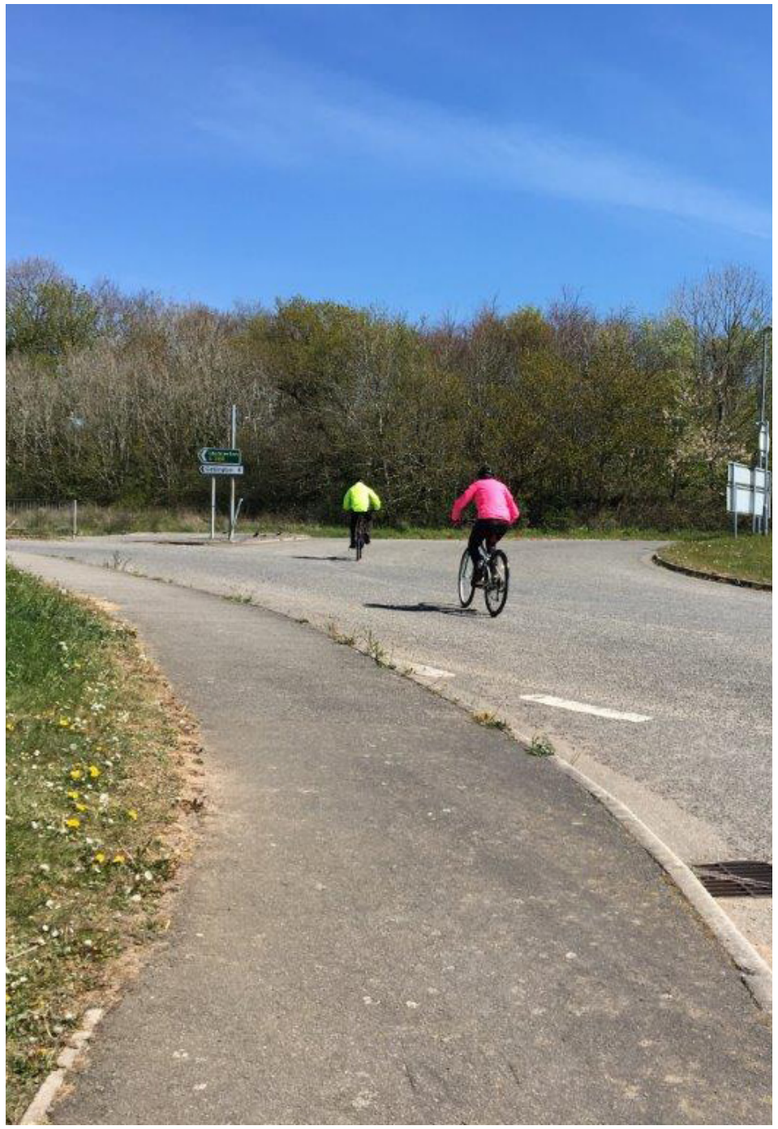
Hatt A388 Route Study

Botus Fleming Parish Council



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.

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1.0	For client review	IMS	1/10/21

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1 Introduction

1 Introduction

Purpose of this study

The aim of this study is to provide a safe route that enables and promotes walking and cycling by providing physical separation from traffic, for both utility and leisure journeys between Hatt and the A38 in Cornwall.

Currently there are no continuous facilities for walking and cycling between the settlements of Hatt, Botus Fleming and Carkeel except for some short fragmented sections of narrow footway.

This study considers other route options, outlining the benefits and constraints for each. Most of the potential routes identified will require landowner consent to achieve a high quality facility that enables real change in the way people travel in this area.

The proposed route has the potential to encourage a modal shift from going by car, to going by bike and or walking. Residents of Hatt and Botus Fleming would benefit by having a traffic free path to the railway station is Saltash. Residents of Saltash would benefit by having improved access to the countryside.

The new path also has the potential to affect trips to and from the new mixed use development at Treladen by foot and cycle for commuting and recreation.

Figure 1.1 Location

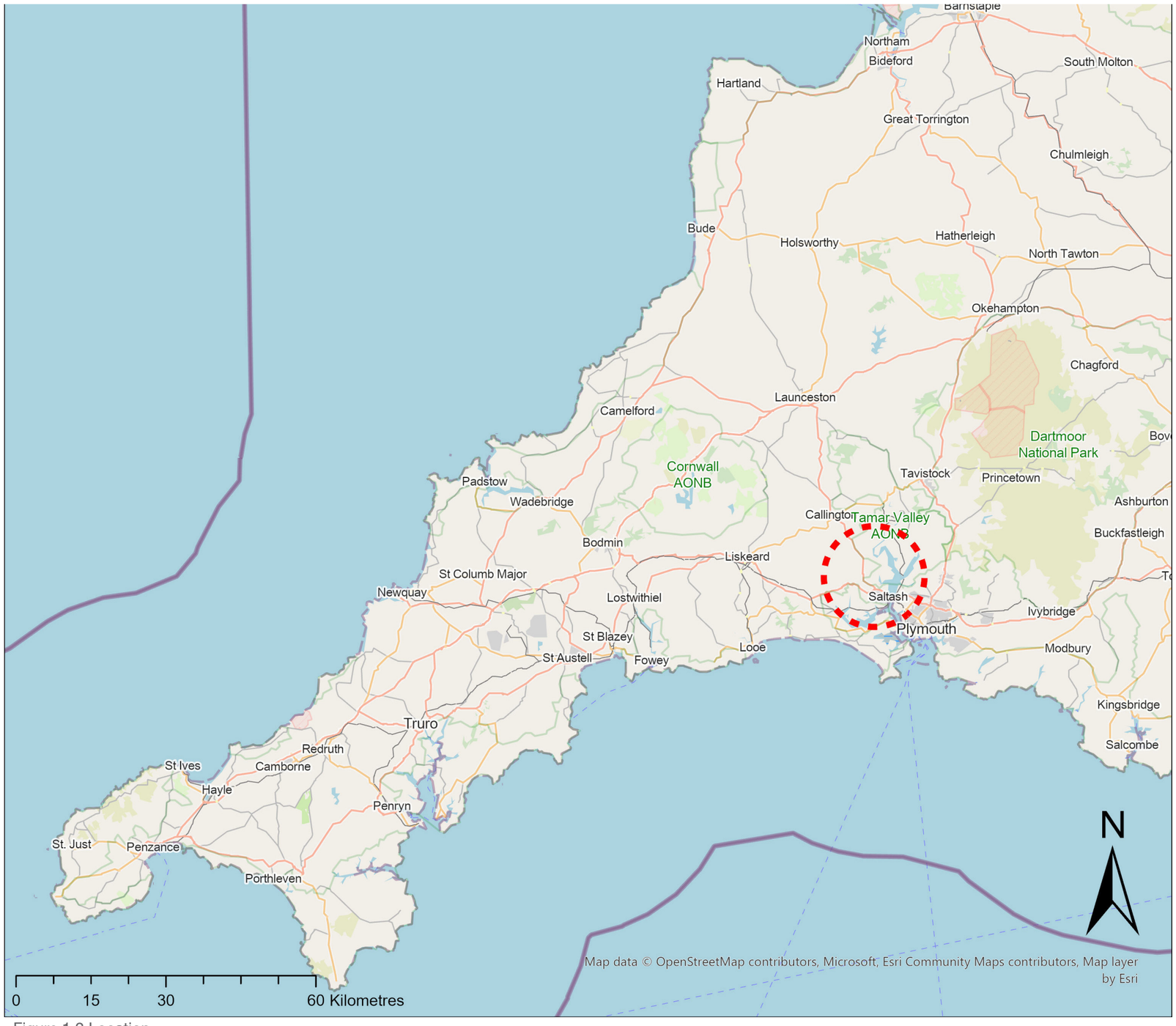


Figure 1.2 Location

Background and context

The Botus Fleming and Hatt Emergency Response Group (BOTHER) were awarded Climate Change Funding by Cornwall Council, via Botus Fleming Parish Council for a Route Study of the options for a walking and cycling route between Hatt and the A38 at Carkeel.

The settlements of Hatt and Botus Fleming lie due north of Saltash in the South East of Cornwall. Saltash and Plymouth, which is immediately to the east across the Tamar River, are major commuting destinations for residents in this part of Cornwall and the community wants to be able to walk and cycle more for commuting and utility trips using high quality provision within 2km's walking distance and 5km's cycling distance from home.

The Strategic case

Cornwall Council Transport Strategy

Connecting Cornwall: 2030 is the third Local Transport Plan for Cornwall. The strategy covers the period up to 2030 and will be supported by a series of Implementation Plans. The publication of a Local Transport Plan is a statutory duty for local highway authorities under the Local Transport Act 2008.

Connecting Cornwall is the key strategic policy tool through which Cornwall Council exercises its responsibilities for planning, management and development of transport in Cornwall, for the movement of both people and goods.

Connecting Cornwall: 2030 sets out the vision, goals, objectives and policies for transport. It shows the approach to be taken to create an excellent transport system in Cornwall over the next 10 years.

A review of local spatial planning documents as guided by the Council, Connecting Cornwall 2030, Local Transport Plan, Cornwall Climate Change Action Plan, Cornwall & Isles of Scilly Health and Wellbeing Strategy 2020-2030, Cornwall Local Plan, Cornwall Council's Local Transport Plan remaining within the Saltash hinterland.

Other relevant strategies and plan's supporting the development and delivery of well connected local and strategic walking and cycling infrastructure is the Cornwall Climate Change Action Plan, and Cornwall & Isles of Scilly Health and Wellbeing Strategy 2020-2030.

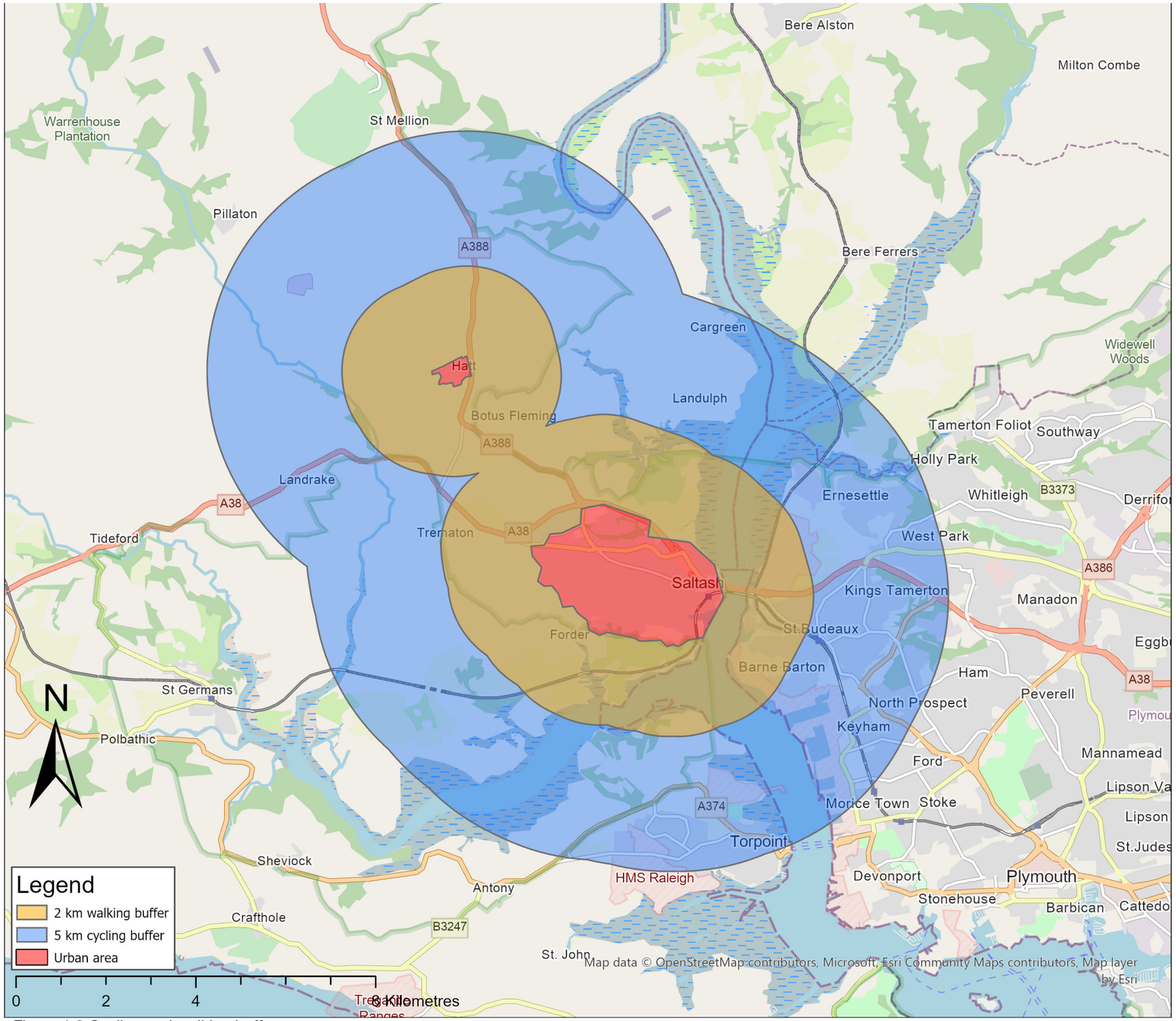


Figure 1.3 Cycling and walking buffer

Saltash Transport Strategy

A review of 2011 Census data has identified the existing travel to work mode share for residents within the most relevant ward. The modal split is indicated in Figure 1.1 with the distance travelled to work is indicated in Figure 1.2 , in the St Stephens ward.

Based on the 2011 data, the most dominant mode of travel is by car, resulting in 68.8% of all trips within the St Stephens ward. Travel by foot is the second most dominant mode of travel.

The 2001 Census data also provides an indication of the distance travelled to work. This indicates that 6.7% of working people work from home, whereas in 2011 the equivalent figure was 4.6%, suggesting a trend of less people working from home. 31.6% of the work force travel less than 5km, with the remaining within the Saltash hinterland.

Saltash Mode Share – travelling to work

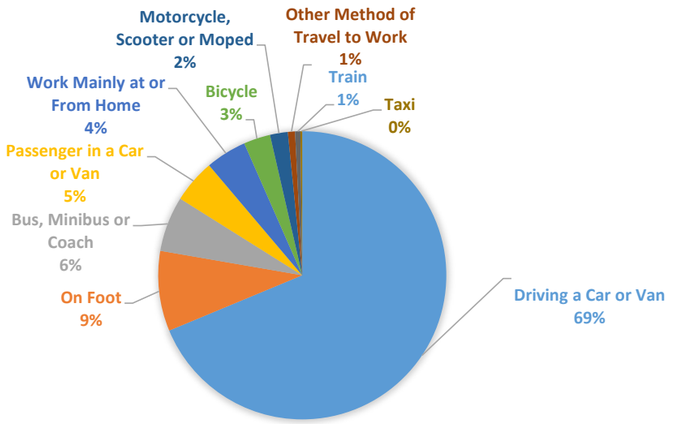


Figure 1.4 Saltash Mode share, travelling to work (Census 2011)

Saltash Distance travelled to work

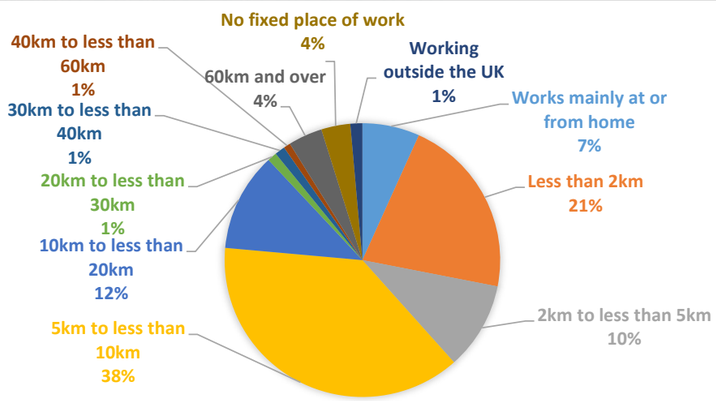


Figure 1.5 Saltash Distance travelled to work (Census 2001)

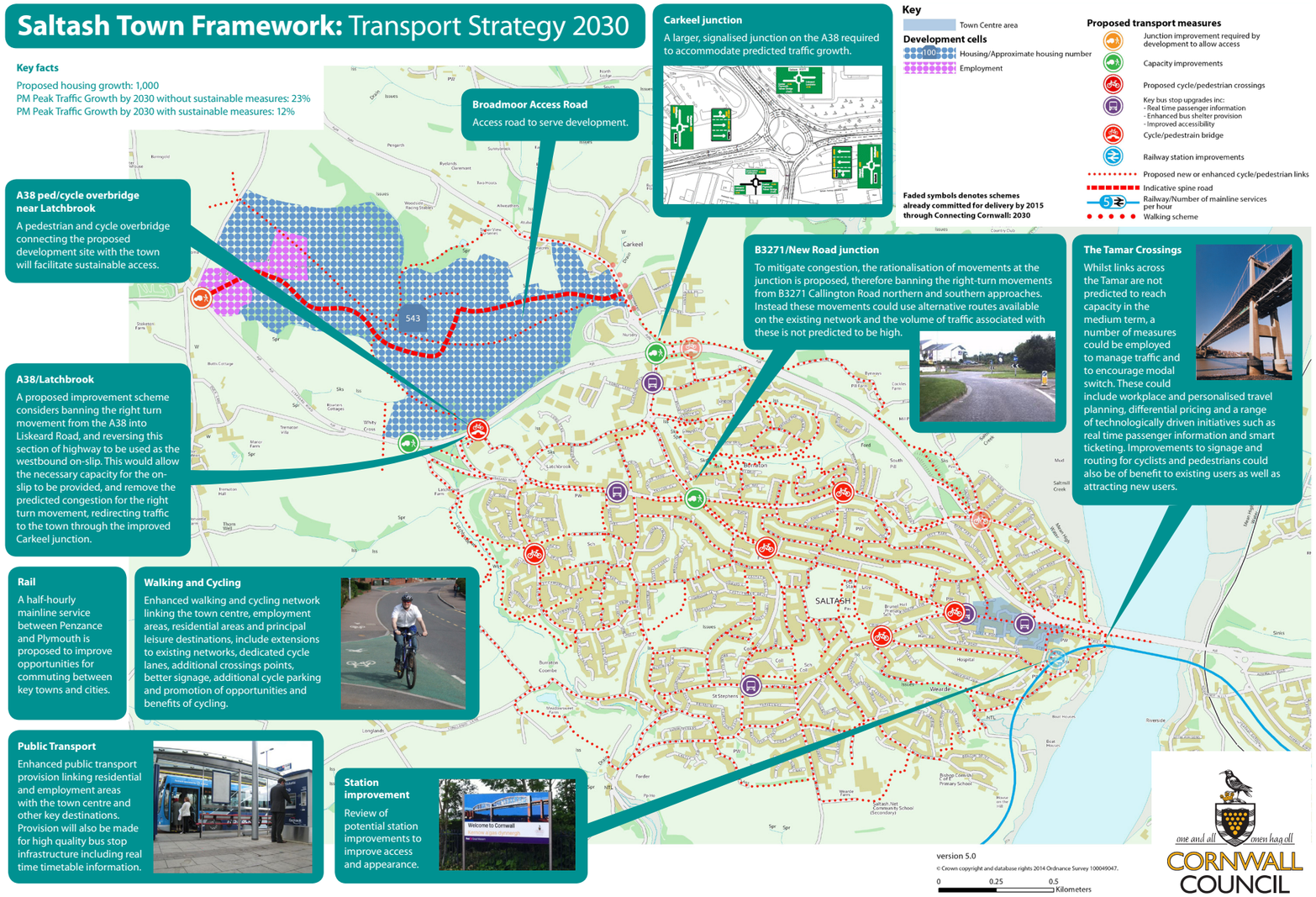


Figure 1.6 Saltash Transport Strategy 2030 (Corwall Council)

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

The vision released by the Department of Transport recognises the need to provide a step change in active travel and that this vision is the start in achieving this change, especially given the higher levels of active travel during the earlier stages of the Covid- 19 pandemic.

