

# Burgess Hill - Haywards Heath Greenways

## Feasibility Study

May 2020





## 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.

### Our vision

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

### Our mission

We make it easier for people to walk and cycle.

### How we work



**We make the case for walking and cycling** by using robust evidence and showing what can be done.



**We provide solutions.** We capture imaginations with bold ideas that we can help make happen.



**We're grounded in communities,** involving local people in the design, delivery and maintenance of solutions.

Join us on our journey. [www.sustrans.org.uk](http://www.sustrans.org.uk)

### What we do



connecting people and places



creating liveable neighbourhoods



transforming our school run and commutes

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-	First issue	DY & CD	JF	29/01/20
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## Executive Summary

Sustrans has been commissioned to support the delivery of the Burgess Hill Place and Connectivity Programme which aims to create safe, direct and attractive sustainable transport routes and public realm improvements to encourage modal shifts towards walking, cycling and use of public transport. The Place and Connectivity Programme supports the sustainable delivery of the Burgess Hill Strategic Growth Programme which aims to deliver housing, jobs, infrastructure and social and community facilities to the town.

This Feasibility Study primarily focuses on Public Right of Way (PROW) improvements between Burgess Hill and Haywards Heath to achieve a network of routes capable of use by walkers and cyclists and where appropriate by horse-riders that are connected including with existing and proposed infrastructure. Achieving such a link between the towns is a shared ambition of the district and town councils in their respective adopted or made development plans for Burgess Hill.

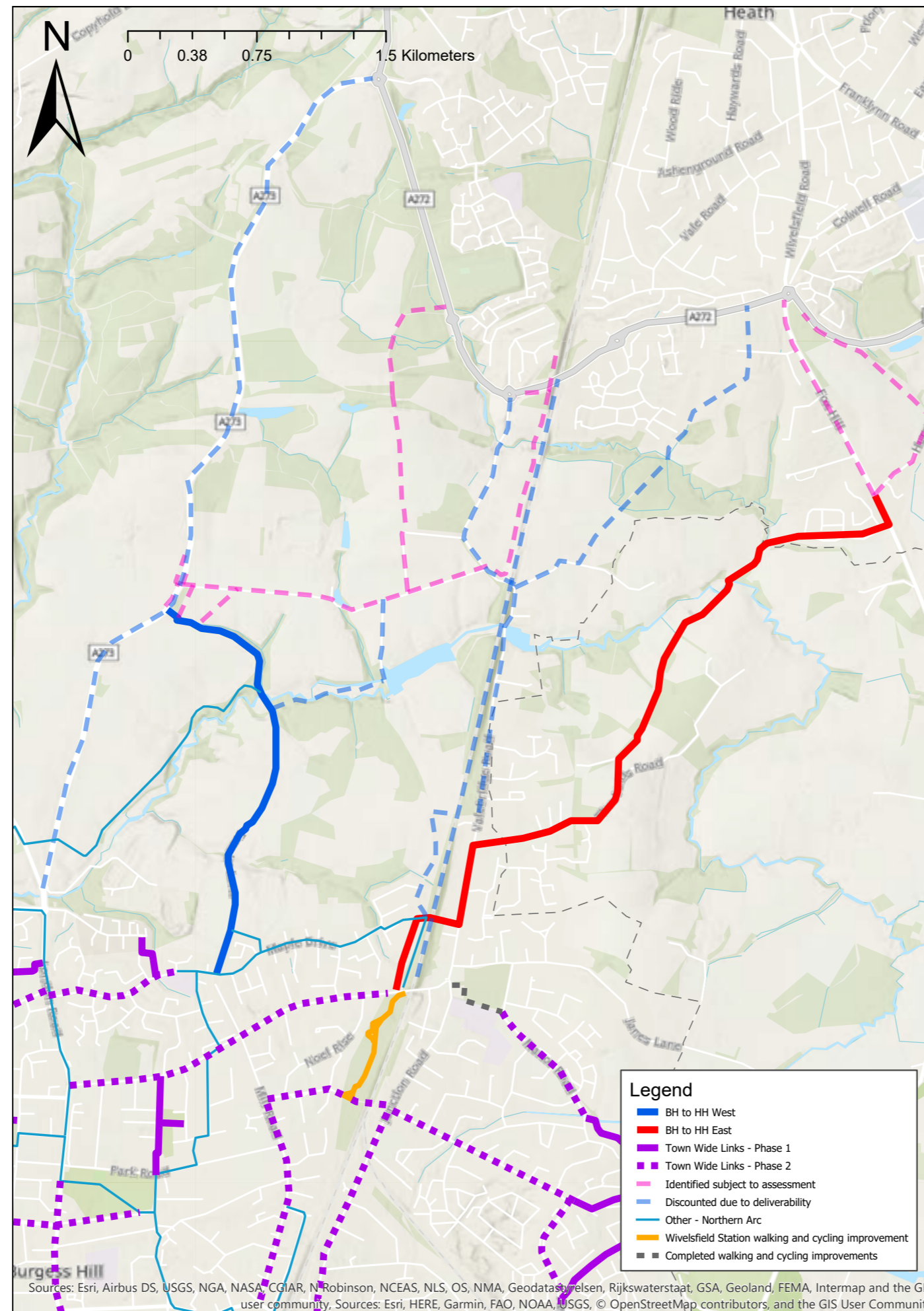
The report assesses potential public rights of way alignments either side of the Brighton mainline railway.

At present, conditions for non-motorised users between the town towns are poor. The Brighton mainline railway severs Burgess Hill and is a barrier to east-west connectivity. The two roads that link Burgess Hill and Haywards Heath, the A273 Isaac's Lane and the unclassified Valebridge Road and Rocky Lane, are considered to present dangerous conditions for walkers and cyclists.

The Study assesses a number of options and recommends a Western Greenway route that follows Freek's Lane from Maple Drive, Burgess Hill and WSCC PROW ANS/94CR footpath to the A273 Isaac's Lane then onto PROW footpaths and across private land to the A272; and an Eastern Greenway Route that follows Theobalds Road from Valebridge Road to the B2112 Fox Hill then onto the A272.

Sustrans has outlined recommendations with a view to creating both eastern and western exemplar traffic free Greenways between Burgess Hill and Haywards Heath.





Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

# 1. Introduction

## 1.1 Summary

Sustrans has been commissioned to support the delivery of the Burgess Hill Place and Connectivity Programme which aims to create safe, direct and attractive sustainable transport routes and public realm improvements to encourage modal shifts towards walking, cycling and use of public transport. The Place and Connectivity Programme supports the sustainable delivery of the Burgess Hill Strategic Growth Programme which aims to deliver housing, jobs, infrastructure and social and community facilities to the town.

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Sustrans will also identify areas not in public ownership, where land rights would have to be secured to deliver a connected network, and identify works needed to enhance existing, and create new routes.

The strategic objectives of the Route Corridor Assessment are as follows:

- To improve walking and cycling routes to encourage modal shift between the towns of Burgess Hill and Haywards Heath.
- To provide walking and cycling routes that are resilient to damage from storms, flooding and poor land drainage issues.
- To provide walking and cycling routes that link in with the existing and proposed walking and cycling network in Burgess Hill and Haywards Heath.

Additionally, Sustrans has produced a mapped network of primary routes for walking and cycling to serve the district using existing and new infrastructure, including employment, education, and services.

## 1.2 Route Background Context

Burgess Hill and Haywards Heath are sizeable towns in Mid Sussex. The two roads that link the towns, the A273 Isaac's Lane and the unclassified Valebridge Road and Rocky Lane, provide poor and potentially dangerous environments for cycling and walking and there is no easy or safe way to walk and cycle between the two urban areas.

The edges of the built-up areas are only 2.4km apart and the town centres are 5km apart. Achieving such a link between the towns is a shared ambition of the District and Town councils in their respective adopted or made development plans.

Burgess Hill is home to the offices of many national and international companies, many based at Victoria Business Park, Sheddingdean Business Park and Bolney Business Park. Almost half of those employed in Burgess Hill are residents of the town. 14% of Burgess Hill's workers travel from Haywards Heath.

## 1.3 Background Information

Burgess Hill is a market town in the Mid Sussex District of West Sussex, situated on the edge of the South Downs National Park, close to the border with East Sussex. It is located approximately 5km south of Haywards Heath and 13km north of Brighton.

The area of Burgess Hill has been settled since the Saxon period, indeed its founding ancient parishes were mentioned in the Domesday book. The whole area was primarily dependent on agriculture and remained that way until the Victorian period which saw the arrival of the Railway.

Following completion of the London to Brighton Railway in the 1840s, the area was transformed into a country town with the construction of Victorian middle class and terraced workmen's houses. From this time, Burgess Hill began to attract residents who would commute to Brighton for work<sup>1</sup>. Either side of the two World Wars, Burgess Hill saw

<sup>1</sup> Burgess Hill Town Council <https://www.burgesshill.gov.uk/briefhistoryofthetown>

steady residential development and remains one of the fastest growing towns in West Sussex with a population of over 30,600<sup>2</sup>.

### Economy

With good links to Brighton and London, Burgess Hill is a commuter town with many residents travelling out of the town for work. Indeed, data from the 2011 census demonstrates that whilst 53% of usual residents aged 16+ and in employment work within Mid Sussex District, only 29% work in Burgess Hill itself. Some 10% work in Crawley Borough, which includes the large employment site of Gatwick Airport whilst 9% commute to the cities of Brighton and London respectively<sup>3</sup>.

Mid Sussex District has one of the lowest unemployment rates in the country and residents have above average earnings. Nearly 58 per cent of Mid Sussex residents are employed in Groups 1-3 of the Standard Occupational Classification as managers, directors, senior officials, professional and associated professional and technical occupations. This is well above the average for the South East of 49% and West Sussex 47%<sup>4</sup>.

