting to Bus route 96 and St Kew Farmshop and Cafe. This route could also form an alternative to Wadebridge to Rock route and therefore be a popular leisure route.	
Trip Generators	Population within 400m of the route is 2412.		Population within 400m of the route is 150.		Population within 400m of the route is 269.	
Network Impact	By improving the route for cyclists, this should enable more people to cycle from Cardinham to Bodmin which is around 5 miles, thereby having a positive network impact through alleviating congestion.		There are two A30 bridge crossings in fairly close proximity, so works to improve the safety and accessibility of one of the crossings is unlikely to impact the network.		This route could be being used as a through-road for access between the A39 and B3266, however, as volumes are fairly low, the network impact of some of this traffic redirecting is expected to be small.	
Practical Feasibility	Traffic-free provision is required to provide a solution for cycling align Turfdown Road; this may be possible within the highway boundary, or an alternative alignment could be sought, for example along existing bridleways. Discussions with local landowners may be required.		Interventions required include; Quiet Lane signage, speed limit reduction, wayfinding, and good design of passing places. The design of the infrastructure on the bridge requires careful design development.		Two crossings are required over the A and B roads which make the route less feasible, relatively. Usual QL interventions are also required, with traffic calming, signage, speed limit reduction and accessible rest spots.	
Funding/cost	Interventions require new traffic-free route. Signage, & resting points will also be required along the Quiet Lanes, with traffic calming and speed limit reduction.		Minimal and low-cost interventions required. High quality community engagement and co-design is required.		Controlled or grade separated crossings on the A & B roads are likely to be relatively more costly than other routes.	

Criteria Assessed	Lanivet to Lanhydrock		Lanivet to Nanstallon		Rock	
Policy Alignment	Cornwall Transport Plan		Cornwall Transport Plan		Cornwall Transport Plan, Cornwall Council Business Plan, St Minver NDP	
Coherent	This is a coherent route that follows Bodmin Bypass via a grade separated crossing. The route is relatively easy to navigate.		Coherent route that is relatively easy to navigate.		Main route through Rock is easy to navigate, being a direct route through the centre of the town.	
Direct	The route is mostly direct, following the existing road network.		This is the most direct route between the two villages with little deviation.		This is the most direct route through the seaside town since it follows the main road.	
Attractive	There are existing well-placed rest benches, with opportunities for rest spots along the existing greenway section. The route includes scenic views towards Bodmin.		Both Lanivet and Nanstallon are attractive villages with a strong community identity and attractive public realm. The routes have good opportunities for attractive and accessible rest spots.		Rock is a popular village, with a couple of public spaces dotted along the route. The route meanders down into the estuary.	
Safe	AADT is 1467 and 85thpercentile speed is 37mph. Significant changes to road characteristics are likely required to bring speeds below the required 30mph. In addition, traffic volume reduction measures are required to reduce the number of motor-vehicles by around 30% is expected to be hard to achieve in this location. Roundabout redesign is also required to create a safe route.		AADT is just over 1000 but 85thpercentile speeds are 37mph. This traffic survey data represents the least safe section of the route and it is expected that it would be challenging to sufficiently reduce the actual speeds. Whilst this count is not representative of the entire route, this section, alongside the crossing of the A389 itself make this route challenging to progress. As a result, an alternative route has been recommended, see “Lanivet to Nanstallon alt”.		AADT is over 4000. 85thpercentile is 30mph. Space for segregated cycling infrastructure provision is limited, and not feasible. The traffic volume reduction required for safe shared provision on-carriageway is 1500 (or 38% reduction). Further feasibility is required to determine a solution for traffic volume reduction. 85thpercentile speeds need to be 20mph in an urban environment, which is expected to be possible through speed limit reduction & traffic calming.	
Comfortable	The route characteristic changes from wide to a tiny lane where there are little to no passing places, therefore careful design would be required to ensure consistent comfort along the route. Again, significant traffic-calming and volume reduction is required to ensure speeds and volumes are low enough for comfortable use of those walking, wheeling or cycling.		This route has two separate characters. Along one section, the carriageway is narrow, has a grass strip in the middle and some passing places which would likely require increased maintenance to ensure the surface is smooth for all users. The other side of the A389, the road is better maintained but wider, encouraging dangerous close-passing by motor vehicles without a change in road character.		Significant traffic-reduction (through modal filter) & traffic calming measures could provide the conditions needed for comfortable widths for everyone walking, wheeling and cycling.	
Accessible	Treffry Lane and the roads into Lanivet are fairly steep. The route enables access to bus stops for routes 95 and 11. There are also some public facilities in Lanivet.		Some steep sections. There are some public facilities in both villages and the route features bus stops for routes 405 and 95 coming out of Bodmin (although these are not well marked bus stops).		Green spaces in the town and along the estuary could offer scenic locations for placemaking and rest spots. Steep gradients down to the mouth of the estuary.	
Trip Attractors	This links the town of Lanivet to Lanhydrock and Bodmin Parkway, a popular destination and key public travel hub.		Links Lanivet to the Camel Trail, linking the village to Bodmin town centre, Wadebridge and Padstow.		Rock has shops, restaurants, a golf course, a post office, a beach and many scenic walks. The route is through the main spine of the town. The route also links into the ferry to Padstow. This route aligns with the public bus service.	
Trip Generators	Population within 400m of the route is 632.		Population within 400m of the route is 254.		Population within 400m of the route is 477.	
Network Impact	Interventions to bring this route to Quiet Lane status would require traffic calming and traffic reduction measures, which would likely have a impact on the network for motor vehicle users, for which there aren't obvious alternatives.		Traffic-volume reduction should be able to be avoided, and therefore this is unlikely to have a significant network impact, other than potentially slowing overall journey times, but this is anticipated to be negligible.		Significant traffic flow reduction will have an impact on the network; this impact may be positive in reducing congestion in the area, by alleviating road capacity for those making longer trips, from those doing shorter ones. Or it could be negative. Any design development should consider network impact.	
Practical Feasibility	This route is not practically feasible to make into a Quiet Lane without significant traffic calming and some form of traffic filtering.		This route needs a crossing and major improvements to road design into Nanstallon, and is therefore not deemed practically feasible. Alternative indirect alignment may present a more feasible option - see “Lanivet to Nanstallon alt”.		More feasibility work including traffic modelling required to determine solution. A simple solution could be a modal filter, preventing use of the road for through traffic.	
Funding/cost	Interventions required are likely to be relatively expensive including; Treffry roundabout redesign for traffic-free provision, and significant redesign of road character to reduce speeds by more than 7mph.		High costs likely required.		Difficult to estimate the costs without further feasibility work - interventions range from installation of traffic-free path to low-cost modal filters. Good community engagement and co-design will be key.	