The documents notes the benefits of active travel across a range of metrics (health, wellbeing, 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 it accessible to all, segregation where possible on high traffic volume roads, deign for significant volumes of cyclists, cycle infrastructure must be well connected, route maintenance, and any departures from the principles.

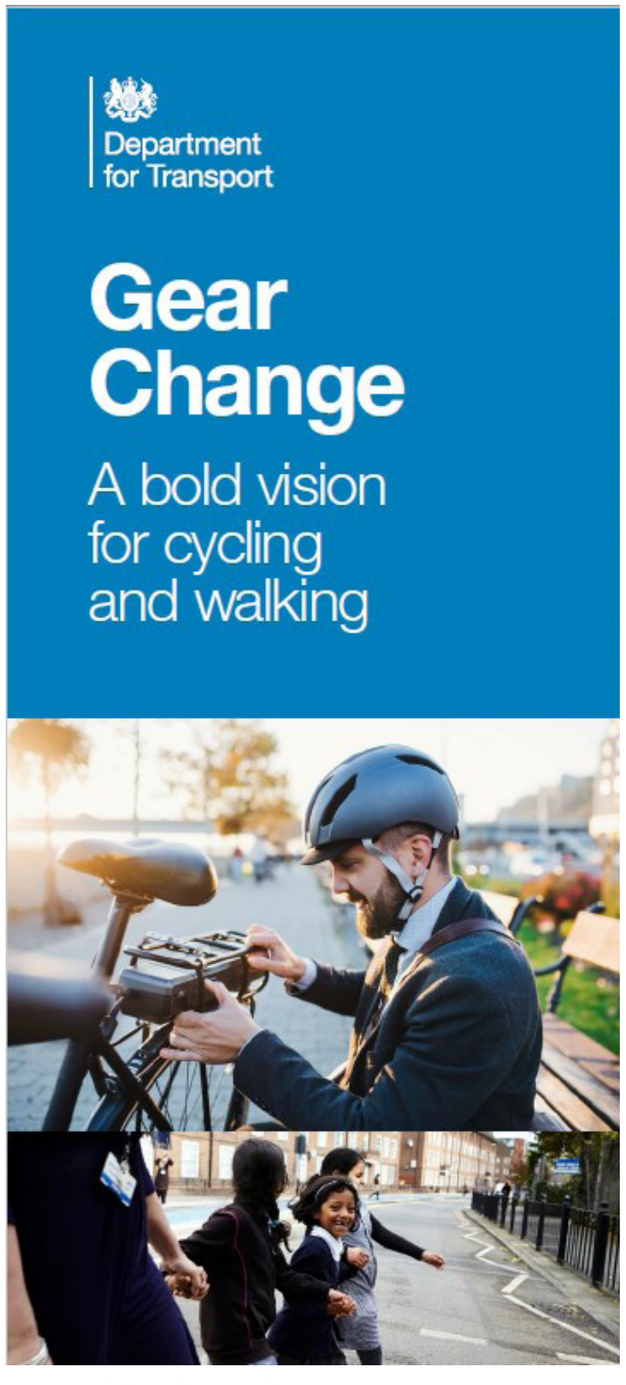


Figure 1.7 Gear Change (DfT)

Existing Transport Conditions

The A388 is the main road between Callington (in the north) and Saltash (in the south). It passes through the villages of Carkeel and Hatt, forming part extents of this study. The A388 has one lane in each direction.

Traffic Flows

Existing traffic flow data are shown in figure 1.5 and 1.6.

The Average Annual Daily Traffic (AADT) data held on Cornwall Council's GIS system indicates flows vary greatly within the overall study area, ranging from very low, 0-1000 AADT on the side road network up to over 15,000 AADT as recorded by the automatic traffic counters in St Mellion.

Heavy Commercial vehicles make up approximately 4% of the traffic on the A388 which significatly decreases the safety and comfort of cyclists on this road.

Traffic Speeds

Almost the entire length of the A388 from Callington to Rood's Corner is national speed limit (60 mph). There are 3 exceptions to this.

One is the village of Hatt, including the roundabout on the A388, which has a 30 mph limit.

The other is the village of St Mellion where there is a 30 mph limit on the A388, enforced by speed cameras.

Lastly, the A388 at Carkeel Village has a 30 mph limit in the village itself and there is a 40mph speed limit between the southern village limit and A38 Carkeel Roundabout.

The rural lane network is national speed limit except for a 30mph limit where the Vollards Lane arrives into Hatt.

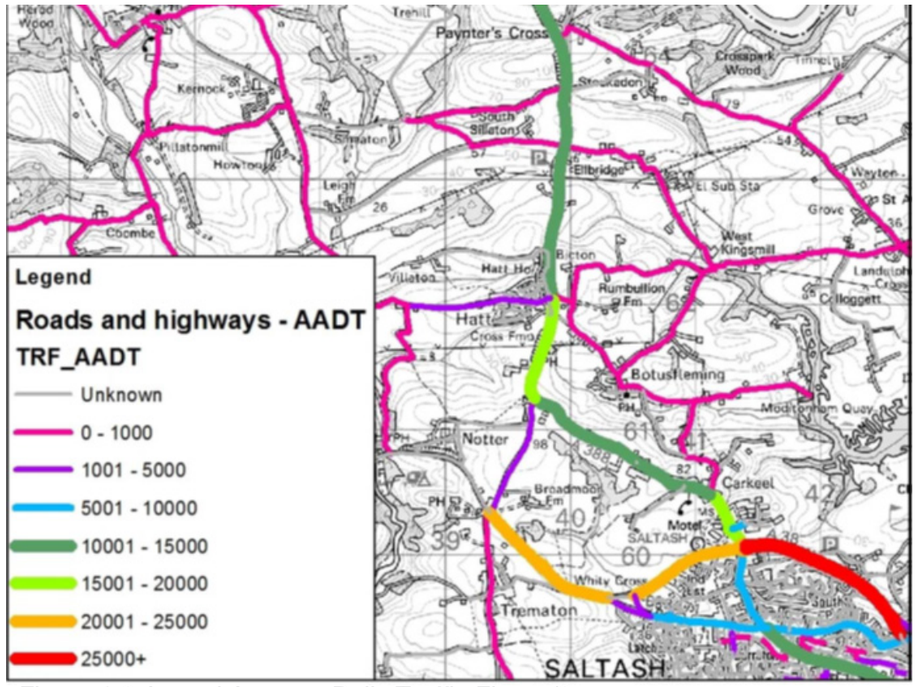


Figure 1.8 Annual Average Daily Traffic Flows (2 way)

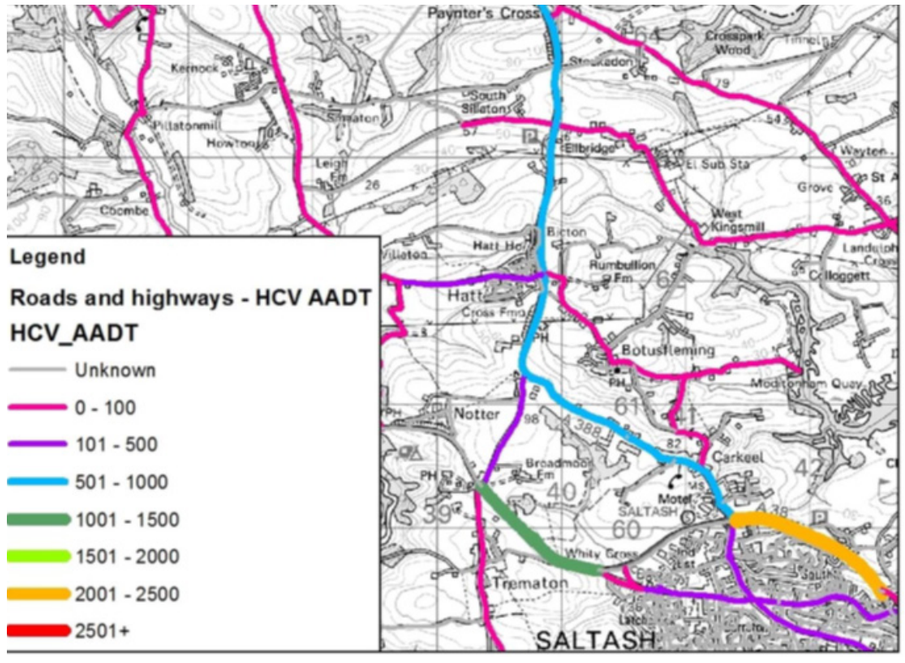


Figure 1.9 Heavy Commercial Vehicles Annual Average Daily Traffic Flows (2 way)

Road Safety/ Accident data

Collisions

The recorded collisions from within the study area have been obtained from Crashmap for the previous 5 years (2016-2021). These consisted of:

- 2 Fatal
- 19 Serious
- 103 Slight
- 41 Damage only

Of the 165 collisions only one involved a bicycle and resulted in damage to the bicycle and slight injury to the cyclist.

The collision occurred at the roundabout on the south side of Callington at the junction of the A390 (Southern Road) with the A388.

It was caused by a car turning left at the roundabout cutting across the path of a cyclist who was coming up on the near side.

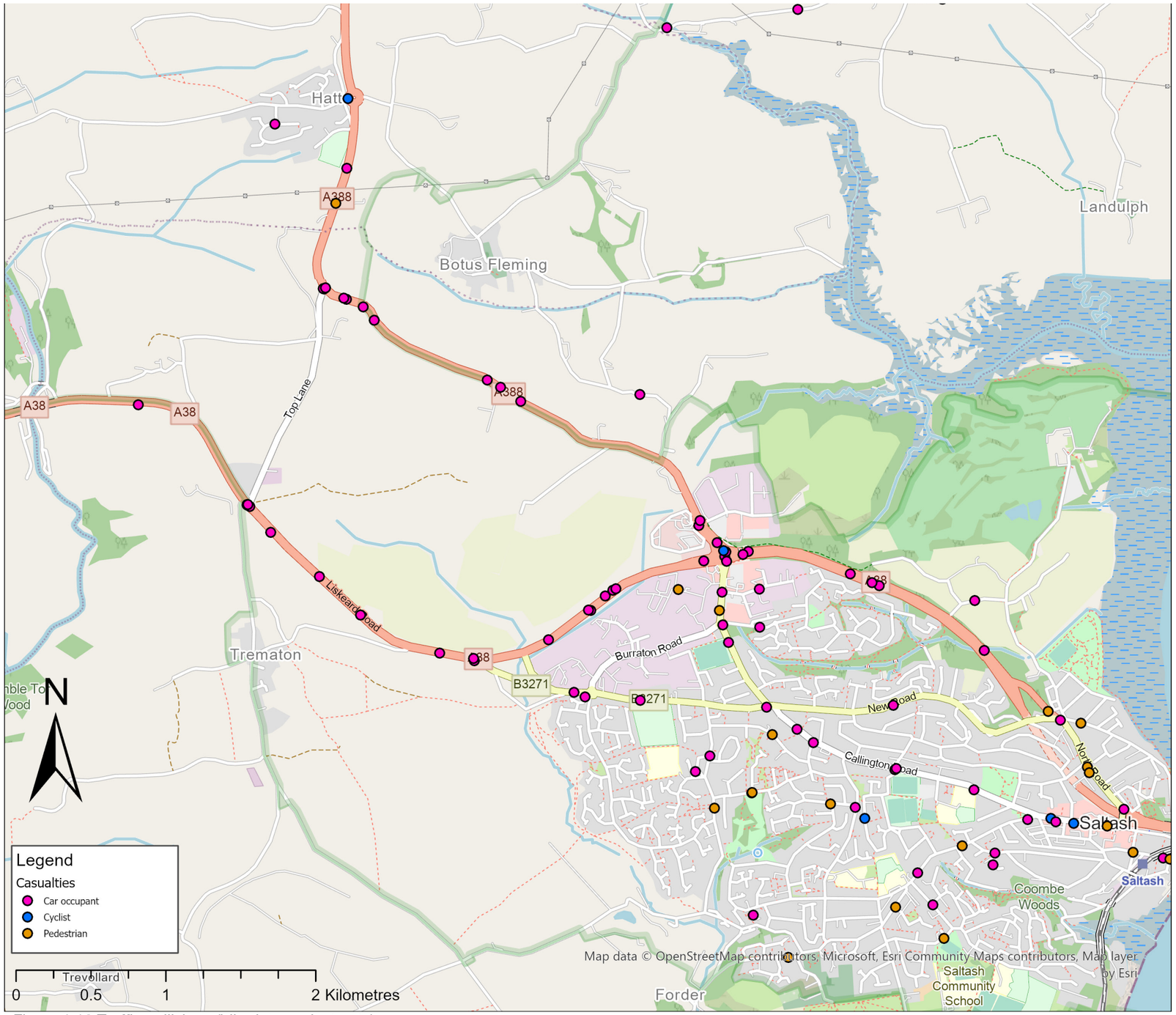


Figure 1.10 Traffic collisions (bikedata.cyclestreets)

The English Indices of Deprivation 2019 (IoD2019)

The Map opposite illustrates the geographical spread of deprivation in the Saltash area based on ranking all 32,844 Lower Super Output Areas (LSOAs), or neighbourhoods, nationally and dividing them in to 10 equal groups (or deciles) according to their deprivation rank. Areas shaded dark orange are in the most deprived 10 per cent (or decile) of neighbourhoods in England while areas shaded pale yellow are in the least deprived 10 per cent.

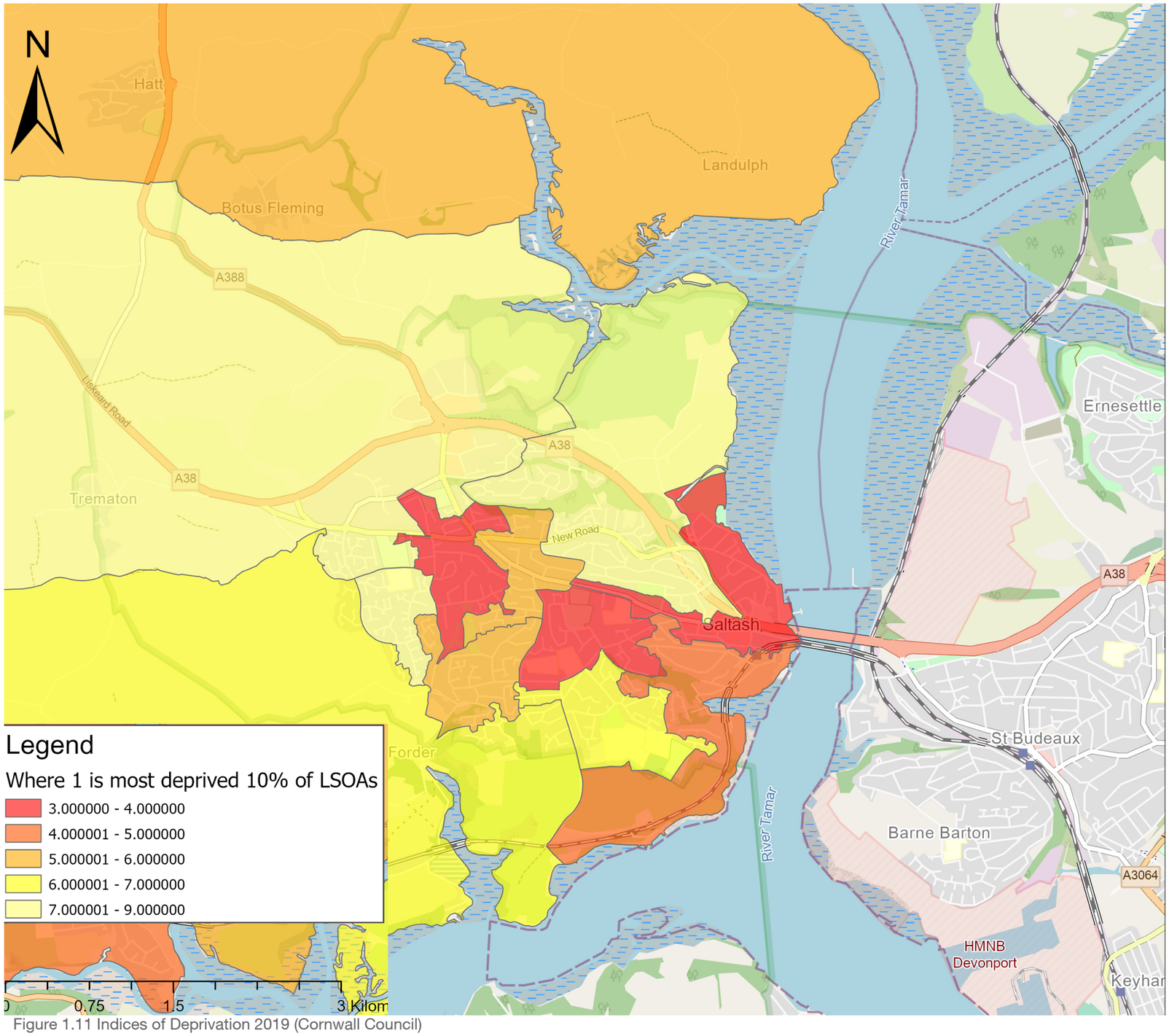


Figure 1.11 Indices of Deprivation 2019 (Cornwall Council)

Saltash Draft Neighbourhood Development Plan (2020)

The draft plan makes some important references towards supporting the approach for more active travel opportunities and improved connectivity in the Saltash area. The relevant sections of the draft report are as follows:

'IMPROVED AND SUSTAINABLE CONNECTIVITY', Chapter 15'

Paragraph 15.1 Improving the connectivity of Saltash's neighbourhoods is fundamental to the vision for the Neighbourhood Plan, and requires steps which will bring environmental, social, and economic benefits.

