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Moretonhampstead to Chagford

Greenway Route Feasibility Study

May 2022

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

Head Office
Sustrans
2 Cathedral Square
College Green
Bristol
BS1 5DD

Registered Charity No. 326550 (England and Wales) SC039263 (Scotland)

VAT Registration No. 416740656

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V3.3	Further comments	I Stewart	IMS	6/5/22
V3.4	Final Comments	I Stewart	IMS	16/5/22
V3.5	Public	I Stewart	IMS	25/5/22

Contents

1 Introduction

1 Introduction

Purpose of this study

This study investigates route options for a safe, traffic free, route between Moretonhampstead and Chagford in Central Devon.

A potential future route would have the ability to replace the existing NCN Route 28 alignment which is entirely on-road between the two towns and substandard in parts owing to traffic, steep gradients and restricted lane widths.

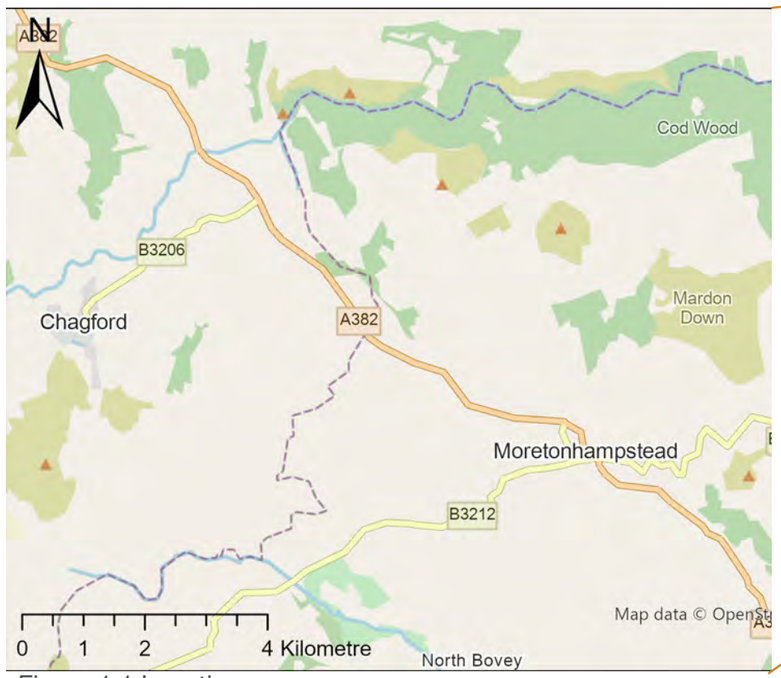


Figure 1.1 Location map

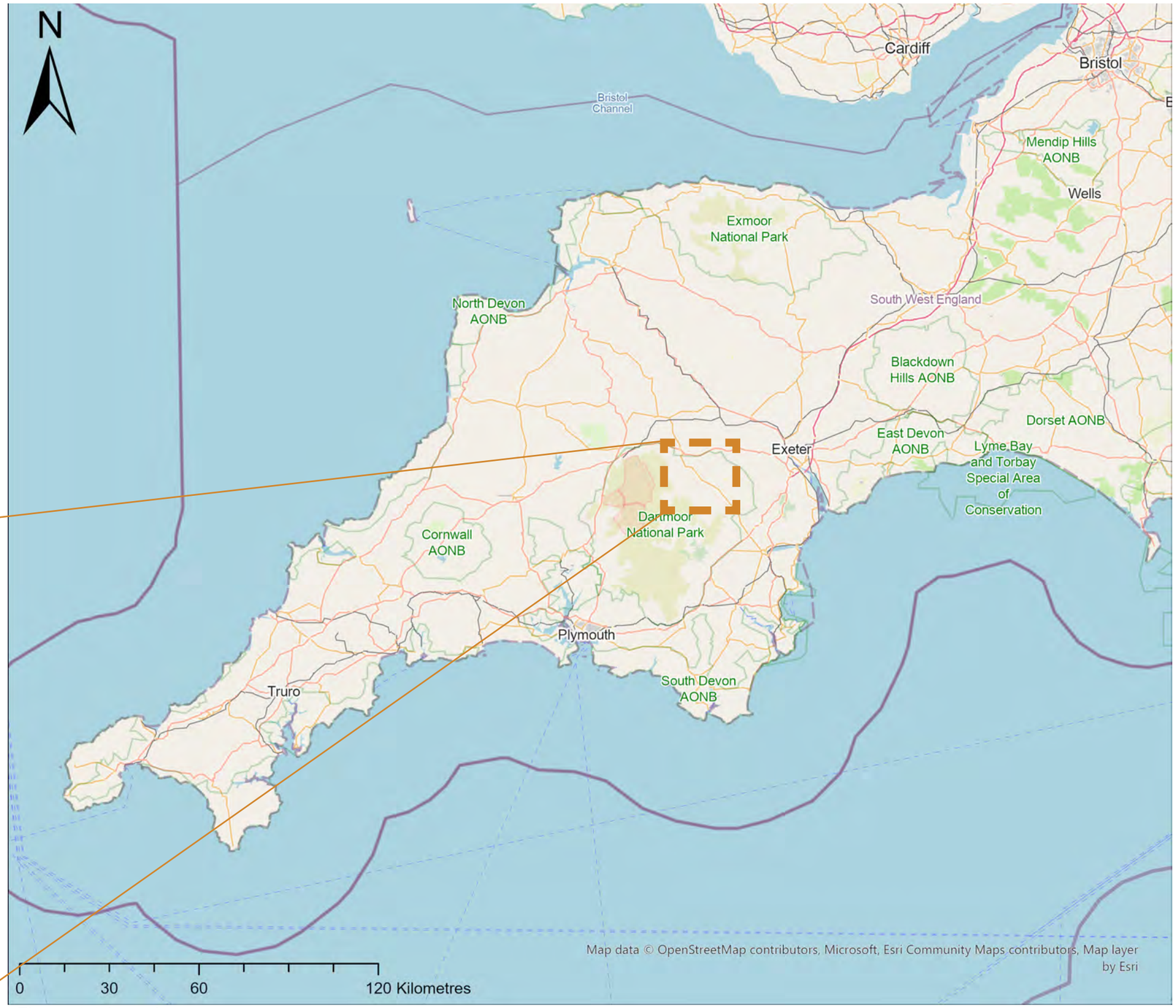


Figure 1.2 Location map

Background and context

The Wray Valley Trail, built by Devon County Council, currently ends south of Moretonhampstead. This predominantly traffic free route allows users to travel on a safe path between Bovey Tracey and Moretonhampstead based on the alignment of a former railway.

The fundamental principle of this study is to investigate the potential to extend the Wray Valley Trail so that a consistent, safe, traffic free, path continues from Moretonhampstead to the centre of Chagford.

Figure 1.3 shows a yellow line (lower right in Figure 1.3) depicting the traffic free section of the Wray Valley Trail just south of Moretonhampstead. This then changes to a blue line, depicting the on road NCN 28 route to Chagford.

The popularity and high levels of use currently seen on the Wray Valley Trail gives an indication of the likely level of demand for a traffic free path connecting to Chagford.

It is anticipated that a new path could be used to get to school, to get to work, for leisure and by visitors keen to explore the wonderful natural environment of Dartmoor National Park.

This initial study considers five route options, and describes the characteristics of each option.

This assessment process is guided by the five core design principles which underpin the Department for Transport's (DfT) Local Transport Note 1/20 Cycle Infrastructure Design Guide,

Coherence

Directness

Safety

Comfort and

Attractiveness

Finally, the study summarises the information presented and conclusion reached.

It then outlines the next steps required to take this project forward.

It is important to note that there have been significant objections from several land owners in the project area. Ultimately, this may mean that a traffic free path is not deliverable as a project at this time.

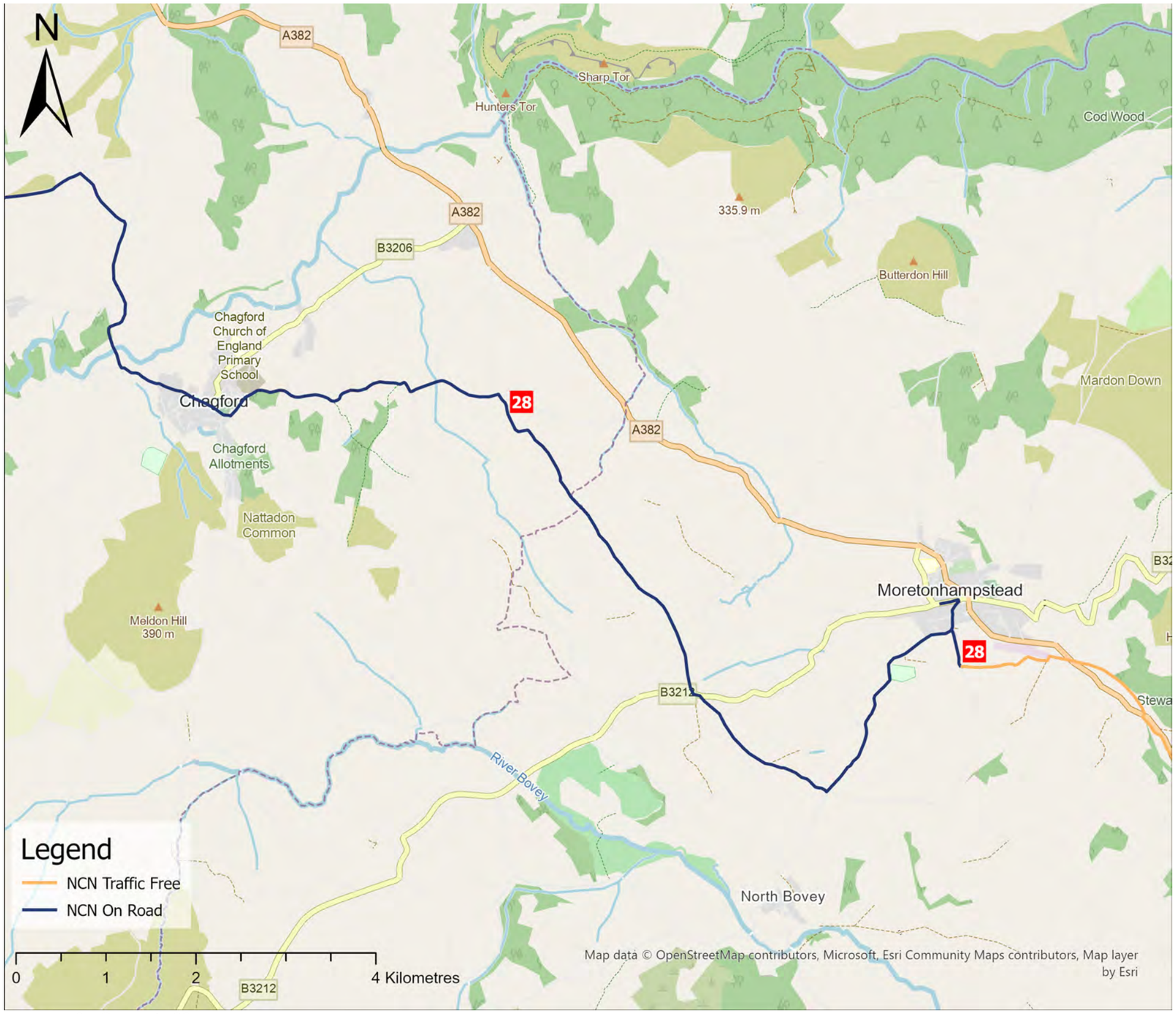


Figure 1.3 NCN, route 28

This issue is dealt with further in section 6 of this report “Summary and Next Steps” where the possibility of creating a “Quiet-way” on the existing NCN 28 on-road alignment is discussed further.

The Strategic case

There is renewed Government, Local Authority and community appetite for high quality local walking and cycling provision, as evidenced during the Covid 19 pandemic.

Sources describe an increase in the rates of walking and cycling and an increase in the number of people discovering their existing public rights of way network.

Currently, there is a limited and somewhat fragmented public rights of ways network serving the two towns at the focus of this study.

These rights of way are based on historic tracks, paths and restricted byways and are shown in Figure 1.4.

The existing National Cycle Network Route 28 is entirely on-road between Moretonhampstead and Chagford (as shown by the blue line in Figure 1.3).

There are no safe, traffic free, cycling facilities between the two town’s and the A382 is busy with fast moving traffic in places. This road therefore acts as a barrier to walking and cycling between the two towns.

As well as enabling more people to be able to choose walking and cycling - a high quality, traffic free route would help by replacing some local trips by car, therefore helping to reduce emissions and congestion in the town centres and the pressures on parking.

Providing a safe traffic free link from Moretonhampstead to Chagford would also create another part of the chain joining South Devon to North Devon including Okehampton mainline railway station.

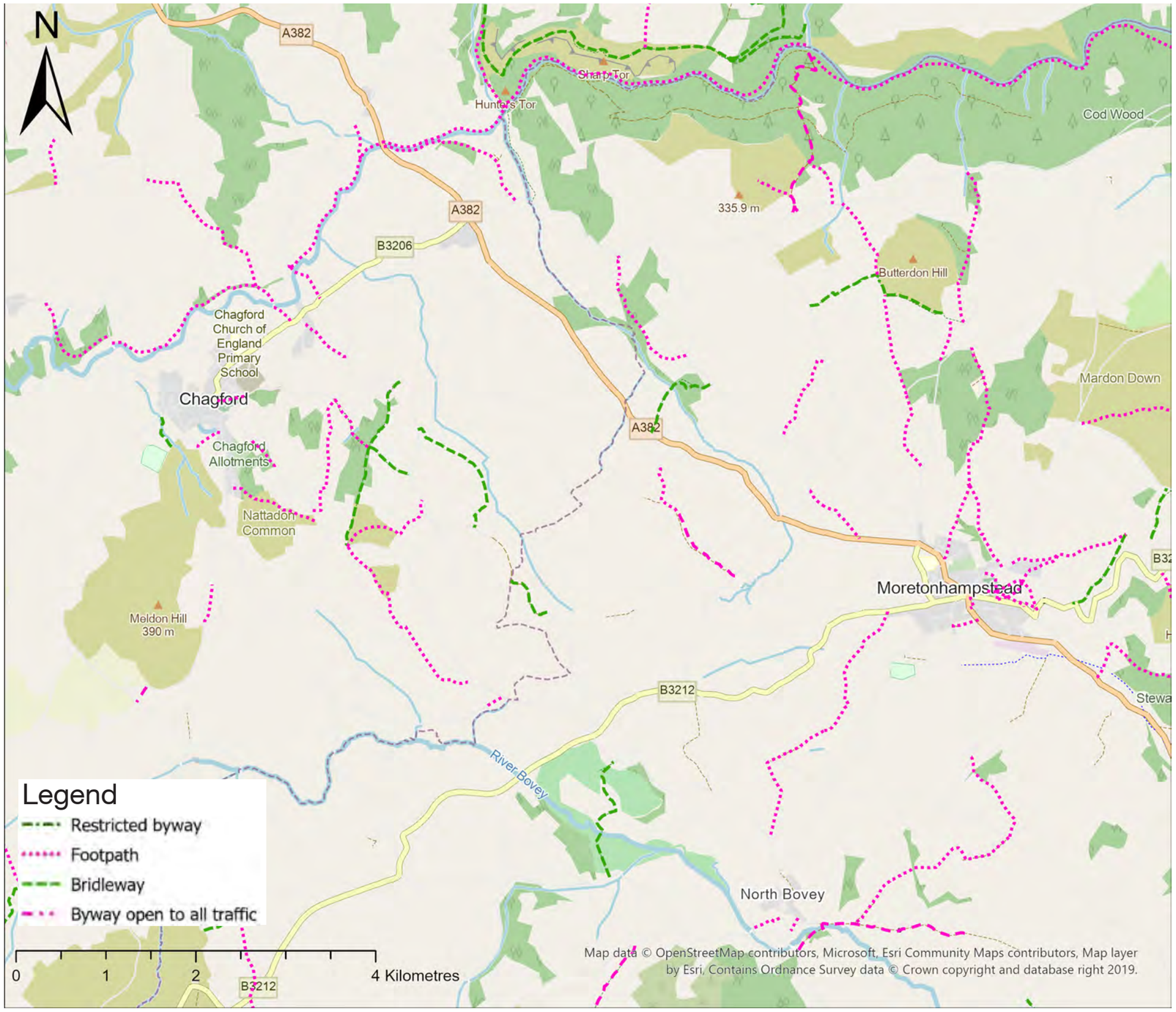


Figure 1.4 Public Rights of Way

Gear Change: A bold vision for cycling and walking (2020)

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf)

This visionary document, released by the Department of Transport in July 2020, recognises the need to create a step change in active travel.

The Gear Change document notes the benefits of active travel across a range of metrics, including health, well being, congestion, local business, environment and economy.

The vision is ''….**for a transformation in our transport system, that will benefit us all**''.

This vision will be achieved through four themes that require action at all levels of Government:

i. Better streets for cycling and people.

ii. Cycling at the heart of decision-making

iii. Empowering and encouraging Local Authorities

iv. Enabling people to cycle and protecting them when they do.

There is also a comprehensive summary of principles of cycle infrastructure design that includes making cycling accessible to all, segregation where possible on high traffic volume roads, deign for significant volumes of cyclists, ensuring cycle infrastructure is well connected and maintained.

Gear Change: One Year On (2021)

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007815/gear-change-one-year-on.pdf)

This interim report, one year after the publication of Gear Change provides a summary of the achievements made to date.

Cycling levels in England have risen by 46 per cent – the greatest increase in postwar history.

Cycling has increased by more in this one single year than it did over the whole of the previous 20 years.

Hundreds of new schemes have created safe space for people to cycle and walk, supported pubs and restaurants that might otherwise have closed, and allowed us to get the exercise we need.

After decades of neglect children can once again play in the street in some places.

Figure 1.5 Gear Change (DfT)

Transport Decarbonisation Plan (2021)

(https://www.gov.uk/government/publications/transport-decarbonisation-plan)

This plan re-affirms the UK Government's commitment to make cycling, walking and public transport the natural first choice.

It recognises the important role of planning policy and that many new housing developments lock in car dependency.

It highlights the need to better connect places with people and to promote the principles of 20-minute neighbourhoods

It commits to a world class walking and cycling network by 2040 through delivering on the vision set out in Gear Change to have half of all journeys in towns and cities cycled or walked by 2030.

It also recommits £2 billion of investment over the next five years.

National Planning Policy Framework (2019)

(https://www.gov.uk/government/publications/national-planning-policy-framework--2)

The National Planning Policy Framework ((NPPF) was introduced in 2010 and was last updated in February 2019.

This document establishes the Government's overarching planning policies for England, and how they should be applied.

In achieving sustainable development, the NPPF sets out three key objectives:

i.'An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure';

ii.'A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural wellbeing', and

iii.'An environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy'.

At the heart of the NPPF is a presumption in favour of sustainable development which should run through all plan making.

In the context of planning for transport this means actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.

The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.