Criteria Assessed	Saint Issey to Camel Trail		St Breward to Wenfordbridge (Camel Trail)		St Teath (Trewalder to Trequite)	
Policy Alignment	Wadebridge & Padstow LCWIP		Cornwall Transport Plan, Cornwall Council Business Plan		Cornwall Transport Plan, Cornwall Council Business Plan	
Coherent	This a route that is fairly coherent and simple to navigate, and links the village onto the wider cycling network.		Provides continuity of the Camel Trail to the nearest village along a route that is simple to navigate.		Connects small villages and hamlets on logical route between Camelford and Rock that is fairly easy to navigate.	
Direct	The route is fairly indirect, however is the best option with the existing road layout.		This is the most direct route for residents of St Breward to walk and cycle onto the Camel Trail.		This is a direct route for cyclists that does not deviate much from a straight line.	
Attractive	Some opportunity for rest spots, with some public spaces in St Issey.		There are already some rest facilities on entering St Breward. There is green space halfway along the route where more seating could be provided.		This is a very scenic route with views across the Camel Valley. St Teath is a small historic village with public spaces and rest spots.	
Safe	AADT is under 100 and 85thpercentile is ~ 20mph.		AADT is below 1000, 85percentile speeds are 32mph. It is considered feasible to reduce speeds to under 30mph through traffic calming, speed limit reduction and Quiet Lane implementation.		AADT is 463 and 85thpercentile is 32mph. This traffic is considered representative of the entire route; light traffic calming and signage could reduce speeds to below 30mph. The crossing in St Teath of the B3267 has 85thpercentile speed of 30mph and a AADT of 1700; an uncontrolled crossing would be suitable here, provided it was of one-lane of traffic at a time only (See LTN1/20 Table 10-2).	
Comfortable	Width of the route is mostly 3m. The route lacks frequent passing places, with motor traffic volumes of 100, it is expected that this is less likely to be an issue. This should be considered in further design development. Improved maintenance may be required to prevent build up of mud from agricultural vehicles.		Quiet Lane implementation, including speed limit reduction and traffic calming measures is expected to provide comfortable conditions for walking and cycling. Further design development should be considerate of downhill speeds of motor vehicles.		Most lanes are of good quality, but some have uneven surfacing due to lack of maintenance. Some lane widths are between 3.2m to 3.9m which can encourage close passing by motor vehicles which can be mitigated through careful design.	
Accessible	The route is relatively steep dropping down into a valley. There aren't many public facilities in St Issey but there are bus stops for route 11.		Penvorder Lane junction green has bus stop and can feature more rest facilities for cyclists coming up the hill. Significant gradients, but only for a short distance.		Consistently undulating but no consistently steep, long gradients. There are opportunities for rest spots along the route which are needed since it is relatively isolated. St Teath had a small number of public facilities including public toilets. This route enables access to bus stops for the 95 service.	
Trip Attractors	This route links the village of St Issey which has a school, a pub and a village hall to the Camel Trail and a boat slipway. Linking Saint Issey to Wadebridge & Padstow within 30minutes cycle.		Follows logical route for people to reach the Camel Trail, connecting St Breward to an accessible multi-user route a mere 1.5mile cycle, that unlocks access to Bodmin, Wadebridge and Padstow. St Breward hosts a church, pub and village hall, a school, a farm and multiple campsites.		This route links St Teath with Camelford and the village of Trewalder. There are churches, pubs and village halls, schools, farms and multiple campsites within this area of the Camel Valley. The village hall sells locally grown organic vegetables on Tuesdays.	
Trip Generators	Population within 400m of the route is 121.		Population within 400m of the route is 258.		Population within 400m of the route is 580.	
Network Impact	Due to the existing traffic volumes and speeds, interventions are unlikely to have a network impact.		Traffic calming is required; this is unlikely to have any significant impact on the network, since under 1000 motor vehicles on average use the route per day.		The route is not considered to be a through-route and therefore interventions are unlikely to have a network impact.	
Practical Feasibility	Required interventions are principally signage (including speed limit reduction) and wayfinding, as well as rest benches at regular intervals.		Effective traffic calming on the steep downhill section from St Breward into Camelford will require careful design. This route would otherwise need more signage and rest spots introduced.		Interventions required include signage, gateway features, wayfinding, and traffic calming features, as well as speed limit reduction, and design development for a crossing in St Teath that does not interfere with the bus routes.	
Funding/cost	Minimal and low-cost interventions required. A crossing of the A389 in St Issey would improve access for the village onto the Quiet Lane.		Interventions required include signage, gateway features, wayfinding, and traffic calming features, as well as speed limit reduction.		Interventions required are fairly minimal, but more expensive than some.	