Paragraph 15.3 Key issues for consideration in the Cornwall Local Plan Site Allocations DPD, the Saltash NDP, and in planning applications include:

• Capacity improvements that are required to the Bridge and associated road network particularly at Carkeel, which also serves the nearby retail and employments areas and the planned new neighbourhood at Broadmoor, and at Burraton Cross. • The severance of the new neighbourhood from the existing town by the A38 and physical distance, which is likely to encourage reliance on trips by car, and encourage people to access general shopping/ services at locations other than the town centre

Paragraph 15.6 JUSTIFICATION: The A38 trunk road and physical distance effectively sever the new neighbourhood at Broadmoor from the main body of the town and the town centre. Many of the routes to the town centre are unattractive and difficult to use. It is considered that these factors are is likely to encourage reliance on journeys by car, and encourage people to access general shopping/services at locations other than the town centre. The Vision for Saltash relies, in spatial terms, on the efficient use of the routes that link the community together.

Paragraph 15.7 INTENTION: The route from Carkeel via Callington Road to Fore Street is the main link which connects the 'top' of Saltash, all the way to the Waterfront area. It also connects with all the other parts of the town. Enhancing this route with quality urban design, substantial tree planting and landscaping, improved surface treatments and rationalised signage to create a 'backbone street', forming one clear and cohesive route will help draw the community together, create a clear hierarchy between town and neighbourhood centres and interlink the outlying parts of the town more firmly. It supports a clear inter-relationship of local neighbourhoods, and ensures that Broadmoor and Carkeel look to the town (and vice versa) rather than being suburbs of Plymouth. This can also serve multiple forms of transport, allow for connections between them making sustainable travel easier, and potentially 'capture' passing traffic to improve town centre vitality and viability.

POLICY CON 9: PROTECTION OF FOOTPATHS, BRIDLEWAYS AND CYCLE PATHS.

Paragraph 15.24 JUSTIFICATION: In view of the important contribution that footpaths, bridleways and cycle paths can make to sustainable connectivity, the reduction in greenhouse gas emissions, and to healthy activity and leisure, it is essential that they are retained and not made less convenient or comfortable for users. Such routes are only useful if they are perceived to be safe, reasonably pleasant and take a reasonably direct route from where people start from (usually their home) to where people want to be. Such routes may also be wildlife corridors through fields and built up areas.

Paragraph 15.26 INTENTION: To ensure that development proposals do not impinge unacceptably on effectiveness of existing routes.

Area of Great Landscape Value

The study area falls within two key national and local designations, Area of Great Landscape Value and Area of Outstanding Natural Beauty.

Area of Great Landscape Value (AGLV): An AGLV is an area of land in England which is considered to have a particular scenic value, and is therefore afforded a degree of protection by local authorities. The designation was established under the Town and Country Planning Act 1947. If an area is designated as an AGLV, this restricts development in the area, especially if it will affect the distinctive character or quality of the landscape. The Lynher Valley AGLV lies within the study area.

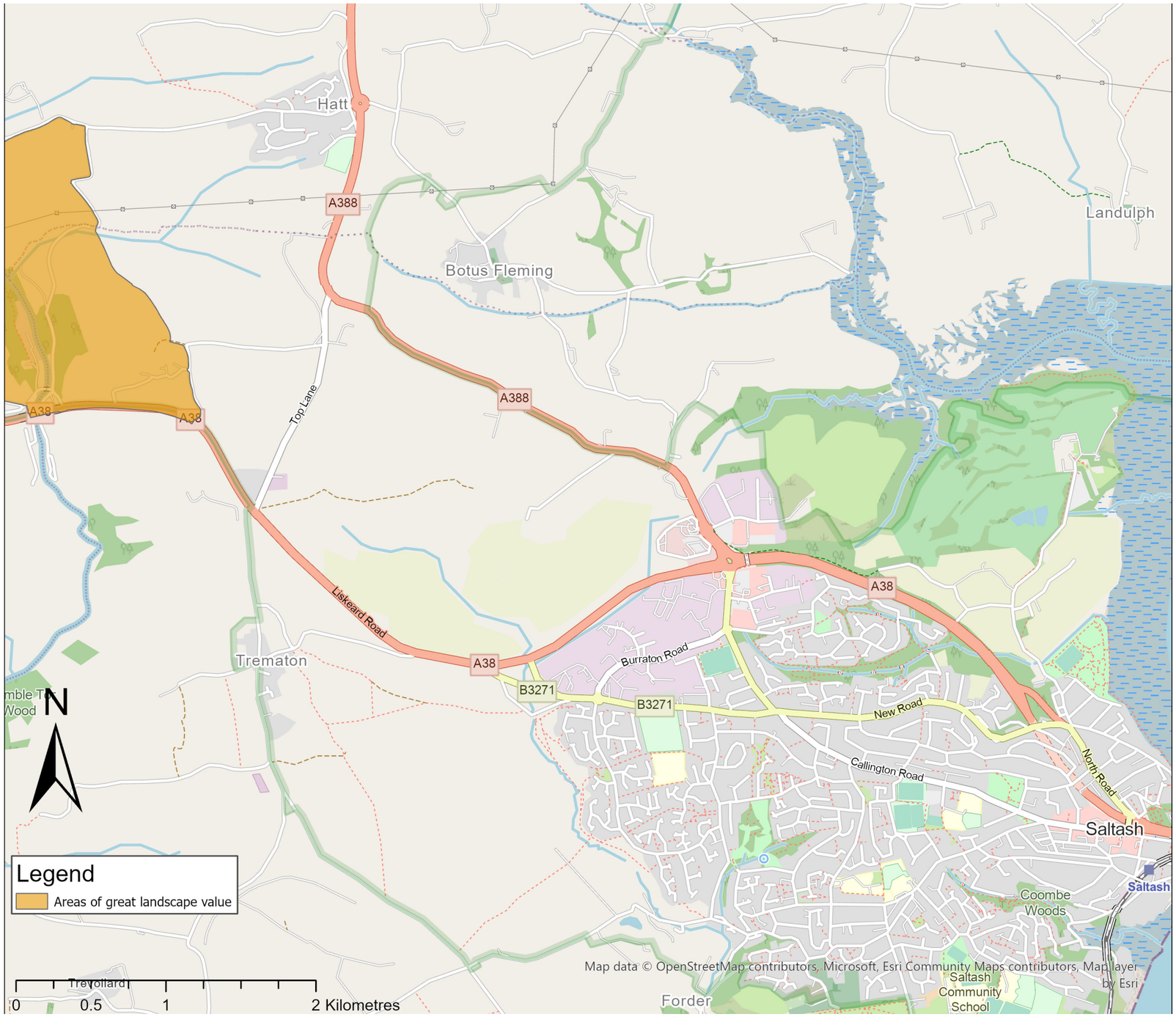


Figure 1.12 Area of Great Landscape Value (Cornwall Council)

Area of Outstanding Natural Beauty (AONB)

An AONB is an area of countryside which has been designated for conservation due to its significant landscape value.

Areas are designated in recognition of their national importance by Natural England.

The primary purpose of the AONB designation is to conserve and enhance the natural beauty of the landscape, with two secondary aims: meeting the need for quiet enjoyment of the countryside and having regard for the interests of those who live and work there.

To achieve these aims, AONBs rely on planning controls and practical countryside management.

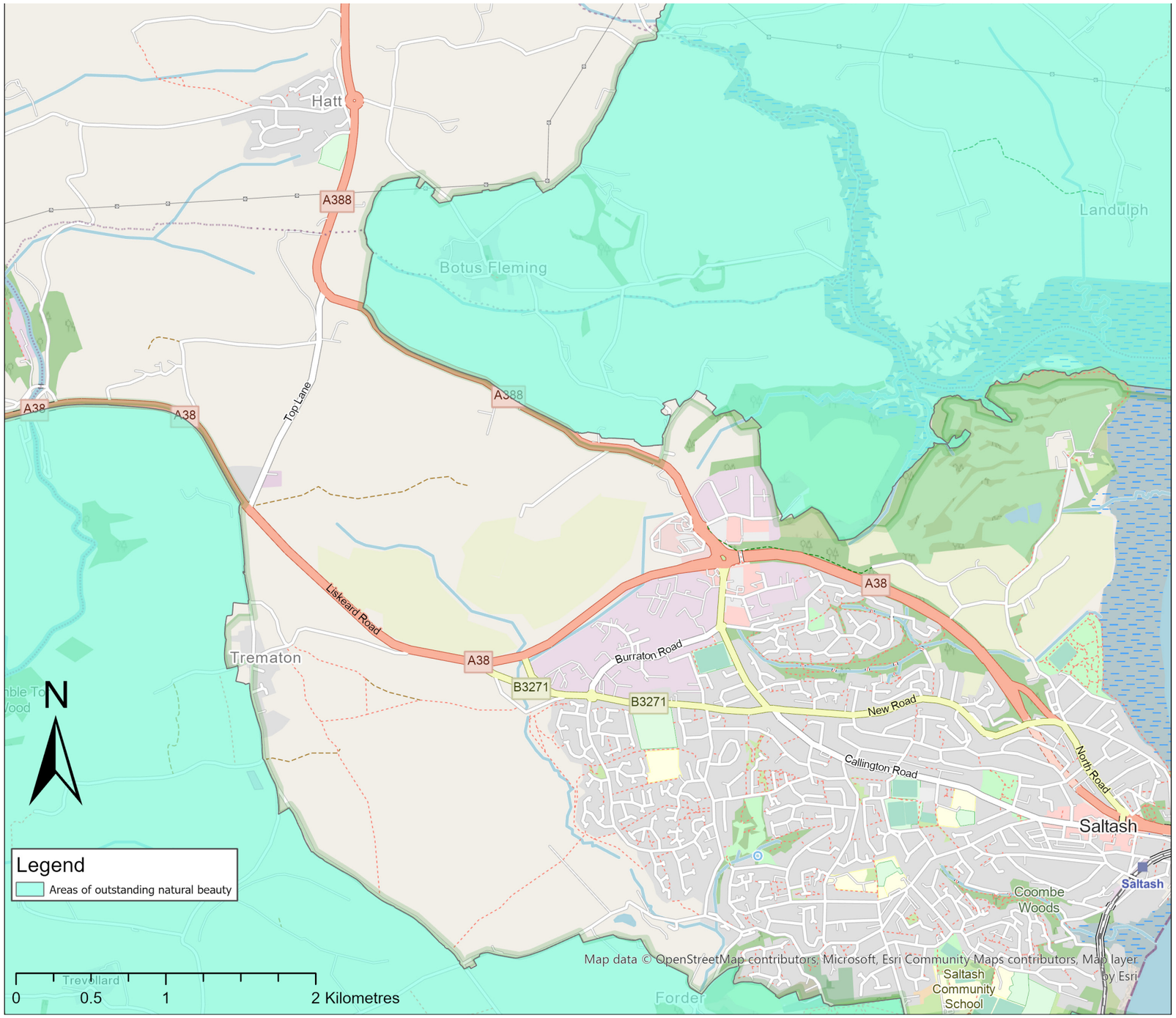


Figure 1.13 Area of Outstanding Natural Beauty (Cornwall Council)

Proposed Developments

A large scale residential development at Broadmoor Farm (PA14/02447) is in the master planning stages to the west of the A388 between Roods Corner and Carkeel.

The proposals include pedestrian/cycle links across the development site and a pedestrian / cycle bridge over the A38.

The relevant highway improvements associated with the Study include:

- A cycle/footbridge has already been completed to enable pedestrians and cyclists to cross the A38 south of Carkeel without having to access the busy roundabout. This links up with the proposed Saltash cycle network.
- Stoketon Cross – currently a staggered crossroads – as part of the access strategy for the Broadmoor Farm development this junction is to be converted to a four arm roundabout. As well as providing access to the new development this roundabout will also be the signposted route for vehicles travelling south on the A388 wishing to turn west on the A38. This will reduce traffic flows on the section of the A388 from Roods Corner to Carkeel roundabout (reducing the vehicle flows through Carkeel village).
- Carkeel Village traffic calming – a variety of measures are proposed to reduce the traffic flows through Carkeel village. These include signage strategies to highlight alternative routes. Measures such as improved gateways, narrowings, refuges and pedestrian crossings.
- Roods Corner – This junction is to be the southern extent of the safe passageway. Currently this is a T junction. It is proposed to convert this junction to a three arm roundabout in order to provide improved route choices and a more even distribution of traffic across the local network.

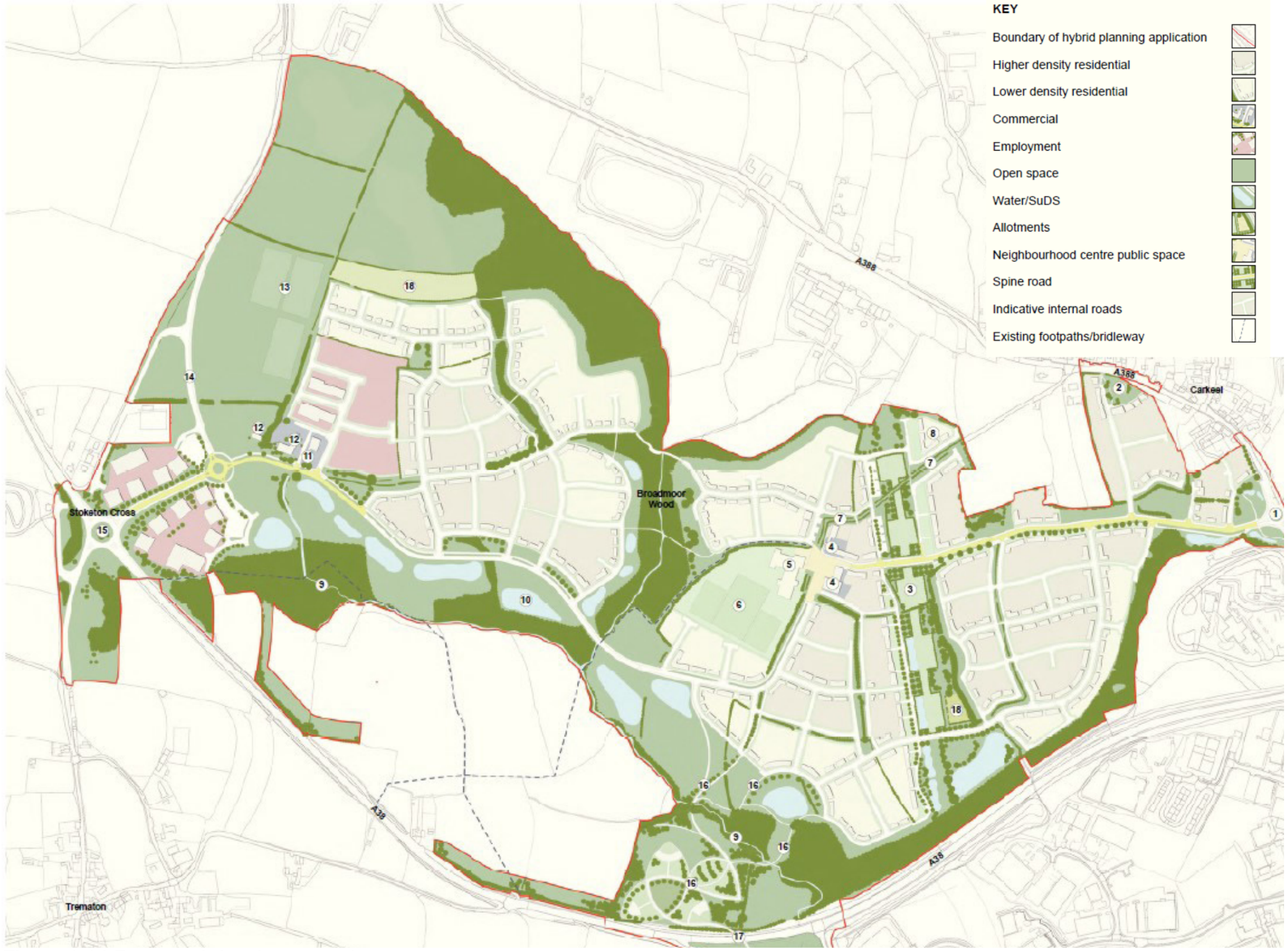


Figure 1.14 Proposed development sites (Corwall Council)

Public Rights of Way Network

Public Rights of Way (PRoW) are classified as highways and as such are protected routes. There are four types of PRoW as described below:

- Public Footpath: A PRoW on foot only.
- Public Bridleway: A PRoW on foot, bicycle or horse back.
- Restricted Byway: A PRoW on foot, bicycle, horse back and horse drawn carriage.
- Byway open to all traffic: A PRoW for vehicles and all other kinds of user, but because of its nature is used mainly as a footpath or bridleway.