### Transport

Route 20 of the National Cycle Network bypasses Burgess Hill some 3km to the west of the town. It runs north to south connecting Wandsworth in London with Brighton on the south coast via Redhill, Horley and Crawley. As it passes through Mid Sussex District, Route 23 broadly follows the alignment of the A23(T) and comprises a mix of traffic free paths adjacent to the road and quieter roads which run parallel to it.

Cycle infrastructure within the town of Burgess Hill is limited with the only notable facility route being the Burgess Hill Green Circle Route which circulates around the southwest boundary of the town parallel to the A273.

<sup>2</sup> Census 2011

<sup>3</sup> Census 2011 WU03EW - Location of usual residence and place of work by method of travel to work

<sup>4</sup> Mid Sussex Economic Profile 2018 MSDC

Burgess Hill is situated some 3km to the east of the A23(T) which runs north to south between the M23 on the southern extents of Crawley, and Brighton. It is designated as a Trunk Road and comprises part of the high speed and high capacity Strategic Road Network (SRN) managed by Highways England. The A2300 connects the A23 to the A273 which forms a ring road around the western side of Burgess Hill, linking at both ends to the B2036 which bisects the town.

The A272 runs on an east to west alignment to the north of the town, bisecting Burgess Hill and Haywards Heath, connecting to the A22 to the east and to the A23, A24 and A3 to the west.

Burgess Hill is on the junction of the Brighton Main Line, which runs from London Bridge and London Victoria to Brighton, and the East Coastway Line which links Burgess Hill with Lewes and Eastbourne in East Sussex.

There are two railway stations within the town. Burgess Hill which is located on the eastern side of the town centre, and Wivelsfield which is located in the neighbourhood of World's End in the north of the town.

Burgess Hill is served by regular trains to local and regional destination. Typical off-peak weekday services are as follows:

- 2tph (trains per hour) to Bedford via Gatwick Airport, London Bridge, London St Pancras Int'l and Luton Airport Parkway;
- 2tph to Cambridge via Gatwick Airport, London Bridge, London St Pancras Int'l and Stevenage;
- 2tph to London Victoria via Gatwick Airport, operated by Southern; and
- 6tph to Brighton.

A total of 64 covered cycle parking spaces are provided at the station, where CCTV is also provided.

A pay and display car park is located at the station and provides 142 spaces. A taxi rank is also provided on Station Road in front of the station. There are bus stops located

on Station Road which are served by regular buses.

The typical service from Wivelsfield Station is as follows:

- 2tph in each direction between Bedford and Brighton; and
- 1tph in each direction between London Victoria and Eastbourne, extended to Ore at peak times.

There are 10 cycle parking spaces covered by CCTV provided at the station front but there is no car park provided. Bus stops are provided close by on Leyland Road which are served by approximately three buses per hour.

There is an extensive network of Public Rights of Ways (PROWs) in the countryside surrounding Burgess, which becomes somewhat more limited within the built up area, although the network remains slightly denser in the south western quarter of the town. Notwithstanding, footways are provided along the majority roads within Burgess Hill which facilitate pedestrian access across the urban area.

### Policy

At a national policy level, the government's Cycling and Walking Investment Strategy (CWIS) (2017) set's out the following objectives:

- Double levels of cycling by 2025
- Reduce each year the rate of cyclists killed or injured on English roads
- Reverse the decline in walking activity, and
- Increase the percentage of children aged 5-10 who usually walk to school.

At a more local level and in addition to setting out the approach for maintaining, managing and investing in transport, the main objective of the West Sussex Transport Plan (2011-2026) is improving quality of life for the people of West Sussex. This will be met by the following targeted strategies:

- Promoting economic growth
- Tackling climate change

- Providing access to services, employment and housing
- Improving safety, security and health

In relation to the above, and in respect of walking and cycling in particular, the objectives of the West Sussex Walking and Cycling Strategy (2016-2026) are:

1. To ensure that cycling and walking are recognised as important travel modes and therefore part of the transport mix
2. To make cycling and walking the natural choice for shorter journeys (such as journeys to school), or as part of a longer journey
3. To reduce the number of cyclists and pedestrians that are killed or seriously injured on our roads
4. To support economic development by facilitating travel to work and services without a car
5. To reduce congestion and pollution by encouraging and enabling people to travel without a car
6. To increase levels of physical activity to help to improve physical health
7. To help to maintain good mental health and staying independent later in life
8. To increase the vitality of communities by improving access by bicycle and on foot
9. To help people to access rural areas and enjoy walking and cycling

In the context of local authority policy, strategic objective 15 of the Mid Sussex District Plan relates to supporting healthy lifestyles and is to "To create places that encourage a healthy and enjoyable lifestyle by the provision of first class cultural and sporting facilities, informal leisure space and the opportunity to walk, cycle or ride to common destinations"

### 1.4 Route Overview

The routes evaluated in this report link Burgess Hill with Haywards Heath through a series of existing public footpaths, bridleways and roads. There are two main routes highlighted in the report, to the east and west of the railway line

recommended for delivery.

The routes have been assessed in the context of area wide barriers to their delivery and opportunities that the routes present.

Some of the area wide barriers to active travel:

- A lack of quality well connected walking and cycling routes.
- Poor route surfacing.
- Traffic congestion.
- Heavy vehicle movements.
- Visibility splays and sight lines.
- National speed limits on country lanes and generally fast moving traffic.
- Severance due to a lack of dedicated crossing facilities.
- Land drainage issues.
- Accumulated detritus.
- Pattern of poorly linked development exacerbating and contributing to congestion and drainage problems.
- Potential conflict between user types as population demand increases.
- Safety concerns.
- Severance of the town by the Brighton mainline railway.

Some of the opportunities that these routes present include:

- Reducing congestion, particularly within the town centres.
- Improving access to the countryside.
- A joined up network of promoted routes.
- Surface improvements to PROW paths.
- Safer traffic free walking and cycling provision.

Existing Public Right of Way Bridleways and Footpaths have exemplar Greenway potential subject to improvement; recommendations are detailed in this report.



## 2. Design Principles and Relevant Infrastructure Design Guidance

Sustrans believes that active transport should be the obvious and easiest choice for local journeys and that highway and street design should reflect and encourage this. We strive to deliver infrastructure of the highest quality, with benefits for its users, their communities and the environment. Our work is rooted in industry best practice but reaches far beyond this into new thinking and innovative ways of working.

### Design Criteria

The design of this route will aim to create attractive, safe and convenient walking and cycling facilities.

### Segregation

The decision of whether to segregate different users is related to the impact of users with higher momentum on those with less; principally motor vehicles on cycles and cycles on pedestrians. West Sussex Cycling Design Guide outlines the minimum provision for cycle users in relation to motor traffic conditions.

Speed Limit	Annual Average Daily Traffic (AADT)	Anticipated peak hour number of non-motorised users per hour (either 1-way or 2-way depending on the Cycle Route Type)	Cycle Route Type	Desirable Minimum Effective Width	Absolute Minimum Effective Width
20 or 30 mph	Below 2,500	Any	Cycle friendly street design		
20 or 30 mph	2,500 - 5,000	<150	Cycle lanes (Mandatory or Advisory)* **	2.0m	1.5m
20 or 30 mph	5,000+	<150	1-way cycle track (including stopped cycle track)* **	2.5m	1.5m
		>150		3.0m	2.5m
30 mph	5,000+	<150	2-way cycle track or shared path **	3.0m	2.5m
		>150	2-way cycle track (segregated from pedestrians) **	4.0m	3.5m
40 mph and above	Any	<150	2-way cycle track or shared path ***	3.0m	2.5m
		>150	2-way cycle track (segregated from pedestrians) ***	4.0m	3.5m

\* Where the minimum width cannot be attained over the majority of its length, cycle lanes should not normally be provided. In such circumstances, and where demarcation of a route is deemed appropriate, the use of signing and cycle symbol logo patches located 1.5m from the kerb may be an alternative option.  
 \*\* Light forms of cycle lane segregation, such as wands or armadillos, can also be considered.  
 \*\*\* Tracks on high speed roads should be separated from the carriageway by verge space or hedge. See 3.2.7.

Table 1 - Cycle facility specifications, West Sussex Cycling Design Guide

Where cycle and pedestrian numbers are low, shared provision can be sufficient and successful, but it is usually best to segregate cycles and pedestrians for the comfort and safety of both. Scottish guidance (Cycling by Design, Transport Scotland, 2011) provides a useful consideration of this requirement.

Table 6.1: Cyclist and pedestrian flow density

Combined density (users/ft/min)*	Recommended arrangement
< 100	Shared use is usually appropriate (cycles give way).
101 - 199	Segregation may be considered.
> 200	Segregation should be considered.

Table 2 - Cycling by Design, Transport for Scotland

Figure 6.2: Indicative pedestrian flow densities

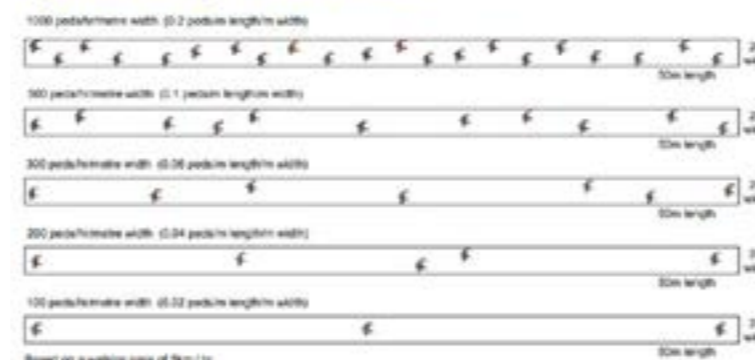


Figure 1 - Cycling by Design, Transport for Scotland

In practical terms, this would suggest that anything beyond a minimal pedestrian flow should be provided for specifically and shared use is appropriate only in areas away from residences and services likely to drive footfall.