Criteria Assessed	Trequite to Tredizzik		Trewalder to St Breward		Wadebridge to Rock	
Policy Alignment	Wadebridge & Padstow LCWIP, St Minver NDP		Cornwall Transport Plan		Wadebridge & Padstow LCWIP, St Minver NDP	
Coherent	It is fairly coherent and easy to navigate.		This route is fairly coherent and ok to navigate.		This is fairly easy to navigate, and fairly coherent.	
Direct	This is a direct route for cyclists that is straighter than the B3267 to the north and the A39 to the south.		This route deviates from a straight line to follow the topography and road layout.		This is a fairly direct route utilising the available road network.	
Attractive	This route has very scenic views across the Camel Valley with existing rest benches and public spaces in the villages.		This scenic route is quieter than the B3266, with opportunities for rest locations in villages like Trevigha.		A large majority of this route is not suitable as a Quiet Lane. High traffic volumes make this route an unattractive option.	
Safe	AADT 69 and 85thpercentile is 27mph (traffic survey 16 - rural Quiet Lane requirements). Quiet Lane implementation is possible without traffic calming measures; speed limit reduction and Quiet Lane signage required. A controlled crossing of the B3314 road is also likely required. AADT 1140 with 85thpercentile of 25mph (traffic survey 18 - urban Quiet Lane requirements). Speed limit reduction to 20mph required, alongside traffic-calming and Quiet Lane implementation.		AADT is 233, and the 85thpercentile is 32mph. Traffic calming would be expected to bring speeds below 30mph. Two controlled crossings are required at the A and B-roads. Further traffic surveys may be required for this route as it was noted at the site visit that the widths vary along the alignment, and the traffic survey may not therefore be representative.		Data from Cornwall council provides AADT figure in 2019 of 10,000 on the B3314. This road is not suitable for Quiet Lane treatment and traffic-free provision is therefore required. Alternative QL options are assessed below.	
Comfortable	As above, most lanes are of good quality, but some are quite grassy. Some lane widths are also the 3.2m to 3.9m width which encourages close passing.		The majority of these lanes are well surfaced but some are very muddy and grassy due to agricultural traffic. Widths should be assessed in further design development, due to their varying nature.		Along the B3314, there is limited width available for segregated infrastructure for walking, wheeling or cycling.	
Accessible	There are opportunities for rest spots along the route and public facilities in some of the villages that the route passes through. Some steep sections.		Fairly steep gradients along the route. Trevighan is half way along the route along with the hamlets of Fentondale and Michealstow where there are some opportunities for more public facilities. The route allows access to bus stops on the A39 for the 96 service.		The gradient of this route is fairly undulating, and the route enables access for bus stops to the 96 service. There are also plenty of public facilities in both Rock and Wadebridge.	
Trip Attractors	This route links St Teath to Saint Minver situated 8 miles apart. Saint Minver has a school, multiple pubs, and has recently received Levelling Up Funding to improve the community centre.		This route forms a key link from St Breward to Delabole & St Teath. This route also links Saint Tudy and Saint Breward to bus route 96. This route doesn't link to a relatively large town in the area and therefore scores low.		Connects Rock & St Minver to Wadebridge & provides a circular loop option via Padstow.	
Trip Generators	Population within 400m of the route is 373.		Population within 400m of the route is 352.		Population within 400m of the route is 1403.	
Network Impact	Along the majority of the route, very few motor vehicles use this route and only minor traffic calming interventions are required, therefore it is unlikely to have an impact on the wider network. Changes to reduce traffic volumes through Rock may have wider network impacts, although other routes are available.		This route uses minor roads coming off the A39 and B3266, there may be some impact caused by crossings of the A and B roads.		Any interventions to make the B3314 a Quiet Lane would require significant traffic volume reduction interventions which would have a significant impact on the road network.	
Practical Feasibility	Required interventions are principally signage (including speed limit reduction) and wayfinding, as well as rest benches at regular intervals, and a controlled crossing at the busy B-road junction.		Required interventions are principally signage (including speed limit reduction) and wayfinding, as well as rest benches at regular intervals. Additionally, controlled or grade separated crossing facilities are needed for the A39 and B3226 crossings which reduces practical feasibility score relative to the other routes. A39 is considered least practically feasible due to obscured sight lines and a lack of verge space.		Given the volume of traffic on the B3314, traffic volume reduction measures are not applicable here: Quiet Lane is not feasible.	
Funding/cost	Interventions required are fairly minimal and low-cost. A crossing of the B-road may need to be controlled, adding some cost (relatively).		High costs would be required for the crossings relative to the other routes.		This route is not feasible.	