The PROW network in the immediate study area is very limited.

Within the Broadmoor Development there are two public rights of way that bisect the site, this includes a footpath (Footpath 7) and a bridleway (Bridleway 8).

Figure 1.15 PRoW (Corwall Council)

The Ramblers ‘Don’t lose your way ’ project to find and record lost paths has identified a potentially relevant network of paths to the south and west of Hatt, shown below.

Avoiding the Recreation Ground to the south of the village the ‘lost path’ has the potential to provide a completely new traffic free route to Roods Corner and the western most fringe of the village.

Figure 1.16 Don’t lose your way (The Ramblers)

2 Cycle Traffic Design Guidance

2 Design Guidance

This study have 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.

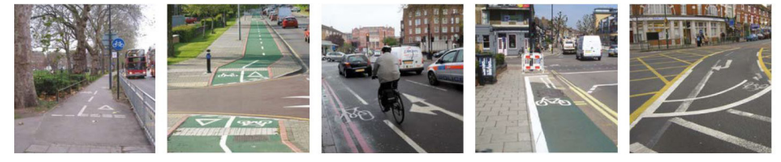
DO Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality.

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

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

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

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



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

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

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

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

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

Figure 4.1: Appropriate protection from motor traffic on highways

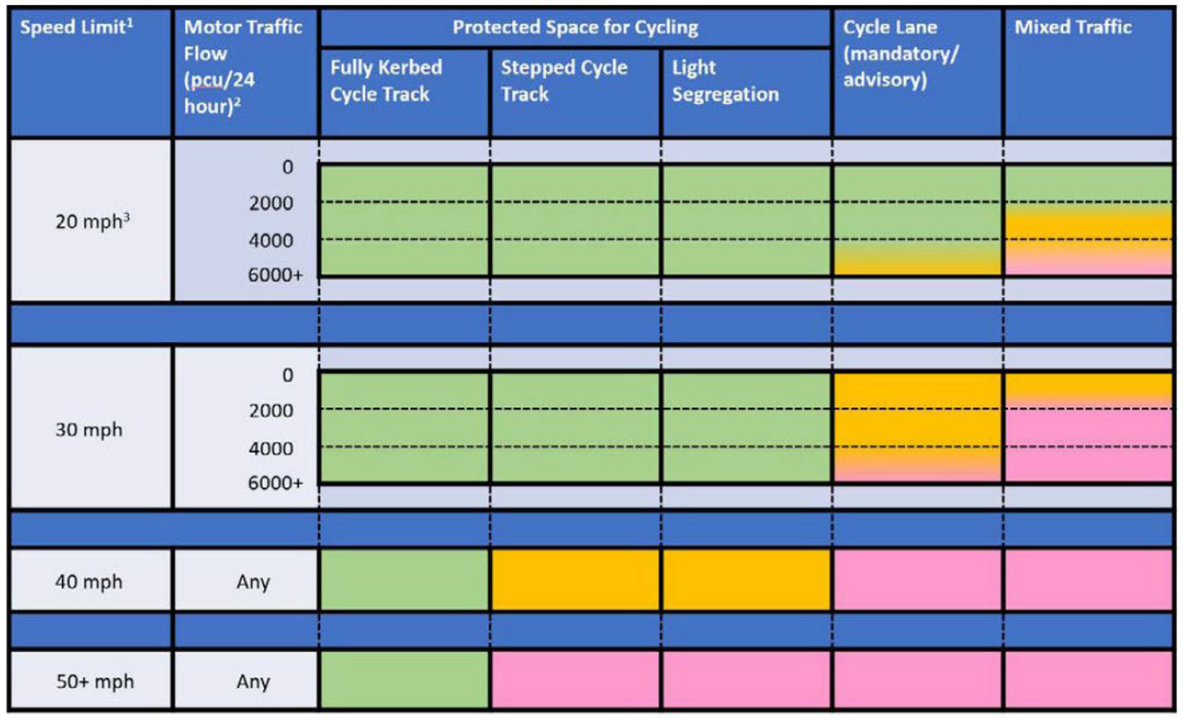


Table 6-1: Minimum recommended horizontal separation between carriageway and cycle tracks*

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

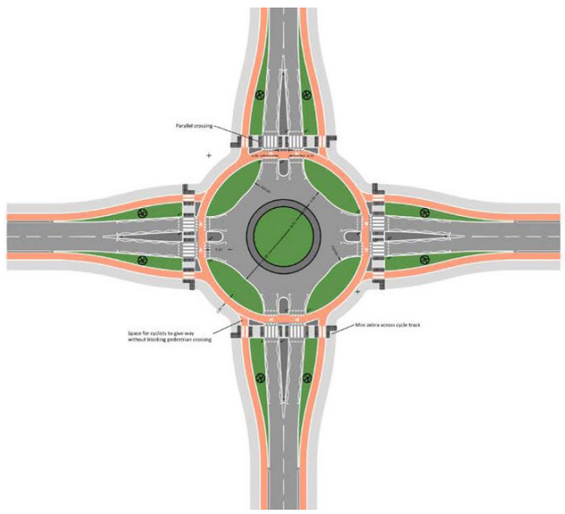


Figure 10.39: Carriageway-level cycle track used with 'hold the left' traffic staging

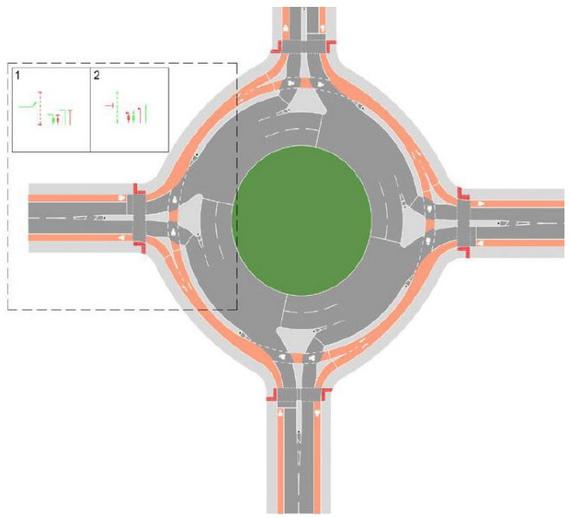
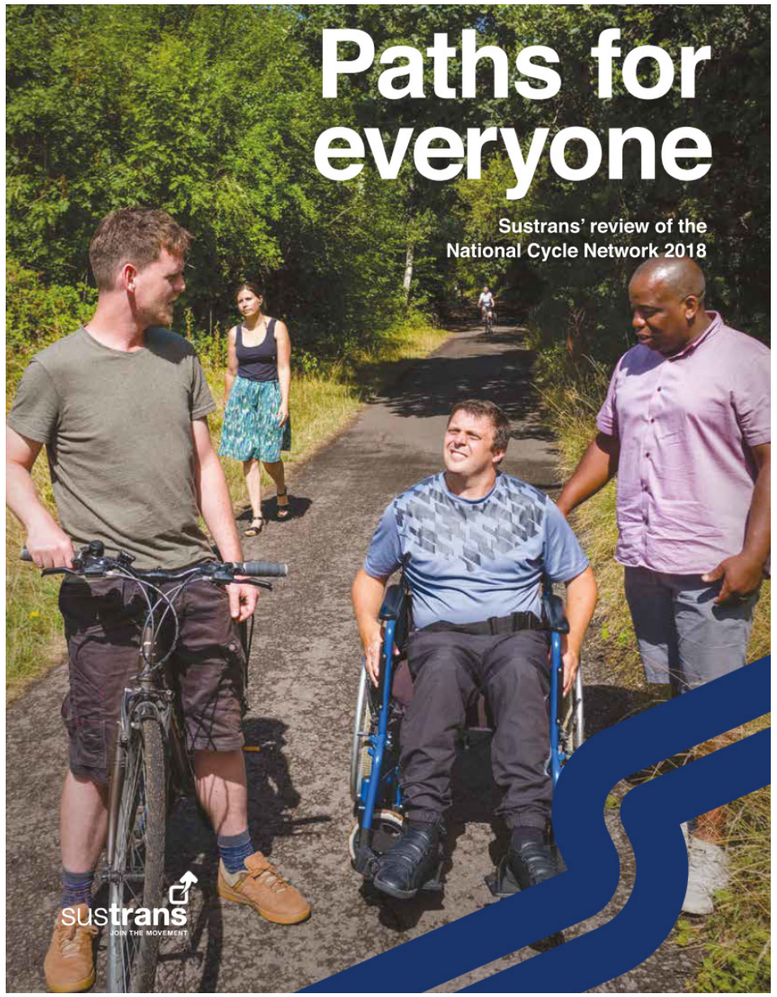


Table 11-1: Suggested minimum cycle parking capacity for different types of land use

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

Four options were identified in the study proposal for a new route between Hatt and Carkeel for further investigation:

1. A path in the verge adjacent to the existing highway (A388)
2. A path built on agricultural land behind the hedge, away from the carriageway
3. A route to the south of the A388 via the proposed Broadmoor Farm development
4. A route via Botusfleming on minor roads

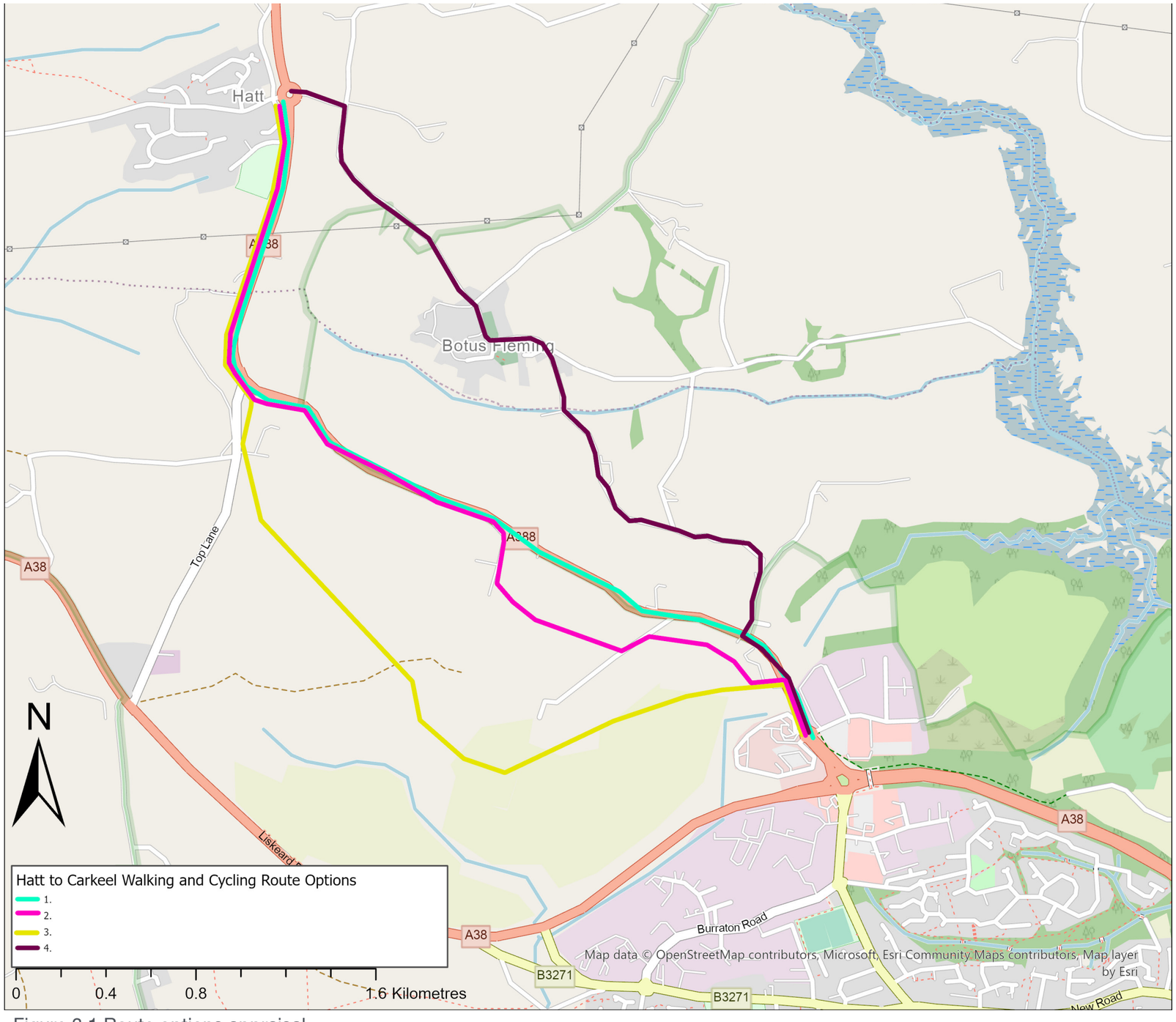


Figure 3.1 Route options appraisal

Option 1

A path in the verge adjacent to the existing highway (A388). Distance 1.7 miles

Route Proposal

Starting at Hatt A388 Roundabout in the north and situated in the western carriageway verge, this concept is for a segregated footway and two-way cycle lane until Roods Corner junction.

At Hatt, the route follows the A388 in the western carriageway verge until Roods Corner, separated from traffic by a soft margin.

At a proposed new A388 configured junction the new pedestrian and cycling facility crosses the Stoketon Cross Road into the boundary of the Broadmoor Development.

The 3m wide traffic free route then travels south serving the new development but also Carkeel and Hatt communities in the Botus Fleming Parish.

The route rejoins the planned new development road network as it approaches the A388 south of Carkeel village and a new shared footway facility towards the A38 Carkeel Roundabout and pedestrian and cycle overbridge.

Background

This rural parish has no dedicated cycle facilities, and footways and public footpaths are limited, narrow and disjointed.

The Parish population will swell with a new one thousand homes mixed residential development at Broadmoor Farm bordered by the A388 and A38 on two sides.

Saltash town centre and Carkeel Services are within close walking and cycling distance. Some new walking and cycling facilities have been delivered by Cornwall Council for some journeys towards Saltash Town Centre and Train Station.

Cornwall Council's Local Transport Plan supports more active travel trips and journeys by public transport.

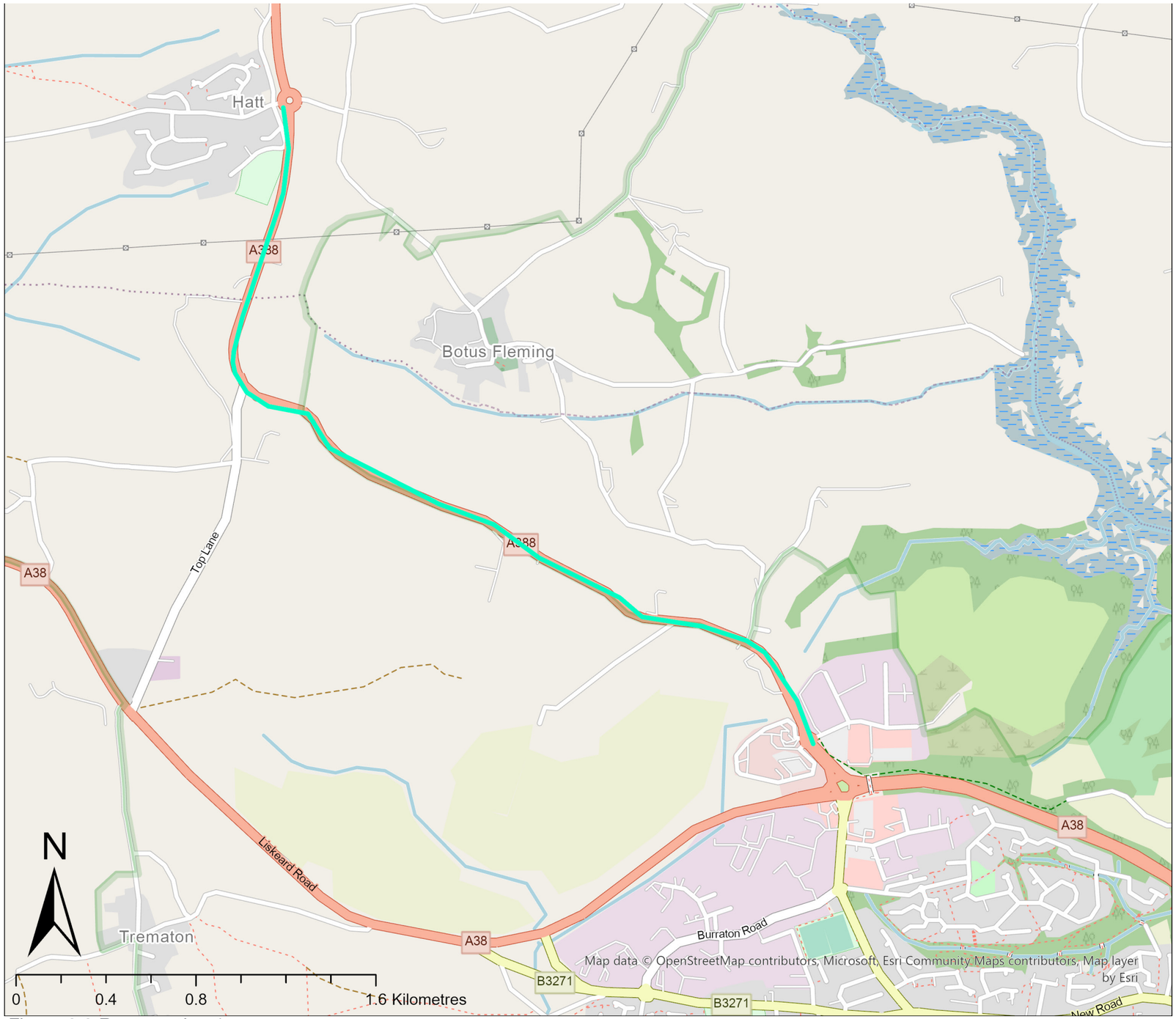


Figure 3.2 Route option 1

Opportunities

- High quality route that is direct and comfortable, largely free from traffic;
- Changes to the traffic priorities on the A388 delivered by the off-site highway improvements conditioned on the Treladen Development
- New and formalised public access connections to Carkeel Village.
- Extend the new walking and cycling facilities around the A388 Hatt Roundabout and towards the Stopped- Up lane on the eastern side of the A388 to serve the community at Botus Fleming.