### The 'cycle design vehicle'

Highways England cycling design guidance, CD 195 uses a conceptual 'cycle design vehicle' 2.8m long and 1.2m wide in order to aid design for all path users. This is based on a 1.8m bicycle with a 1m trailer.

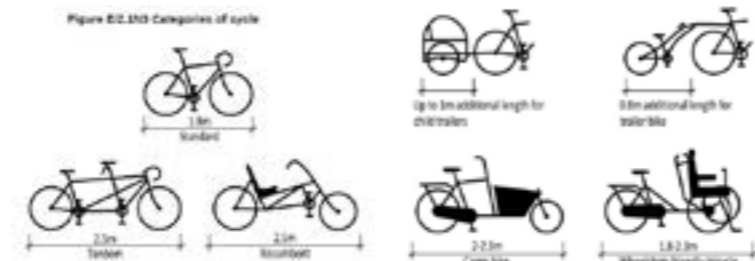


Figure 2 - CD 195, Highways England

### Design Guidance

There is a library of useful design guidance available in the UK that helps to inform and direct our work. Below is a list of some of the guidance we will refer to:

- West Sussex Cycling Design Guide - A guide for Developers, Planners and Engineers (2019)
- CD 195 'Designing for cycle traffic' (formerly IAN 195/16) – Highways England
- Designing for walking - CIHT
- WSCC Guidance and Equestrian Guidance
- Inclusive mobility – DfT

- Manual for streets – DfT
- CD 143 'Designing for walking, cycling and horse riding'.

It is however noted that in retrofit locations it might not always be possible to achieve minimum widths recommended in the Guidance and it may be necessary to compromise.

### Greenways

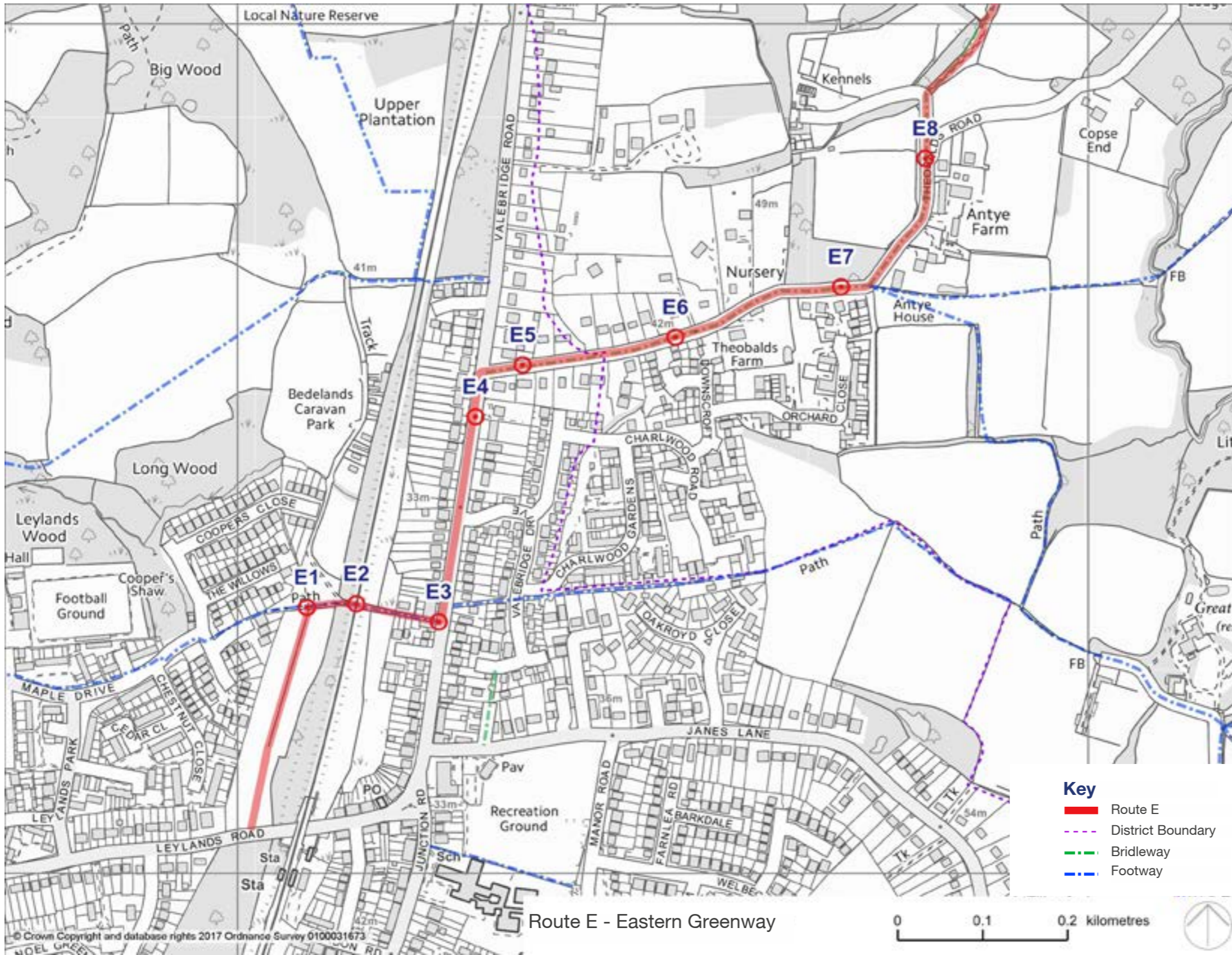
Sustrans has a long history of delivering off road paths, often referred to as Greenways, with the standard design of these developing and improving over the years. In general terms, these seek to achieve routes that provide an opportunity for people to not only connect between places by non-motorised means, but also to have an accessible means to access the countryside whatever their ability, along attractive 'linear country parks' with a strong sense of place to enable all to enjoy the natural environment.

### Ecology

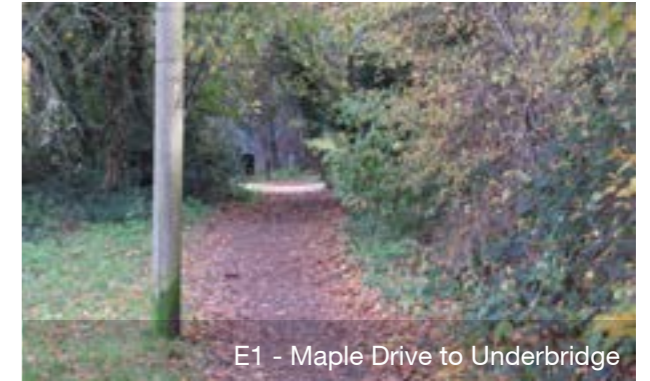
Sustrans delivers ecologically sound projects, seeking to deliver net biodiversity gains through our work. Ecological enhancements improve access to, and engagement with, nature for route users as well as create a positive impact on the quality and attractiveness of the route itself and are therefore a key part of our design approach. We also recognise the value of wildlife to the local community and seek to work with local stakeholders in identifying and delivering any enhancements.

### Equestrian Use

Where horse riders are likely to interact with walkers and cyclists, on bridleways for instance, it is important to take the needs of this unique group into consideration. Highways England document CD 143 'Designing for walking, cycling and horse riding' provides useful guidance and the British Horse Society have a range of useful leaflets and guides relating to route design.



Route E - Eastern Greenway



E1 - Maple Drive to Underbridge



E2 - Underbridge



E3 - Valebridge Road



E4 - Valebridge Road

### 3. Recommended Routes

#### 3.1 Route E. Eastern Greenway - 'Lucy's' Railway Underbridge to Fox Hill

The Eastern Greenway route to the east of the Brighton mainline railway links Wivelsfield Station, the Northern Arc strategic housing development (via the proposed green circle extension and green superhighway) and east of Burgess Hill including current strategic developments to Fox Hill (Haywards Heath) where new development sites are currently planned or under construction.

##### Existing conditions

Route E follows PROW footpath BUH/1BH/1 160m eastward to Valebridge Road via a Victorian Railway Underbridge (VTB3 155 - 'Lucy's') where it joins a surfaced access road bounded by railway land and Victorian residential properties.

Valebridge Road benefits from footways on both sides and is lined by period terrace and detached residential properties and driveways. It is heavily trafficked and there are no parking restrictions except near to side roads. The road is subject to a 30mph speed limit, although this rises to a national limit a short distance south of Medway Gardens.

##### Barriers to active travel

Heavy and fast moving traffic is noted along Valebridge Road with available traffic data suggesting AADT in excess of 5,000, making the road unsuitable for carriageway cycling.

There are limited refuge opportunities along the bridleway section, particularly when encountering heavy vehicles.

There are also drainage issues along the unmade ancient bridleway due to its "sunken lane" nature as a result of centuries of livestock movement.

Small brooks and streams cross the bridleway from elevated fields to lower ground. The unmade nature of the eastern extent of the Bridleway currently makes it unsuitable for use by cycles.

The onward connection from the eastern

extent of the Bridleway to the existing off carriageway facilities in Haywards Heath, via Fox Hill, is lacking. Fox Hill itself appears to carry a substantial volume of traffic, making carriageway cycling unsuitable, with a severely restricted highway width in places restricting options for off carriageway provision.

##### Recommendations

Preliminary Ecological Surveys are required.

Landowner consents for optional improvements and other permissions will need to be sought as required.