Criteria Assessed	Wendfordbridge to B3266 (Part of Wenfordbridge to St Mabyn)		B3266 to St Mabyn (Part of Wenfordbridge to St Mabyn)		Wadebridge to St Mabyn: Quiet Lane	
Policy Alignment	Cornwall Transport Plan, 20mph roll-out		Cornwall Transport Plan, Cornwall Council Business Plan		Wadebridge & Padstow LCWIP, Cornwall Council Business Plan	
Coherent	This is a logical route which is fairly easy to navigate.		This is a logical route via Saint Tudy which is fairly easy to navigate.		The existing road route provides an easier to navigate connection that is already existing and will be focussed on in this row.	
Direct	This route is direct from Wenfordbridge to B3266.		This route is direct from B3266 via St Tudy to St Mabyn.		This is the most direct route connecting Wadebridge to St Mabyn, but there is some deviation from a straight line.	
Attractive	With traffic-calming measures to reduce speeds, this route could be an attractive route with space for rest spots.		This route is overall quiet scenic with existing places to rest and shelter, along with public spaces in St Maybn.		Scenic route through woodland, an old bridge and a watermill, with scenic rest spots and opportunities for more.	
Safe	Traffic count 5: AADT is 819 and 85thpercentile is 37mph Sufficiently low traffic volumes, significant changes to characteristics of the road required to bring speeds below 30mph.		Traffic count 11: AADT is 261 and 85thpercentile is 26mph Sufficiently low traffic volumes and speeds for Quiet Lane implementation		AADT is 198 vehicles, and 85thpercentile speeds, 19mph. These conditions are considered representative of the majority of the route; the lane meets Quiet Lane criteria for speed and volume. Furthermore, planned development includes a new controlled crossing over the A389. This route represents a good alternative to the Wadebridge to Rock route.	
Comfortable	The majority of the route is fairly wide (+4m in width), which can encourage motor vehicles to perform unsafe overtakes without significant traffic-calming measures and road character re-design.		St Mabyn to B3266 is 3.0m width with passing places.		The widths of this route are narrow but there are passing places. However the surface quality in many places is substandard.	
Accessible	There are steep gradients between St Tudy and Wenfordbridge, and some public facilities in St Tudy. The 96 bus route also goes through St Tudy.		Relatively flat between St Mabyn and St Tudy, where there are plenty of opportunities for rest spots.		Although this route is quiet since it goes into a deep valley it is have some noticeably steep sections. There are public facilities in Wadebridge and St Maybn and the route provides a connection between bus stops for services 96 and 95.	
Trip Attractors	The route connects St Mabyn and St Tudy to the Camel Trail, connecting them into Wadebridge, Bodmin and Rock cycle network.		This route connects the bus stop on the B3266, connecting Saint Tudy and Saint Mabyn to the Bus route 96. Saint Mabyn hosts a pub with regular live music events.		Connects a village to shops, schools amenities in Wadebridge, campsite along the route.	
Trip Generators	Population within 400m of the route is 213.		Population within 400m of the route is 638		Population within 400m of the route is 525.	
Network Impact	Crossings on the B3266 may slow traffic.		The route runs parallel to the B3266, and is therefore not predicted to have a significant network impact.		Between St Mabyn and Wadebridge the route is a minor road that is not regularly used by motor vehicles, so should have little impact on motor vehicles.	
Practical Feasibility	The route will be practically unfeasible to deliver, with significant changes to road characteristics required to bring speeds below 30mph and a challenging crossing required for the B-road.		The route is a feasible Quiet Lane with simple interventions only required: sigange (including speed limit reduction) and wayfinding, along with developing opportunities for resting spots.		The route is a feasible Quiet Lane with simple interventions only required: sigange (including speed limit reduction) and wayfinding, along with developing opportunities for resting spots.	
Funding/cost	High costs would be required to redesign the character of the road and design and build a crossing for the B3266.		Minimal and low-cost interventions expected to be required.		Minimal and low-cost interventions required, assuming contributions from the developer for the controlled crossing.	