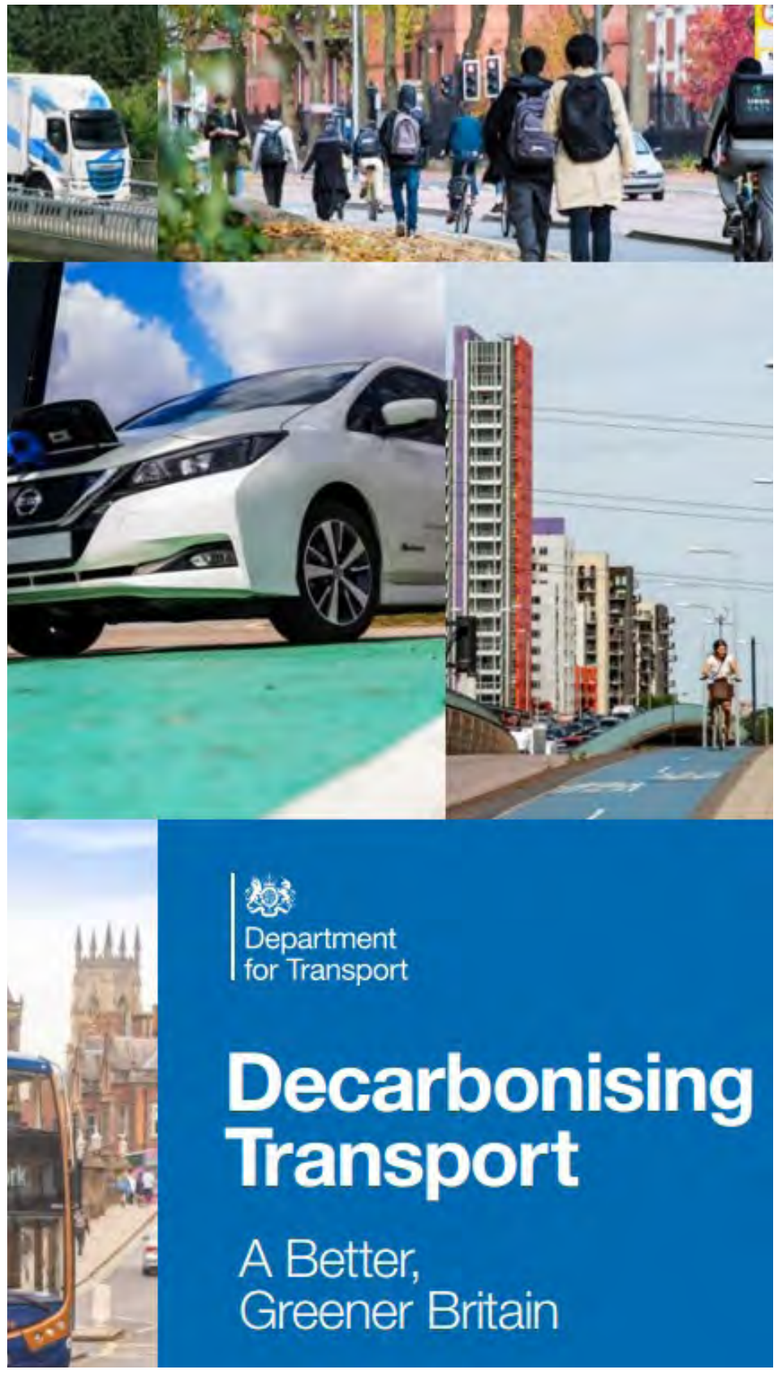


Figure 1.6 Decarbonising Transport (DfT)

Local Strategic context

Devon County Council: Cycling and Multi-Use Trail Network Strategy (PTE/15/22) March 2015

(https://democracy.middevon.gov.uk/documents/s11335/Cycling%20and%20multi-use%20trail%20network%20strategy.pdf)

Presented here are the pertinent aspects of the Devon County Council Strategy for a Cycling and Multi-use Trail Network:

The Strategy sets out how Devon County Council (DCC) will prioritise plans and proposals for developing the cycle and leisure route network against changing and challenging financial circumstances.

The Council's aim is to develop a segregated, high quality multi-use network of routes and trails that provide access for all and promote healthy, active lifestyles in Devon.

Increasing the uptake of cycling is a key Government aspiration; there is a wish to make it easier and safer for people who already cycle as well as encouraging far more people to take up cycling.

Businesses, local government, Local Enterprise Partnerships (LEPs), developers, landowners, road users, the transport sector and the public all have a role to play in making this happen.

Investing in cycling extends the travel options available to people for journeys to work, school, business and shopping purposes. The Authority recognises that a walking and cycle network supports the economy and enables people to enjoy being active for leisure and sport.

Cycling supports the local economy in urban and rural areas; supports local businesses and property values by reducing vehicular traffic and congestion; it boosts the economic productivity of a healthy and satisfied workforce, and enables disadvantaged groups to gain access to training and employment opportunities.

Devon's walking and cycling network offers the opportunity for all to be active and enjoy the outdoors, whether this is walkers, cyclists, wheelchair users or horse riders.

Walking and cycling can contribute to physical and mental health and wellbeing among the older population by providing an active means of independent mobility.

Improved access can help people better connect with their communities and engage in social activities.

Devon County Council : The Rural and Leisure Cycle Trail Network p9 'Cycling and Multi-Use Trail Network Strategy'

Aim 2: Invest in Devon's leisure routes and trails

To secure transitional economic and health benefits in rural Devon by increasing peoples' access to Devon's impressive countryside and heritage, and providing linkages with rural towns and villages.

Tourism is an important part of the Devon economy and the rural cycle and trail network is a dynamic asset, fulfilling a number of roles.

The network provides connections between villages and towns and helps to provide access to the county's stunning natural environment. In some cases, it functions as scenic and enjoyable commuter routes and also attracts people to spend their free time exploring the coast and countryside.

They can also be capable of transforming local economies, bringing people into towns and villages to boost the local economy.

Furthermore, they can be used by a variety of users, which demonstrates the wider benefits of the multi-use trail in terms of health and economy to all people living and working in Devon.

For example, in addition to cyclists the Exe Estuary Trail is well used by walkers, people with prams and wheelchair users.

Market and Coastal Town Networks

Aim 3: Influencing the planning process to enable delivery of cycle aspirations in market and coastal towns

To ensure that cycle schemes are included in Local Plan infrastructure delivery plans so that developer contributions can be secured and new developments designed to create attractive walking and cycling environments.

A number of our Market and Coastal towns will also experience housing and employment growth over the next twenty years. The level of competition for funding both across authorities and across modes means that there is little scope for local cycle schemes to secure funding through the Growth Deal process. Schemes may however be packaged up with other Growth Deal schemes where it can be demonstrated that it unlocks significant levels of growth.

The National Planning Policy Framework (NPPF) enables local people and their accountable councils to produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. From our day to day contact with communities it is clear that schemes will continue to be identified locally by the community and it is important that these are considered, recorded and encouraged. With pressures on funding, local communities should identify their walking and cycling needs through inputting to the Local Plan processes but also including proposals in their neighbourhood plans.

There is still considerable work to do to complete the existing rural network so the focus needs to be on this. Devon County Council's experience has demonstrated the benefits of a high quality walking and cycling network, providing access to an outstanding natural environment. Their strategy is aimed at completing this network to deliver economic benefits for rural communities and they acknowledge the need to also consult on future expansion opportunities.

Missing Links in Devon's Rural Cycle and Trail Network:

The Figure below from the Cycling Strategy illustrates the new Coast to Coast opportunity in Central Devon.

Also the 'NCN 2: South Devon Way and Links incorporating Wray Valley – Bovey Tracey to Moretonhampstead and on road to Okehampton'

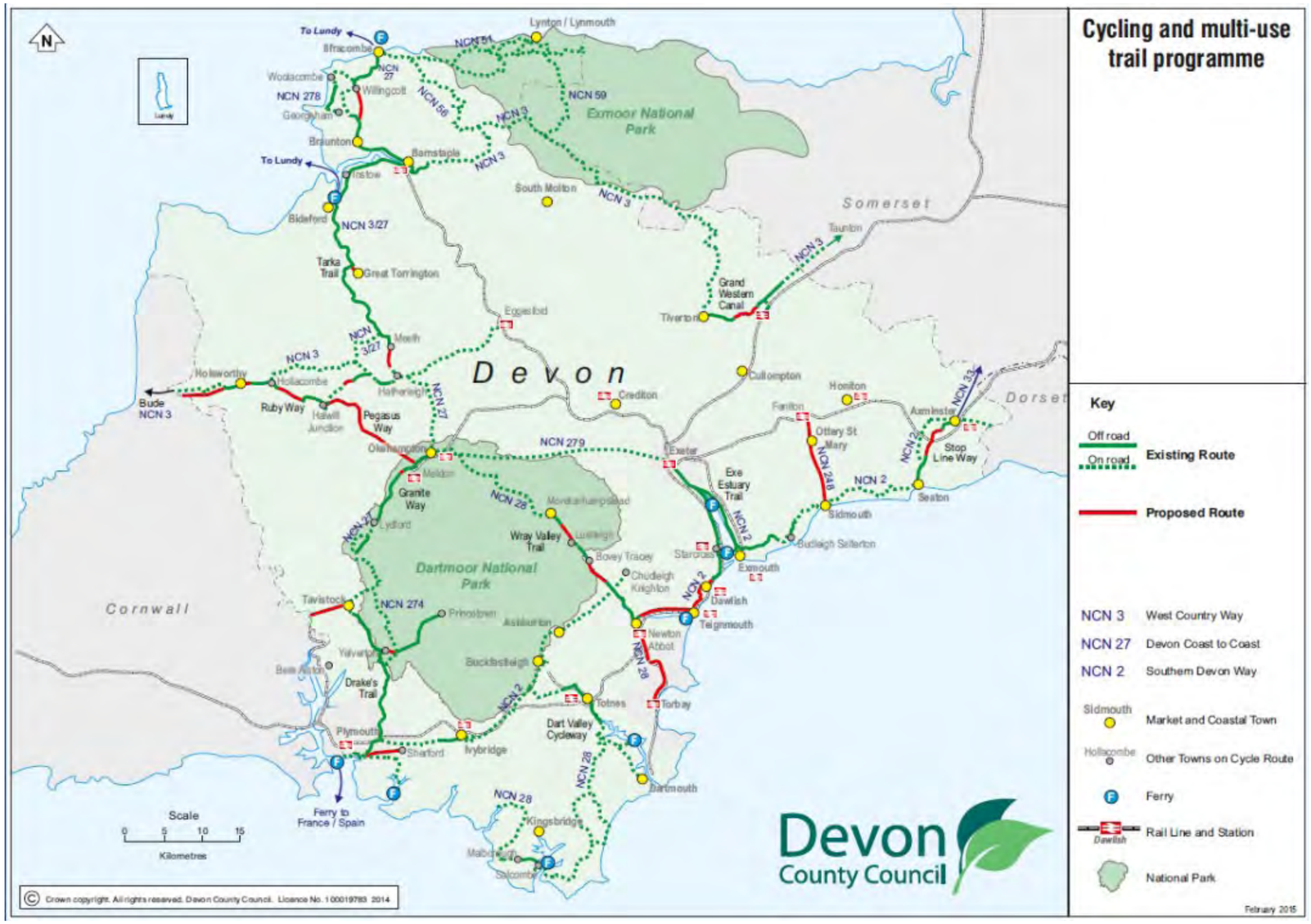


Figure 1.7 Cycling and Multi-Use Trail Network Strategy 2015 (Devon County Council)

Travel patterns in the area: 2011 Census

Modal Split

The adjacent figures illustrate how people in the study area travel to and from work based on Census data from 2011.

Although this may seem somewhat out of date the 2011 data is the most recent census data available and represents an industry standard data set.

Travel based on recreation, shopping and other non work journeys is not included.

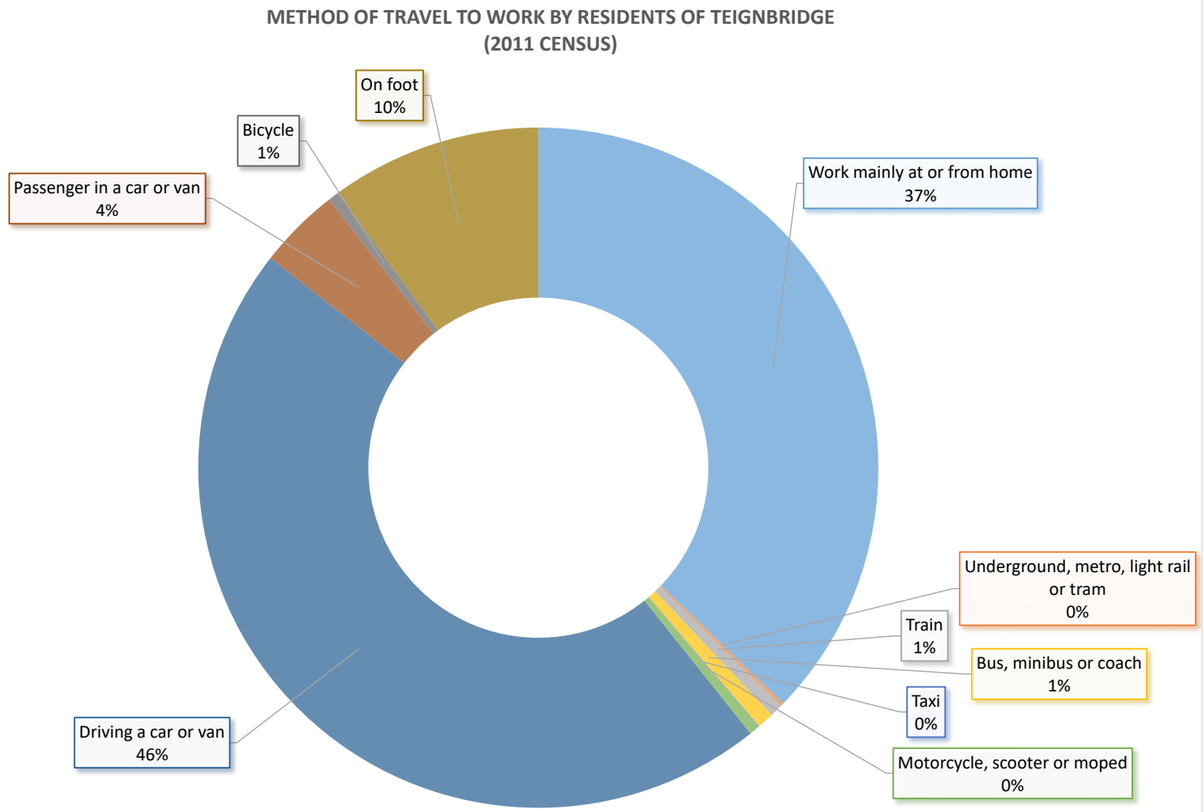
The charts examine all commuting trips from in West Devon and Teignbridge Districts.

Driving a car or van to work is very much dominant with between 46 and 50% of trips being taken his way.

Walking to work is the next biggest category with between 10-11% of commutes being on foot.

Amongst the other modes 1% take the bus, while 1 % cycle.

With improved levels of provision for infrastructure in walking and cycling it is envisaged that some of these trips could be made by bike or on foot.



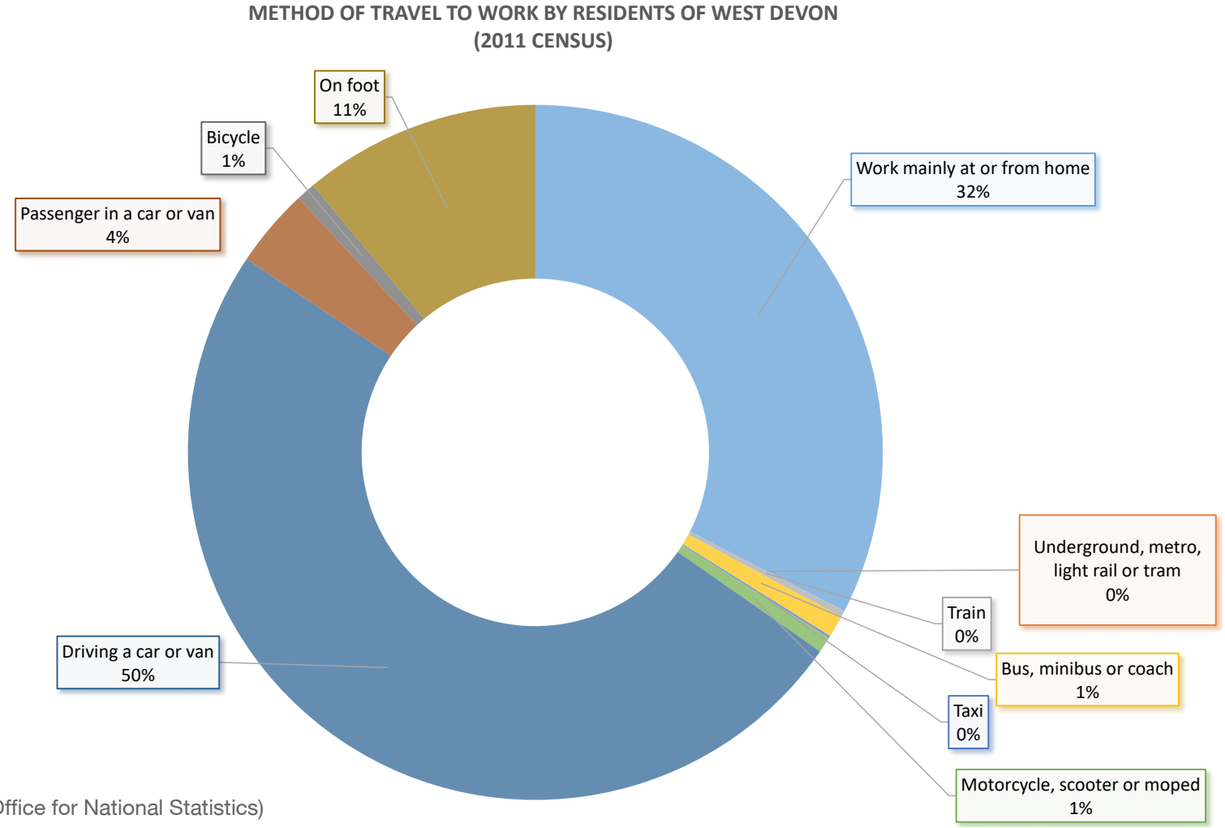


Figure 1.8 Modal Split (Office for National Statistics)

Online Questionnaire November 2020

The Greenway Group wanted to be able to quantify the potential interest in being able to walk and cycle between Moretonhampstead and Chagford.

In November 2020 the Greenway Group launched an online survey to capture responses to a 'Chagford to Moretonhampstead link'.

A copy of the Survey and responses is appended to this report.

The Survey received over 900 responses which identified that 85% of the respondents regularly use a car to travel between Moretonhampstead and Chagford.

Of the respondents, 9% cycle and 0.7% walk.

When asked about cycling on the existing connecting roads -

31% said Yes, they would consider cycling on existing roads.

69% said No, they would not consider cycling on existing roads.

When asked why they would not cycle on the existing roads -

79% said Too much traffic.

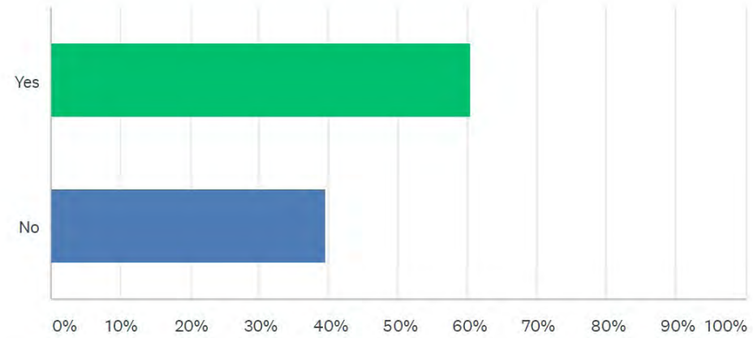
6% said Too many hills.

When asked about if they would use a potential new traffic free path between the town's -

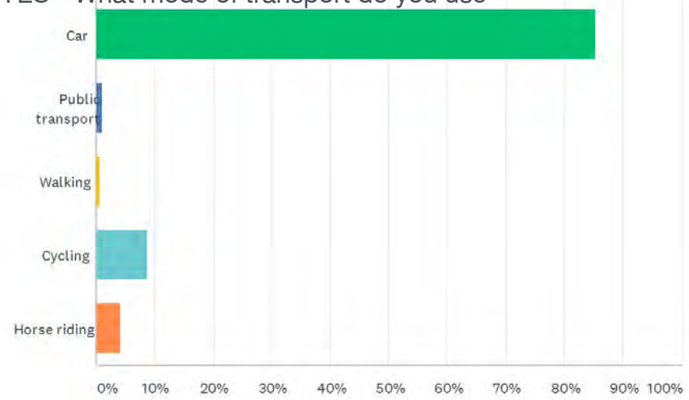
98% said Yes they would use such a path

2% responded No they would not use such a path.