A future Route Maintenance programme will be required to ensure regular clearance of seasonal leaf drop, excessive vegetation ingress and removal of accumulated detritus to maintain maximum available width along the entire route, particularly through wooded sections. Annual ditch clearance measures along the Greenway section will also be required.

Due to the nature and location of the route, and the likely level of use it will receive, a shared use path is likely to be suitable with 3m minimum width and an appropriate sealed surface.

E1 Widen and improve PROW footpath BUH/1BH/1 160m eastward to Valebridge Road to accommodate shared use walking and cycling. To include widening to 3m minimum and surfacing.

E2 Tie in PROW footpath to the access road and Railway Underbridge. Repair existing surface as required. Opportunity for place making feature/artwork to form a gateway and improve visibility through the underbridge.

E3 Traffic volumes on Valebridge Road make carriageway cycling undesirable. Further assessment is required to establish options, however footway widening and provision of a shared use path could be feasible subject to funding and County Highways' approval.

E4

Traffic calming works will require liaison with West Sussex County Council, and may include centre line removal, carriageway narrowing, installation of vertical features and speed tables.

New Toucan or Parallel crossing of Valebridge Road to tie in with Theobalds Road.

E5

Vegetation should remain cleared to the extent of the entire section of splays within the highway boundary of Theobalds Road. Speed calming measures should assist in this area and will require careful consideration due to nearby crest in the road and change in speed limit. Consider extending 30mph limit further north and/or reduction to 20mph with gateway feature.

E6

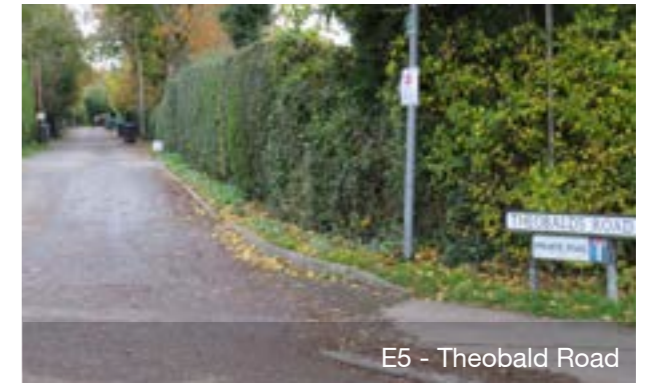
It is considered that the conditions (traffic flow and speeds) at Theobalds Road resemble that of a 'Quiet Street' as per WSCC Cycling Design guidance. Optional recommendations to improve Theobalds Road are therefore made to improve conditions but are not considered essential: Side out existing road surface to expose full width and remove existing track side rocks; Reinforce low speed environment; Clear out and improve existing drainage ditches; Provision of additional refuge points.

E7

Widen Bridleway into available verge or edge where needed to achieve 3m minimum width. Vegetation works to improve sight lines.

E8

Widen Bridleway into available verge or edge where needed to achieve 3m minimum width. Vegetation works to improve sight lines. Waymarking requirements may provide opportunity for placemaking or artwork.



E5 - Theobald Road



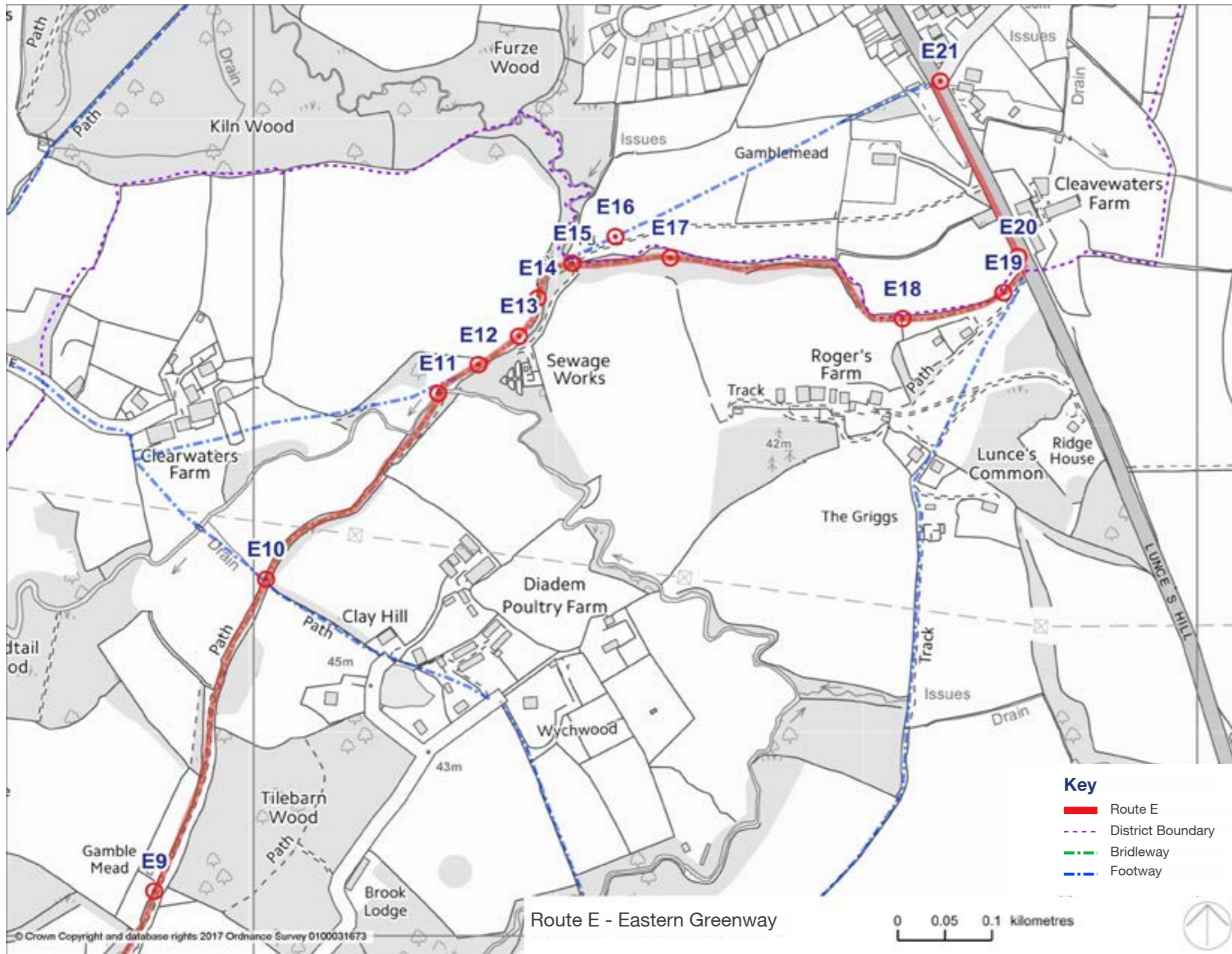
E6 - Available Verge Space



E7 - Widen Bridleway



E8 - Bridleway Descent



E9 Remove accumulated detritus. Side out to expose full extent of existing surface and repair/resurface as required. Ground and drainage works. Vegetation clearance and tree works. Potential to include dedicated equestrian provision.

E10 PROW footpath ANS/104CR could provide a potential on-going link through Kiln Wood to Rookery Farm, however this has been discounted (See section D). Existing Bridleway is very wet and appears prone to flooding throughout unsurfaced section; construct new path raised 200-300mm with suitable drainage features. General construction of new path to include appropriate sealed surface with potential surface treatment.

E11 The existing Bridleway Bridge would benefit from improvement as it is not considered a sufficient width for all users due to its deck width. A new 4m wide replacement bridge is recommended however widening/replacing the existing bridge deck may be an option and will be considered at detailed design stage. Minimal ground works will be required to tie in with either solution.

E12 Ground and drainage works to waterlogged field bridle path. Engage with Landowners Title no SESX149755. May be space to install segregated bridle path and walk-cycle path. Where route crosses severely waterlogged areas a low water crossing will be required. Options could include sequential culverts (sometimes referred to as a vented ford or 'Irish bridge') which could be faced with brick to reflect the nearby Vale Bridge Viaduct. This approach could be replicated in other areas of substantial standing or low level flowing water to provide a series of distinct features along the route.

E13 Sunken Bridleway constrained by river and high bank. Optional field edge alignment available subject to permissions; this would minimise any level changes on the route. Where field edge alignment is not possible, a high level boardwalk, constructed from

recycled plastic, would maintain vertical alignment of the route and provide an attractive feature. Engage with Landowners Title no ESX149755.

E14 Bridleway subject to flooding. Field edge alignment available subject to permissions. Engage with Landowners Title no ESX149755.

E15 The existing Bridleway Bridge would benefit from improvement as it is not considered a sufficient width for all users due to its deck width. A new 4m wide replacement bridge is recommended however widening/replacing the existing bridge deck may be an option and will be considered at detailed design stage. Minimal ground works will be required to tie in with either solution.

E16 Engage with Linden Homes Title SX15780 and seek agreement to widen WSCC PROW HAH/28CU/1 to accommodate a shared use walking and cycling link into the new homes development.

E17/19 This final section is through a low-lying marsh area and subject to flooding and erosion. East Sussex County Council has confirmed it will be undertaking works by laying new type 1 and stone to improve this section of Bridleway during 2020/21.

E20/21 The route alignment terminates at the B2112, Fox Hill/Lunces Hill and a link of some 850m is required to connect to shared use, off carriageway, paths in Haywards Heath. Preliminary considerations and recommendations, requiring additional liaison with the relevant highways authority, are contained in the following section of this report.