Constraints

- Mature hedges and trees bordering both sides of the A388 at Stoketon Cross Road Junction.
- The topography either side of the A388 changes levels.
- The carriageway widths narrow with no road edge margins.
- Private and Commercial property frontages on the A388 through Carkeel Village
- High traffic volumes and large vehicle types
- Restricted or no available verge limits opportunites for comfortable separation from traffic.
- Few rights of way currently exist on or near the route option
- No pedestrian crossing facilities except for Hatt A388 Roundabout.

Conclusion

In consideration of the ecological constraints encountered with this option, particularly south of Roods Corner (A388) to the northern boundary of Carkeel Village, the absence of available highway verge and numbers of private and commercial properties bordering the A388 it is not considered to be feasible to construct a new walking and cycling facility on this proposed alignment and therefore this option is not considered any further in this study.

Route elevation

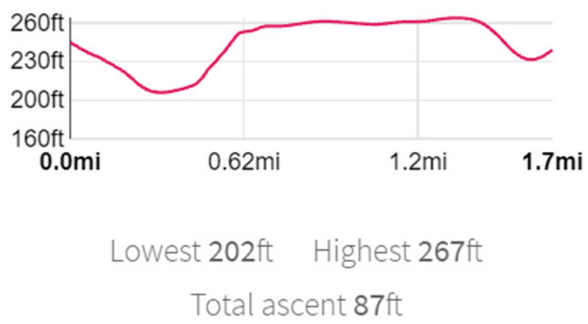


Figure 3.3 Route 1 elevation (OS maps)

1.Hatt A388 view south

2. Roods Corner A388, view north

3. Carkeel Village view north

4. Carkeel village, junction with Botus Fleming unclassified road

5. A388 towards Carkeel village, view north, unclassified road

Option 2

A path built on agricultural land behind the hedge, away from the carriageway.

Distance: 1.8 miles

Route Proposal

Between Hatt A388 Roundabout and Roods Corner this option follows the same alignment as Option 1, within the western carriageway verge as it avoids impacting on private land.

The complex land ownership circumstances and existing land practices (landfill site, riding stables and garden centre) on the western side of the A388 towards Carkeel Village are also considered to be at odds with forming a new pedestrian and cycle facility combined with the topography either side of the A388 would result in significant engineering works and cost.

Commercial and private property frontages on the A388 in and approaching Carkeel Village also restrict the options for a continuous segregated facility away from traffic without routing to the rear of private properties.

Background

The background to this Route Option has already been articulated similar to Option 1. The community in Botus Fleming and Hatt want to be able to walk and cycle more for local trips and recreation towards Saltash and other local services within easy distance of home.

The new mixed use Treladen Development will have the effect of increasing traffic movements on the local highway network but also make the development a destination which the neighbouring communities can access.

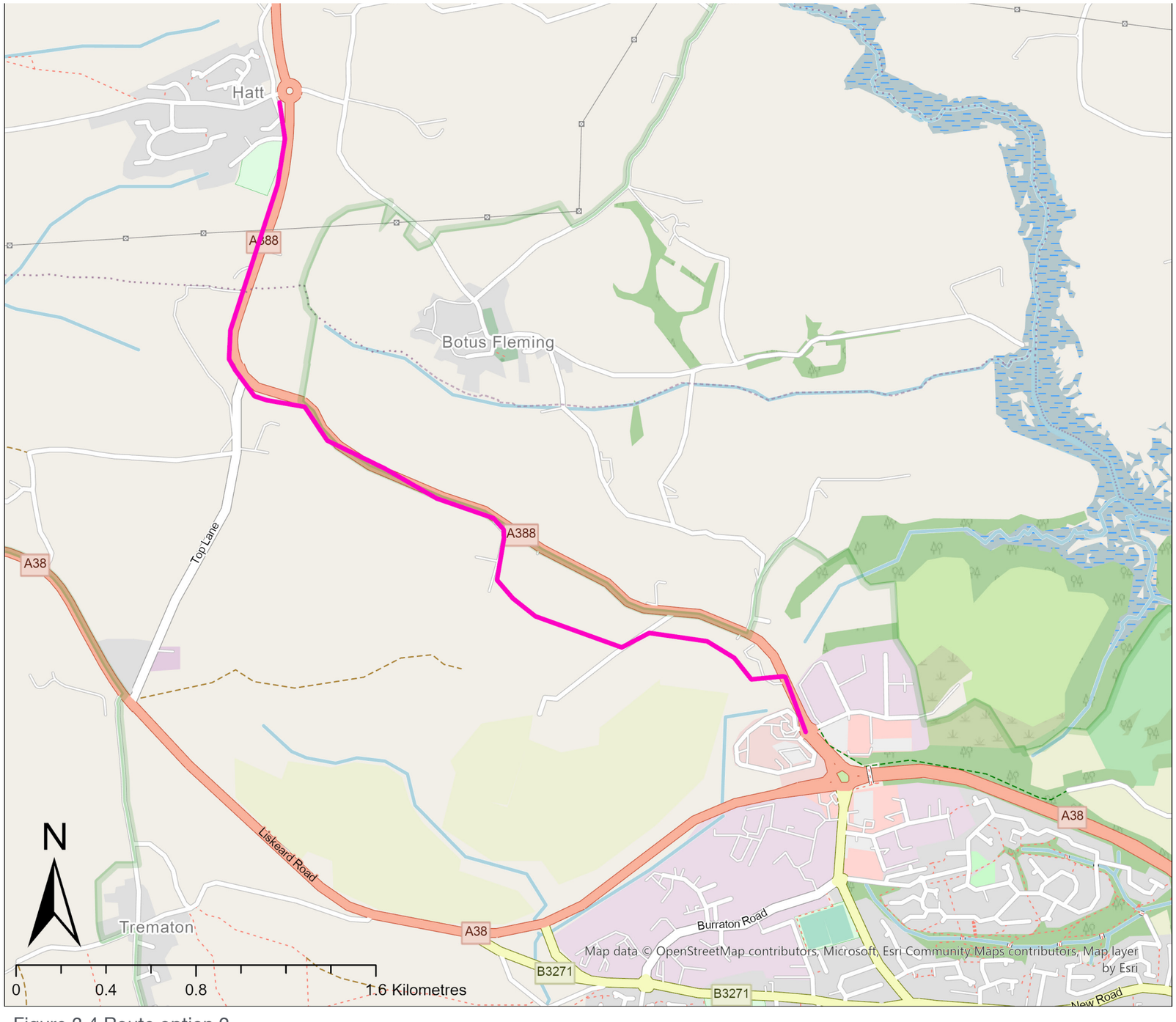


Figure 3.4 Route option 2

Opportunities

- Between Roods Corner and the Hatt A388 Roundabout the existing highway verge could accommodate a segregated pedestrian and cycle facility.
- Off site facilities for walking and cycling north of the new Treladen Development applying LTN 120 design standards.
- Merit in above being a standalone scheme including Hatt A388 Roundabout and Stopped-up lane.

Route elevation

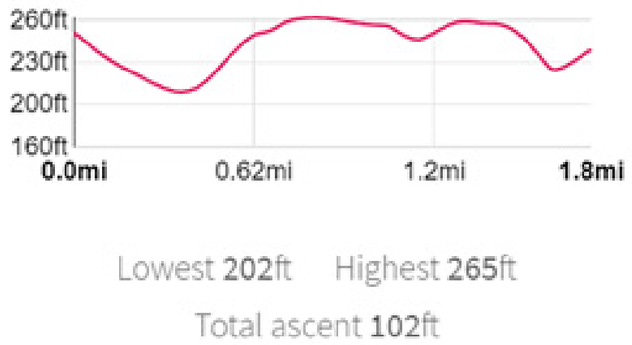


Figure 3.5 Route 2 elevation (OS maps)

1. Hatt Recreation Field view south

Constraints

- Multiple landownership adjacent to the A388 especially south of Roods Corner and Stoketon Cross Road
- Ecology and topography especially south of Roods Corner (A388) requiring earth works and potential to impact mature hedges.
- Commercial and private property frontages especially at Carkeel village resulting in an alternative alignment to the rear of premises.
- Lack of coherence and convenience for path users making it less attractive.

2. A388 Roods Corner view south

3. A388 Carkeel village northern extents

Conclusion

The multiple landownerships, topography and ecology involved on this route alignment as well as property footprints would affect both the deliverability and attractiveness and coherence of this route as well as how it best serves the existing and new communities it travels through. This option is not considered any further as part of this study.

4. A388 Carkeel Garden Centre view south

5. A388 view north approaching Carkeel village

Option 3

A route to the south of the A388 via the proposed Broadmoor Farm development.

Distance 2 miles.

Route Proposal

The route description is as Option 1, between Hatt A388 Roundabout and Roods Corner and then via the Treladen (Broadmoor Farm) development.

Background

This route option is identical to Options 1 & 2 between Hatt A388 Roundabout and Roods Corner (A388). For the reasons explained in Option 1 it then crosses the road to Stoketon Cross on the junction with the A388.

As part of the planning condition on the Treladen mixed use development, some off-site highway network changes are planned for Roods Corner to improve distribution of traffic across the local area.

As part of these highway changes to Roods Corner a new two stage crossing facility for pedestrian and cycles would cater for trips to and from Hatt and Botus Fleming towards Carkeel and the new residential and employment site.

Continuing on the proposed alignement outlined in Option 1, hugging the development boundary adjacent to Broadmoor Woods and utilsing the new development roads including the walking and cycling provision, this route continues towards the new junction onto the A388 south of Carkeel Village.

Figure 3.6 Route option 3

Opportunities

- Fewer private landowners potentially impacted
- Existing A388 highway verge potentially available
- A new uncontrolled pedestrian and cycle crossing could be incorporated into the junction changes at Roods Corner further facilitating pedestrian and cycle trips
- Safe, segregated walking and cycling facilities connected to the settlements are Hatt, Botus Fleming, Carkeel and Treladan.
- New opportunities for Saltash residents to walk, cycle and exercise from home
- Extend the route proposal to include the public bridleway at Carkeel pedestrian and cycle bridge (A38) towards the AONB, Tamar Estuary and Saltash Station and Tamar A38 Bridge.

Constraints

- Existing high levels of traffic and large vehicle types on the A388
- Permitted Planning Conditions agreed on Treladen Development
- Ecological and planning requirements and permissions
- Land Owner agreements

Conclusion

Route Option 3, for a route alignment south of the A388 via Broadmoor (now Treladen) development, is considered to be the most direct, coherent and attractive route option. It is also considered to be the most deliverable, with fewer landowners and risk to delivery, and achieve the best cost to benefit ratio owing to directness but also traffic free.

Route elevation

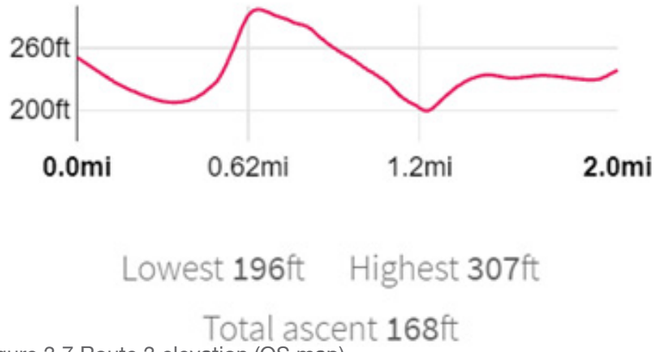


Figure 3.7 Route 3 elevation (OS map)

1. Public Right of Way to Carkeel Village

2. View north towards Carkeel village and entrance to Treladen Development

3. A38 Carkeel Roundabout, view from pedestrian cycle overbridge

Option 4

A route via Botus Fleming on minor roads. Distance 1.6 miles

Route Proposal

The A388 Hatt roundabout separates the villages of Hatt and Botus Fleming. The configuration of the roundabout means that traffic speeds through the junction and on the approaches and exits are fast. There are footways either side of the roundabout and islands for pedestrians to cross.

At the entry to Hatt a Petrol Station and associated shop are busy with local and passing traffic using the services.

This route option would continue along the unclassified road to Botus Fleming village. Lanes in the village centre are narrow and constrained in places and sometimes steep. The route continues on-road along the lanes to the east of Carkeel Village and emerges onto the A388 at a T Junction towards the south of the village. The route continues south along the A388 towards the A38 at Carkeel Roundabout where it picks up the existing shared footway provision. At the A38 Carkeel pedestrian and cycle bridge the option exists to continue across the bridge towards Burraton Road junction or on the public bridleway towards Pill Lane.

Background

The A388 separates Hatt from Botus Fleming. The large roundabout at Hatt serving traffic movements to both communities is currently a barrier to walking and cycling owing to the volume, speed and types of traffic travelling through the junction. There are no dedicated cycling facilities on the roundabout.

There are pedestrian refuges on each of the arms of the roundabout. There are continuous footways leading from the roundabout into Hatt. The narrow two way lanes leading to Botus Fleming to the east of the A388 have no pedestrian provision, except for a short section on a sharp bend leading to the A388. National speed limits apply. The road widths in Botus Fleming are restricted to single traffic in places and between high hedges and walls.

The gradients leading into and out of the village are also steep. At the junction of the A388 and the unclassified road to Botus Fleming in Carkeel village, narrow footways on both sides of the A Road start but quickly end owing to property frontages and the A road widths.

There are no dedicated pedestrian crossing facilities for the A388 in Carkeel Village. Traffic volumes and types are a barrier for active travel modes towards the services at the Carkeel A38/ A388 Junction. A new vehicular entrance to the Broadmoor Farm development on the western side of the A388 is currently under construction.

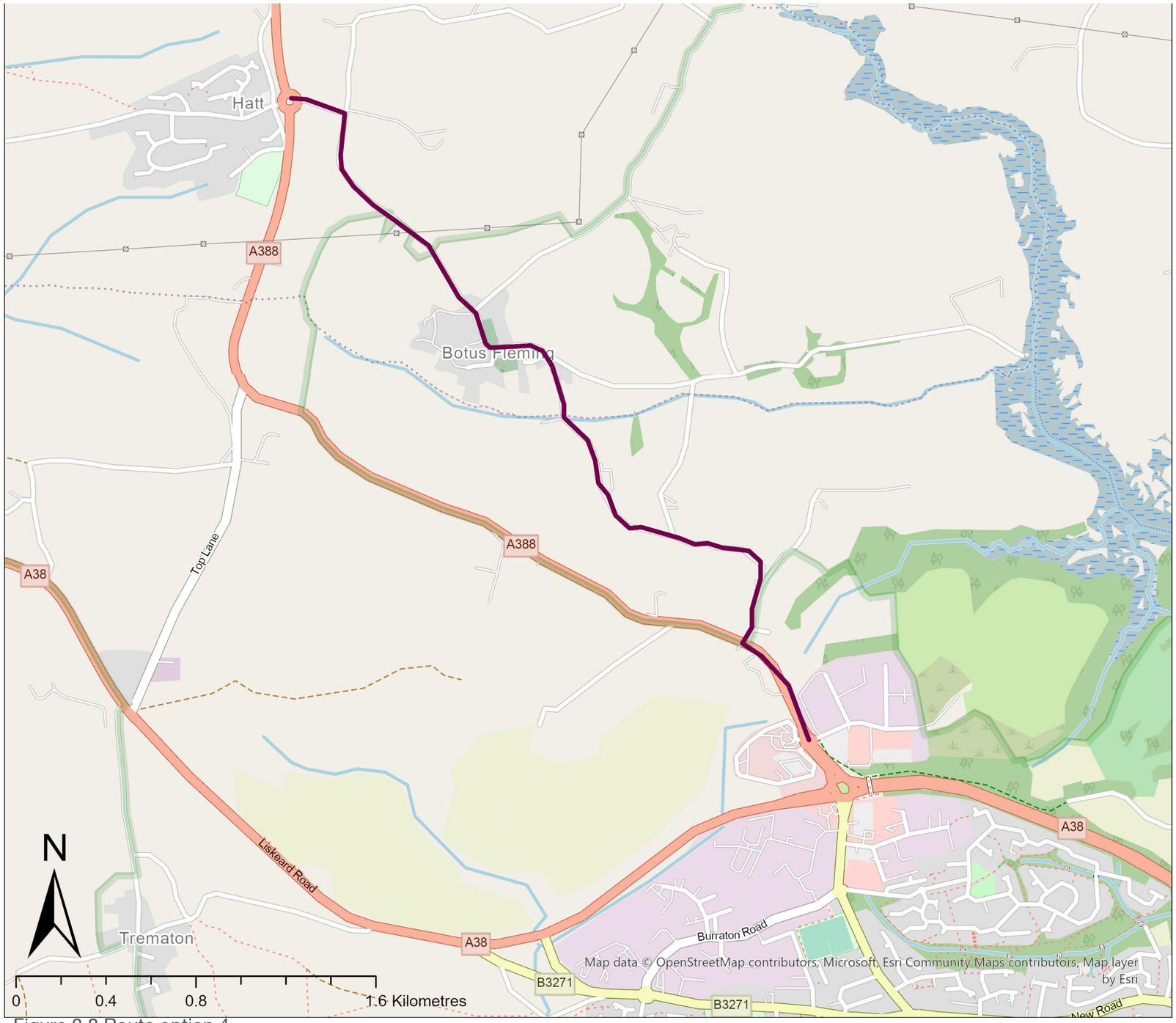


Figure 3.8 Route option 4

Opportunities

- Majority of the route avoids the busy A388
- Connects the communities of Hatt, Botus Fleming and Carkeel
- 20mph village speed restrictions and Quiet Lane treatments
- The former stopped up lane east of the A388, for pedestrians, could be extended for pedestrians in the highway verge of the A388.
- Public right of way network at Carkeel A38 pedestrian and cycle bridge to be able to extend the provision towards Saltash.