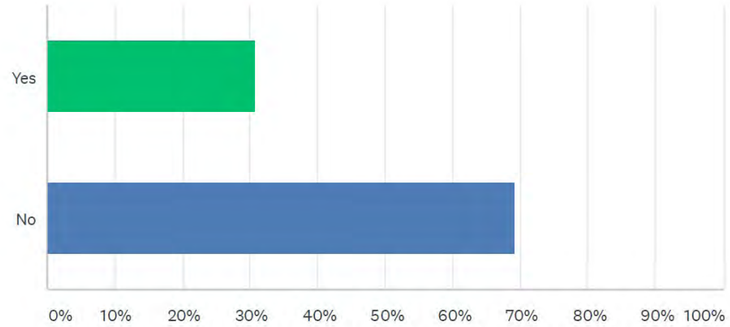
Do you regularly travel from Moretonhampstead to Chagford?



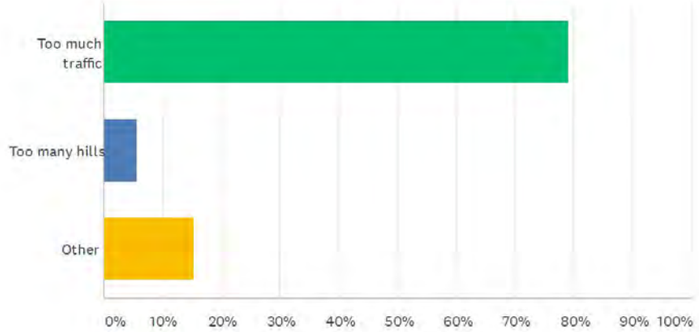
IF YES - What mode of transport do you use



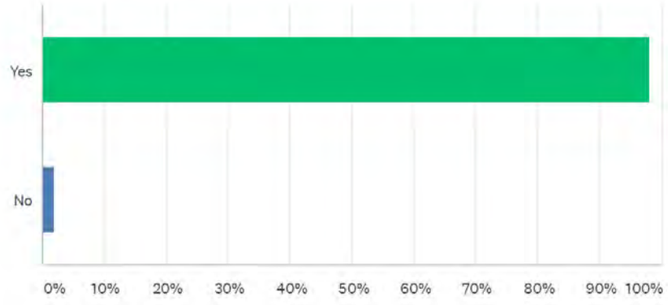
Would you consider cycling on the existing roads between Moretonhampstead and Chagford?



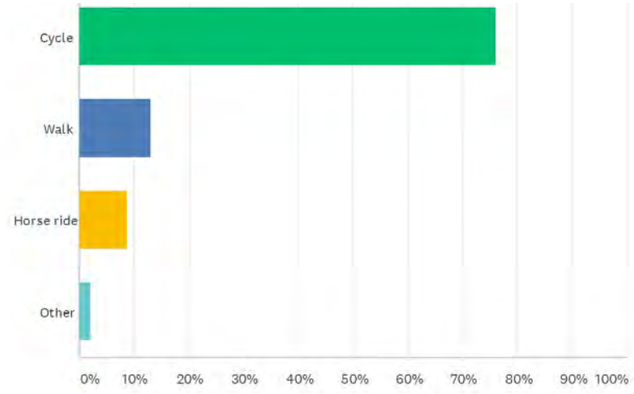
IF NOT- Why not



Would you consider using a traffic free path between Moretonhampstead and Chagford?



IF YES- Would you



If you are not a cyclist, would you support a traffic free route between these two communities for other reasosn (eg to support local businesses)?

ANSWER CHOICES	RESPONSES
Yes (please add details)	96.71%
No (please add details)	4.45%

Have you used any of these local traffic free routes?

ANSWER CHOICES	RESPONSES
Wray Valley Trail Y/N	85.81%
Granite Way Y/N	90.47%
Tarka Trail Y/N	90.13%

Figure 1.9 A Chagford to Moreton Link? Questionnaire November 2020

Dartmoor National Park Management Plan – The Vision for Dartmoor in 2045

(https://www.yourdartmoor.org/the-plan/better-for-people/stimulating-green-travel)

The recently published Management Plan refers to tackling the climate change crisis 'to make a significant contribution to both mitigating and adapting to climate change and addressing the ecological emergency by significantly reducing emissions from transport by improving sustainable transport options' amongst other priorities and adapting to a changing climate by 'requiring net gains for biodiversity as part of new development (through Local Plan policies), including green infrastructure which can help species adapt to climate change'.

The National Park Authority has also committed to developing a green transport strategy to increase the number of people accessing and moving around the National Park sustainably, including actions to 'develop safe multi-user route networks as part of the Strategy, providing a strategic network to get people to and around the National Park and increase length of stay'

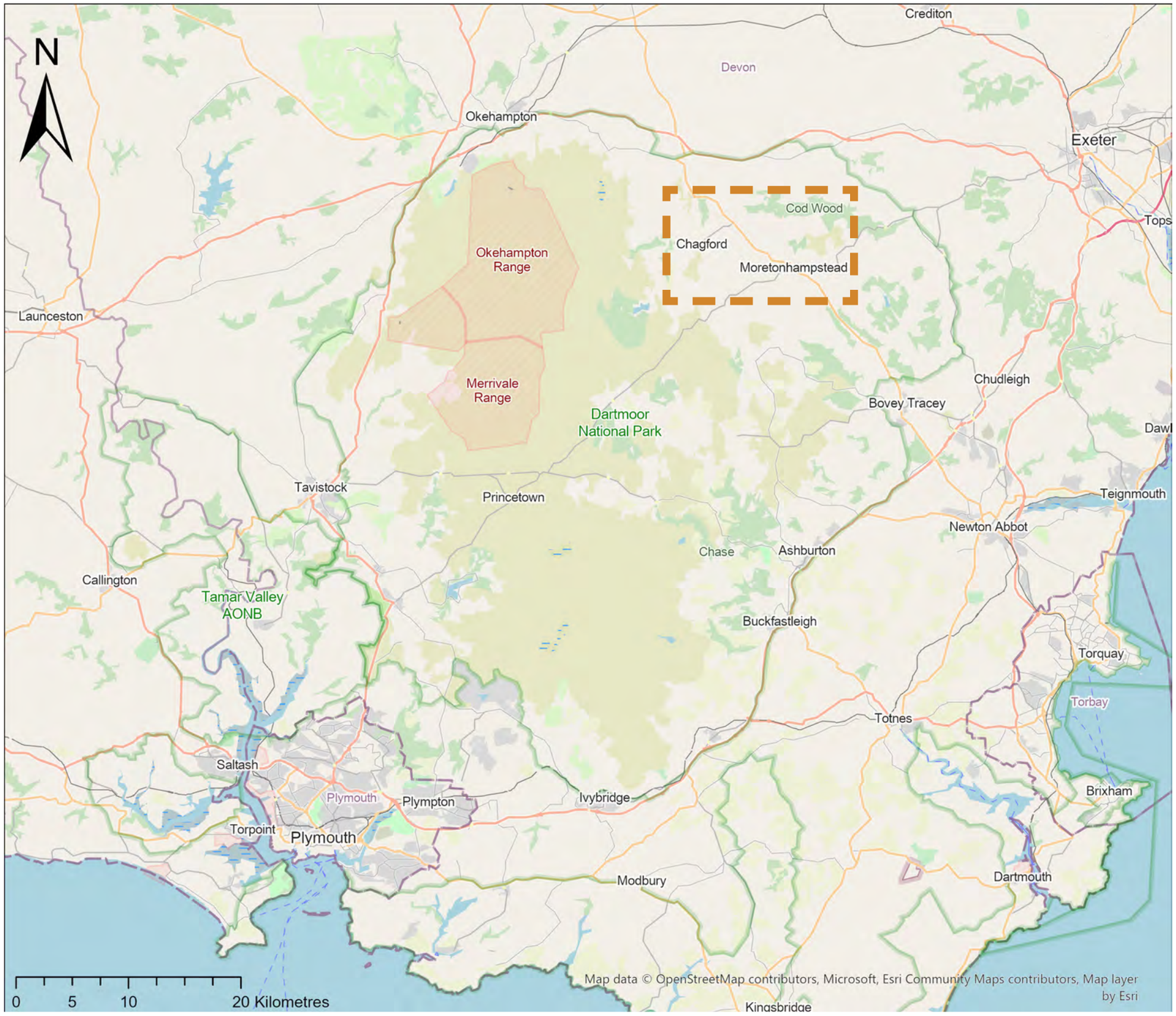


Figure 1.10 Dartmoor National Park

2 Cycle Traffic Design Guidance

2 Design Guidance

This study has been based on the standards presented in the Department for Transport Cycle Infrastructure Design guidance document Local Transport Note (LTN) 1/20 and Manual for Streets.

This guidance provides useful requirements and advice for the design of infrastructure for cycle traffic both on and off the carriageway and is intended for use by highway design professionals to facilitate convenient and safe movement of cycle traffic.

Some of the most relevant criteria considered for cycle corridors and specific junctions are presented as follows:

Summary Principles

1. Cycle infrastructure should be accessible to everyone from 8 to 80 and beyond: it should be planned and designed for everyone. The opportunity to cycle in our towns and cities should be universal.
2. Cycles must be treated as vehicles and not as pedestrians. On urban streets, cyclists must be physically separated from pedestrians and should not share space with pedestrians. Where cycle routes cross pavements, a physically segregated track should always be provided. At crossings and junctions, cyclists should not share the space used by pedestrians but should be provided with a separate parallel route.
3. Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them.
4. Side street routes, if closed to through traffic to avoid rat-running, can be an alternative to segregated facilities or closures on main roads – but only if they are truly direct.
5. Cycle infrastructure should be designed for significant numbers of cyclists, and for non-standard cycles. Our aim is that thousands of cyclists a day will use many of these schemes.
6. Consideration of the opportunities to improve provision for cycling will be an expectation of any future local highway schemes funded by Government.
7. Largely cosmetic interventions which bring few or no benefits for cycling or walking will not be funded from any cycling or walking budget.
8. Cycle infrastructure must join together, or join other facilities together by taking a holistic, connected network approach which recognises the importance of nodes, links and areas that are good for cycling.
9. Cycle parking must be included in substantial schemes, particularly in city centres, trip generators and (securely) in areas with flats where people cannot store their bikes at home. Parking should be provided in sufficient amounts at the places where people actually want to go.
10. Schemes must be legible and understandable.
11. Schemes must be clearly and comprehensively signposted and labelled.
12. Major 'iconic' items, such as overbridges must form part of wider, properly thought-through schemes.
13. As important as building a route itself is maintaining it properly afterwards.
14. Surfaces must be hard, smooth, level, durable, permeable and safe in all weathers.
15. Trials can help achieve change and ensure a permanent scheme is right first time. This will avoid spending time, money and effort modifying a scheme that does not perform as anticipated.
16. Access control measures, such as chicane barriers and dismount signs, should not be used.
17. The simplest, cheapest interventions can be the most effective.
18. Cycle routes must flow, feeling direct and logical
19. Schemes must be easy and comfortable to ride.
20. All designers of cycle schemes must experience the roads as a cyclist.
21. Schemes must be consistent.
22. When to break these principles - the process for departures from standard.

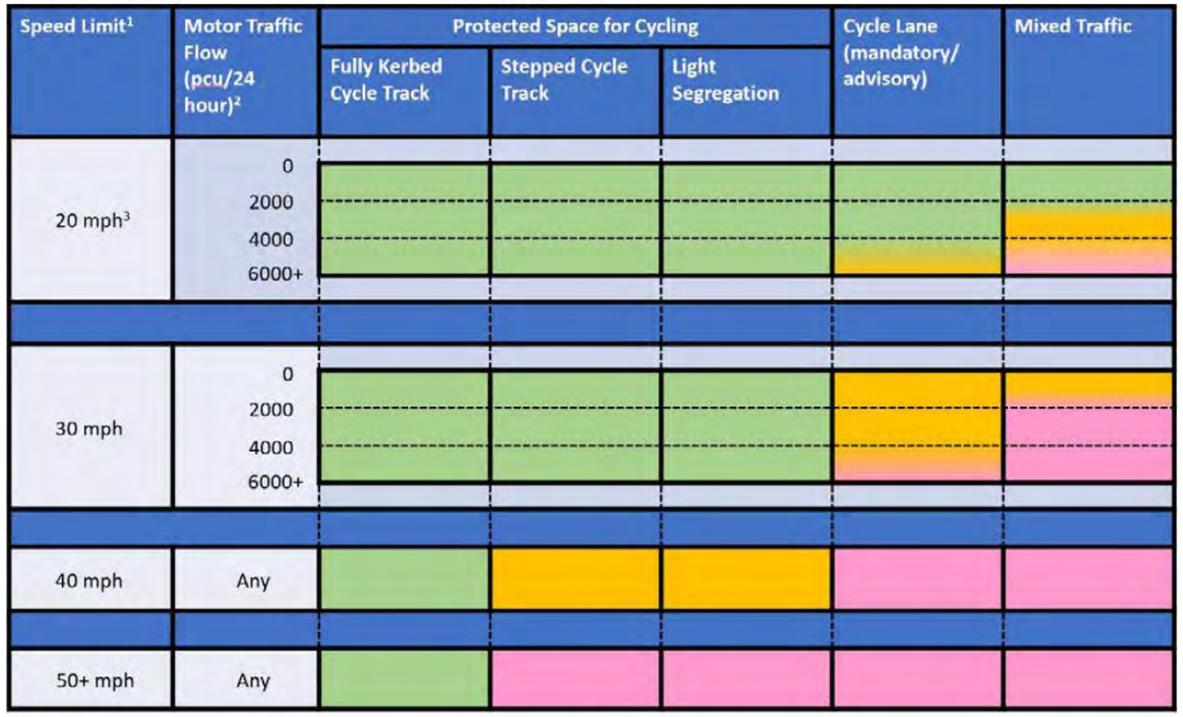
Local Transport Note 1/20

This national guidance provides a recommended basis for those standards based on five Core design principles and 22 summary principles, as follows:

Core design principles

The five core design principles represent the essential requirements to achieve more people travelling by cycle, based on best practice both internationally and across the UK.

Figure 4.1: Appropriate protection from motor traffic on highways



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 1,000 pcu per day

Table 6-1: Minimum recommended horizontal separation between carriageway and cycle tracks*

Speed limit (mph)	Desirable minimum horizontal separation (m)	Absolute minimum horizontal separation (m)
30	0.5	0
40	1.0	0.5
50	2.0	1.5
60	2.5	2.0
70	3.5	3.0

*Separation strip should be at least 0.5m alongside kerbside parking and 1.5m where wheelchair access is required.

Table 5-2: Cycle lane and track widths

Cycle Route Type	Direction	Peak hour cycle flow (either one way or two-way depending on cycle route type)	Desirable minimum width* (m)	Absolute minimum at constraints (m)
Protected space for cycling (including light segregation, stepped cycle track, kerbed cycle track)	1 way	<200	2.0	1.5
		200-800	2.2	2.0
		>800	2.5	2.0
	2 way	<300	3.0	2.0
		>300-1000	3.0	2.5
		>1000	4.0	3.0
Cycle lane	1 way	All – cyclists able to use carriageway to overtake	2.0	1.5

*based on a saturation flow of 1 cyclist per second per metre of space. For user comfort a lower density is generally desirable.

Table 6-3: Recommended minimum widths for shared use routes carrying up to 300 pedestrians per hour

Cycle flows	Minimum width
Up to 300 cyclists per hour	3.0m
Over 300 cyclists per hour	4.5m

Table 7-2: Minimum acceptable lane widths*

Feature	Desirable minimum	Absolute minimum	Notes
Traffic lane (cars only, speed limit 20/30mph)	3.0m	2.75m	2.5m only at offside queuing lanes where there is an adjacent flared lane
Traffic lane (bus route or >8% HGVs, or speed limit 40mph)	3.2m	3.0m	Lane widths of between 3.2m and 3.9m are not acceptable for cycling in mixed traffic.
2-way traffic lane (no centre line) between advisory cycle lanes	5.5m	4.0m	4.0m width only where AADT flow <4000 vehicles** and/or peak hour <500 vehicles with minimal HGV/Bus traffic.

* these lane widths assume traffic is free to cross the centre line, see 7.2.9 for details on critical widths at pinch points

** While centre line removal is still feasible with higher flows, the frequency at which oncoming vehicles must enter the cycle lane to pass one another can make the facility uncomfortable for cycling.

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 50 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 10.37: Roundabout with one way cycle tracks and parallel crossings

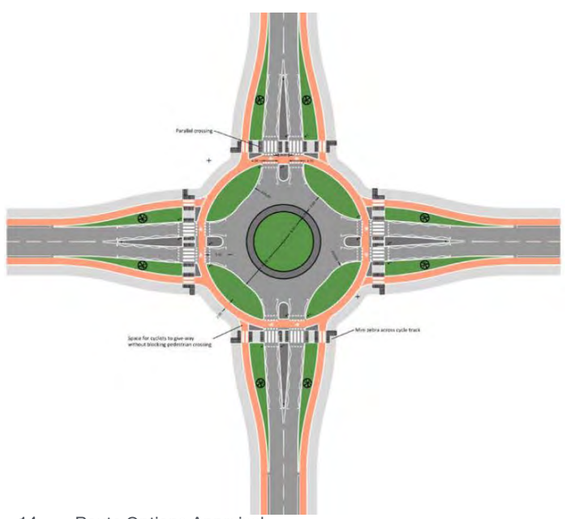


Figure 10.39: Carriageway-level cycle track used with 'hold the left' traffic staging

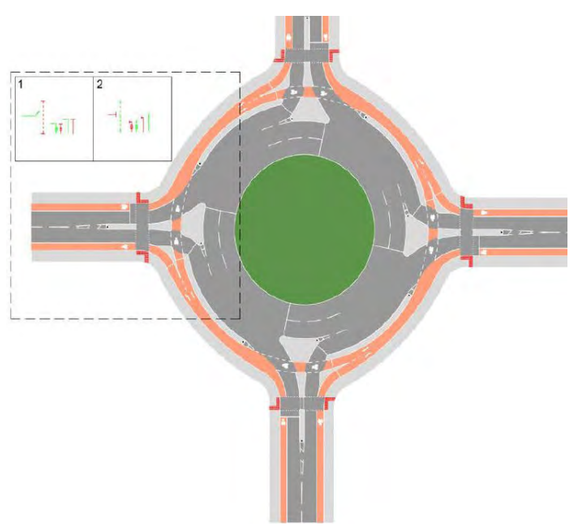


Table 11-1: Suggested minimum cycle parking capacity for different types of land use

Land use type	Sub-category	Short stay requirement (obvious, easily accessed and close to destination)	Long stay requirement (secure and ideally covered)
All	Parking for adapted cycles for disabled people	5% of total capacity co-located with disabled car parking.	5% of total capacity co-located with disabled car parking.
Retail	Small (<200m²)	1 per 100m²	1 per 100m²
	Medium (200-1,000m²)	1 per 200m²	1 per 200m²
	>1,000m²	1 per 250m²	1 per 500m²
Employment	Office/Finance (A2/B1)	1 per 1000m²	1 per 200m²
	Industrial/Warehousing (B2/B8)	1 per 1,000m²	1 per 500m²
Leisure and Institutions	Leisure centres, assembly halls, hospitals and healthcare	Greatest of: 1 per 50m² or 1 per 30 seats/ capacity	1 per 5 employees
	Educational Institutions	–	Separate provision for staff and students. Based on Travel Plan mode share targets, minimum: Staff: 1 per 20 staff Students; 1 per 10 students
Residential	All except sheltered/elderly housing or nursing homes	–	1 per bedroom
	Sheltered/elderly housing/ nursing homes	0.05 per residential unit	0.05 per bedroom
Public Transport Interchange	Standard stop	Upon own merit	–
	Major interchange	1 per 200 daily users	–

NCN Design Principles

The National Cycle Network design principles set out key elements that make the Network distinctive and need to be considered during design of new and improved routes forming part of the Network.

Where the Network is not traffic-free it should either be on a quiet-way section of road or be fully separated from the carriageway. For a National Cycle Network route on a quiet-way section of road traffic speed and flows should be sufficiently low with good visibility to comply with design guidance for comfortable sharing of the carriageway. Signs and markings should highlight the Network.

National Cycle Network routes shall:

- be designed in accordance with current best practice design guidance;
- be designed in collaboration with the local community;
- provide convenient links to key destinations, connecting cities, towns and countryside;
- meet the following nine design principles:

Principle 1: Traffic-free or quiet-way

- Where the Network is not traffic-free it should either be on a quiet-way section of road or be fully separated from the adjacent carriageway.
- For a National Cycle Network route on a quiet-way section of road the traffic speed and flows should be sufficiently low with good visibility to comply with design guidance for comfortable sharing of the carriageway. Signs and markings should highlight the Network.