E14 - Subject to Flooding



E18 - Causeway Required



E15 - Bridle Bridge



E19 - Access Road



E16 - Link to Housing Development



E20 - Fox Hill Footway



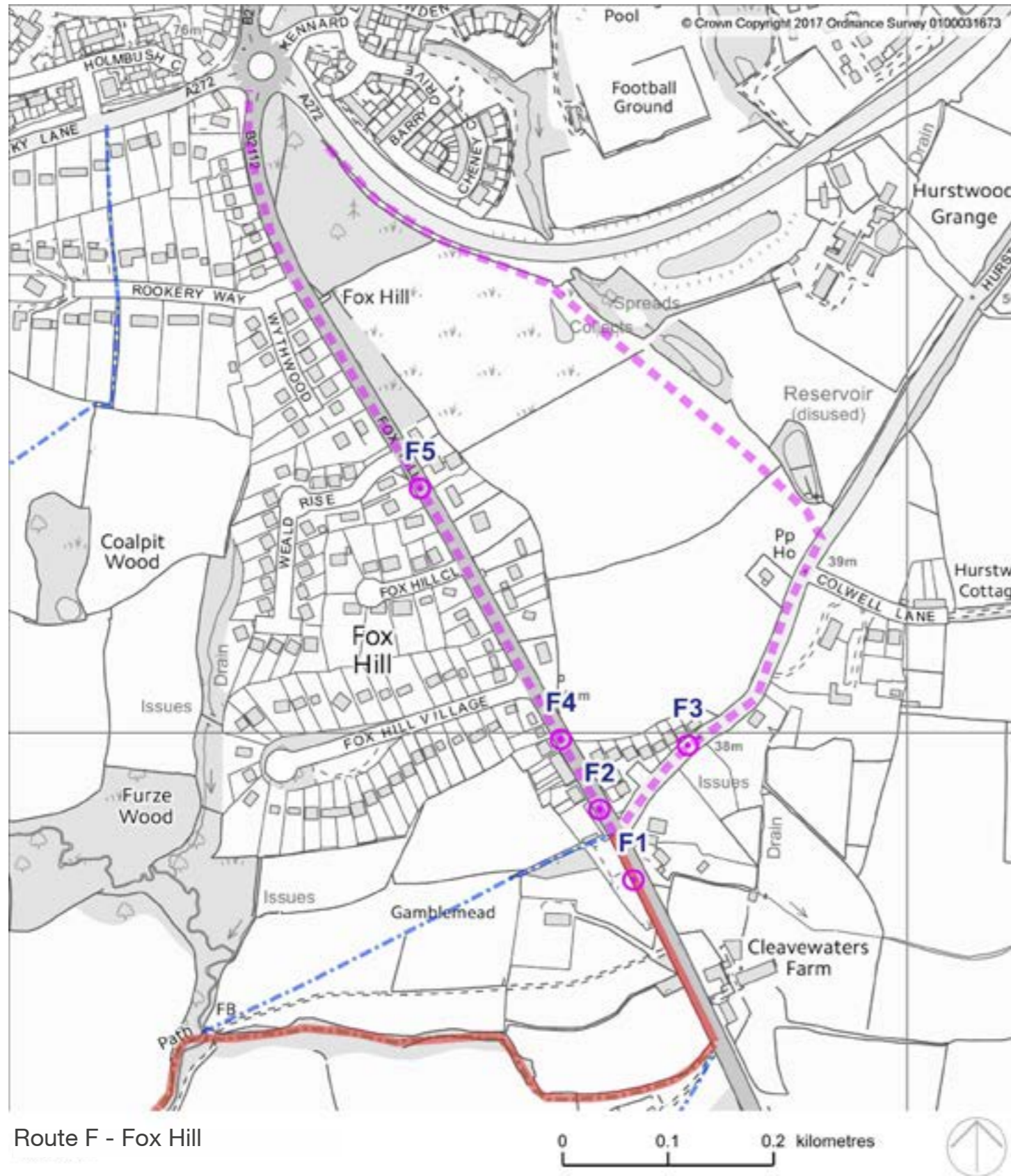
E13 - Sunken Bridleway



E17 - Causeway Required



E21 - Fox and Hounds Footway



Route F - Fox Hill

- Key**
- Route E
  - - - Route F
  - - - Bridleway
  - . - . Footway



### 3.2 Route F. Fox Hill to A272 Rocky Lane

The Eastern Greenway (Route E) will provide a high quality, off road, link for walking and cycling between Burgess Hill and Fox Hill, Haywards Heath. However, in order to provide a coherent link between Burgess Hill and Haywards Heath itself, suitable provision must be made to cover a distance of approximately 1km between the eastern extent of the Greenway and existing facilities along the A272, Rocky Lane and beyond.

#### Existing conditions

Fox Hill, the B2112, is one of three roads that run south from Haywards Heath and carries heavy traffic to and from the town. It is subject to a 30mph speed limit to the south of the Fox and Hounds pub, rising to the national limit as the road proceeds south. The area is semi-rural in nature, although the road is fronted by residences throughout its 30mph area. There is a footway along its western edge, serving most of the residences.

#### Barriers to active travel

Fox Hill carries heavy and fast traffic. Site observations suggest AADT in excess of 7,000 vehicles per day. The road is relatively straight with excellent forward visibility which encourages high traffic speeds. User comfort is substantially impacted on the footway, and the road is not suitable for carriageway cycling.

The road varies in width between approximately 6m and 7.5m and the footway is approximately 1.5m along its length. Reallocation or reconfiguration of road space within the highway boundary is restricted by residential accesses and topography.

Crossing facilities are poor, consisting of uncontrolled crossings at the Fox Hill/A272 roundabout and by the Fox and Hounds Pub.

#### Recommendations

Delivery of suitable cycling and walking facilities will require, and be dependent upon, extensive consultation with West Sussex

County Council. However, several possible options to deliver this link have been identified and all are considered feasible at this stage subject to budget constraints.

All the options outlined below should be considered alongside speed calming measures along Fox Hill which will both improve the comfort and safety of users as well as the environment for local residents.

#### Fox Hill Options are:

##### Fully segregated provision

Based on our design principles, and current guidance, recommended provision along the Fox Hill corridor is ideally a fully segregated cycle track in addition to improved footway provision and narrowed carriageway, as shown below.

Construction of this arrangement would require a total highway width of 10.5m as a minimum. Analysis of West Sussex Highways extents suggests that this width is fully available within the highway boundary along the length of the corridor, however implementation of this design approach would require extensive engineering and construction works, including realignment of the road, and may be complicated by services and residential parking and access requirements.



Credit, Streetsketch (<http://streetsketch.mobycon.nl/>)

##### Shared provision

If fully segregated provision is not viable, improvements and widening of the existing footway to provide a shared use path may be acceptable. This could be achieved by realigning the kerb along the western edge of

the carriageway and building the footway out into the existing grass verges.

This approach would not require realignment of the carriageway and the associated costs and risks, however would deliver a lower level of service with driveways potentially resulting in an uneven surface and passing traffic influencing the impact upon user, therefore traffic calming measures would be recommended.



Credit, Streetsketch (<http://streetsketch.mobycon.nl/>)

#### Hurst Farm

Hurst Farm is within the ownership of MSDC and provides an opportunity for greenway provision between Hurstwood Lane and the A272 Rocky Lane.

Improvements to the Fox Hill/Hurstwood Lane junction would allow for safe access between this development and the Eastern Greenway; this could be achieved through the installation of a mini roundabout at the junction to calm speeds and improve safety for vehicles entering and exiting Hurstwood Lane, localised widening of footways and upgrading the existing uncontrolled crossing to a toucan crossing.

Such a greenway would not provide the most direct route but would be pleasant and safe with the potential to link to local services as an alternative to travelling along Fox Hill.

#### Conclusions

Sustrans' overall recommendation is for fully segregated provision in the first instance, and explored with West Sussex County Council

Highways. Should this approach not prove to be feasible, then introduction of shared use provision with speed calming measures should be pursued. Both measures should be explored alongside the concept of providing a greenway at Hurst Farm between Hurstwood Lane and the A272 Rocky Lane, as although not as direct, it is likely to provide a higher level of service and as a pleasant alternative to shared use provision along Fox Hill.



F4b - Cyclist on Fox Hill



F5 - Fox Hill



Route W - Western Greenway

0 0.1 0.2 kilometres

- Key**
- Route W
  - - - Bridleway
  - . . . Footway



W1a - Freek's Lane



W1b - Freek's Lane



W2 - Ground and Drainage Issues



W3 - Realign Bridleway through Farms

### 3.3 Route W. Western Greenway - Maple Drive to Isaac's Lane via Freek's Lane

The Western Greenway route to the west of the railway links Wivelsfield Station, Leylands Road, Maple Drive and the Northern Arc strategic housing development to Isaac's Lane, Haywards Heath, passing development sites planned for construction. From Maple Drive Route W follows WSCC footpaths northward along the un-adopted Freek's Lane to Lowlands Farm and Freeks Farm then to a footbridge over the Adur River. Route W then diverts westward by Ten Acre Gill to Woodfield Farm House and Isaac's Lane. There is currently no PROW provision linking WSCC PROW Footpath ANS/94CR/1 to WSCC PROW Bridleway ANS/90CR/1. A well surfaced private farm track runs south of Holmbush Cottages.

#### Existing conditions

Freek's Lane follows the course of WSCC PROW footpath designations along its length which have years of accumulated detritus resulting in very poor drainage exacerbated by a high water table. Much of the adjacent land is earmarked for development hence the amount of security palisade fencing evident along the route.

#### Barriers to active travel

There are currently a number of barriers to active travel along this route. These include surface conditions, poor drainage, encroaching vegetation and trees, undulating levels and a lack of care management and investment.