Criteria Assessed	Lanivet to Nanstallon alt		Delabole to Trewalder (traffic-free route)		Wadebridge to St Mabyn: traffic free alternative	
Policy Alignment	Cornwall Transport Plan		Camelford NDP, Cornwall Council Business Plan		Wadebridge & Padstow LCWIP, Cornwall Council Business Plan, St Minver NDP	
Coherent	With appropriate wayfinding the route will be fairly easy to navigate.		Straight route along Underlane with potential quieter alternative from centre of Delabole. Forms part of a wider more direct link between Delabole and St Teath, St Minver & Rock.		The bridleway and disused railway are currently hard to navigate. However if either one were improved they would create a consistent route	
Direct	This route is not as direct as the original Lanivet to Nanstallon route, with significant deviation.		This is route curves eastward and is fairly direct.		Both traffic free routes are fairly straight and do not deviate from a straight line	
Attractive	This route is quiet and scenic with plenty of opportunity for rest spots and good quality public spaces in Nanstallon and Lanivet.		This route continues the scenic view of Delabole quarry on a former railway line, with opportunities for public spaces and rest spots. There are already public spaces in Delabole.		There are currently no rest spots, but these could be created on an improved greenway route.	
Safe	This route was identified partway through this study, and therefore no traffic-counts were commissioned. However it is expected from site observation that traffic speeds and volumes along this narrow indirect route will be sufficiently low for Quiet Lane implementation.		This route would use traffic free provision that safely separates people from motor vehicles. Into Trewalder the roads are predicted to be quiet and could be designated as Quiet Lanes.		This route would likely follow Station road where the traffic count was 1065, and the 85thpercentile was 32mph. This could be lowered with traffic calming below 30mph, before the route passes onto a traffic free greenway.	
Comfortable	Roughly 3m wide lanes.		There is space along the railway corridor for high quality traffic-free provision with adequate widths. The QL section is also of good widths to encourage slow speeds of motor vehicles.		Surface of both the disused railway and bridleway can be upgraded to bound or well maintained un-bound for good quality surfacing. Available widths were not assessed but due likely ecological considerations any widening is likely to be costly.	
Accessible	There are some steep gradients into Nanstallon and public facilities like toilets. The route provides links to bus stops for services 95 and 97.		There would be a steep transition gradient from the former railway line onto the road connecting to Trewalder. The route does not provide connections to bus stops. There are toilets and other public facilities in Delabole.		Being a former railway route, the route is relatively flat marking it a particularly accessible option. Route connects St Mabyn to bus route 95.	
Trip Attractors	Connects rural local communities in cyclable distance, connecting villages to centres of employment in Wadebridge and Padstow (albeit fairly indirectly).		Delabole is also a large town (relatively) with a school, fire station, shops, restaurants and a working slate quarry which acts as a tourist attraction. You can also walk to the sea from Delabole.		Connects a village to shops, schools and amenities in Wadebridge, campsite along the route.	
Trip Generators	Population within 400m of the route is 155.		Population within 400m of the route is 406.		Population within 400m of the route is 525.	
Network Impact	It is predicted that these roads have very low AADT, and therefore the network impact is predicted to be low.		Traffic-free sections are unlikely to have a negative impact on the network. Enabling people to travel by bike or foot is likely to have a positive impact on the network, relieving congestion in urban centres.		Traffic-free sections are unlikely to have a negative impact on the network. Enabling people to travel by bike or foot is likely to have a positive impact on the network, relieving congestion in urban centres.	
Practical Feasibility	Traffic surveys are required to confirm practical feasibility, but it is likely that only minimal interventions are required including changing speed limits, signage, wayfinding and rest spots.		Developing traffic-free routes can be more challenging due to ecological, landowner and planning challenges. However, this is a relatively short section of traffic-free route.		There are challenges involved in developing traffic-free routes, relative to Quiet Lanes, namely: planning requirements, ecological requirements (particularly with the recent introduction of Biodiversity Net Gain (BNG) and challenges associated with potential landowner negotiations including cost, programme and viability.	
Funding/cost	Minimal and low-cost interventions expected to be required.		Developing new traffic-free routes can be costly, owing to ecological costs, landowner negotiations and land costs. This route would also need geotechnical engineering and structural engineering input for the existing structures and expected ground works which may add costs to the project		Developing new traffic-free routes can be costly, owing to ecological costs, landowner negotiations and land costs, and along routes which require geotechnical and structural expertise.	