Principle 2: Sufficient width to accommodate all users

- Width of a route should be based on the level of anticipated usage, allowing for growth.
- Physical separation between users should be considered where there is sufficient width and a higher potential for conflict between different users.

Principle 3: Designed to minimise maintenance

- A maintenance plan should be put in place in the development process.
- Construction quality should be maximised to minimise maintenance.
- New planting should be kept well clear of the path.
- Sufficient tree work should be undertaken as part of construction to minimise future issues.
- Routes should be managed in a way that enhances biodiversity.

Principle 4: Signed clearly and consistently

- Signage should be a mix of signs, surface markings and wayfinding measures.
- Every junction or decision point should be signed.
- Signage should be part of a network-wide signing strategy directing users to and from the Network to trip generators such as places of interest, hospitals, universities, colleges.
- Signage should be used to increase route legibility and branding of routes.
- Signage reinforces responsible behaviour by all users.

Principle 5: Smooth surface that is well drained

- Path surfaces should be suitable for all users.
- Path surfaces should be maintained in a condition that is free of undulations, rutting and potholes.
- Path surfaces should be free draining and verges finished to avoid water ponding at the edges of the path.
- In, or close to, built-up areas a Network route should have a sealed surface to maximise the accessibility.

Principle 6: Fully accessible to all legitimate users

- All routes should accommodate a cycle design vehicle 2.8 metres long x 1.2 metres wide.
- Any barriers should have a clear width of 1.5 metres.
- Gradients should be minimised and as gentle as possible.
- The surface should be maintained in a condition that makes it passable by all users.

Principle 7: Feel like a safe place to be

- Route alignments should avoid creating places that are enclosed or not overlooked.
- Consideration should be given as to whether lighting should be provided.

Principle 8: Enable all users to cross roads safely

- Road crossings should be in accordance with current best practice guidance.
- Approaches to road crossings should be designed to facilitate slow approach speeds to a crossing.
- All grade separated crossings should provide step-free access.

Principle 9: Be attractive and interesting

- Network routes should be attractive places to be in and pass along.
- Landscaping, planting artwork and interpretation boards should be used to create interest.
- Seating should be provided at regular intervals along a route.
- Opportunities should be taken to enhance ecological features.

3 Route Options Appraisal

3 Route Options Appraisal

Potential Routes Options

This study evaluates five route options for connecting Moretonhampstead to Chagford via a traffic free path.

The five route options described in more detail in this section are:

Route 1 (Pink): East of the A382 to Easton, then following the B3206 to Chagford;

Route 2 (Blue): West of the A382, via Langhill, Saint Hill Farm, Half Way House and Easton, then south of the B3206 to Chagford;

Route 3 (Yellow): On road via B3212 and Higher Horselake, Great Weeke and the existing NCN Route 28 to Chagford.

Route 4 (Green): Extension of the Wray Valley Trail to Sloncombe, Saint Hill Farm and Half Way House, then on-road to Great Weeke and Chagford.

Route 5 (Red): Traffic free between Wray Valley Trail and Saint Hill Farm, Sandyways Cross and Chagford, with links to Moretonhampstead School and Proper Job.

Route Option 1 - Pink Plot

Route Option 2 - Blue Plot

Route Option 3 - Yellow Plot

Route Option 4 - Green Plot

Route Option 5 - Red Plot

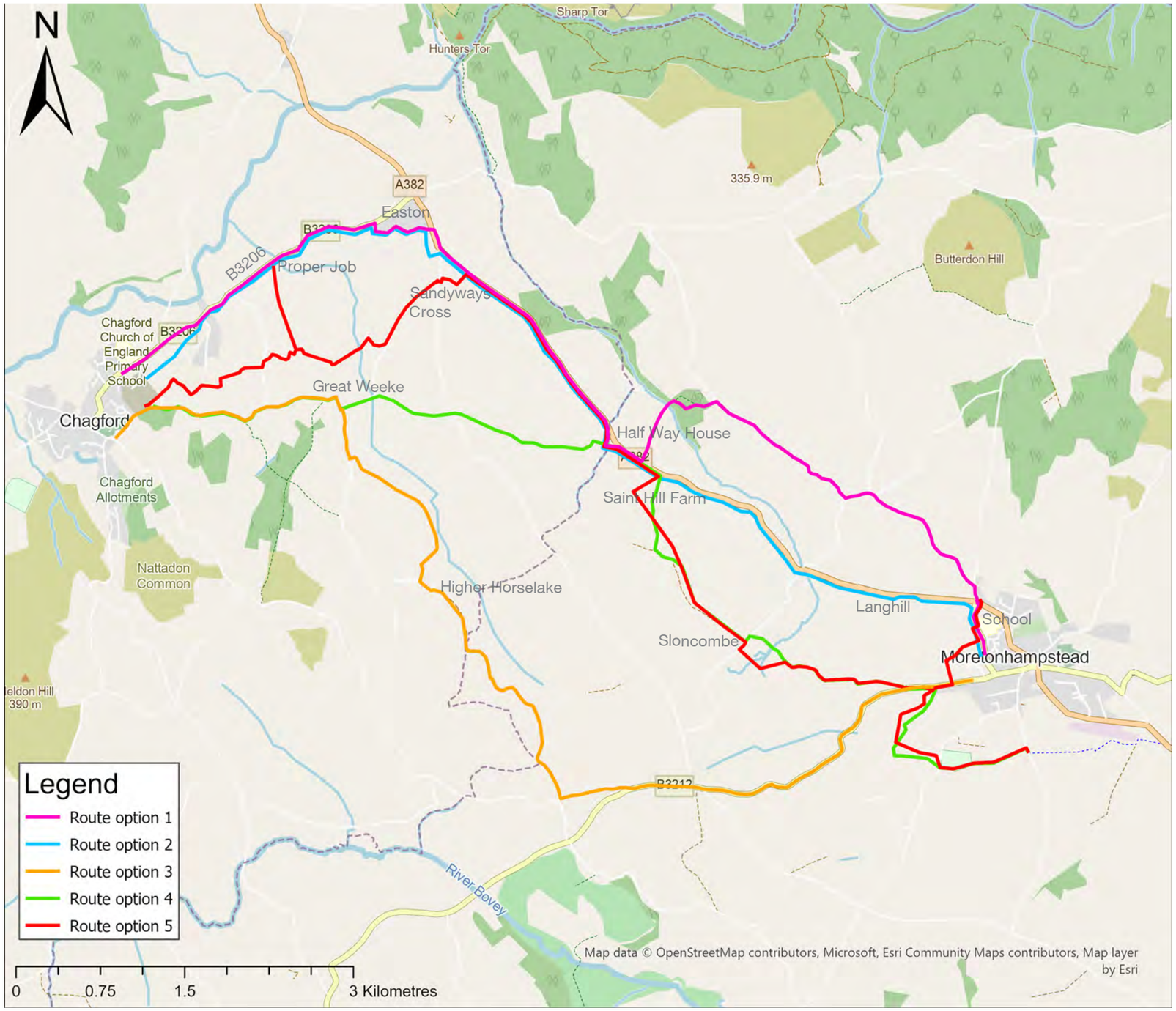


Figure 3.1 Route Options

Option 1

Pink plot

Starting at Moretonhampstead, this route crosses the A382 at the roundabout north of the town, then follows the unclassified lanes to the north east of the A382.

The route then picks up a public bridleway north west of Linscott and runs south to the A382 at Sunnyfield, near Half-way House.

After crossing the A382 the proposal is to run on a new path behind the hedge on agricultural land north to Easton, therefore separated from, but adjacent to, the west side of the A382.

The proposed path would then continue west towards Chagford parallel to and south of the B3206.

Due to the nature of the topography in this part of Dartmoor this route involves a total ascent of 438 feet and is 4.1 miles in length (this compares to 4.7 miles via the existing NCN 28 alignment).

The lanes themselves are narrow (circa 2.5 metres) and often have either steep banks or high hedges adjacent to both sides of the carriageway, meaning there is very little space to manoeuvre should any traffic be encountered.

Opportunities

- Scenic route
- Low volumes of traffic
- Existing public bridleway
- Incorporates Easton Cross

Constraints

- Not traffic free
- Involves significant ascents and descents
- Requires a new controlled crossing of the A382
- Property frontages at Easton and on the B3206

Conclusion

Based on the opportunities and constraints it was concluded that this route could never achieve the standard required, i.e. to be a traffic free, safe, good quality, direct and comfortable route.

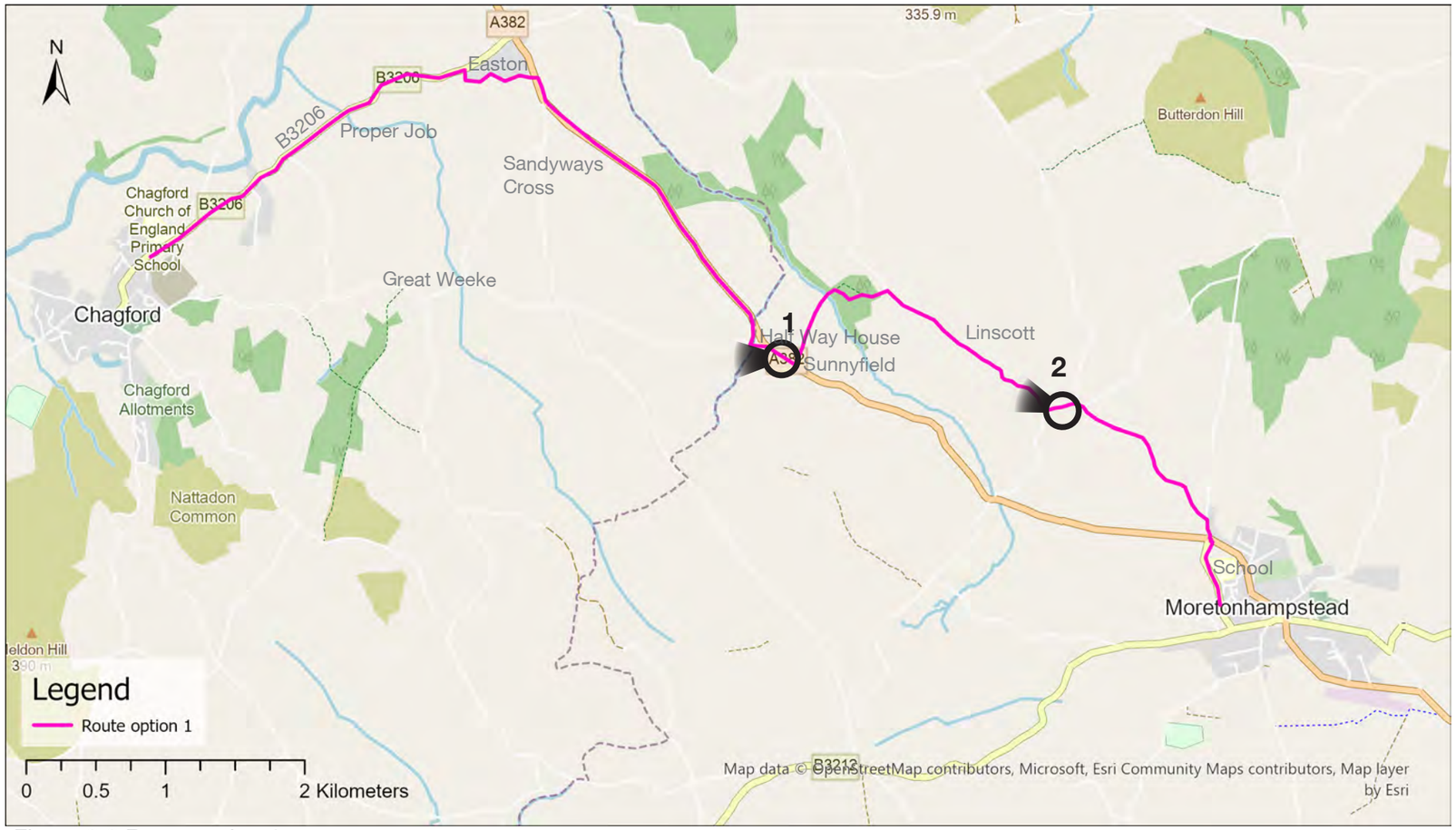


Figure 3.2 Route option 1

Figure 3.3 Photo 1 - view west from A382 and Half-Way House

Figure 3.4 Photo 2 - view north to Lower Linscott

Option 2

Blue plot

A new traffic free route adjacent to A382 and B3206. The proposed route is planned to run on land, behind the hedge, closely following the west and south sides of the A382 and B3206.

Starting at Betton Way in Moretonhampstead (which links to the Primary School, Court Street car park and bus interchange) the route continues behind the hedge parallel to the A382 to Langhill.

The route then crosses the side road to Sloncombe and continues north west towards Saint Hill Farm and Half–way House. Here the proposed route follows the rural lane for approximately 60 metres before continuing behind the hedge parallel to the A382 to Whiteabury Cross.

At Easton Cross the route avoids the junction of the A382 and Easton Cross by continuing westwards behind properties before reaching the B3206 towards Chagford.

Opportunities

- Majority traffic free route
- Relatively gradient friendly
- Consistent level of provision
- Links to schools, services and employment spaces
- New hedge creation

Constraints

- Numerous landowners affected
- Crossing of side roads
- Proximity of A382 and traffic noise and speeds
- Langhill property frontage on A382
- Routing behind private properties
- Property frontages on B3206

Conclusion

Based on the opportunities and constraints it was concluded that it would be challenging for this route to achieve the standard of route required because of the number of landowners affected and the proximity to private dwelling.

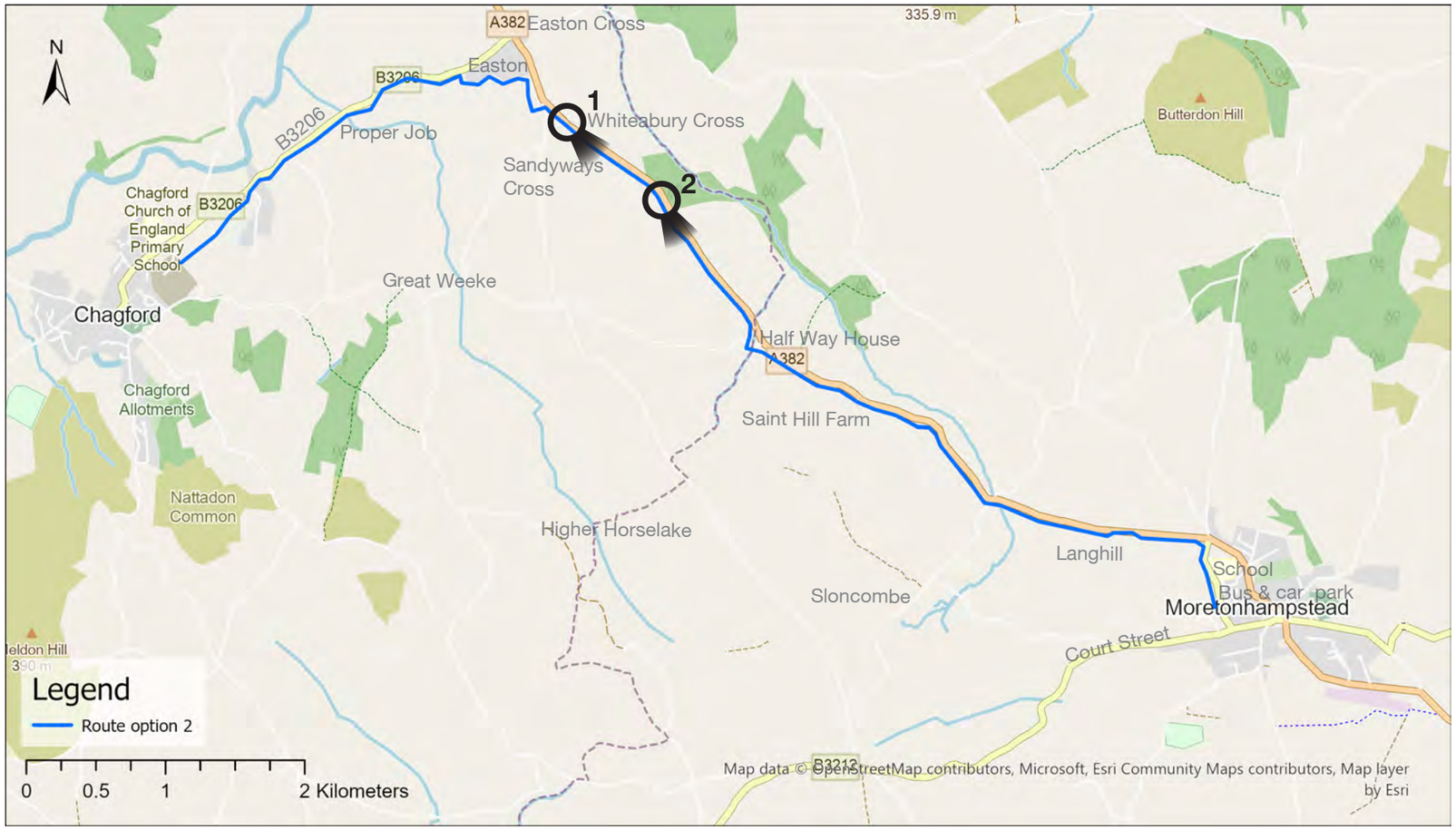


Figure 3.5 Route option 2

Figure 3.6 Photo 1 - view west of A382 inside of hedge

Figure 3.7 Photo 2 - view south along A382

Option 3

Yellow plot.

This proposed route follows the B3212 on-road to the east of Moretonhampstead to Thorns Cross where it turns north to Thorn.

The route then continues on-road until the public bridleway at Ellacombe.

The proposal is to utilise the permissive public path to Higher Horselake and then on-road to Great Weeke, where the route joins the existing NCN 28 to Chagford on Westcott Lane.

The B3212, east of Moretonhampstead varies in width between two lanes and a single lane wide.

The 30mph speed limit extends to the town entry signs, where after National Speed Limit applies (60mph).

After leaving the B3212 and travelling north the lanes are single track and between high hedges. The gradients are also steep in places.

Opportunities

- Existing Public right of way at Higher Horselake
- Fewer private landowners affected

Constraints

- B3212 has a 60mph speed limit after leaving the town limit
- Steep gradients
- More circuitous route taking in fewer settlements
- Less attractive and less comfortable

Conclusion

Based on the opportunities and constraints it was concluded that this route could never achieve the standard required, i.e. to be a traffic free, safe, good quality, direct and comfortable route.