Isaac's Lane is not safe for cycling and current conditions are poor with heavy levels of traffic and no footways.

The route is not currently suitable for cycling and provides poor provision for pedestrians and equestrian use.

#### Recommendations

Preliminary Ecological Surveys are required. Landowner Consents and other permissions

will need to be sought as required

Public Rights of Way (PROW) Maintenance programme is required to ensure regular clearance of seasonal leaf drop, excessive vegetation ingress and removal of detritus to maintain the maximum available width along the entire route, particularly through wooded sections. Annual ditch clearance measures is also required along the Greenway section. Dedication of the existing PROW BUH/43BH/1 footpath to Bridleway would be required and permissions to be sought to widen and surface the route.

Due to the nature and location of the route, and the likely level of use it will receive (in line with upcoming developments adjacent to the path and consideration of future increase in use), a corridor of 4m to 5m width allowing construction of a cycling and walking Greenway. Where physical constraints limit the width of the path, 4/5m would allow for effective segregated provision and 3m absolute minimum should be achieved, with shared provision. There is potential for Linear Country Park provision including gateway and place making opportunities.

- W1 Tie in Greenway to Maple Drive and install crossing point (Raised Table) across Maple Drive and create a welcoming gateway with potential for artwork and placemaking to be included. Ground and drainage works are required. Freek's Lane requires substantial repair and improvement works to provide a suitably robust surface required to accommodate heavy vehicles for future maintenance requirements (note-existing farm holdings are being developed) in addition to walkers, cyclists and equestrians.
- W2 Ground works and vegetation clearance is required. Widen the Bridleway using the available verge space to achieve a 4/5m corridor (an absolute minimum of 3m where 4/5m is not achievable due to physical constraints). Construct a new path, on a raised causeway

- W3 where required, through the woodland section. Utilise all the available width on the approaches to the farm complex to improve sight lines. Ground works and vegetation clearance is required. Remove fly tipped waste, abandoned vehicles and other assorted detritus (currently in process of being removed to facilitate development). Repair and improve as with W1.
- W4 Ground works and vegetation clearance is required. Construct a raised causeway to accommodate a walk and cycle track through woodland section, at a width of 4/5m as with W2. Sufficient space may be available to install a segregated bridle path and walk-cycle path.
- W5 Seek permission to widen the footpath to 6m width, as with W2, and dedicate this as a Bridleway, with construction of a new path. Ground and drainage works and clearance is required. Seek ecological input on suitable works to the pond.
- W6 Seek permission to widen the footpath to 4/5m as with W2 and dedicate as a Bridleway with the construction of a new path. Assess the Bridle Bridge provision. The existing Bridleway Bridge is insufficiently wide for shared use; this should be replaced with a new bridge with a minimum width of 4m. Alternatively an additional bridge for cycle use could be provided.