7 Typical Design Interventions

The following pages provide some design examples relevant to the routes assessed in this study.

A high level assessment of the likely requirements for each of the routes in terms of traffic volume or speed reduction is provided in the main feasibility assessment table, using the assessment provided in Figure 3.2.

Key treatments for reducing motor vehicle speeds:

- Reduced Speed limits (see figure 7.1)
- Gateway Features (See Figure 7.2)
- Centre Line Removal (See Figure 7.11)
- Visual Narrowing (See Figure 7.14)
- Build Outs and Physical Narrowing
- Changed Junction Priorities (see Figure 7.8)
- Chicane Features (see Figures 7.5-7.7)
- Speed Humps
- Surface Changes and Treatments (See Figure 7.5)
- Vehicle Activated Devices (See Figure 7.13)
- Rumble Devices

Key treatments for motor traffic volume reduction:

- Point Closures, or other Modal Filters (See Figure 7.9)
- Weight and Width Restrictions (See Figure 7.10)
- Changes to direction signing, and/or use of not for access or do not use satnav signage

Other design features

- Resting points i.e. accessible benches (see Figures 7.3 and 7.4)



Figure 7.1 Example of Quiet Lane signage



Figure 7.3 Example of inclusive seating along the Bristol to Bath railway path



Figure 7.2 Example of Quiet Lane signage



Figure 7.4 Example of inclusive seating in Cardinham



Figure 7.5 Example of surface changes and treatments



Figure 7.6 Example of chicane feature in rural Devon



Figure 7.7 Example of chicane feature in Playing Place, Truro



Figure 7.8 Example of traffic calming change in priority junction



Figure 7.9 Example of permanent point closure/ modal filter on rural route



Figure 7.10 Example of width restriction



Figure 7.11 Example of Visual Narrowing treatment



Figure 7.13 Example of Vehicle Activated Speed devices



Figure 7.14 Example of Visual Narrowing through footway creation

8 Summary and next steps

Summary

Adorned with weathered granite celtic crosses that once provided important wayfinding to travellers throughout Cornwall, it is clear that the routes appraised in this study have been important routes for time gone by.

It is also clear that they continue to be important routes and places for the local communities, with benches, river spots, cafés, village halls, churches & schools scattered across the network. The routes are also key to the wider public transport network, with bus stops also scattered across the network.