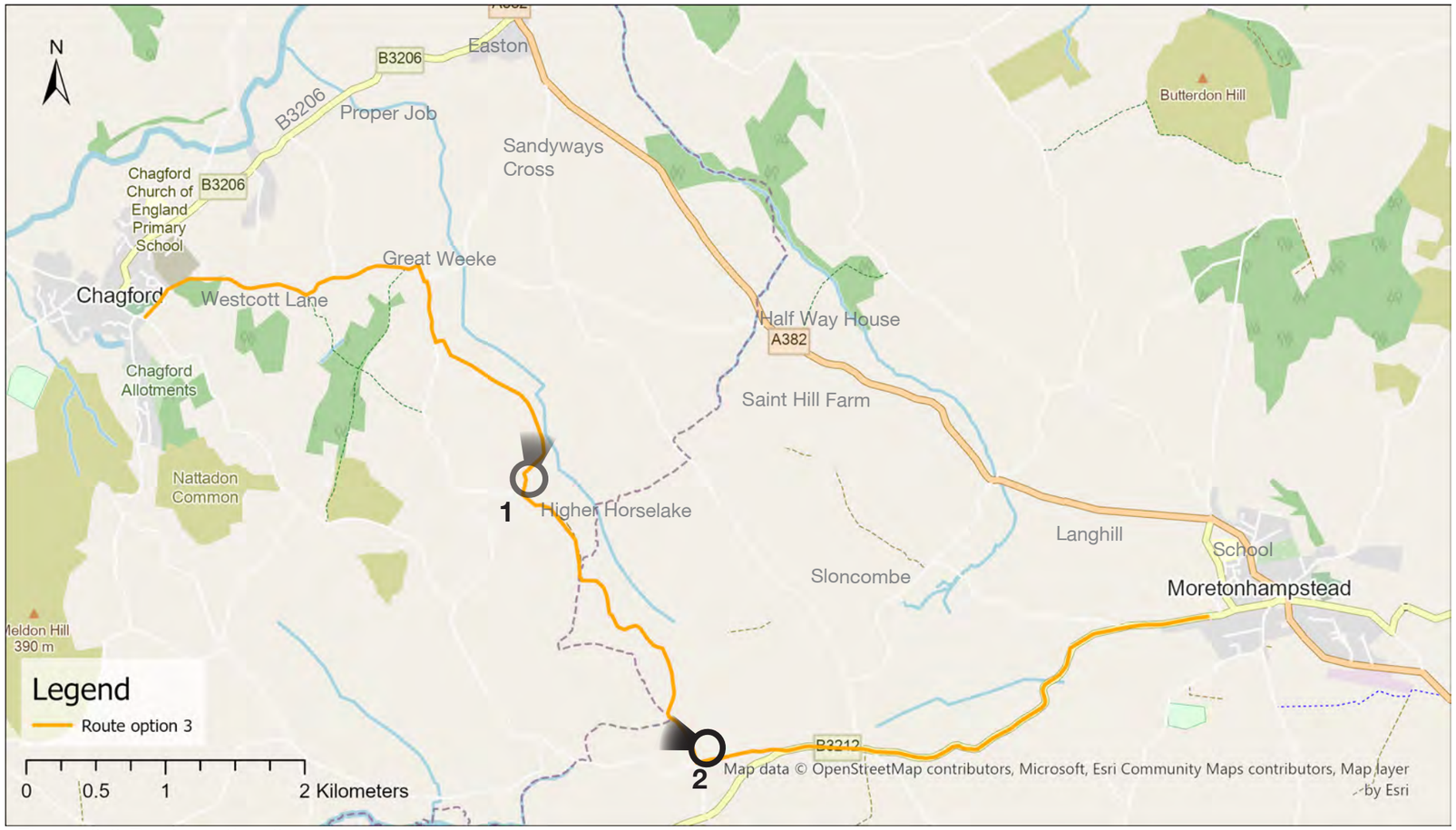


Figure 3.8 Route option 3

Figure 3.9 Photo 1 - Bridleway to Ellacombe

Figure 3.10 Photo 2 - Typical banked hedge lane

Option 4

Green plot

This route starts at the northern end of the Wray Valley Trail, south of Moretonhampstead, then heads west crossing the unclassified road onto a track adjacent to the Wadley Brook.

It then continues inside the field boundaries to the Sports and Community Centre and hugs the edge of the grounds until North Bovey Road. After a staggered crossing of North Bovey Road the route enters the fields to the west, parallel to Wadley Brook until meeting the Dartmoor Way public footpath. Taking an alternative alignment avoiding the steep and narrow public footpath to meet with Court Street (B3212) at the western approach to Moretonhampstead.

Following the B3212 west for 150 metres the route continues on the unclassified road past Lowton Farm. The route continues to follow the rural lane and a steep decent into Sloncombe. At Sloncombe it picks up the existing Public Byway and footpath before rising and falling as it reaches Saint Hill Farm. Continuing along the access track to meet the A382 and the point at which Route Options 4 and 5 converge and travel onwards to Chagford.

Both options 4 and 5 then follow the A382, inside the western field edge, until the junction with Half Way House and the unclassified road to Great Weeke. Continuing on-road climbing and descending towards Lower and Higher Drewston where it picks up the existing NCN 28 until Chagford, and the same alignment as Route Option 3 on Westcott Lane.

Opportunities

- Directness and coherence
- Utilises existing public rights of way
- Connects remote settlements
- Extension of Wray Valley Trail traffic free provision encircling Moretonhampstead

Constraints

- Many landowners affected
- Crossing of B3212 at entrance to Moretonhampstead
- Steep on-road ascents and descents
- Unattractive and uncomfortable

Conclusion

Based on the opportunities and constraints it was considered that this route may achieve the standards required to be a good quality, attractive, feasible route.

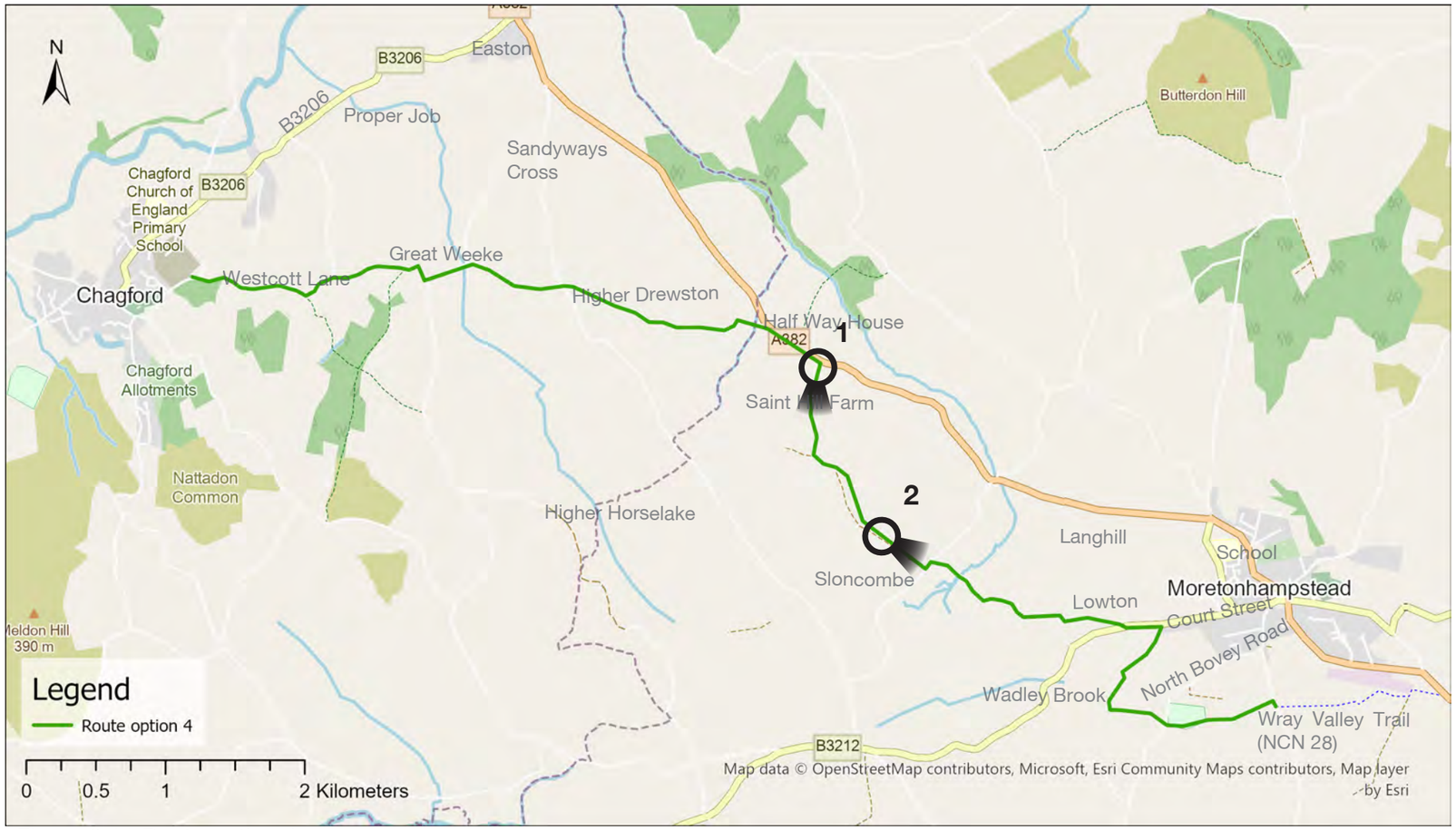


Figure 3.11 Route option 4

Figure 3.12 Photo 1 - access track to Saint Hill Farm

Figure 3.13 Photo 2 - view south along Public Byway

Option 5

Red plot

This route starts from the northern end of the Wray Valley Trail and continues west across the unclassified road towards the Community Sports Centre following existing tracks, field boundaries and the perimeter of the sports field.

It then crosses the North Bovey Road and continues in a westerly direction following the field edges. It then climbs northwards towards the B3212, crossing a public footpath (Dartmoor Way) before zigzagging up the field edge to meet the B3212.

To be able to complete a partial loop of Moretonhampstead, a spur then continues in a northerly direction following the field boundaries towards the primary school emerging on Betton Way. Further walking and cycling provision then continues towards Court Street car park and the A382 roundabout.

Travelling westwards on the B3212 for approximately 150m, to the gateway entrance to the town, the route then follows the unclassified road to Sloncombe past Lowton Farm.

Before the steep hill down to Sloncombe the route re-enters the fields to the south of the lane and emerges in Sloncombe, west of the public byway to Saint Hill Farm.

When the public byway becomes a public footpath, the proposal is to take a gentler gradient towards Saint Hill Farm and continue in a northerly direction to the A382 avoiding the centre of the farm.

The route then mimics Option 2 towards Easton Cross on the west side carriageway of the A382, behind the hedge, towards Whitebury Cross.

Continuing to follow the field edges it crosses the unclassified road at Sandy Ways Cross using an existing field opening. It continues in a south westerly direction towards Chagford, parallel to the unclassified road to Great Weeke behind a hedge.

The route then departs from the unclassified road to Great Weeke and follows the field boundaries in a more westerly direction, crossing the locally known Cuckoo Lane.

There is then an opportunity for a spur to serve the Proper Job site on the B3206. The route then continues west following the different field edges until reaching the new housing development

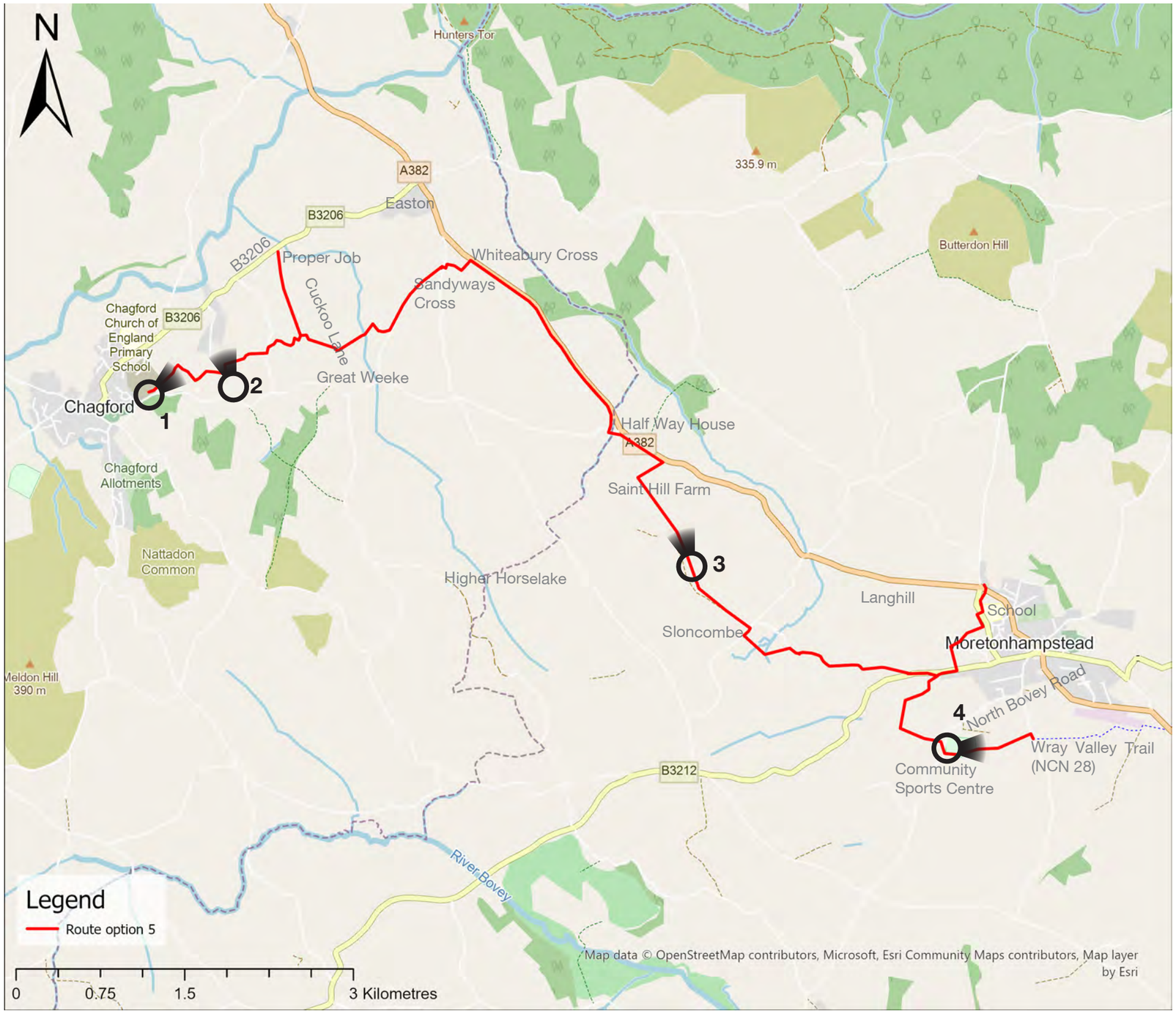


Figure 3.14 Route option 5

Opportunities

- Directness and coherence
- Majority traffic free route
- Utilises existing public right of way
- Relatively gradient friendly
- Consistent level of provision
- Links to schools, services and employment spaces
- New hedge creation

Constraints

- Numerous landowners affected
- Proximity of A382 and traffic noise and speeds
- Proximity to private properties approaching Chagford, however this could be overcome if the route were to utilise an on road Quietway (40 mph speed limit and less than 2000 vehicles per day) type alignment for this section approaching Chagford.

Conclusion

On balance this route option has the best chance of achieving the design principles set out at the start of this study.

The route is predominantly traffic free.

There are some short sections involving steep gradients, however these topographical challenges will exist on any route due to the nature of the local landscape

This route also has the potential to achieve some important local connections to the primary school and employment sites.

There may be some opportunities to bring forward discrete, yet useable, standalone sections of this route.

Figure 3.15 Photo 1 - view south from Bellacouch, Chagford

Figure 3.16 Photo 2 - view north from Westcott Lane

Figure 3.17 Photo 3 public footpath south of Saint Hill Farm

Figure 3.18 Photo 4 - Sports and Community Centre ground

Route Options Assessment

Summarised below are three of the five route options.

They are described against the five core design principles (from Local Transport Note 1/20) of cohesion, directness, safety, comfort and attractiveness.

They are then assigned a preliminary RAG Score (Red, Amber, Green) at the end of the table.

Key Design Requirement	Route Option 2 (Blue plot)	Route Option 4 (Green plot)	Route Option 5 (Red plot)
Cohesion	• Connections to NCN 28 at Moretonhampstead and Chagford. • Links to school at Moretonhampstead and employment space at Chagford. • Least connected of the options to the other settlements but is linked to Easton Cross and the riverside leisure walk opportunities. • No direct approaches to landowners on this Route Option as it was dismissed at the optioneering stage	• Continuation of Wray Valley Trail provision around Moretonhampstead. • Links together the main settlements between the two market town's with the exception of Easton Cross. • Landowners contacted about the off-road sections of this route option	• The proposed alignment links to a school, employment spaces and the few settlements between the two towns. • Connections to NCN 28 Moretonhampstead and Chagford. • Third party land negotiations with multiple landowners adding risk to achieving a consistent, continuous route. • Opportunities for some discrete standalone sections to be progressed. • Landowners contacted along this route option
Directness	• Length 3.8 miles • Most direct route but avoids main settlements with the exception of Easton Cross. Requires crossing of a number of side roads. Start is from Betton Way/ Moretonhampstead School/ Court Street car park so shorter than Options 4 & 5. • Elevation: Highest 712 feet; Lowest 478 feet; Total ascent 230 feet	• Length 4.4 miles • Shorter than Option 5 owing to the on-road section but with steep ascents and descents. • Elevation: Highest 713 feet; Lowest 517 feet; Total ascent 707 feet	• Length 4.9 miles • Route option includes circular extension to start/ finish of Wray Valley Trail. • Connects with more settlements along the route and the opportunity to follow a more contour friendly route avoiding roads. • Elevation: Highest 713 feet; Lowest 486 feet; Total ascent: 475 feet
Safety	• Majority traffic-free route minimises conflict with motor vehicles. • The route is located away from the A382 and B3206 but involves a number of side road crossings, which when unlit could negatively affect user's perception of safety, particularly for cyclists commuting during the dark in winter evenings.	• Continuation of Wray Valley Trail provision, free from traffic, linked to the school and bus exchange at Court Street Car Park. • There are some short and steep on-road sections approaching each town, this detracts from the overall route.	• Majority of route is traffic free, with opportunities to follow a more gradient friendly contour. • Route adjacent to busy A382 in sections. • Proximity of route to the public highway may reassure users of extra surveillance. • Offers an opportunity for a new segregated foot & cycle link to the employment site and route to school.

Key Design Requirement	Route Option 2 (Blue)	Route Option 4 (Green)	Route Option 5 (Red)
Comfort	• The proposed route is considered to be within acceptable tolerances for gradients overall but nonetheless challenging in parts. • Some side road crossings are inevitable. Proximity to busy A Road, types and speeds of traffic can influence perceptions. • In order to achieve the desired level of provision the proportional levels of funding will need to be secured and planning approved.	• Where the route alignment follows parts of the rural lane network it can be narrow and squeezed between hedges with few passing opportunities. • Steeper on-road sections over undesirable distances than Option 5 mixing with rural traffic types. • Passes through busy working farm with large plant.	• Fully segregated from traffic except for occasional side road crossings and private access tracks. • Links to school and employment sites and services are separated from traffic. • Most gradient friendly route but some short steeper sections where zig zag path construction is possible subject to landowner negotiations.
Attractiveness	• Fully segregated from traffic but A Road traffic noise and air quality may negatively impact on user's perception of safety and enjoyment. • Environmental constraints are likely to mean route would be unlit.	• Steep sections of on-road will diminish from the rest of the route and deter some users. • Utilises and extends the existing Public Right of Way provision linking it to the wider network • Increases opportunities to experience wider countryside and National Park. • Reconnects people and places, helping raise awareness of rural trades and crafts.	• Majority traffic free route with opportunities for more gradient friendly alignment, linked to school, services and employment. • Continuation of Wray Valley Trail provision and a new circular route. • Route is relatively isolated from other activity and properties. • Linked to the bus network it has the potential to appeal to visitors who may not otherwise have access to transport and those wishing to have a car free trip
Summary and Red/Amber/Green Scoring	• An alignment following the main A and B roads in the National Park. • Route option is the shortest but is not as well connected and extensive. • Numerous private landowner negotiations to conduct adding risk and delay to the proposed scheme. • Route alongside of the busy and fast A and B Roads less appealing owing to noise, traffic and air quality. • Property frontages and privacy potential impacted by alignment close the main roads. • Sections of hedgerow and trees in the National Park would be impacted by route but opportunities for new hedge and copse planting. • A more consistent gradient (it is still steeper than recommended but this is somewhat unavoidable due to the topography of the area. • At this stage, it is considered unlikely the proposed cycle route would require existing utilities to be diverted, but further investigations / discussions with utility companies would be required for confirmation.	• A less consistent gradient resulting in more very steep sections, often on-road. • Benefits from use of an existing Public Right of Way and opportunity to extend the network to the public highway. • Fewer private landowners potentially affected but responses received even where there is existing public access has been unfavourable to increased public use. • Less new construction owing to on-road sections but also no scope to reduce gradients and therefore significantly less attractive.	• A more consistent gradient which is still steep in places but offers more opportunities for benefiting from following the contours. • Situated on private land there are numerous land agreements to negotiate adding risk and delays to the project. • Landowners potentially affected contacted by letter. • The proposed greenway route will be subject to gaining planning permission for both its alignment and construction specification but has the potential to meet current design standards. • At this stage, it is considered unlikely the proposed route would require existing utilities to be diverted, but further investigations / discussions

4 Ecological Desk Review

4 Ecological Desk Review

Introduction

This appraisal has involved the initial collation and review of contextual information such as designated sites occurring within the potential zone of influence of the proposed route, and a review of aerial photography. Due to the early stage of the project, no on-site habitat or species surveys have been undertaken to inform this assessment, nor have data searches for species records been conducted.