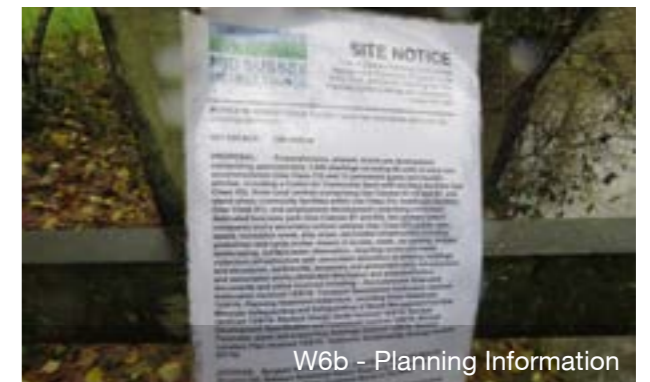
W4 - Ground and Drainage Issues



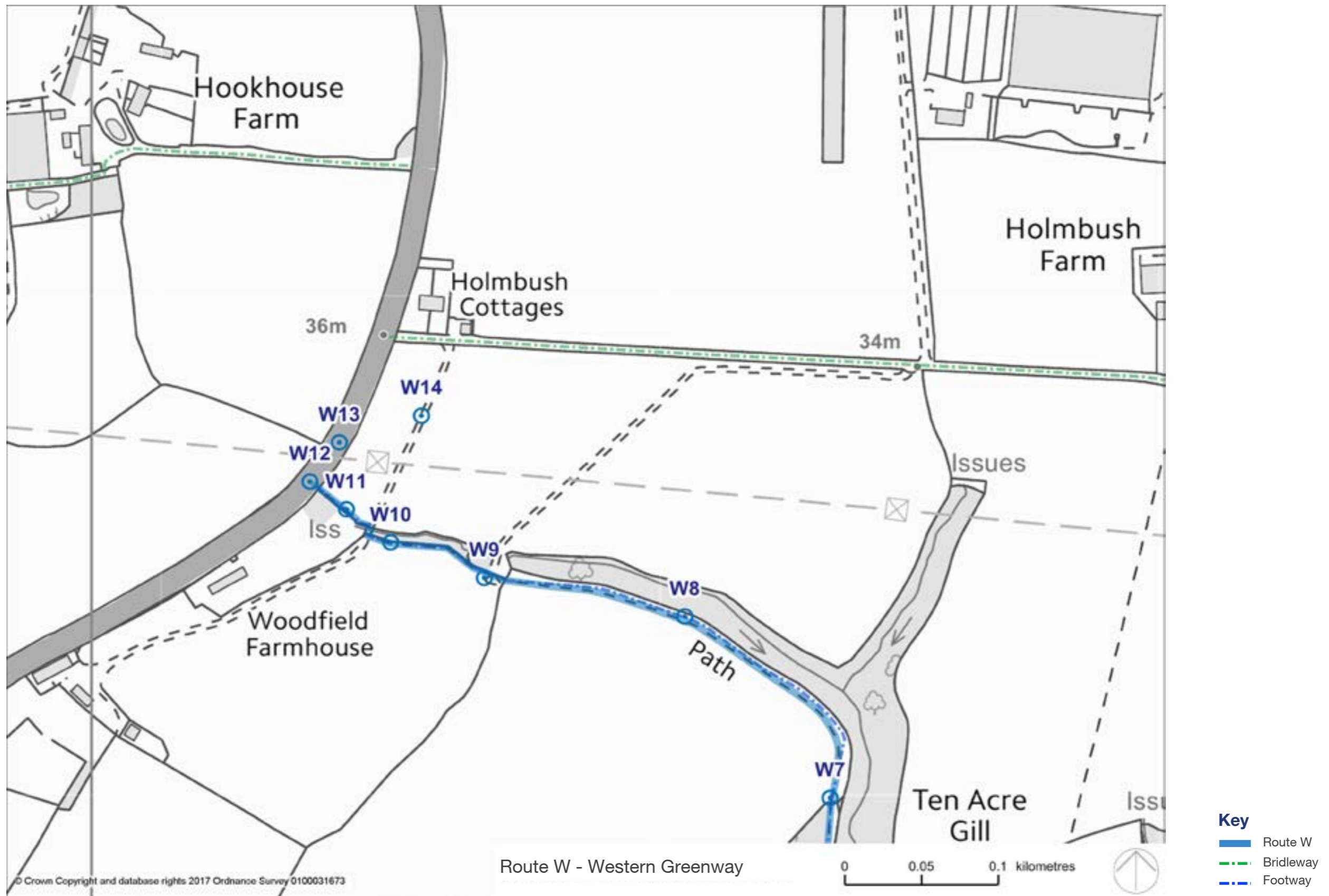
W5 - Dredge and Clear Natural Pond



W6a - Assess Bridle Bridge



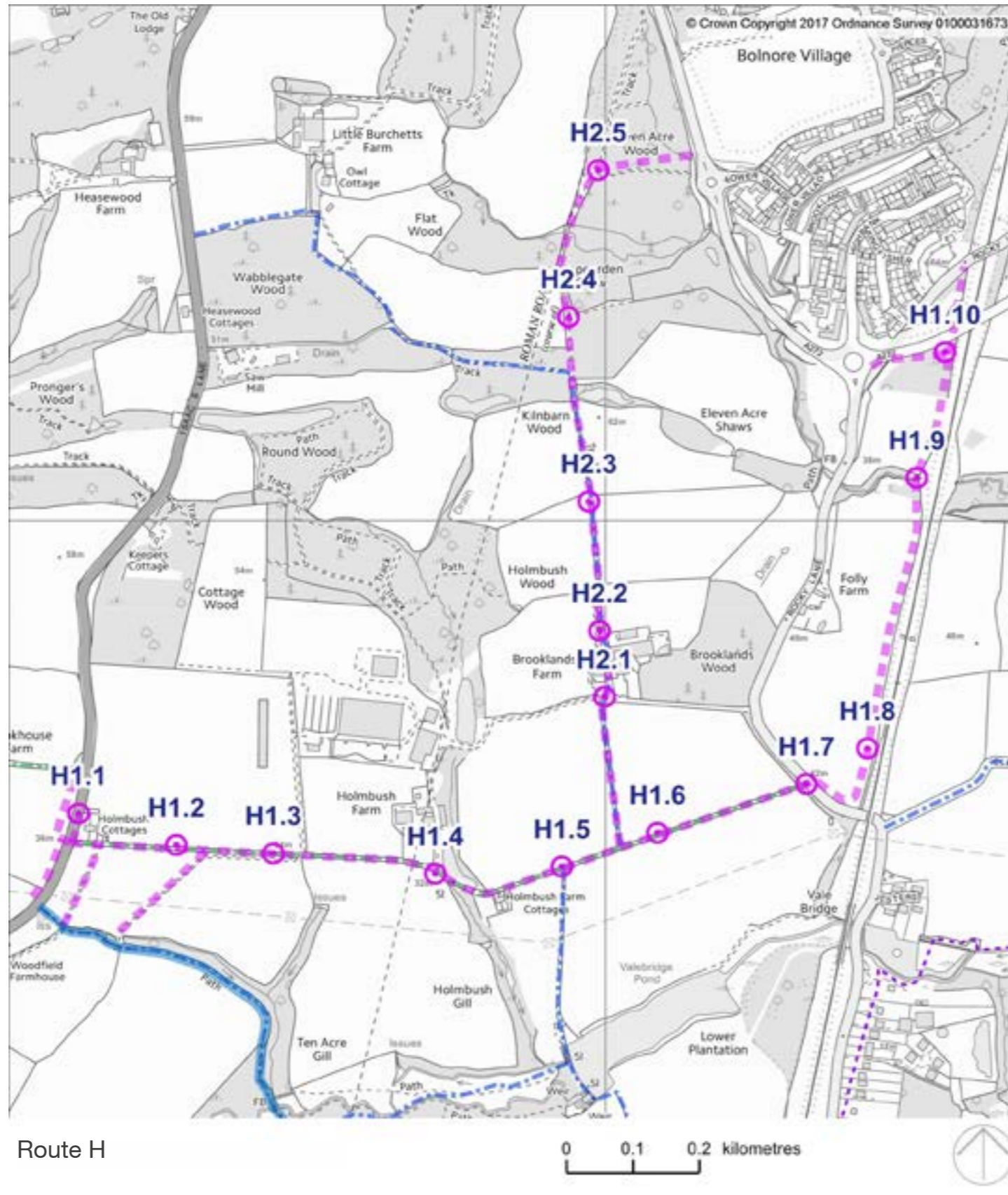
W6b - Planning Information



Route W - Western Greenway

- W7 Confirm the definitive width of the footpath to W10 and explore the opportunities to widen this. Ground and drainage works are required. Construct a raised causeway to accommodate a walking and cycle track with new Bridle path provision to the side. Ramping works and/or careful route alignment is required through this area to ensure a suitable longitude gradient maintained through the elevation change. Construct a new path.
- W8/W9 Field/River edge route alignment; Environment Agency consultation is required. Ground and drainage works are required. Relocate the new tree plantings to provide sufficient width for the path without the risk of root damage and low hanging vegetation. Construct a new path; raised levels/ causeways may be required in some areas to address localised drainage issues. There is potential for adjacent equestrian provision. Consider the links to, and the interface with, the proposed developments.
- W10 Tie in the new path to the Farm track. Remove fencing panel(s) to improve the sight lines. There is potential for a resting place and artwork to provide a gateway feature and to improve wayfinding.
- W11 Vegetation clearance as required and the construction of new path.
- W12 Replace the existing stile with staggered bollards.
- W13 Isaac's lane is an extremely hostile environment for walking and cycling; assess the potential for an off carriageway path beside Isaac's Lane with suitable horizontal offset from the road and suitable crossing facilities. This should be done in consultation with the relevant highways authority. Consider a reduction in the speed limit and explore speed calming measures.
- W14 Seek landowner consent to utilise the private farm tracks to connect Route W to Route H (see the route overview map).





### 3.4 Route H1. Isaac's Lane to A272

Route H1 follows a Heaselands Estate metaled farm track/accommodation road which has designated Bridleway status ref ANS/90-92CR from Isaac's Lane eastward to Rocky Lane.

#### Existing conditions

The farm access road is signed as a Bridleway and a private road at the entrance from Isaac's Lane. It is a well surfaced working farming estate road. Heavy farm vehicle use was noted at the time of inspection although adequate refuge space is available verge side along the way. Route H1 is currently land-locked due to there being no formal PROW links to the surrounding PROW network.

A well surfaced southerly 120m private road with open access is available south of Holmbush Cottage and connects the Bridleway to footpath ANS/94CR and the proposed Northern Arc mixed use development that includes 3,000 new homes, primary schools and a secondary school, neighbourhood centres and Route W to Freek's Lane as detailed in this report.

#### Barriers to walking and cycling

The easterly Bridleway is bounded by busy roads at each end resulting in severance of safe connections to the surrounding public right of way network.

Heavy and fast moving traffic was noted along Isaac's Lane. Traffic data indicates AADT in excess of 5,000, making the road unsuitable for carriageway cycling and unsafe for walkers due to the lack of footways.

Heavy traffic also was noted along Rocky Lane, however restricted sightlines and width at the approaches to the underline railway bridge (VTB3 153 – Haywards Heath Road Underline Bridge) markedly reduces traffic speeds. Traffic data indicates AADT in excess of 5,000, making the road unsuitable for carriageway cycling and unsafe for walkers due to the lack of footways.

A cursory assessment of the field edge alignment (H1.7-H1.10) beside the railway line to the A272 High Bank roundabout appears to be an encouraging option. However, the likely narrow nature of the available corridor,

alongside the natural topography of the area could result in undesirable gradients along the route.

Route H1 is almost entirely within the control of a single landowner. Initial landowner enquiries and resulting correspondence from Land Agents Strutt and Parker representing the Heaselands Estate is not encouraging. Extracts read - "my client strongly opposes the concept of any additional public access across the Estate". "To this end, the Estate will not be permitting any walk over inspections".

#### Opportunities for walking and cycling

Notwithstanding the above, a high quality walking and cycling experience and exemplar Greenway could be achieved subject to permissions, ground and drainage works and investment in quality walking and cycling infrastructure provision.

The Heaselands Estate Bridleway (ANS/90-92CR) provides a largely traffic free and very pleasant route between Isaac's Lane and Rocky Lane and the latter section could be resurfaced with the requirement of minimal statutory consents.

Traffic calming measures including controlled crossings on Isaac's Lane and Rocky Lane would be very welcome locally assuming permissions for onward journeys northward along privately owned field edges can be successfully negotiated.

#### Recommendations

Preliminary Ecological Surveys are required. Seek landowner consents and other permissions.

Public Rights of Way (PROW) Maintenance programme should be put in place to ensure regular clearance of seasonal leaf drop, excessive vegetation ingress and removal of accumulated detritus to maintain maximum available width along entire route, particularly through wooded sections. Annual ditch clearance measures would also be required along the Greenway section.

H1.1 Install a controlled crossing and associated traffic calming measures

on Isaac's Lane and extend Route H1 along field edge to tie in with Hookhouse Farm Bridleway ANS/87CR.

- H1.2 Install formal cyclist and walker refuge points along the Bridleway verge. Consider a new 550m segregated field edge although a hedge/field edge path.
- H1.3 Clear accumulated mud and detritus along the route. Reinforce the Bridleway verges with stone.
- H1.4 Consider heavy farm traffic warning signs. Clear accumulated mud and detritus.
- H1.5 Improved the waymarking to Valebridge Pond.
- H1.6 The existing Bridleway surface is poor. Construct a new 500m path raised by 200-300mm with suitable drainage features. General construction of the new path to include a sealed surface potentially with a surface treatment. Consider a new segregated field edge, hedge side path subject to permissions.
- H1.7 Install a controlled crossing and associated traffic calming measures on Rocky Lane and extend Route H1 along private field/railway edge to the A272.
- H1.8 Construct a new path along the field edge/railway boundary from Rocky Lane northwards towards the A272.
- H1.9 Install a new cycle/walking bridge over the stream. This should be sufficiently wide to allow for a potential future increase in usage.
- H1.10 Construct a ramped path parallel to the A272 to connect the field edge path (H1.8) to the A272 at a suitable gradient for cyclists and wheelchair users. Install a controlled crossing at the A272 to connect the new route to the existing shared use path. A direct connection should be sought to the old Rocky Lane alignment (now a walking and cycling route) via a new bridge over the A272 for delivery at a later stage.