The abundance of roads, both strategic & local, throughout the Camel Valley is an asset to the local community. However, many of the roads are currently under-utilised, with only a few hundred cars using them every day and low perceptions of safety for use for active travel.

This study has appraised the opportunity to connect towns, villages and hamlets across the Camel Valley by unlocking these under-utilised assets, through the provision of Quiet Lanes; safe routes and spaces for people to walk, wheel & cycle, alongside motor vehicles.

The RAG ratings for each of the routes in the network provide an indication as to the value (to policy & transportation targets, and to the local community) and to the deliverability (both financial and practical feasibility), which will help to guide a programme of investment.

The feasibility table and design chapter provide an indication of the types of interventions that will be required to make these routes safe for everyone aged 8 to 80 and beyond.

The study built on past feasibility studies and economic assessments of active travel routes in the region. The North Cornwall Trail Study, 2021 identified the Camelford to Delabole link as high-value; this study has further developed this opportunity by undertaking traffic surveys to understand the likely design interventions for the route, as well as determining the route to be viable. The 2021 study also highlighted the Wenfordbridge to Camelford Link as high-value, but practically unfeasible as traffic-free; this study has found an alternative alignment which is still of high-value but more practically feasible. It is clear from previous work that there are significant health, economic and environmental benefits to developing these routes.

The study recommends the following routes are of the highest feasibility and value for immediate delivery:

- Camelford to Trewalder
- Camelford to St Breward
- B3266 to St Mabyn
- Camelford to Delabole
- Wadebridge to St Mabyn (Quiet Lane route)
- St Breward to Wenfordbridge
- Wadebridge to St Mabyn (traffic-free route)

N.B. The routes through Camelford town were not assessed in this study. Due to high-traffic levels in the centre of Camelford it is likely that segregated cycling infrastructure would be required.

The following routes align with Sustrans' Paths for Everyone ambition to upgrade the National Cycle Network to a high quality. It is therefore recommended to develop these routes in close collaboration with Sustrans, who often have Department for Transport funding for projects like these which are on the NCN:

- St Breward to the Camel Trail
- St Breward to Camelford



Three routes were not considered feasible for purely Quiet Lane implementation: Wadebridge to Rock (a route via St Mabyn is instead recommended), Bodmin to Cardinham (further feasibility to assess traffic-free alternatives is recommended) & Lanivet to Nanstallon (an alternative QL route has been recommended). Other routes that scored low are those that required crossings of A and B roads due to potentially prohibitive costs of bridges or controlled crossings, however, are still considered feasible.



Next Steps

Stakeholder Engagement

Developing Quietways, particularly in a rural context will require engagement with the relevant local stakeholders including Cornwall council, any relevant town councils and the local highways authority.

Produce preliminary design drawings

These plans will be detailed enough to assess the physical works required to build the route, but will not generally be sufficient for construction. Further traffic surveys may be required. This will then feed into any further design work along the suggested Quiet Lane routes. A Traffic Regulation Order will be required to permanently change the speed limit to 20mph or 30mph or to install a modal filter, weight limits or one-way streets and banned turns.

Topographical surveys may be required to inform the detailed design.

Community Engagement

Community engagement is key to the successful delivery of Quiet Lanes. Holding workshops both in-person and online will give as many people as possible the chance to feed into the process.

We recommend open and transparent communication with all parties, clearly setting out the proposal and the benefits to the local community. Some opposition may be encountered, but it is better to know about this at an early stage before too much time and money is spent on developing a preferred route. The routes in this study have been selected on the basis that opposition will be low, and therefore this is not anticipated to be a huge risk for the routes in this study.

Co-discover workshops offer an opportunity for the local community and local stakeholders to identify additional barriers to active travel along the routes, to aid the design. These workshops also provide designers with local knowledge on any opportunities available, such as the placement of a picnic bench, or Gateway feature.

Co-design workshops offer an opportunity for the local community and local stakeholders to shape the design of the interventions, from traffic-calming to traffic-volume reduction.

This may include but is not limited to: Local residents, Highways Authority, Local Divisional Member, Local walking, cycling and other interest groups in the area.

Consider planning permission and other consents

Most routes within the adopted highway boundary are unlikely to need planning permission, but this should be checked with the local planning authority and highway authority.

Detailed Design

Detailed drawings and cross-sections, typically at a scale of 1:250 at A1, will be needed to instruct contractors and to gain approval from local authorities. These drawings will include all the details of construction method, materials, earthworks, traffic management, drainage, fencing and access controls needed to build the necessary interventions.