The full Ecological Desk Study Report (Sustrans, August 2021) can be viewed at Appendix A.

Results

Designated Sites

The proposed route is located within 5km of two National Site Network sites, (South Dartmoor Woods Special Area of Conservation (SAC) and Dartmoor SAC) and within 1km of two statutory designated sites (Whiddon Deer Park Site of Special Scientific Interest (SSSI) and Rushford Wood SSSI). However given the limited scope and scale of the proposed works it is not anticipated that any designated sites will be impacted by the proposals, and the proposed works will not disrupt any functional links across the landscape.

Habitats

A full assessment of the habitats present along the route has not been conducted at this stage of the project due to the early stage of proposals. However a desktop review of the Priority Habitats Inventory available through Magic Maps and a review of aerial photography indicates broadleaved woodland, hedgerow, dense and scattered scrub, grassland, bare ground and arable field edge occur along the proposed alignment.

Some of these habitats can offer high value to biodiversity and their loss or degradation will require extensive mitigation. Constraints and opportunities associated with these habitats are presented in the table below.

Habitats of high ecological value and shown in red, moderate ecological value in orange and low ecological value in green.

Habitat	Constraints	Opportunities
On existing road	Potential to impact upon verge habitats such a hedgerow and trees which may be higher value and support protected species (bats/nesting birds).	Retain higher quality features such a trees and hedgerow through sensitive scheme design.
Arable field edge	Field edge habitat is an important feature in a low quality habitat such as an arable context. It provides a foraging resource for a range of species such as invertebrates, bats, birds and reptiles.	Where arable field edge habitat is temporarily lost through construction it should be reinstated by sowing and management of a strip of native wildlife flowers either side of the path to create a new area of meadow.
Hedgerow	Hedgerows are an important linier feature across the landscape. Creating gaps could lead to habitat fragmentation for a variety of species and form a barrier to dispersal. Hedgerow removal/creating gaps may require licencing from Natural England e.g. if hazel dormice which is a protected species is found to be present, which would require extensive survey data to inform the application. Utilise existing hedgerow gaps when designing route to avoid damage to existing hedgerows, consider root protection zones of hedgerows at design stage.	Retain and enhance existing hedgerows wherever possible by infill planting to increase species diversity. Opportunities for new native, species rich hedgerow planting alongside new path.
Woodland	High quality habitat where any removal will make it difficult for the scheme to achieve Biodiversity Net Gain, extensive mitigation and replanting may be required.	Potential enhancements of woodland by improving management, e.g. removal of invasive

Figure 4.1 Habitats ecological value

Habitat	Constraints	Opportunities
	Tree protection measures on retained trees will be required. Woodland offers opportunities to numerous protected species e.g. badger, dormice, bats etc. so it is likely there will be constraints posed by protected species when working in or near to woodland. Minimize tree removal by utilizing existing paths and reducing path width in sensitive locations.	species, retention of deadwood, coppicing, infill planting to increase species diversity etc.
Woodland edge	Tree protection measures for trees adjacent to path construction will be required. Design route to be outside the root protection zones of adjacent woodland.	Create soft woodland edges to benefit a variety of species by planting additional mixed scrub or coppicing existing vegetation.
Trees	Tree removal will need to be mitigated by tree replacement planting, difficult to deliver with linier projects where space is limited. Trees offer habitat for roosting bats and nesting birds, removal will need to be supported by survey work to determine if licensing is required. Retain trees wherever possible especially higher quality trees. Limit tree removal to locations when it is required for safety reasons. Consider reducing path width in constrained locations.	Provide roosting and nesting opportunities by installing bat and bird boxes on retained trees.

Figure 4.2 Habitats ecological value

Habitat	Constraints	Opportunities
Grassland	Further survey will be required to identify if there are any areas of higher quality grassland, these should be retained through scheme design where possible Protected species associated with grassland e.g. reptiles may require further survey and mitigation.	Reinstate grassland disturbed during construction by sowing and managing of a strip of native wildlife flowers either side of the path to create a new area of meadow. Consider improving grassland management in areas connecting to the path. This could include changing the mowing regime to encourage enhanced grassland structure or rotational mowing to leave uncut areas
Ditches / watercourses	Watercourses are very sensitive to pollution events therefore no storage of materials or site compounds during the construction phase will be permitted within 5m of the ditches or brooks Ditches may offer potential for otter or water vole, both of which are protected species and if present will require further survey and licensing/mitigation Designs should avoid construction within 5m of the toe of the bank of all ditches and watercourses along the route.	Consider including ditch improvements as an enhancement measure. This could include reprofiling the banks to benefit wildlife or removing sections of dense vegetation to open the ditch up.

Figure 4.3 Habitats ecological value

Species

Certain species receive legal protection in the United Kingdom and are commonly known as 'protected species'. In reality, the level of protection for different species varies considerably, from protection solely against 'killing and injury' to full protection of the species and their places of refuge.

Due to the length of route and early stage of the project, data search for species records has not been undertaken, nor have any on-site surveys been conducted.

The habitats which will be impacted by the proposals have potential to support a range of protected species. At this stage it can be assumed that some of the following species may form a constraint to the proposals and may require further survey and suitable mitigation: Badgers, bats, hazel dormice, invasive plants, invertebrates, nesting birds, otter, reptiles and water vole.

Once a full assessment it undertaken it may recommend be that additional species to the ones listed above will require consideration and further survey. Until a Habitat survey is undertaken it is not possible to predict ecological constraints in full.

5 Summary and Next Steps

5 Summary and next steps

Summary

This study has assessed five different options for a traffic free, multi user path between the towns of Moretonhampstead and Chagford in Dartmoor National Park.

These five options may well be complemented by other options not yet considered, or by hybridised options utilising discrete individual parts of the five options presented in this study.

Engagement with the landowners potentially affected by Route 5 (Red Route) has revealed that there is a significant level of opposition to a traffic free multi user path in this location.

Furthermore, and at the suggestion of the landowners opposed to a traffic free path, an investigation into the potential for quiet-way style treatments to some, or all, of the existing on-road National Cycle Network (NCN 28) currently connecting the two towns would be a useful next step.

This assessment, of what could be achieved by making changes to the on road route, was not within the scope of work of this study as from the outset, the brief from the Greenway Group was to investigate the possibility of a traffic free route. Quiet-ways by their very nature are not traffic free.

Therefore, given what is now apparent in the responses from landowners in the area, an investigation into potential quiet-way treatments to the existing on road route is now recommended.

Next steps

- Share the report with local communities and Local Authorities.
- Obtain feedback on the five options presented.
- Engage further with Local Authorities.
- Identify a funding source for an investigation into potential quiet-way treatments to the existing on road NCN28 between Moretonhampstead and Chagford.

6 Appendix

6 Appendix

Appendix A: Ecological Desk Study

Appendix B: Chagford to Moretonhampstead Link - Survey Questionnaire.

Ecological Desk Study

Chagford to Moretonhampstead

09 August 2021

Commissioned by Greenway Group

Reference: Rev 1

To find out more, please contact: Lydia Blake
email.lydia.blake@sustrans.org.uk

Quality Assurance

Version	Prepared by	Checked by	Approved by	Issued
Rev 1	PC/ACIEEM 10/08/21			

**D denotes a Draft version*

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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Useful links

Link 1: www.sustrans.org.uk

1 Introduction

1.1 Background

Sustrans have been commissioned to produce an outline options appraisal for the creation of an ‘off-road’ traffic-free walking and cycling route between Chagford and Morehampstead.

This Ecological Desk Study has been produced to review the preferred option from the options appraisal. It provides a summary of ecological constraints present along the route.

1.2 Site Location and Description

The proposals consists of an approx. 8.7km route.

The route utilized field edges, woodland edges, on road, existing path and passes through woodland.

1.3 Proposals

The following design parameters have been used to assess the anticipated ecological impacts of the scheme:

- Path to be of a minimum of 3m width, with 1m verge on either side, with preferably a sealed tarmac surface, or equivalent suitable surface dressing;

A copy of the alignment under consideration is presented on the following page.

1.4 Scope of Assessment

This report sets out the findings of standard desk based ecological assessments undertaken by Sustrans during 2021. The report considers the potential for ecological impacts to occur in the context of relevant legislation and planning policy.

The aims of this report are to identify important ecological constraints that are of relevance to the proposals.

2 Methodology

The method for carrying out this assessment is based upon standard guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

2.1 Establishing the Likely Zone of Influence

The ‘zone of influence’ for a project is the area over which ecological features may be subject to significant effects as a result of the project and associated activities. The project’s zone of influence varies across different ecological features, which have different vulnerabilities and sensitivities.

For the purposes of this assessment, the following zones were considered:

- International statutory nature conservation designations up to 5km from the Site
- National and local statutory nature conservation designations up to 1km from the Site

These arbitrary distances are considered sufficient for identifying the nature conservation designations which could be subject to significant effects. However, it is acknowledged that in certain circumstances effects beyond these distances are possible and should be considered as far as is reasonably practicable to do so.

For other ecological features, such as habitats and species, the appropriate zone of influence is described and justified as appropriate within the report, depending on their respective sensitivity to an environmental change.

2.2 Desk study

This appraisal has involved the initial collation and review of contextual information such as designated sites occurring within the potential zone of influence of the application site.

Natural England (MAGIC website) was contacted in August 2021 and the following information requested;

- Designated sites of international importance within a 5km radius of the route;
- Other statutory designated sites within a 1km radius of the route; and
- Priority habitats and landscape classifications present at the site and the surrounding environs (1km).

3 Results and Discussion

3.1 Statutory Designated Sites: International and National Importance

Statutory designations often represent the most important ecological features, being of recognised importance at an international and/or national level.

Prior to Brexit, international designations included Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites. Post January 2021 the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 supersede the former European legislation and SAC and SPA sites are incorporated into a National Site Network within the UK territory. The UK will continue to meet international legal obligations such as the Ramsar Convention (1971).

The proposed route is located within 5km of two National Site Network sites, and within 1km of two statutory designated sites, as summarised below.

Table 1: Statutory Designated Sites within the preferred alignment's potential Zone of Influence.

Name of Site and Designation	Location relative to the site	Reasons for designation
South Dartmoor Woods SAC	2.8km at closest point	The complex of sites are representative of old sessile oak *Quercus petraea* woods in south-west England, with regionally important assemblages of lower plants and dry Lobarion communities that are unique in Western Europe. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site include European dry heaths.
Dartmoor SAC (and North Dartmoor SSSI)	3.6km at closest point	Annex I habitats that are a primary reason for selection of this site include Norther Atlantic wet heaths, European dry heaths, blanket bogs and old sessile oak woods. Southern damselfly *Coenagrion mercuriale* are an Annex II species that are a primary reason for selection of this site. Annex II species present as a qualifying feature, but not a primary

		reason for site selection include Atlantic salmon *Salmo salar* and otter *Lutra lutra*.
Whiddon Deer Park SSSI	540m east	Is a pasture woodland with an exceptionally diverse lichen flora and a rich invertebrate fauna. Many nationally-rare species are present. The proposals do not meet the criteria to trigger the Impact Risk Zone of the SSSI.
Rushford Wood SSSI	977m north	Rushford Wood is a fine example of Pedunculate Oak *Quercus robur* and hazel *Corylus avellana* woodland and includes areas of ancient oak wood. The site contains a varied flora and, in particular, supports a variety of rare and interesting lichens. The proposals do not meet the criteria to trigger the Impact Risk Zone of the SSSI.

Given the limited scope and scale of the proposed works it is not anticipated that any designated sites will be impacted by the proposals and the proposed works will not disrupt any functional links across the landscape.

3.2 Non-Statutory Designated Sites: County and Local Importance

Non-statutory designations are 'local sites' which are commonly of at least County level importance and which receive planning policy protection only, these site have not been considered within this assessment.

Additional designated sites which should be considered at this level include ASNW and Plantation on Ancient Woodland Soils (PAWS) where these are not covered by other designations. The closest ASNW is Cleve Wood, 413m to the west of the proposed route and it is not considered that the proposed route will impact upon this ASNW due to the distance from the woodland.

3.3 Habitats

A full assessment of the habitats present along the route has not been conducted at this stage of the project due to the early stage of proposals. However, a review of the Priority Habitats Inventory available through Magic Maps indicates the presence of two priority habitats along or close to the route, including deciduous woodland which the proposed route passes through at one location and directly adjacent at another location, and purple moor grass and rush pasture which is separated from the proposals by the A382 north of Sandyways Cross.

Reference to OS mapping and site and aerial photography also indicates, dense and scattered scrub, grassland, bare ground and arable field edge occurring along the proposed alignment.

These habitats can offer high value to biodiversity and their loss or degradation, especially over the length of the route, will require extensive mitigation. The removal or damage of high quality habitats such a broad leaved woodland will create difficulties in achieving Biodiversity Net Gain. Constraints and opportunities associated with these habitats are presented in the table below.

Habitats of high ecological value and shown in red, moderate ecological value in orange and low ecological value in green.

Habitat	Constraints	Opportunities
On existing road	Potential to impact upon verge habitats such a hedgerow and trees which may be higher value and support protected species (bats/nesting birds).	Retain higher quality features such a trees and hedgerow through sensitive scheme design.
Arable field edge	Field edge habitat is an important feature in a low quality habitat such as an arable context. It provides a foraging resource for a range of species such as invertebrates, bats, birds and reptiles.	Where arable field edge habitat is temporarily lost through construction it should be reinstated by sowing and management of a strip of native wildlife flowers either side of the path to create a new area of meadow.
Hedgerow	Hedgerows are an important linier feature across the landscape. Creating gaps could lead to habitat fragmentation for a variety of species and form a barrier to dispersal. Hedgerow removal/creating gaps may require licencing from Natural England e.g. if hazel dormice which is a protected species is found to be present. Utilise existing hedgerow gaps when designing route to avoid damage to existing hedgerows, consider root protection zones of hedgerows when designing.	Retain and enhance existing hedgerows wherever possible by infill planting to increase species diversity. Opportunities for new native, species rich hedgerow planting alongside new path.
Woodland	High quality habitat where any removal will make it difficult for the scheme to achieve Biodiversity New Gain, extensive mitigation and replanting may be required. Tree protection measures on retained trees will be required. Woodland offers opportunities to numerous protected species e.g. badger, dormice, bats etc, so it is likely there will be constraints posed by protected species when working in or near to woodland. Minimize tree removal by utilizing existing paths and reducing path width in sensitive locations.	Potential enhancements of woodland by improving management, e.g. removal of invasive species, retention of deadwood, coppicing, infill planting to increase species diversity etc.

Habitat	Constraints	Opportunities
Woodland edge	Tree protection measures for trees adjacent to path construction will be required. Design route to be outside the root protection zones of adjacent woodland.	Create soft woodland edges to benefit plants, insects and birds by planting additional mixed scrub or coppicing existing vegetation.
Trees	Tree removal will need to be mitigated by tree replacement planting, difficult to deliver with linier projects where space is limited. Trees offer habitat for roosting bats and nesting birds, removal will need to be supported by survey work to determine if licensing is required. Retain trees wherever possible especially higher quality trees. Limit tree removal to locations when it is required for safety reasons. Consider reducing path width in constrained locations.	Provide roosting and nesting opportunities by installing bat and bird boxes on retained trees.
Grassland	Further survey will be required to identify if there are any areas of higher quality grassland, these should be retained through scheme design where possible. Protected species associated with grassland e.g. reptiles may require further survey and mitigation.	Reinstate grassland disturbed during construction by sowing and managing of a strip of native wildlife flowers either side of the path to create a new area of meadow. Consider improving grassland management in areas connecting to the path. This could include changing the mowing regime to encourage enhanced grassland structure or rotational mowing to leave uncut areas.
Ditches	Watercourses are very sensitive to pollution events therefore no storage of materials or site compounds during the construction phase will be permitted within 5m of the ditches or brooks.	Consider including ditch improvements as an enhancement measure. This could include reprofiling the banks to benefit wildlife or removing sections of

Habitat	Constraints	Opportunities
	Ditches may offer potential for otter or water vole, both of which are protected species and if present will require further survey and licensing/mitigation. Designs should avoid construction within 5m of the toe of the bank of all ditches and watercourses along the route.	dense vegetation to open the ditch up.

3.4 Species and Species Groups

Certain species receive legal protection in the United Kingdom and are commonly known as 'protected species'. In reality, the level of protection for different species varies considerably, from protection solely against 'killing and injury' to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.

Prior to Brexit certain species were safeguarded through European legislation and designated as European Protected Species (EPS). This legislation has been superseded by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. For England, amendments to the Habitats Regulations will be largely limited to ‘operability changes’ that will ensure the regulations can continue to have the same working effect. These species therefore still receive the same level of protection under these adopted regulations.

Due to the length of route and early stage of the project, data search for species records has not been conducted, nor have any on-site surveys been conducted.

Species groups that could or are known be present from readily available information are considered below.

Amphibians

The proposals fall outside the known range or development consultation zones of any protected amphibians species (Devon Environment Viewer) so amphibians will not pose a constraint to proposals.

Badgers

Badgers *Meles meles* are protected from harm under the Protection of Badgers Act 1992, including damaging or destroying a sett or obstructing access routes.

Badgers are known to use woodland and farmland habitat which are present along the route, and so badgers can be reasonably expected to be present with potential to form a constraint to development.

Badgers can be affected by work within 30m of a sett and will require further consideration and survey to establish if the proposals will impact upon a sett.

Where the route will lead to unavoidable impacts on badgers, a license for the work must be obtained from natural England and suitable mitigation provided.

Bats

Bats are a rare and declining group of species, and as such all species are protected under national and international law by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Bats are protected from intentional and recklessly disturbance. In addition, bats' breeding, resting, and sheltering places are protected from damage and disturbance, even while not in use.

Bats are widespread in Devon, hosting sixteen of the UK's eighteen species of bat, including some particularly rare species such as Bechstein's bat *Myotis bechsteinii*, greater and lesser horseshoe bats *Rhinolophus ferrumequinum* and *R. hipposideros* and grey long eared Plecotus austriacus. Bats should be considered likely to be present within the wider landscape and may present a constraint to the proposals.

The proposed route intersects with a range of habitats important for bats including broadleaved woodland, hedgerows, grassland and riparian habitats.

Bats can be impacted by destruction and disturbance of roosts (e.g. tree removal), loss and degradation of foraging, sheltering and connecting habitat, loss of habitat connectivity (e.g. creating gaps in hedgerow), and changes to lighting.

Individual trees subject to works as part of the proposals will need to be assessed for bat roost potential and possibly subject to nocturnal survey. If works are required to a bat roost, a European Protected Species Mitigation Licence (EPSML) will be required from Natural England (NE).

Birds

The proposed alignment will potentially impact upon broad leaved woodland, hedgerow, grassland, scrub and aquatic habitats that are likely to support a range of birds

The proposed route is outside of Devon's cirl bunting *Emberiza cirlus* consultation zone meaning this species will not require consideration.

All wild birds (including both eggs and nests) are protected by law and nesting birds will form a constraint to development. Some species are afforded additional protection from disturbance during nesting and others are afforded additional consideration due to their rarity.

Birds can be affected by loss of habitat such as hedgerow removal or removing ground nesting habitat with activities like soil stripping, and increased disturbance caused by recreation.

Where possible important habitat for birds should be retained. Works should be planned to fall outside of the breeding bird season (March to August inclusive). Loss of nesting habitat should be compensated by creating new habitat by planting native trees, shrubs or plants, improving links to habitats, or installing artificial nesting sites e.g. through installing nest boxes.

Hazel dormice

Hazel dormice *Muscardinus avellanarius* are a declining species of mammal associated with woodland and hedgerows. The hazel dormouse and its breeding sites and resting places are fully protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, with addition protection under the Wildlife and Countryside Act 1981 (as amended).