Route elevation

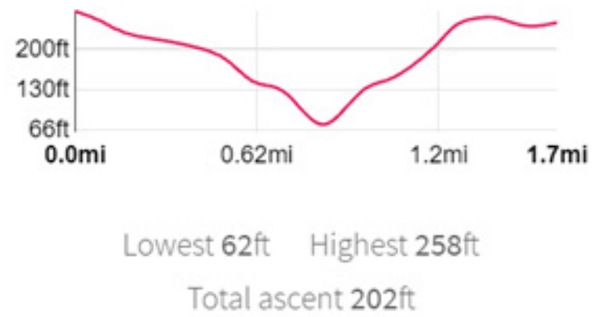


Figure 3.9 Route 4 elevation (OS map)

1. Hatt A388 Roundabout, view west

Constraints

- The majority of the route option is within the AONB Boundary
- Existing steeps gradients and rural lane widths
- Current traffic conditions on the A388, and in Carkeel village, and only uncontrolled crossing facilities
- Existing property frontages and sub-standard and fragmented footways on A388 at Carkeel Village
- Limited Public Rights of Way options exist along the alignment

2. Stopped up road between A388 and Unclassified Road to Botus Fleming

3. Botus Fleming village

Conclusion

A combination of the restricted road widths and gradients into and out of Botus Fleming village and limited opportunities to provide dedicated and continuous provision for pedestrians and cyclists severely diminishes the opportunities for a high quality walking and cycling facility serving the area without also crossing the A388 at Carkeel Village. For these reasons this option is not considered any further in this study.

4. Rural lanes, south of Botus Fleming

5. A388 junction at Carkeel village towards Botus Fleming

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, September 2021) can be viewed at Appendix A.

Results

Designated Sites

The proposed route is located within 5km of two National Site Network sites, Plymouth Sound and Estuaries Special Area of conservation (SAC) and Tamar Estuaries Complex Special protection Area (SPA)/Marine Conservation Zone (MCZ), and within 1km of one statutory designated site Tamar-Tavy Estuary Special Scientific Interest (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.

However, the proposed route falls within the Impact Risk Zone of Tamar-Tavy Estuary SSSI and all infrastructure projects trigger this risk, therefore the Local Planning Authority (LPA) should consult Natural England (NE) on likely risks of this scheme and seek their agreement when assessing the planning application.

There is a single non-statutory designated site, Broadmoor and Ball Woods Country Wildlife Site (CWS), which the proposed route passes through and then adjacent to for approximately 480m. This has been designated as such for being well-structured mainly mixed broadleaved woodland with associated ground flora and water logged areas. Although not listed as ancient, these woodlands have been present since at least 1800. It is likely this non-statutory site will be directly impacted by the proposals through habitat loss, and therefore when passing through this CWS sensitive scheme design should be employed to limit disturbance, e.g. reducing the width of the path to limit habitat loss.

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 the proposed route passes through and adjacent in several places to broadleaved woodland, a priority habitat. In addition hedgerow, dense and scattered scrub, grassland (modified and likely other neutral), tall ruderal, scattered trees, hedgerow, arable field edge and existing track all occur along the proposed route.

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 (BNG) for the scheme. 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.

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.

Review of Planning Application PA14/02447

The majority of the route which is south of the A388 is within the boundary of Planning Application PA14/02447, which is a large hybrid application comprising outline permission for a mixed use residential-led development.

Extensive ecology survey work was undertaken of the development site in 2013 to inform the planning application. Moderate levels of nature conservation interest were identified on the site. This primarily refers to habitat features such as species-rich ecologically ‘important’ hedgerows, and broadleaved woodland comprising mixed ashwood, wet woodland, and oakwood habitats.

The site was found to supports a diverse range of bat species and it is considered likely that bat roosts are present within woodland trees. The site also supports a range of bird species commonly found in habitats present within the site, although no bird species linked with the nearby SPA and SSSI were found to be using the site. Otter were identified as using the site. Two main badger setts were found within woodland across the site.

A Landscape and Ecological Management Plan (LEMP) for Phases 0A and 1 was submitted to support the reserved matters application for these Phases. This included detailed ecological mitigation measures to ensure that the important ecological features within the site are protected and enhanced as part of the proposals. The new habitats will provide additional biodiversity to the site by providing a number of opportunities for wildlife that do not currently exist in the intensely farmed landscape. All habitats will be subjected to ongoing long-term management and a monitoring programme to ensure that the habitats can reach their optimal condition over the lifetime of the development.

5 Land Ownership Map

5 Land Ownership Map

A list of registered landowners potentially affected by the preferred route option 3 is provided opposite. This includes the names and address of the title holder as given by the Land Registry Database.

On the northern extents of the preferred route alongside of the A388 the land within the highways boundary is owned by Cornwall Council. There are some sections in private ownership included in the table opoosite.

The land owners associated with an example intervention at Roods Corner and the potential new route to the south of the A388, described in the next Chapter 'Preferred Route Alignment', are shown in bold in the table and details of these land parcels from the Land Registry Database are shown below.

Engagement with these land owners is a priority and is covered in section 7 - Summary and Next Steps.

Land Title affected	Owners	Notes
CL60064	**BOND HOLDINGS LIMITED Trerule Farm, Trerulefoot, Saltash, Cornwall PL12 5BL**	Priority engagement
CL71039	**BOND HOLDINGS LIMITED Trerule Farm, Trerulefoot, Saltash, Cornwall PL12 5BL**	Priority engagement
CL245472	**Susan Mary Congdon Peters Park Barn, St. Mellion, Saltash PL12 6PY**	Priority engagement
CL325796	**David John Venables Roodscroft Bungalow, Hatt, Saltash PL12 6PJ**	Priority engagement
CL230146	**Simon Timothy Congdon Peters Park Barn, St. Mellion, Saltash PL12 6PY**	Priority engagement
CL102115	Cornwall Council County Hall, Truro TR1 3AY	
CL116840	Cornwall Council County Hall, Truro TR1 3AY	
CL103522	Cornwall Council County Hall, Truro TR1 3AY	
CL104951	Cornwall Council County Hall, Truro TR1 3AY	
CL95762	Cornwall Council County Hall, Truro TR1 3AY	
CL355517	Ronald Anthony Scicluna 1 Orchard Villas, Hatt, Saltash PL12 6PL	
CL350702	Bdw Trading Limited Barratt House, Cartwright Way, Forest Business Park, Bardon Hill, Coalville LE67 1UF	

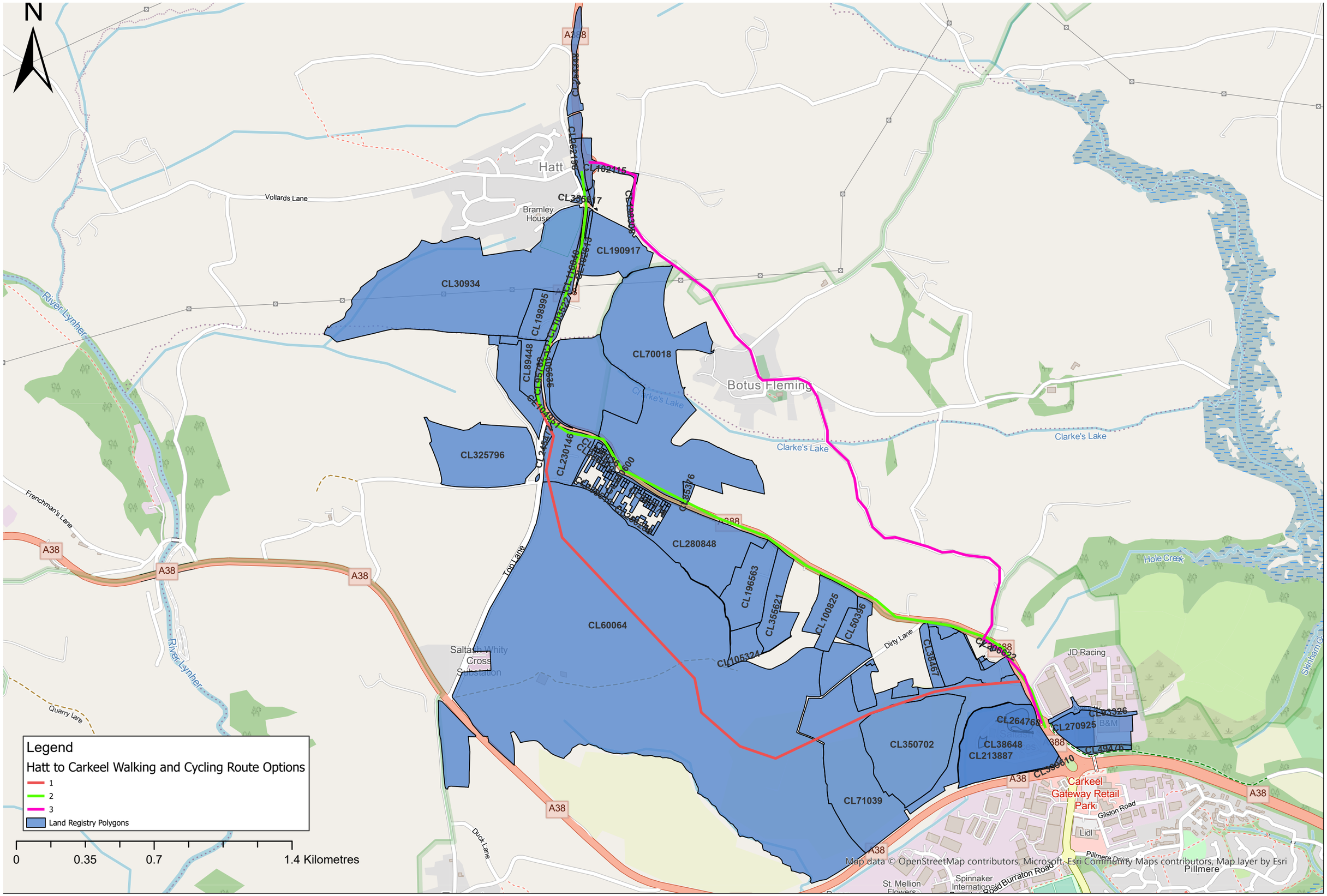


Figure 5.1 Land ownership

6 Preferred Route Alignment

6 Preferred Route Aligment

Option 3 is considered by Sustrans as being the most desirable and deliverable route alignment. As the most direct route, it maximises the use of traffic free sections, keeping users away from main roads for most of its length, whilst providing good links between the existing settlements in the area and new developments.

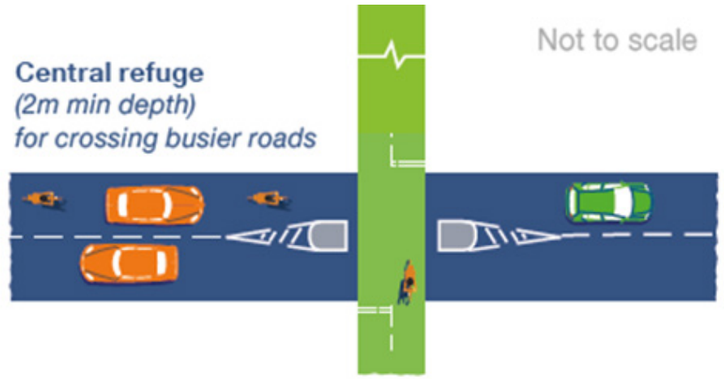
This option gives the best balance between practical delivery of a route whilst managing impacts on habitats, residents and landowners. Given the rural character of this alignment further discussions will be required to ensure all the different user needs are taken into account.

Recommendations

1. A 3m wide, hard top, bound surface throughout the route to provide a high quality, smooth walking and cycling surface, with good drainage properties, long–term durability, requiring low maintenance.
2. Pedestrian and cycle refuge incorporated into the new junction arrangement at Roods Corner (A388).
3. Segregated walking and cycling facilities parallel to the A388
4. Fully waymarked and branded route including times and distances of main destinations.
5. Resting points on the steeper uphill section to break up strenuous ascents.

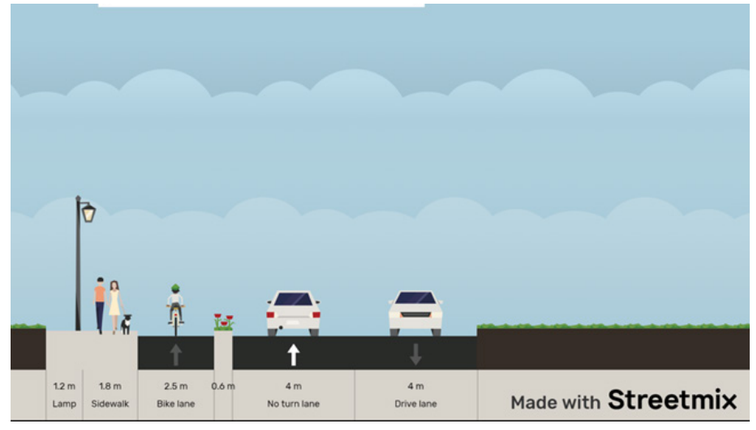
Intervention 1

Roods Corner junction with A388. A crossing of the Stoketon Cross Road is required to facilitate new pedestrian and cycle movements and could be incorporated as part of the s278 works as part of the Treladen development. An example of the type of crossing for a road of this nature in a rural location is for pedestrians and cyclists to give way to road traffic plus a central stage refuge.



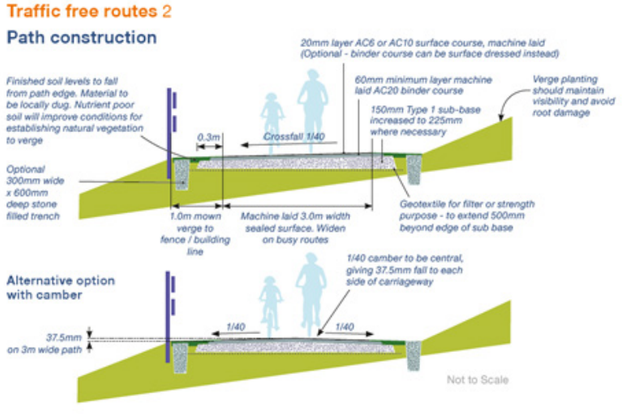
Intervention 2

A388 Roods Corner to Hatt Roundabout This example of an intervention at the A388 uses the available grass verge to the west of the A Road and can achieve a 4.9 metre wide fully segregated facility for pedestrians and cyclists. The intervention will take cyclists off a busy and fast section of the A road, and enable a new footway for pedestrians without the requirement and significant expense of narrowing the carriageway. The Street Mix cross section illustrates how this is achived.



Intervention 3

This path cross section example would apply to the traffic free sections of proposed route, south of Roods Corner and the steeper section leading across the Treladen development before the meeting the network of roads serving the development.



7 Summary and Next Steps

7 Summary and next steps

Summary

This feasibility study has assessed four different options for new walking and cycling facilities between Hatt and Carkeel (A38), near Saltash, in Cornwall.

The optioneering exercise concluded that the preferred alignment adjacent to the A388 before diverting into the Treladen Development at Roods Corner (Option 3) offers the most deliverable option.

The largely traffic free option, avoiding the busy A388, has the best potential to switch some local trips by private car towards walking and cycling for utility and recreational journeys. The A388 is a barrier to walking and cycling and an attractive and coherent new facility serving the existing communities of Hatt and Botus Fleming and journeys from the Callington direction as well as potentially serving the new residential development at Treladen for onwards journeys to Saltash and Plymouth.

A Survey, organised by the Parish Council, in January 2021 registered 638 responses about a 'walk/ cycle way between Hatt Roundabout and Carkeel', (98% in favour) and with over 50% of respondents indicating they'd use it regularly for walking (82% of respondents) and cycling (64% of reponses).

The northern most end of the proposed route is in the control of County Highways (having previously been earmarked for road widening).

A dialogue has started with the Council's Development Team about approaches to the developer at Treladen. This development brings an opportunity to make it easier for people to walk and cycle in the local area.

A phased approach to implementing the interventions outlined in this report would have a lot of merit by bringing the local walking and cycling improvements forward simultaneously so that the new development is better connected and has the potential to influence the travel behaviour of new occupants as well as the existing communities to access new services and the countryside.

Next steps

General

- Identify funding source for next phase of development work.
- Develop a prioritised plan of delivery of interventions, i.e. which interventions will be delivered first, if funding limited.
- Engage with Cornwall Council as the local highway and planning authority
- Begin discussions with key land owners and community stakeholders.
- Identify and carry out necessary surveys to enable next phase of development, i.e. topographical survey, ecology surveys identified.
- Move to detailed design on the interventions to be taken forward.

Ecology

Consultation with Developer of Land at Broadmoor Farm

Before progressing this scheme landowner and developer agreement will be essential. The new development at Broadmoor Farm will have had extensive ecology survey and mitigation measures incorporated into the design. Each Phase of development will be supported by a LEMP outlining detailed ecological mitigation measures to ensure that the important ecological features within the site are protected and enhanced as part of the proposals. The development will have a legal obligation to deliver these once Reserved Matters planning approval is received, so if the route design will impact upon these mitigation features it is unlikely to be approved without a replacement mitigation strategy.