Construction

The contractor will be asked to provide a construction programme and duration for the works; a minimum of three months should be given to appoint the contractor and allow them to mobilise. Stakeholders will need to be informed as work progresses and to arrange access for plant, materials and equipment.

Promotion

When a route is completed and ready for use, it is important to inform everyone that it exists. A celebratory event involving the local community is a good starting point and local press will often send a reporter or photographer. Social media can complement more traditional press releases and printed material. A programme of events, walks and rides can also help to raise the profile and get more people involved.

Behaviour change initiatives such as led rides, bike maintenance support and school engagements can also help get more people using the route.

Maintenance

Most of the routes in this study are already Highways Maintainable at the public expense (HMPE) and therefore are already being maintained by the highways authority.

It is still however good to consider maintenance; good design and construction can help to reduce long term maintenance costs.

If the route is to be part of the National Cycle Network, Sustrans volunteers will be able to help with maintenance, both for routine tasks and occasional workdays. If there is no local volunteer group, Sustrans can help establish one and provide materials and support to get started.



Figure 8.3 Local wayfinding design for motor vehicles

Appendix A: Extracts from LTN 1/20 Guidance

Speed Limit ¹	Motor Traffic Flow (pcu/24 hour) ²	Protected Space for Cycling			Cycle Lane (mandatory/ advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20mph ³	0					
	2000					
	4000					
	6000+					
30mph	0					
	2000					
	4000					
	6000+					
40mph	Any					
>50mph	Any					

- Provision suitable for most people
- Provision not suitable for all people and will exclude some potential users and/or have safety concerns
- Provision suitable for few people and will exclude most potential users and/or have safety concerns

NOTES:

1. If the 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied

2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow

3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1000 pcu/24 hour

Figure 8.4 Details on appropriate protection from motor vehicles on highways (LTN 1/20 Figure 4.1)

Figure 1.1: Core design principles

Accessibility for all

Coherent

Direct

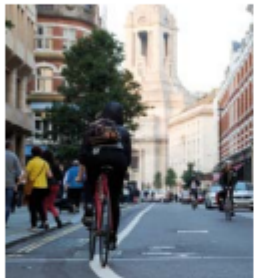
Safe

Comfortable

Attractive



DO Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality.



DO Cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles.



DO Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle.



DO Comfortable conditions for cycling require routes with good quality, well-maintained smooth surfaces, adequate width for the volume of users, minimal stopping and starting and avoiding steep gradients.



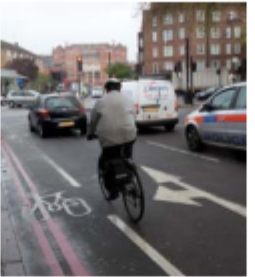
DO Cycle infrastructure should help to deliver public spaces that are well designed and finished in attractive materials and be places that people want to spend time using.



DON'T Neither cyclists or pedestrians benefit from unintuitive arrangements that put cyclists in unexpected places away from the carriageway.



DON'T This track requires cyclists to give way at each side road. Routes involving extra distance or lots of stopping and starting will result in some cyclists choosing to ride on the main carriageway instead because it is faster and more direct, even if less safe.



DON'T Space for cycling is important but a narrow advisory cycle lane next to a narrow general traffic lane and guard rail at a busy junction is not an acceptable offer for cyclists.



DON'T Uncomfortable transitions between on-and off carriageway facilities are best avoided, particularly at locations where conflict with other road users is more likely.



DON'T Sometimes well-intentioned signs and markings for cycling are not only difficult and uncomfortable to use, but are also unattractive additions to the street scape.

Figure 8.5 Level of Service appraisal - core design principals

Table 10-2: Crossing design suitability

Speed Limit	Total traffic flow to be crossed (pcu)	Maximum number of lanes to be crossed in one movement	Uncontrolled	Cycle Priority	Parallel	Signal	Grade separated
≥ 60mph	Any	Any					
40 mph and 30 mph	> 10000	Any					
	6000 to 10000	2 or more					
	0-6000	2					
	0-10000	1					
≤ 30mph	> 8000	> 2					
	> 8000	2					
	4000-8000	2					
	0-4000	2					
	0-4000	1					

	Provision suitable for most people
	Provision not suitable for all people and will exclude some potential users and/or have safety concerns
	Provision suitable for few people and will exclude most potential users and/or have safety concerns

Notes:

1. If the actual 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow

Figure 8.6 Crossing design suitability for different speed limits and traffic flows