Hazel dormice have been recorded within 5km of the proposed route (NBN Atlas, 2021). As there is suitable habitat for this species present along the route (woodland, hedgerows and scrub) that could be impacted by the proposals, hazel dormice should be considered as part of the scheme and could present a constraint to development.

Hazel dormice can be impacted by disturbance, e.g. noise and works to woodland/hedgerow, loss of habitat, habitat fragmentation and isolation.

If the proposals is likely to impact on woodland, scrub or hedgerows in areas dormice may be present, further survey work will be required. Loss or deterioration of this habitat should be avoided and a closed canopy retained where possible.

A European Protected Species Mitigation Licence (EPSML) may be required if dormice are to be impacted by works, which will involve mitigation and compensation, for example by supplementary planting of hedgerow or woodland.

Invertebrates

Certain invertebrate species are either legally protected, identified as a priority species for conservation action and/or are rare and endangered. These are material considerations in a planning decision. There are 400 priority' species of conservation importance listed under Natural Environment and Rural Communities Act (Section 41).

Notable invertebrate species may be associated with the broadleaved woodland, hedgerows, ditches and any area of higher quality grassland.

Otter

The proposed route crosses or is adjacent to numerous brooks and ditch habitats. Otters are found on all of Devon's major rivers including The River Teign, 460m north of the proposed route. Otter numbers are increasing along this river. Otter signs are infrequently found around the urban areas of Newton Abbot, where the river is joined by the rivers Lemon, Bovey, and Aller, emptying into the Teign Estuary.

Otters are highly mobile with large home ranges which make use of undisturbed habitat around rivers for movement, resting and breeding. Otters and their breeding and resting places are protected from damage and disturbance under national and international law by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Otters can be negatively affected by habitat loss or degradation in or near water bodies, holts and resting places being removed, pollution impacting their food sources disturbance to resting and feeding places, habitat fragmentation and disturbance to their usual routes, e.g. construction works forcing otters to use routes that might mean they are more likely that otters will be killed or injured on the road.

Plant species

Certain rare and declining plant species are protected under Schedule 8 of the Wildlife and Countryside Act. In addition, other scarce and localised plant species, such as those listed as threatened on the Red Data List (Stroh et al, 2014) may be given additional protection when considered through the planning system.

The scheme design should avoid impacting on habitat supporting protected and notable plants. Where this is not possible, mitigation will be required in the form of improving habitats, creating new areas of habitat, or translocating plants to a new location, but only as a last resort.

It is possible there are invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act which could pose a constraint to construction. Should any Schedule 9 species be identified they will require remediation prior to any construction activity to prevent spreading them further.

Reptiles

The route lies within ranges of the four common reptile species; grass snake *Natrix helvetica*, common lizard *Zootoca vivipara*, slow worm *Anguis fragilis* and adder *Vipera berus*. All these species are protected under Schedule 5 of The Wildlife and Countryside Act (1981). Sand Lizard *Lacerta agilis* has also been recorded within 5km of the proposed route (NBN

Gateway, 2021), this species is rare and fully protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019). This species is associated with heathland so if the proposals will impact upon this habitat then sand lizard will require consideration.

The more common reptile species will be associated with habitat indicated along the route including grassland, field margins, and woodland edge.

Reptiles therefore form a constraint to the proposals and will require further consideration as part of the design process.

If the project requires the removal of habitat supporting these species, sensitive methods of work or in some cases reptile translocation prior to works commencing may be required. Mitigation in the form of supplementary habitat may also be required. This could include acquiring additional land along the route to manage for the benefit of these species.

Water vole

Water vole *Arvicola amphibius*are a declining species of mammal associated with riparian habitats. They create burrows in the banks and feed primarily on in-stream and bankside aquatic vegetation.

Water voles and their breeding and resting places are protected from damage and disturbance under national and international law by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Water vole can be impacted by destroying or disturbing their habitat, destroying or disturbing places used for shelter or protection and deterioration in water quality.

To avoid impacts on water vole, where possible the path and construction footprint should be sited at least 5m away from the toe of banks of watercourses with the potential to support this species. Where this is not possible, a Licence from Natural England may be required.

Other Species

Once a Habitat survey is undertaken it may identify additional species to the ones listed above which will require consideration and further survey. Until a Habitat survey is undertaken it is not possible to predict ecological constraints in full.

4 Net Biodiversity Gain

The requirement for Biodiversity Net Gain is already embedded in the National Planning Policy Framework (NPPF, Para 170(d) and Para 175(d)), however a numerical value is not specified for the gain requirement. The latest update to the forthcoming Environment Bill specifies a mandatory 10 % biodiversity net gain to be maintained for a period of at least 30 years.

Scope for habitat enhancement, restoration and creation to achieve this net gain should be considered at an early stage within the proposed scheme design. Impacts to high biodiversity habitats such as woodland or good quality grassland should be avoided. As the scheme is brought forward a Biodiversity Net Gain calculation should be determined to ensure that the scheme is achieving this gain. This will bring the scheme forward in line with current National Planning Policy

Appropriate compensation will need to be identified for the biodiversity units lost due to the proposals, such as planting new hedgerow or woodland, or changing management of grassland for the benefit of wildflowers.

Given the scale of the scheme, the range of habitats that may be lost and the requirement on the project to see compensatory habitats maintained to maturity (min 30 years), achieving Biodiversity Net Gain presents a potentially considerable constraint to the scheme.

The design process should look for opportunities to minimise loss of habitat, especially priority habitat, to reduce this constraint, and should seek to identify as many opportunities for enhancement as possible.

5 Recommendations

Preliminary Ecological Appraisal

It is recommended that a PEA which encompasses all the proposed works (including access and storage areas) should be prepared at an early stage. This will further refine ecological constraints and opportunities that may be present, and outline the further ecology survey work that will be required to support the scheme. This should include a Habitat survey accompanied by a detailed desk study including purchasing ecology data from the Devon Biodiversity Records Centre (DBRC) and an assessment of the possibility of the scheme to impact upon any non-statutory designated sites.

The PEA will identify if further species surveys required to inform the scheme.

Further Assessment

It is recommended that any further assessment specified within the PEA is undertaken. Further assessment (e.g. dormouse surveys, hedgerow assessments, bat survey, oteer survey, water vole survey, flora survey) is best undertaken in accordance with the latest published best practice guidance and by suitably qualified, and where necessary licenced ecologists.

The findings of the PEA and further surveys should feed into the scheme design. For example higher value habitats will be identified or any locations where alterations to the design proposals would significantly reduce potential adverse ecological impacts.

The findings of the PEA and further surveys (where required) should be combined, along with the finalised designs for the scheme in to an Ecological Impact Assessment (EcIA) report. An EcIA is suitable for submission as part of any future planning application to the Local Planning Authority (LPA). In accordance with industry guidance, this report will evaluate potential effects of the proposals on ecological features. The report will also incorporate detail of measures to avoid, reduce and compensate for ecological impacts.

It is recommended that a Construction Environmental Management Plan (CEMP) is prepared prior to construction (including vegetation clearance) commencing. Typically, a CEMP would incorporate the findings of all ecology survey work completed to date and demonstrate how all legal requirements with respect to ecology will be met, including details of any Wildlife Licences issued by the relevant statutory authority or ecological supervision during construction to be undertaken.

Biodiversity Net Gain

The requirement for developments to achieve a Net Biodiversity Gain should be considered throughout the design process. Following the PEA, a Biodiversity Net Gain Assessment should be conducted using detailed designs.

Additional land or maintenance agreements to deliver Biodiversity Net Gain off site are very likely to be required and should be considered during land negotiations.

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Natural Environment and Rural Communities Act 2006. Priority species include those of Principal Importance listed in Section 41.

Appendix 1 – Relevant Wildlife Legislation and Policy

Legislation

Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2017. Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.

This guidance states that as the presence of protected species is a material consideration in any planning decision and it is therefore essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals, is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions for example.

In addition to protected species, there are those that are otherwise of conservation merit, such as those listed as species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006.

The Hedgerow Regulations 1997 (HMSO, 1997) were introduced to protect 'important' hedgerows in the countryside by controlling their removal through a system of notification. The Regulations apply to lengths of hedgerow greater than 20m in length, not adjoining residential curtilages. 'Important' hedgerows are defined within the Regulations on a variety of historical and/or ecological criteria.

Tree Preservation Orders (TPOs) are made under the Town and Country Planning (Tree Preservation) (England) Regulations 2012. They are made by local planning authorities to protect selected trees and woodlands if their removal would have a significant impact on the local environment and its enjoyment by the public. The criteria do not incorporate any specific considerations of ecological value. TPOs, however, provide legal protection to trees prohibiting the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction.

Species

Badgers

Badgers are protected under the Protection of Badgers Act 1992. The act is based on the need to protect badgers from baiting and deliberate harm or injury and makes it an offence to; wilfully kill, injure, take possess or cruelly ill-treat a badger, or attempt to do so, and to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access routes.

A sett is defined as *"Any structure or place which displays signs indicating current use by a badger"*

Works that disturb badgers whilst occupying a sett is illegal without a licence; badgers may be disturbed by works near a sett even if there is no direct interference or damage to the sett. Generally the types of activity which may result in disturbance and require a licence include:

- Using heavy machinery (i.e. tracked vehicles) within 30m of any entrance to an active sett;
- Using lighter machinery (i.e. wheeled vehicles), particularly for any digging operations; within 20m;
- Light works such as scrub clearance, felling of trees or hand digging within 10m.

Previous guidance issued from Natural England indicates that the potential for disturbance may not be as great as previously assumed due to their relatively high tolerance levels and when determining if disturbance will be caused, factors such as sett characteristics, current usage and the extent of works should be taken in consideration when assessing the need for a licence.

Bats

Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended). In summary this makes it an offence to damage destroy or obstruct any place used by bats for breeding and shelter, disturb a bat, or kill, injure or take a bat. Seven bat species (not including common pipistrelle) are listed as Species of Principal Importance under the provisions of the NERC Act 2006.

Birds

The Wildlife and Countryside Act 1981 (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected bylaw and it is an offence, with certain exceptions to recklessly or intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while in use or being built;
- Take or destroy the egg of any wild bird.

Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times.

Great crested newts

Great crested newts are afforded full legal protection under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981. In summary these pieces of legislation combined make it an offence to disturb, capture, injure and kill a great crested newt or damage and destroy its habitat.

Reptiles

All common reptile species, including grass snake, common lizard, slow worm and adder are partially protected under Schedule 5 of The Wildlife and Countryside Act (1981), under part of Section 9(1) and all of Section 9(5). As such it is an offence to; intentionally kill or injure an individual of these species, transport for sale or exchange, or offer for sale or exchange live or dead an individual or any part of an individual of these species.

All native reptile species are listed as Species of Principal Importance on S41 of the NERC Act 2006

Otter and Water vole

Otter and water vole are fully protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly kill, injure or take these species; possess or control live or dead species or derivatives; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; intentionally or recklessly disturb these species whilst occupying a structure or place used for that purpose.

Otter are also protected by the Habitats and Species Regulations 2017 (as amended). This legal protection makes it an offence to deliberately kill, take or injure an otter; damage or destroy a place of shelter of an otter; and disturb an otter whilst using such a place.

Hazel dormouse

Hazel dormice are legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), they are also protected by the Habitat and Species Regulations (2017 as amended). This makes it an offence to intentionally or recklessly kill, injure or take these species; possess or control live or dead species or derivatives; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; intentionally or recklessly disturb these species whilst occupying a structure or place used for that purpose. Dormice are also listed under Section 41 of the NERC Act, 2006.

Protected Sites

Special Areas of Conservation (SACs)

SACs are designated nature conservation sites of international importance. SACs are designated under The Conservation of Habitats and Species Regulations 2010 ('2010 Regulations') (as amended) which implements The European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC (the 'Habitats Directive', EEC, 1992). Lists of candidate SACs (cSACs) have been submitted to the European Commission for approval. Both possible SACs (pSACs) and cSACs are treated by the planning system as if fully designated.

Special Protection Areas (SPAs)

SPAs are designated nature conservation sites of international importance. SPAs are classified in accordance with the European Community Directive on the Conservation of Wild Birds (79/409/EEC) (the 'Birds Directive', EEC, 1979). Under this Directive, SPAs protect rare and vulnerable birds (as listed on Annex I of the Birds Directive), and regularly occurring migratory species. The provisions of the Birds Directive are implemented in England through the Wildlife and Countryside Act 1981 (as amended) and the Habitats Regulations (2010).

Ramsar Sites

Ramsar sites are designated nature conservation sites of international importance. The Ramsar Convention (UNESCO, 1987) requires signatory states to protect wetlands that are of international importance, particularly as waterfowl habitats.

Natura 2000 sites

Natura 2000 is a network of sites selected to ensure the long-term survival of Europe's most valuable and threatened species and habitats. Under the Habitats Directive, Member States designate Special Areas of Conservation (SACs) to ensure the favourable conservation status of each habitat type and species throughout their range in the EU. Under the Birds

Directive, the network must include Special Protection Areas (SPAs) designated for 194 particularly threatened species and all migratory bird species.

Sites of Special Scientific Interest (SSSIs)

SSSIs are designated nature conservation sites of national importance. The Wildlife and Countryside Act 1981 (as amended 1991 and varied 1998) (HMSO, 1981, 1991, 1998) requires Natural England, the Government body with authority for nature conservation in England, to designate areas which make a significant contribution to a national network of sites of nature conservation value as SSSIs.

The Countryside and Rights of Way Act 2000 (HMSO, 2000) came into force in full on 30 January 2001. The Act is in five parts. Part III relates to Nature Conservation and amends existing legislation (i.e. the Wildlife and Countryside Act 1981) through improved protection and management of SSSIs, improved legal protection for threatened species and the provision of a statutory basis for biodiversity conservation.

National Nature Reserves (NNR)

NNR are designated nature conservation sites of national importance. NNRs were established to protect some of our most important habitats, species and geology. Natural England manages about two thirds of England's NNRs. The remaining reserves are managed by organisations approved by Natural England, for example, the National Trust, Forestry Commission, RSPB, Wildlife Trusts and local authorities.

Local Nature Reserves

LNRs are designated nature conservation sites of local importance. Local Nature Reserves are designated under Section 21 of The National Parks and Access to the Countryside Act 1949 (HMSO, 1949) by principal local authorities. The declaring local authority must have a legal interest in the land concerned. Local Nature reserves are designated for people and wildlife. They are places with wildlife or geological features of special interest locally and that give people special opportunities to study and learn about them or simply enjoy them and have contact with nature.

Local Wildlife Sites; County Wildlife Sites; Sites of Nature Conservation Interest

The majority of Local Authorities have a system of 'second tier' sites which do not wholly fulfil SSSI designation criteria, but which are, nonetheless, of local or regional value. The policies, encouraged by Government advice, recognise that protection should be extended beyond the statutory sites to include the best examples of wildlife habitats, populations of rare species

and geological features remaining in the area and are particularly valuable in supplementing and supporting the national framework for SSSIs.

Habitats

Habitats of Principal Importance

The UK countries are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. Public bodies, including local authorities now have a legal duty to have regard to conserving biodiversity in the exercise of their normal functions. In England, this obligation derives from the Natural Environment and Rural Communities (NERC) Act 2006, and Habitats of Principal Importance are listed on Section 41 of this Act. They mainly derive from lists originally drawn up for the UK Biodiversity Action Plan (UK BAP).

Irreplaceable Habitats

Irreplaceable habitat is habitat that, once lost, cannot be recreated elsewhere, within a reasonable timeframe.

The Revised NPPF lists the following habitats as irreplaceable:

- Ancient woodland
- Ancient and veteran trees
- Blanket bog
- Limestone pavement
- Sand dunes
- Lowland fen

Under the Revised NPPF, a planning application which would lead to the loss or damage to any irreplaceable habitat should be refused (Section 175 c).

Planning

National Planning Policy Framework (NPPF)

The NPPF (MHCLG, 2019) emphasises that planning decisions should contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity value (in a manner commensurate with their statutory status or identified quality in the development plan) and "minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures" (paragraph 170 refers).

The NPPF advises that when determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles (paragraph 175 refers):

"*a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons 58 and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."

National Planning Policy Guidance (NPPG)

The NPPG (DCLG, 2014) will be updated in due course, where necessary, to reflect the 2019 NPPF. Current NPPG advises that information on biodiversity impacts and opportunities should inform all stages of development, from site selection and design, to include any pre-application consultation as well as the application itself. The guidance notes that:

"*An ecological survey will be necessary in advance of a planning application if the type and location of development are such that the impact on biodiversity may be significant and existing information is lacking or inadequate. Pre-application discussion can help scope whether this is the case and, if so, the survey work required*."

The guidance also notes that:

"*Local planning authorities should only require ecological surveys where clearly justified, for example if they consider there is a reasonable likelihood of a protected species being present and affected by development. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity*."

Biodiversity Net Gain (BNG)

The requirement for Biodiversity Net Gain is already embedded in the National Planning Policy Framework (NPPF, Para 170(d) and Para 175(d)), however a numerical value is not specified for the gain requirement. The latest update to the forthcoming Environment Bill specifies a mandatory 10 % biodiversity net gain to be maintained for a period of at least 30 years.

Making Space for Nature

The UK Government published a White Paper 'Making Space for Nature: securing the value of nature' in June 2011 (Lawton, 2011). This document sets out a series of commitments relating, in particular, to the protection and improvement of the natural environment, the development of a green economy and strengthening the connection between people and nature. Many of the commitments and principles identified in the White Paper are of particular relevance to this proposed development:

The establishment of coherent ecological networks;

The creation/use of urban green infrastructure to complete the links in the ecological networks, with green spaces managed to provide a diverse range of functions, benefitting people and wildlife, by delivering ecosystem services; and

Re-connecting people to nature through education, by providing neighbourhood access to nature and the countryside, and encouraging voluntary participation in nature conservation activities.

Appendix 2 – Ecological Assessment Criteria

Ecological features are evaluated and assessed with due consideration for the Chartered Institute of Ecology and Environmental Management (CIEEM) 2018 Guidelines for Ecological Impact Assessment (EcIA). For clarity, the evaluation and assessment process adopted within this EcIA is set out below:

Classifying potentially Important Ecological Features (IEF)

Ecological features are assessed where they are considered to be important, and where they may be impacted by a proposed development. A feature may be considered important for a variety of reasons, such as quality, extent, rarity and/or statutory protection. Table E.1 below sets out a non-exhaustive list of ecological features that are typically considered, along with key examples:

Table 3.1 Potentially important ecological features (adapted from CIEEM 2018)

Potentially Important Ecological Features	Typical examples
Statutory designated sites under international conventions, or European Legislation	Ramsar sites (wetland habitat of international importance), Special Areas of Conservation (SAC), Special Protection Areas (SPA), including land which is functionally linked to these designations. Also includes candidate SAC and proposed SPA, SAC and Ramsar sites.
Statutory designated sites under national legislation	Sites of Species Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserves (LNR), Marine Conservation Zones (MCZ)
Non-statutory, locally designated sites	Local Wildlife Sites (LWS), County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINCS)

Country biodiversity lists	Habitats or Species of Principle Importance for the Conservation of Biodiversity (Section 41, NERC Act 2006), Ancient woodland inventories
Local biodiversity lists	Local Biodiversity Action Plan (BAP) priority species or habitats
Red Listed / Rare Species	Species of conservation concern, Red Data Book (RDB) species, Birds of Conservation Concern, Nationally Rare and Nationally Scarce Species
Legally Protected Species	E.g. species listed under Sch.5 of the W&C Act 1981, or Sch.2 of the Hag. Regs. 2010
Legally Controlled Species	Legally Controlled Species

It should also be noted that the social, community, economic or multifunctional importance attributed to ecological features are not assessed as they fall outside the scope of this assessment

Geographic Context

The importance of ecological features, as well as the significance of any likely impacts and their effects, are considered here within a defined geographic context:

- International and European
- National
- Regional (e.g. East Anglia)
- County
- Local (this can be sub-divided in to district and borough where appropriate)
- Site

The size, conservation status and the quality of features are all relevant in determining their importance and assigning this to the geographic scale.