It is advisable for the proposed route to utlise on road quietways through the new development wherever possible rather than seek to impact upon semi-natural habitat or habitat which is being managed as ecological mitigation habitat.

This will require careful consultation with the landowner and developer to reach a design solution which is acceptable to all parties.

Preliminary Ecological Appraisal

A Preliminary Ecological Appraisal (PEA) should be produced in the first instance to understand the ecology of the site and environs, and to gather information about the baseline ecology of the site. This would comprise a Habitat survey, whereby the habitats present within the application site would be mapped and the actual or potential presence of protected/notable species identified. In accordance with industry guidance, the Devon Biodiversity Record Centre (DBRC) should be contacted to provide records of protected/notable species and non-statutory designated sites within proximity to the application site.

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

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.

Sensitive construction methodologies to prevent damage to retained habitats or killing/injuring of protected species will be required and outlined in a Construction and Environmental Management Plan (CEMP), the findings of the EcIA should be incorporated into this. It will also include details of any Wildlife Licences issued by the relevant statutory authority or ecological supervision to be undertaken.

Trees

To safeguard the habitats adjacent to site, adherence to an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) will be required, to prevent damage to boundary features and retained trees.

Biodiversity Net Gain

The requirement for Biodiversity Net Gain (BNG) 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.

Cornwall Council is producing a Climate Emergency Development Plan Document, not yet formally adopted, however it is likely to have been adopted by the time this scheme comes forward. Policy G2 relates to delivering BNG.

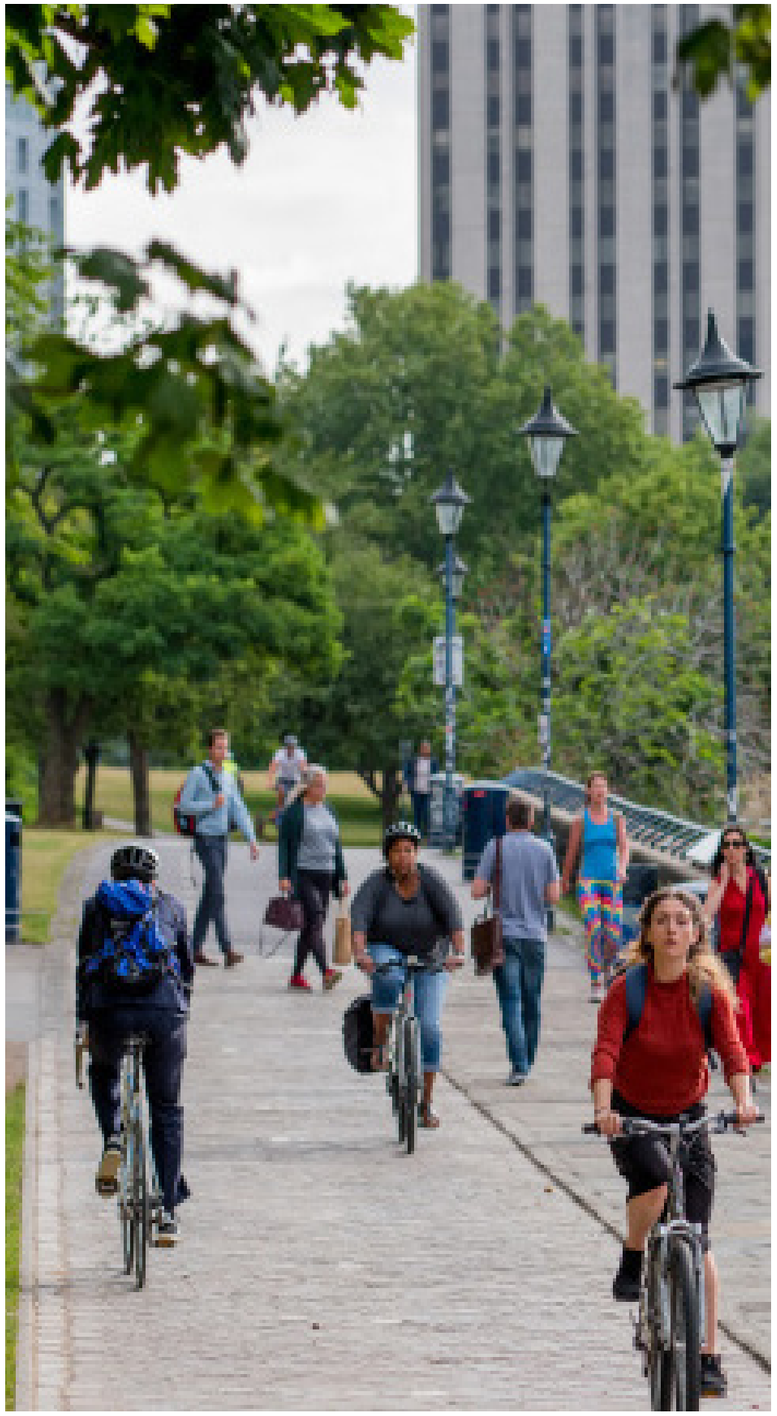
Scope for habitat enhancement, restoration and creation to achieve this net gain should be considered at an early stage within the proposed scheme design. Impacts to high biodiversity habitats such as woodland or good quality grassland should be avoided as it will be difficult and costly to achieve BNG when loosing high quality habitat. As the scheme is brought forward a BNG 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 which must be met if this scheme requires planning permission.

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 likely requirement on the project to see compensatory habitats maintained to maturity (min 30 years), achieving BNG presents a potentially considerable constraint to the scheme. Where there is not space to implement biodiversity enhancements on site then biodiversity offsetting may be purchased, however this is expensive. Cornwall County Council ecologists have created an averaged Habitat Creation Cost for all habitats of £28,679 per unit. This is an average cost calculated from research costs across the spectrum of habitat creation (woodland, grassland, heathland, wetland). This cost includes land procurement / rental for the 30 year period. For example assuming the 3.2km route will amount to a 3m width of permanent loss of habitat (totaling 0.96ha), then if it is assumed the proposed route is passing though poor quality modified grassland for its entire length (as a simplified example, in reality various habitat types will be impacted by the proposed route) this would equate to a loss of 1.92 habitat units. This would require >£60K to deliver 10% BNG if purchasing biodiversity offsetting to be maintained for a minimum of 30 years.

Early consultation with Cornwall Council's ecologist is recommended to agree if the scheme would be required to achieve BNG and if it would be classed as a major or minor scheme. This would then determine which BNG calculator would need to be used to calculate the schemes loss and gains and the percentage of gain required.

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.



8 Appendix

8 Appendix

Appendix A: Ecological Desk Study

Appendix B: Land Ownership Map

Ecological Desk Study

Hatt to the Carkeel

10 September 2021

Commissioned by Botusfleming Parish Council

Reference: Rev 1

To find out more, please contact: Pippa Cope
email.pippa.cope@sustrans.org.uk

Quality Assurance

Version	Prepared by	Checked by	Approved by	Issued
Rev 1	PC/ACIEEM 10/09/21			

**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.

Contents

Contents

Useful links

Link 1: www.sustrans.org.uk

1 Introduction

1.1 Background

Sustrans have been commissioned to produce a feasibility study for the creation of an 'off-road' traffic-free walking and cycling route between Hatt and Carkeel.

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

1.2 Site Location and Description

The proposals consists of an approx. 3.2km route between Hatt, in the north, and Carkeel roundabout, in the south.

Reference to OS mapping and site and aerial photography indicates woodland and woodland edge, dense and scattered scrub, grassland (amenity and likely semi-improved), tall ruderal, scattered trees, hedgerow, arable field edge and existing track occur along the proposed route.

1.3 Proposals

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

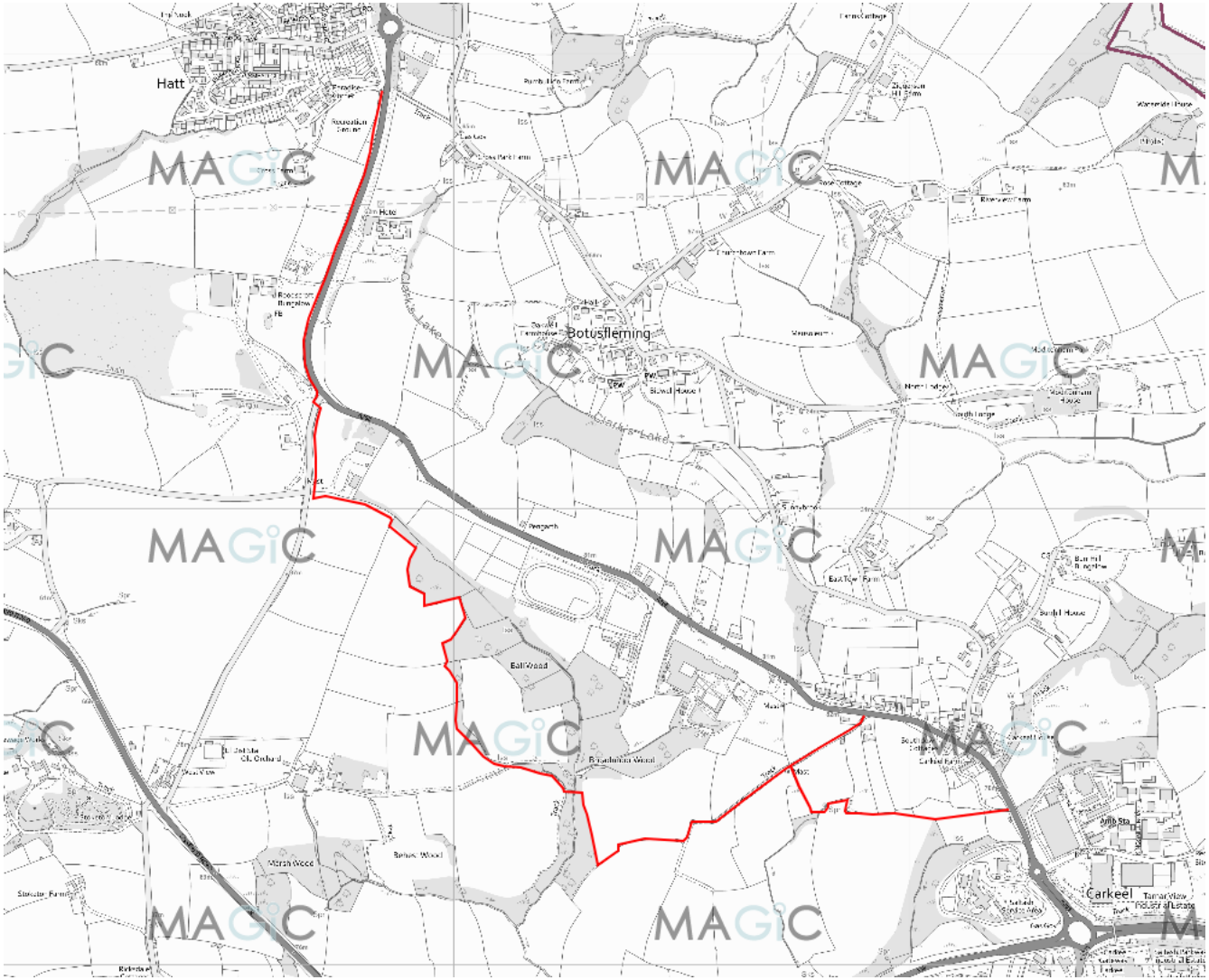
- Path to be of a minimum of 3m width, with 1m verge on either side, with preferably a sealed tarmac surface, or equivalent suitable surface dressing;

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.



Preferred alignment Hatt to Carkeel walking and cycling route (www.Magic.defra.gov.uk)

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 September 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).

2.3 Legal and Planning Context

Legal Context

A range of habitats and species that may actually or potentially be relevant to the application site are afforded legal protection under national and international legislation (**Appendix 1** refers).

Planning Context

National and Local Planning policy have also been considered within the assessment (**Appendix 1** refers).

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.

Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites are now incorporated into a National Site Network within the UK territory following Brexit. National designations include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs).

The proposed route is located within 5km of two National Site Network sites, and within 1km of once statutory designated sites (the designations all overlap), 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
Plymouth Sound and Estuaries SAC	565m east, 1.3km west	Annex I habitats that are a primary reason for selection of this site include sandbanks which are slightly covered by sea water all the time, estuaries, large shallow inlets and bays, reef and Atlantic salt meadows. Mudflats and sandflats not covered by seawater at low tide are present as a qualifying

		feature, but not a primary reason for selection of this site. Shore dock *Rumex rupestris* is an Annex II species which is a primary reason for selection of this site. This site is one of the chief rocky-shore strongholds for shore dock on the UK mainland, in 1999 comprising 15 colonies and 42 plants. The site also holds a sizeable area of additional suitable habitat. Allis shad *Alosa alosa* is present as a qualifying feature, but not a primary reason for selection of this site.
Tamar Estuaries Complex SPA/MCZ	665m east, 1.3km west	This SPA is composed of extensive intertidal mudflat communities, areas of mixed muddy sediment communities and saltmarsh communities. These habitats provide important feeding and roosting areas for over wintering avocet *Recurvirostra avosetta* and little egret *Egretta garzetta*. The mudflats support high densities and variety of invertebrates, a vital food source for birds. In addition to the designated features the SPA is of importance within Britain and the EU for a range of wildfowl and wader species with peak mean numbers at designation of more than 11,000 overwintering waterfowl. The site is of particular importance for shelduck *Tadorna tadorna*, whimbrel *Numenius phaeopus,* greenshank *Tringa nebularia* and Mediterranean gull *Ichthyaetus melanocephalus*. Other notable species supported by the site include dunlin *Calidris alpine*, curlew *Numenius arquata*, black-tailed godwit *Limosa limosa* and redshank *Tringa totanus*.
Tamar-Tavy Estuary SSSI	565m east	The site is part of the Tamar Estuary system. The site supports a nationally important wintering population of the uncommon Avocet and encompasses a section of

the River Tamar that is considered to be of national significance for its marine biological interest. The site includes estuarine habitats, with uncommon species, that are notable in their extent.

For several decades the mudflats and marshes between Clifton and the Tamar Bridge have attracted an increasing number of Avocet and now regularly support more than 20% of the British wintering population. Other passage or wintering wading birds for which the Tamar complex as a whole is nationally important also rely at times on feeding and roosting sites within the Tamar-Tavy Estuary SSSI.

Otter *Lutra lutra* and Kingfisher *Alcedo atthis* are among the many animals dependent on the undisturbed stretches of river.

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. However the proposed route falls within the Impact Risk Zone of Tamar-Tavy Estuary SSSI and all infrastructure projects trigger this risk, therefore the Local Planning Authority (LPA) should consult Natural England (NE) on likely risks of this scheme and seek their agreement when assessing the planning application.

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. There is a single non-statutory designated site, Broadmoor and Ball Woods Country Wildlife Site (CWS), which the proposed route passes through and the adjacent to for approximately 480m. This has been designated as such for being well-structured mainly mixed broadleaved woodland with associated ground flora and water logged areas. Although not listed as ancient, these woodlands have been present since at least 1800. It is likely this non-statutory site will be directly impacted by the proposals through habitat loss, and therefore when passing through this CWS sensitive scheme design should be employed to limit disturbance, e.g. reducing the width of the path to limit habitat loss.

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. There is no ASNW within 500m of the proposed route.

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 proposed route passes through and adjacent in several places to broadleaved woodland, a priority habitat. There is also a small orchard approximately 50m to the north of the route, but on the other side of the A388.

Reference to OS mapping and site and aerial photography also indicates, hedgerow, dense and scattered scrub, grassland (modified and likely other neutral), tall ruderal, scattered trees, hedgerow, arable field edge and existing track 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 (BNG) for the scheme. 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 track	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.
Amenity grassland	This is a low quality habitat which is unlikely to support protected species.	It should be reinstated and improved by sowing and management of a strip of native species rich grassland either side of the path.
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 species rich grassland either side of the path.
Dense and scattered scrub	Scrub offers an important foraging and sheltering resource for a range of species such as invertebrates, small mammals and birds. Protected species associated with scrub e.g. nesting birds will require construction to be sensitively timed.	Mitigation planting of native mixed species scrub to replace that lost to the development. Enhanced management of adjacent areas of dense scrub could include scalloping edges to create a mosaic of habitats.
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.

Habitat	Constraints	Opportunities
Grassland (other neutral or higher quality)	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, removing arisings when cutting to decrease nitrification or rotational mowing to leave uncut areas.
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. Bring adjacent hedgerows into more favorable management e.g. rotational cutting.
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. Tree protection measures on retained trees will be required.	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 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.	
Trees	Tree removal will need to be mitigated by tree replacement planting[1], difficult to deliver with linier projects where space is limited. Trees offer habitat for roosting bats, nesting birds and dormice, 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. Tree Preservation Orders – see Figure 1 for protected trees, likely none to be impacted by proposals but TPO trees present in the wider landscape	Provide roosting and nesting opportunities by installing bat and bird boxes on retained trees. Look for tree planting opportunities to deliver with the scheme.
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. 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.

[1] Cornwall Council's Climate Emergency Development Plan Document has not yet formally been adopted and is at the public consultation stage. However it is policy likely to have been adopted by Cornwall Council by the time this scheme comes forward. Policy G3 – Canopy relates to tree loss, Appendix 1 refers.

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 of any protected amphibians species (https://www.naturespot.org.uk/species/great-crested-newt-1) 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 Cornwall, hosting twelve of the UK's eighteen species of bat, including some particularly rare species such as greater and lesser horseshoe bats *Rhinolophus ferrumequinum* and *R. hipposideros*. 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 and grassland.

The MAGIC search included review of extant and expired European Protected Species Mitigation Licenses (EPSML). The closest granted EPSML for bats is located 200m north in Broadmoor Wood and is active from 2015 – 2025, allowing for the damage of a breeding and resting site for greater and lesser horseshoe, brown long eared *Plecotus auritus* and common pipistrelle *Pipistrellus pipistrellus*. Based on the desk search, the proposed route is not located within the boundary of any historic, or active bat EPSML.