Characterising Ecological Impacts and their Effects

Where likely ecological impacts are identified in connection with the proposed project, these are considered and described with reference to the following characteristics (where this is helpful in accurately portraying the ecological effect and determining the significance):

- Positive or negative (i.e. does the anticipated change accord with nature conservation policies and objectives?)
- Extent (i.e. the spatial area over which the impact or effect may occur)
- Magnitude (i.e. the quantified size, amount, intensity or volume)
- Duration (i.e. the timeframe over which the impact or effect may occur, in both human and ecological terms)
- Frequency and timing (i.e. the number of times an activity occurs, where this is likely to influence the effect)
- Reversibility (i.e. is spontaneous recovery possible or may the effect be counteracted by mitigation?)

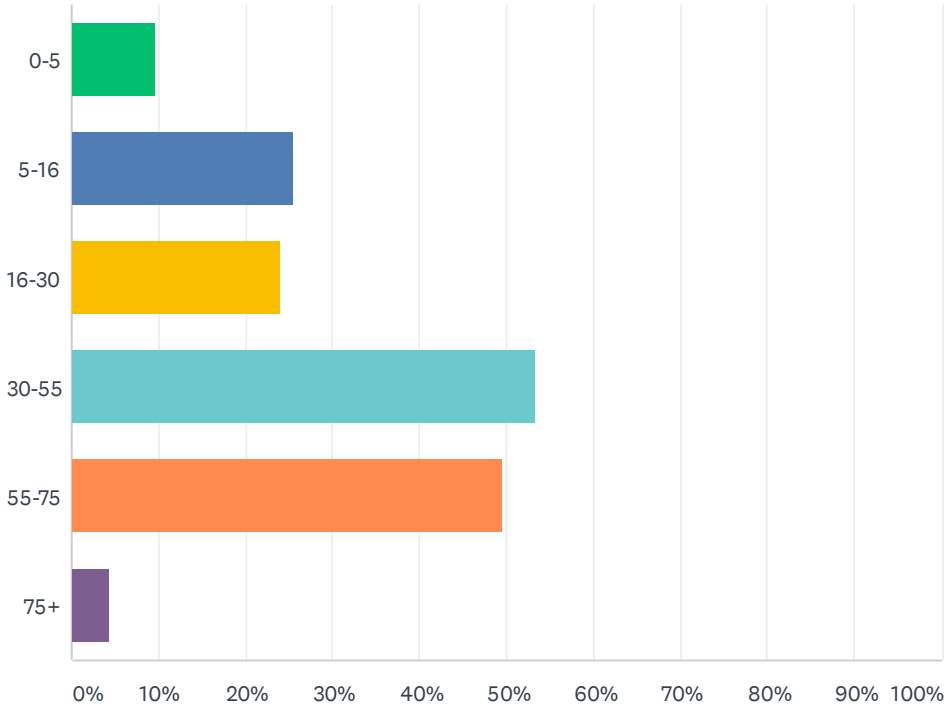
An effect is considered to be *significant* where this either supports or undermines biodiversity conservation objectives for an important ecological feature.

Q1 How many people are in your household?

Answered: 924 Skipped: 3

Q2 What are their ages?

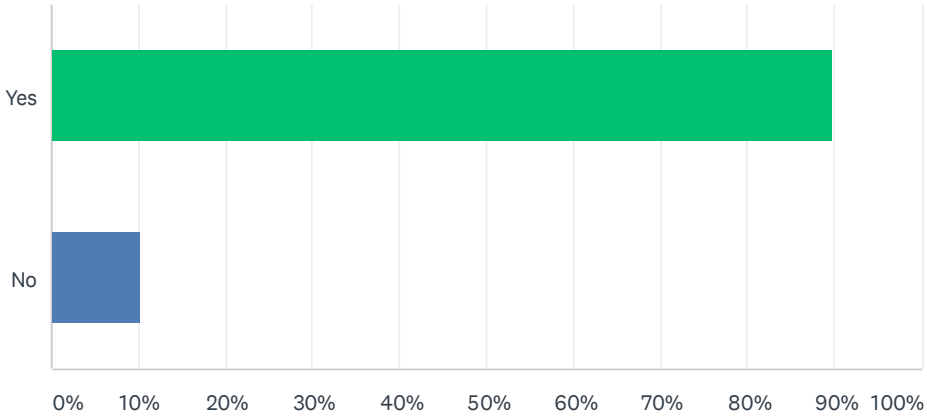
Answered: 921 Skipped: 6



ANSWER CHOICES	RESPONSES	
0-5	9.55%	88
5-16	25.52%	235
16-30	24.10%	222
30-55	53.31%	491
55-75	49.62%	457
75+	4.34%	40
Total Respondents: 921		

Q3 Do you have access to a bicycle?

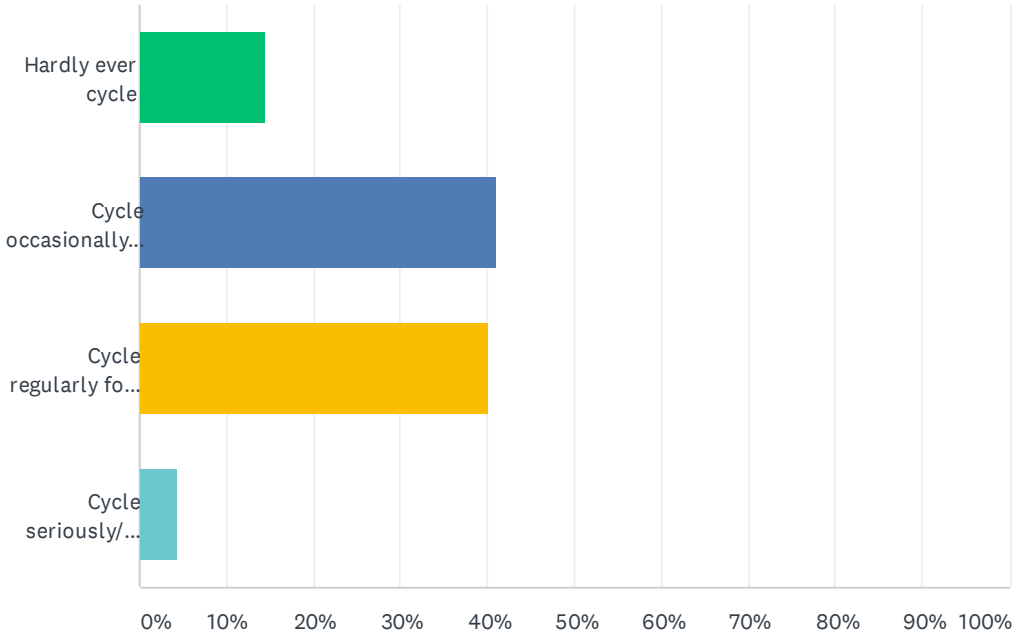
Answered: 921 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	89.69%	826
No	10.31%	95
TOTAL		921

Q4 IF YES - do you

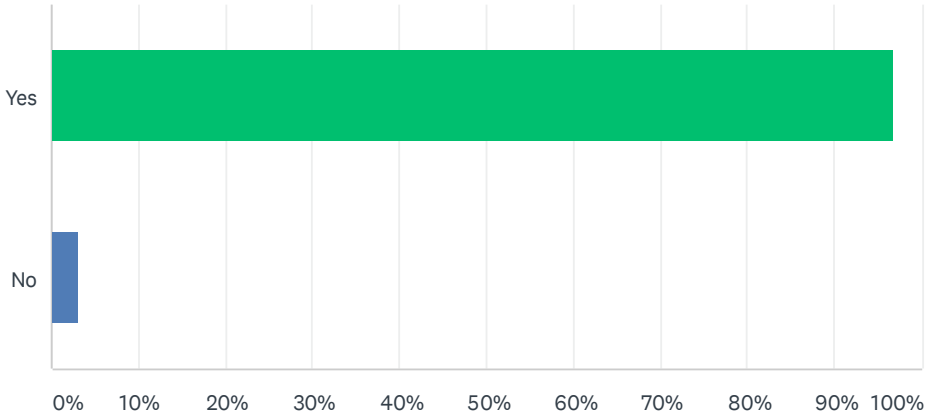
Answered: 853 Skipped: 74



ANSWER CHOICES	RESPONSES	
Hardly ever cycle	14.42%	123
Cycle occasionally for leisure	41.03%	350
Cycle regularly for leisure/ commuting	40.21%	343
Cycle seriously/ competitively	4.34%	37
TOTAL		853

Q5 Do you have access to a car that you can drive?

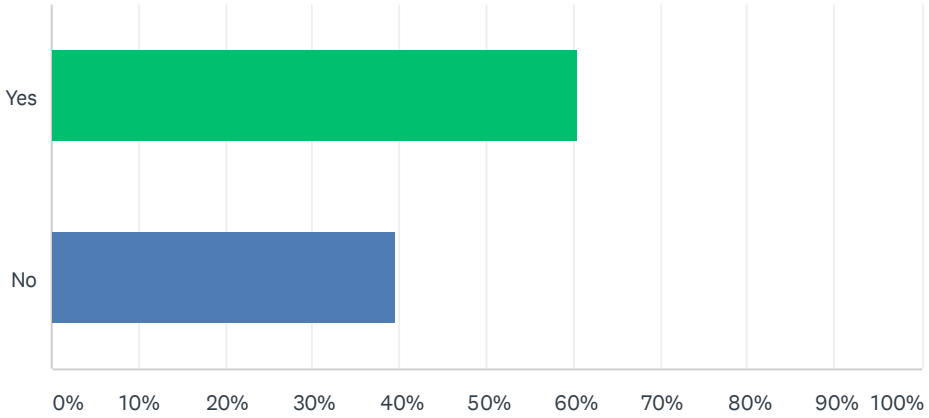
Answered: 920 Skipped: 7



ANSWER CHOICES	RESPONSES	
Yes	96.96%	892
No	3.04%	28
TOTAL		920

Q6 Do you regularly travel from Moretonhampstead to Chagford?

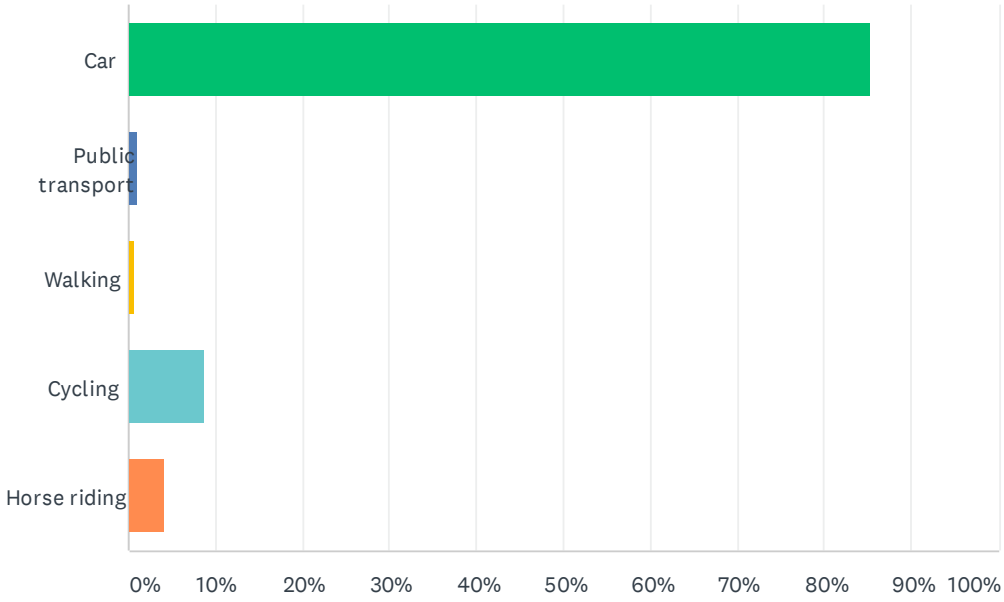
Answered: 923 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	60.46%	558
No	39.54%	365
TOTAL		923

Q7 IF YES - what mode of transport do you use

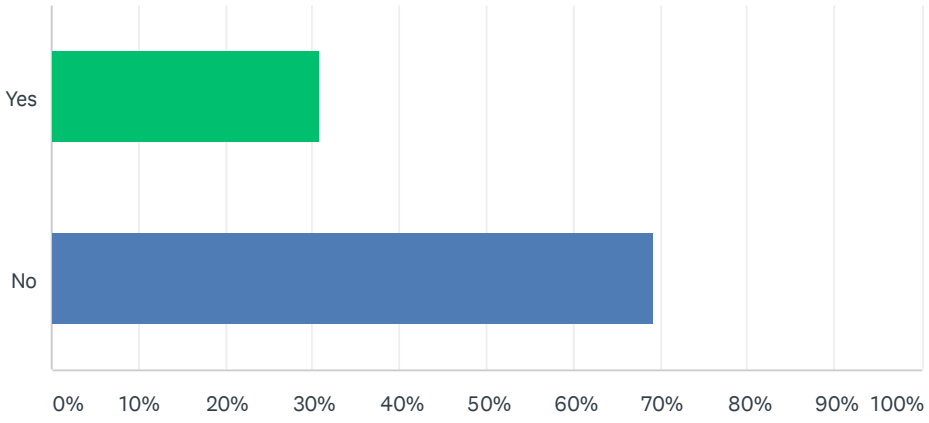
Answered: 719 Skipped: 208



ANSWER CHOICES	RESPONSES	
Car	85.40%	614
Public transport	0.97%	7
Walking	0.70%	5
Cycling	8.76%	63
Horse riding	4.17%	30
TOTAL		719

Q8 Would you consider cycling on the existing roads between Moretonhampstead and Chagford?

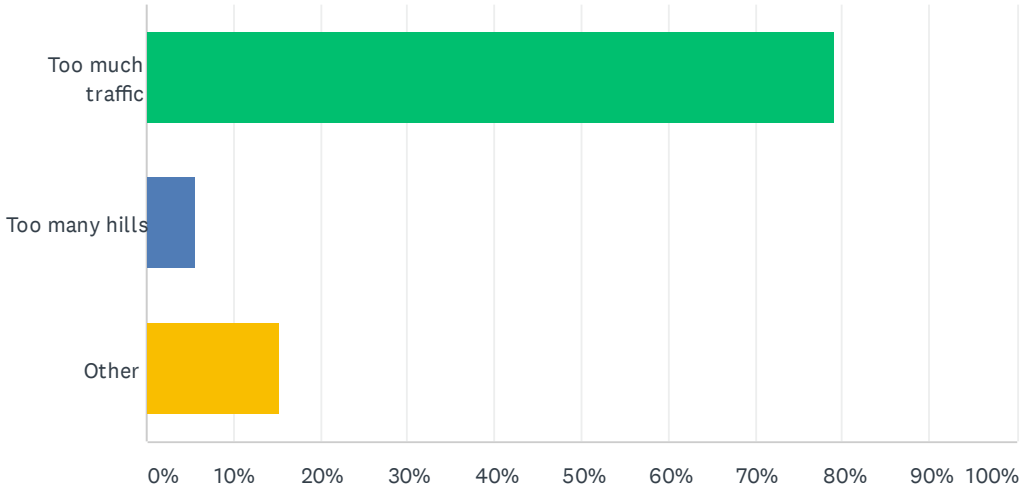
Answered: 920 Skipped: 7



ANSWER CHOICES	RESPONSES	
Yes	30.76%	283
No	69.24%	637
TOTAL		920

Q9 IF NO - why not

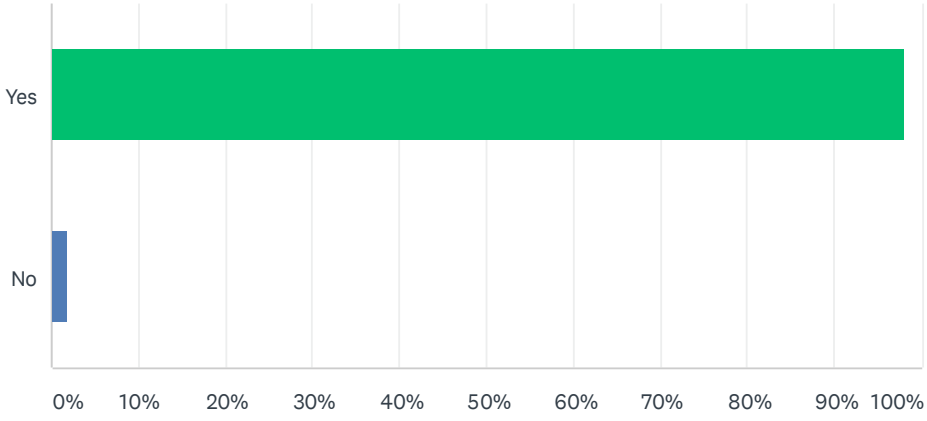
Answered: 759 Skipped: 168



ANSWER CHOICES	RESPONSES	
Too much traffic	79.05%	600
Too many hills	5.67%	43
Other	15.28%	116
TOTAL		759

Q10 Would you consider using a traffic free path between Moretonhampstead and Chagford?

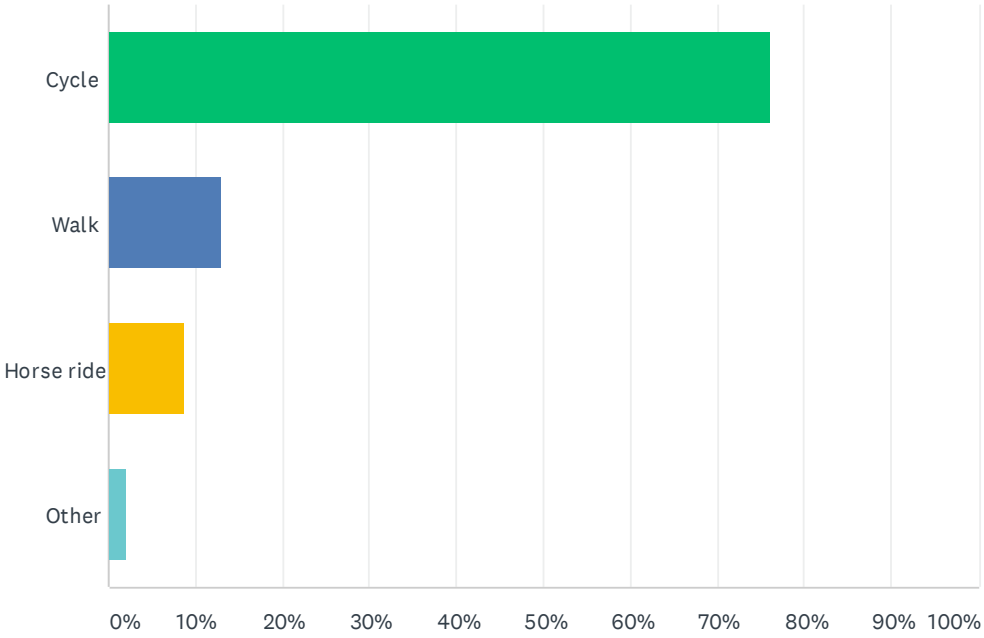
Answered: 923 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	98.16%	906
No	1.84%	17
TOTAL		923

Q11 IF YES - would you

Answered: 912 Skipped: 15



ANSWER CHOICES	RESPONSES	
Cycle	76.21%	695
Walk	12.94%	118
Horse ride	8.77%	80
Other	2.08%	19
TOTAL		912

Q12 Have you used any of these local traffic free routes?

Answered: 902 Skipped: 25

ANSWER CHOICES	RESPONSES	
Wray Valley Trail Y/N	85.81%	774
Granite Way Y/N	90.47%	816
Tarka Trail Y/N	90.13%	813

Q13 If you are not a cyclist, would you support a traffic free route between these two communities for other reasons (eg to support local businesses)?

Answered: 607 Skipped: 320

ANSWER CHOICES	RESPONSES	
Yes (please add details)	96.71%	587
No (please add details)	4.45%	27

Q14 What should a new traffic free route be called?

Answered: 831 Skipped: 96

ANSWER CHOICES	RESPONSES	
Moreton to Chagford Green Way	49.82%	414
Wray Valley Extension	16.00%	133
Teign Valley Link	20.94%	174
Other (make a suggestion)	19.86%	165

Q15 Any other suggestions or comments - please add here or send seperate comments to the steering group at greencycleway2020@gmail.com

Answered: 365 Skipped: 562

Q16 If you want to stay in touch, please add your name and email address. Any queries, please email us on greencycleway2020@gmail.com

Answered: 335 Skipped: 592