Bats can be impacted by destruction and disturbance of roosts (e.g. tree removal or intervention to structures), loss and degradation of foraging, sheltering and connecting habitat, loss of habitat connectivity (e.g. creating gaps in hedgerow), and changes to lighting. If lighting is proposed then extensive further survey work in respect to bat activity will be required.

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, an EPSML will be required from Natural England (NE).

Birds

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

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).

The MAGIC search included review of extant and expired EPSML. The closest granted EPSML for dormice is located 1.3km north east of the proposed route and was active from 2015 – 2019, allowing for the destruction of a breeding and resting site. Based on the desk search, the proposed route is not located within the boundary of any historic, or active bat EPSML.

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 are 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 a ditch and then is adjacent to it for another 85m in Broadmoor Wood. Otters are found on all of Devon's major rivers.

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).

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.

3.5 Review of Planning Application PA14/02447

The majority of the route which is south of the A388 is within the boundary of Planning Application PA14/02447, which is a large hybrid application comprising outline permission for a mixed use residential-led development.

Extensive ecology survey work was undertaken of the development site in 2013 to inform the planning application. Moderate levels of nature conservation interest were identified on the site. This primarily refers to habitat features such as species-rich ecologically 'important' hedgerows, and broadleaved woodland comprising mixed ashwood, wet woodland, and oakwood habitats.

The site was found to support a diverse range of bat species and it is considered likely that bat roosts are present within woodland trees. The site also supports a range of bird species commonly found in habitats present within the site, although no bird species linked with the nearby SPA and SSSI were found to be using the site. Otter were identified as using the site. Two main badger setts were found within woodland across the site.

Surveys for dormice and reptiles were also carried out in 2013, both with negative results. A habitat assessment of ponds to the north confirmed that they are unlikely to support breeding great crested newts.

For the subsequent Reserved Matters application for Phase 0A and Phase 1 of the development, which relate to the most easterly section of the proposed route, the ecology surveys were updated in 2019. Survey results found no significant changes from the results carried out in 2012 and 2013.

A Landscape and Ecological Management Plan (LEMP) for Phases 0A and 1 was submitted to support the reserved matters application for these Phases. This included detailed ecological mitigation measures to ensure that the important ecological features within the site are protected and enhanced as part of the proposals. The new habitats will provide additional biodiversity to the site by providing a number of opportunities for wildlife that do not currently exist in the intensely farmed landscape. All habitats will be subjected to ongoing long-term management and a monitoring programme to ensure that the habitats can reach their optimal condition over the lifetime of the development.

The ecology work supporting the scheme concluded that the proposals will provide a variety of open space that will give opportunities for several species' groups compared to the existing farmland, together with safeguarding hedgerow and woodland buffers. Therefore, the development will leave nature better off than which currently exists. The development therefore complies with planning policy.

This will be a phased development and at time of writing construction works have started on Phase 0A.

4 Biodiversity Net 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 % BNG to be maintained for a period of at least 30 years.

Cornwall Council is producing a Climate Emergency Development Plan Document, not yet formally adopted, however it is likely to have been adopted by the time this scheme comes forward. Policy G2 relates to delivering BNG, **Appendix 1** refers.

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 it will be difficult and costly to achieve BNG when loosing high quality habitat. As the scheme is brought forward a BNG 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 which must be met if this scheme requires planning permission.

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 likely requirement on the project to see compensatory habitats maintained to maturity (min 30 years), achieving BNG presents a potentially considerable constraint to the scheme. Where there is not space to implement biodiversity enhancements on site then biodiversity offsetting may be purchased, however this is expensive. Cornwall County Council ecologists have created an averaged Habitat Creation Cost for all habitats of £28,679 per unit. This is an

average cost calculated from research costs across the spectrum of habitat creation (woodland, grassland, heathland, wetland). This cost includes land procurement / rental for the 30 year period. For example assuming the 3.2km route will amount to a 3m width of permanent loss of habitat (totaling 0.96ha), then if it is assumed the proposed route is passing though poor quality modified grassland for its entire length (as a simplified example, in reality various habitat types will be impacted by the proposed route) this would equate to a loss of 1.92 habitat units. This would require >£60K to deliver 10% BNG if purchasing biodiversity offsetting to be maintained for a minimum of 30 years.

Early consultation with Cornwall Council's ecologist is recommended to agree if the scheme would be required to achieve BNG and if it would be classed as a major or minor scheme. This would then determine which BNG calculator would need to be used to calculate the schemes loss and gains and the percentage of gain required.

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

Consultation with Developer of Land at Broadmoor Farm

Before progressing this scheme, landowner and developer agreement will be essential. The new development at Broadmoor Farm will have had extensive ecology survey and mitigation measures incorporated into the design. Each Phase of development will be supported by a LEMP outlining detailed ecological mitigation measures to ensure that the important ecological features within the site are protected and enhanced as part of the proposals. The development will have a legal obligation to deliver these once Reserved Matters planning approval is received. So if the route design will impact upon these mitigation features it is unlikely to be approved without a replacement mitigation strategy.

It is advisable for the proposed route to utlise on road quietways through the new development wherever possible rather than seek to impact upon semi-natural habitat or habitat which is being managed as ecological mitigation habitat.

This will require careful consultation with the landowner and developer to reach a design solution which is acceptable to all parties.

Consultation with Cornwall Council's Ecologist

An early discussion about the requirement for achieving Biodiversity Net Gain with Cornwall Council's ecologist is recommended, so the financial implication of incorporating mitigation and enhancement measures into route delivery can be determined at an early stage.

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 The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) 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, otter 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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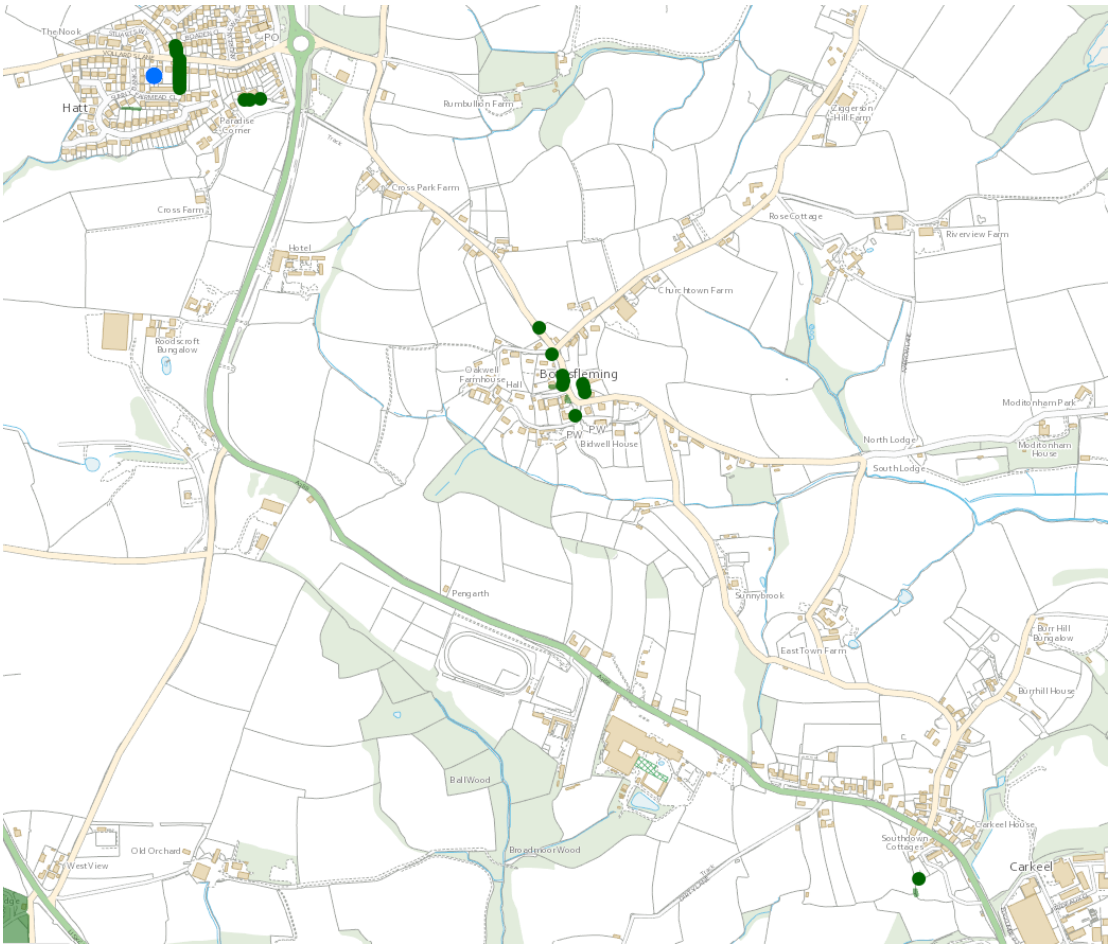
Figure 1 – Tree Preservation Orders



Cornwall Interactive Map:

https://map.cornwall.gov.uk/website/ccmap/?zoomlevel=7&xcoord=240146&ycoord=61173&wsName=ccmap&layerName=Tree%20preservation%20order%20points:Tree%20preservation%20order%20areas

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, willful damage or willful destruction.

Species

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.

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

All species of British bat receive full protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This affords bats and their roosts strict protection under the Regulations. Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended) and a subset of the British bat assemblage are listed as 'Species of Principal Importance' within Section 41 of the Natural Environment and Rural Communities (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.

In addition, certain conservation concern species are listed as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Great crested newts

Great crested newts are afforded full legal protection under the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended). 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 (as amended), 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 (Amendment) (EU Exit) 2019. 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 (Amendment) (EU Exit) Regulations 2019. 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 (Amendment) (EU Exit) Regulations 2019 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 (Amendment) (EU Exit) Regulations 2019.

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.

Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites are now incorporated into a National Site Network within the UK territory following Brexit.

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*."

Local Planning Policy

Cornwall Local Plan Strategic Policies 2010 – 2030

Policy 23: Natural environment

3. Biodiversity and Geodiversity Development should conserve, protect and where possible enhance biodiversity and geodiversity interests and soils commensurate with their status and giving appropriate weight to their importance.

All development must ensure that the importance of habitats and designated sites are taken into account and consider opportunities for the creation of a local and county-wide biodiversity network of wildlife corridors which link County Wildlife Sites and other areas of

biodiversity importance, helping to deliver the actions set out in the Cornwall Biodiversity Action Plan.

3 (c). Local Sites Development likely to adversely affect locally designated sites, their features or their function as part of the ecological network, including County Wildlife Sites, Local Geological Sites and sites supporting Biodiversity Action Plan habitats and species, will only be permitted where the need and benefits of the development clearly outweigh the loss and the coherence of the local ecological network is maintained.

3(d). Priority species and habitats Adverse impacts on European and UK protected species and Biodiversity Action Plan habitats and species must be avoided wherever possible (i) subject to the legal tests afforded to them, where applicable (ii) otherwise, unless the need for and benefits clearly outweigh the loss.

4. Avoidance, mitigation and compensation for landscape, biodiversity and geodiversity impacts Development should avoid adverse impact on existing features as a first principle and enable net gains by designing in landscape and biodiversity features and enhancements, and opportunities for geological conservation alongside new development. Where adverse impacts are unavoidable they must be adequately and proportionately mitigated. If full mitigation cannot be provided, compensation will be required as a last resort.

Climate Emergency Development Plan Document

The Climate Emergency DPD is an important part of the Council's plan to address Climate Change. Consultation (under Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 closed in April. The next stage is to submit the DPD to the Secretary of State for Examination in Public. Cornwall Council are likely to adopt this document by the time the proposed scheme comes forward.

Policy G2 – Biodiversity Net Gain

1) All major development types must achieve a minimum of 10% Biodiversity Net Gain (or any higher percentage mandated by national policy/legislation) over the pre-development site score as measured by the latest version of the DEFRA Biodiversity Metric or any subsequent Biodiversity Metric on the application site within a 30 year period from the commencement of the development.

2) Where a major proposal adequately demonstrates in the Biodiversity Gain plan that the mitigation hierarchy has been followed and the required net gain cannot be achieved onsite

within the site boundary, it must provide for the Biodiversity Offsetting of any habitat types to be lost alongside the percentage gain required either through:

a) the purchase of biodiversity offsetting units to enable provision to be made by an approved biodiversity offset provider; or

b) direct provision of the habitat types in a suitable location by the applicant provided the in-perpetuity management and monitoring of the offset site can be assured; or

c) A Biodiversity Offset Contribution to the Cornwall Council Habitat Bank.

The receptor site for any biodiversity offsetting must be in a suitable location where local climactic conditions suit the type of offset habitat and should avoid the best and versatile land most of the time.

1) Minor development (with the exception of householder development and Change of Use (not creating new dwellings)) shall demonstrate biodiversity net gains in accordance with a Cornwall Council approved Small Site Biodiversity Metric.

Policy G3 – Canopy

2) All major development should provide, through the retention of existing and or / the establishment of new, canopy coverage equal to at least 15% of the site area (excluding priority habitat types) in accordance with a Cornwall Council approved metric.

3) Any proposal to remove trees on the site should be justified with reference to the mitigation hierarchy which should demonstrate that the proposal has explored all options to avoid or reduce harm to canopy before any removal, replacement or compensation is proposed.

4) Where a pre-development site already contains canopy that exceeds the 15% requirement, the development must not result in any net loss of that existing Canopy Cover, as evidenced by the canopy calculator.

5) Where there are significant ecological, historical or landscape reasons to justify a canopy requirement of less than 15% on site and this can be fully evidenced, the proposal should ensure no net loss and use the existing canopy coverage as the percentage to be maintained.

6) Minor development sites (with the exception of householder development and Change of Use (not creating new dwellings) must demonstrate where necessary that it has explored all options to avoid or reduce harm to onsite trees.

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.

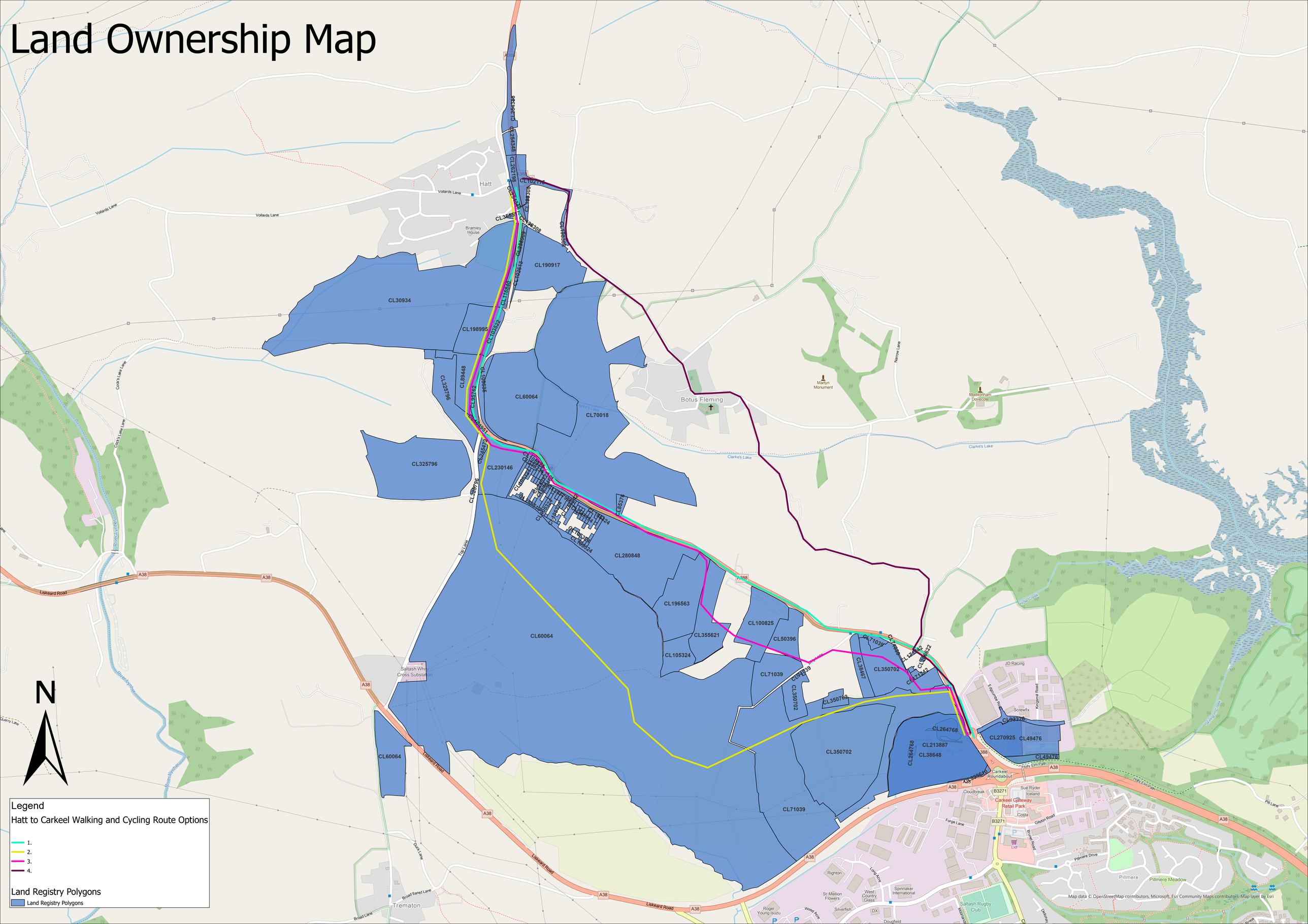
Characterising Ecological Impacts and their Effects

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.

Land Ownership Map



N

Legend

Hatt to Carkeel Walking and Cycling Route Options

- 1.
- 2.
- 3.
- 4.

Land Registry Polygons

- Land Registry Polygons