H1.5 - Farm Cottages Surface



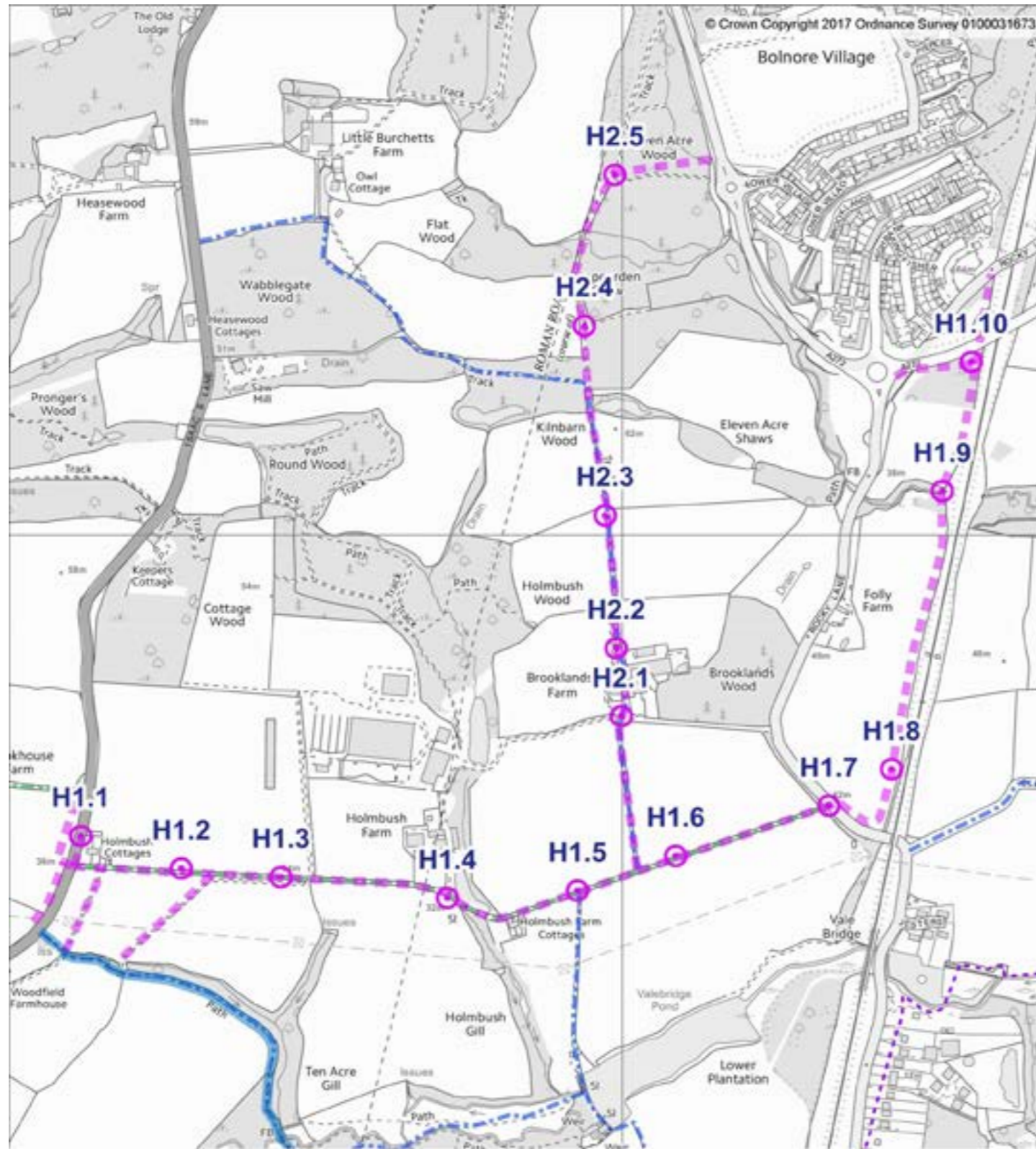
H1.6 - Bridleway ANS/90/CR



H1.7 - Rocky Lane



H1.8 - Field/Railway Edge



Route H

0 0.1 0.2 kilometres

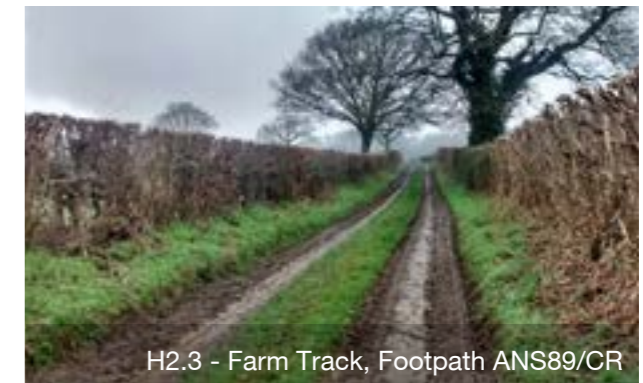
- Key**
- Route W
  - - - Route H
  - - - Bridleway
  - - - Footway



H2.1 - Woodlands Farm



H2.2 - Farm Track, Footpath ANS89/CR



H2.3 - Farm Track, Footpath ANS89/CR



H2.4 - Non-PROW Farm Track

### 3.5 Route H2. Holmbush Farm Bridleway to A272

Route H2 follows a Heaselands Estate metaled farm track/accommodation road which has designated Footpath status, ref ANS/89CR, from Route H1 northward via Brooklands Farm to Eleven Acre Shaws. Route H2 then follows a non-PROW track with open access through woodland. The elevated A272 can be viewed through the trees some 150m distant.

#### Existing conditions

The access road from Route H1 Bridleway is metaled for 320m to Brooklands Farm where it reverts to an unsurfaced farm track to Eleven Acre Shaws where the PROW veers east returning to Isaac's Lane.

A cursory inspection of the non-PROW track reveals a wide farm track which descends through woodland with adjacent to a point where the elevated A272 can be viewed through the planted Tree Crop some 150m distant.

#### Barriers to walking and cycling

Poor surface conditions; the non-PROW open access farm track through Eleven Acre Shaws, woodland and field edge could provide a surfaced route alignment to the A272.

#### Recommendations

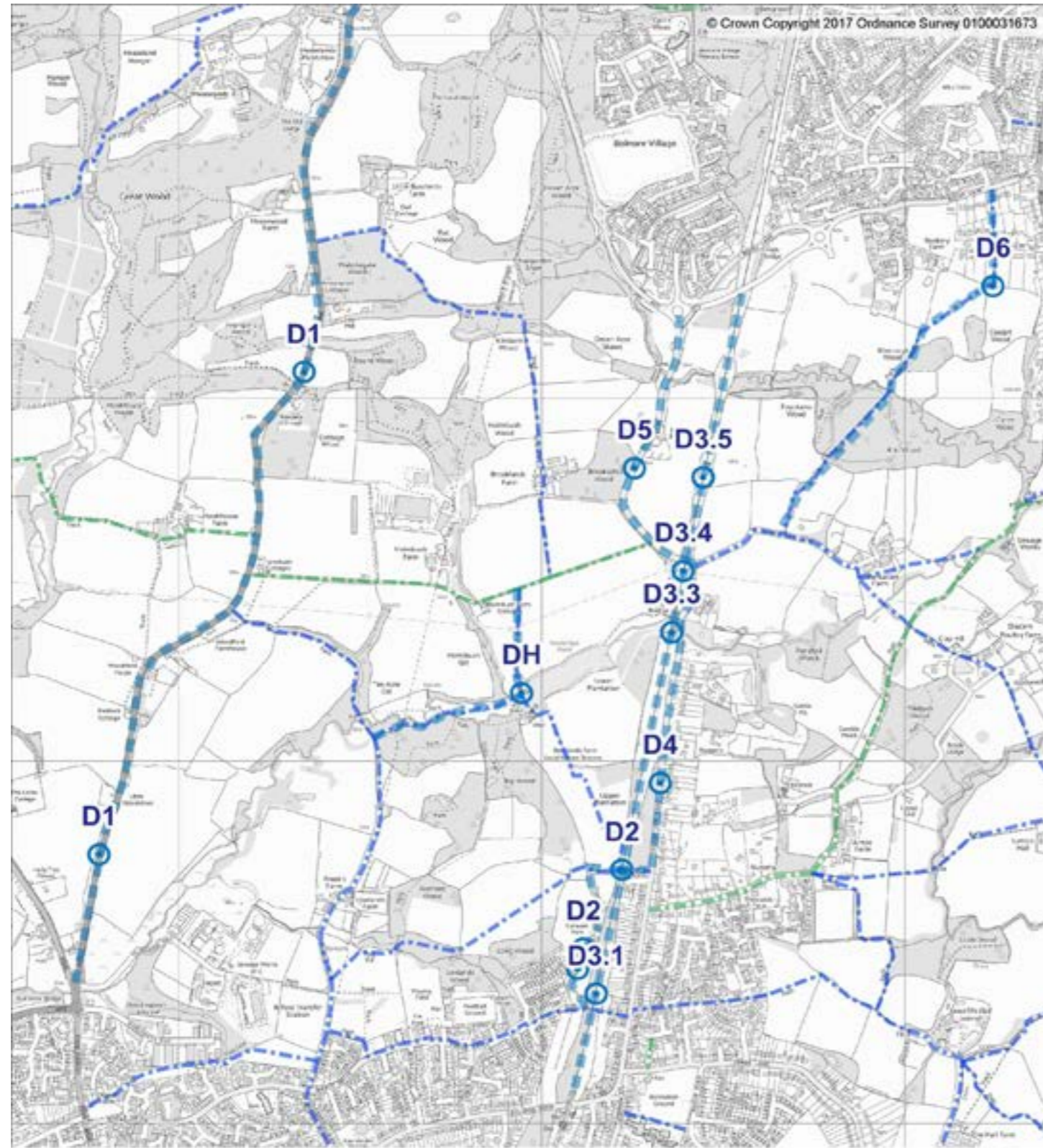
Whilst a cursory inspection was undertaken landowner permissions will be required to produce a detailed assessment of the non-PROW section with particular attention to connections to the A272. Preliminary Ecological Surveys and topographical surveys are required.

- H2.1 Seek permission for cyclists to utilise the Brooklands Farm access road.
- H2.2 Upgrade the status of Footpath ANS/89CR to a Bridleway from Route H1 Bridleway to westward branch. Construct a new 500m path raised by 200-300mm with suitable drainage features. General

construction of the new path should include an appropriate sealed surface potentially with surface treatment.

- H2.3 As with H2.2.
- H2.4 Seek formal permissions for walkers and cyclists to use the forest track. Consider Bridleway dedication or creation order and improvements detailed above.
- H2.5 Seek permission to enter and carry out route alignment assessment to identify a feasible route alignment which will tie in with A272 – considered feasible at this stage at Lower Village/A272 roundabout.





Discounted Routes

- Key**
- Discounted Routes
  - Bridleway
  - Footway



D1 - Isaac's Lane



D2 - Railway Level Crossing



D3.1 - Railway Land East of Underbridge



D3.2 - Railway Level Crossing

### 3.6 Discounted Routes D. Burgess Hill to Haywards Heath

Numerous route alignment options have been considered across the project area. The following conclusions from routes which have been discounted add context to the selected routes being brought forward with supporting recommendations.

#### Barriers to active travel

- D1 The A273, Isaac's Lane has no existing footway provision. Heavy and fast moving traffic has been noted and traffic data indicates AADT in excess of 5,000 making the road unsuitable for carriageway walking and cycling. Assessed and considered unsafe for walkers and cyclists, particularly given limited road verge opportunities coupled with unsighted corners. Assessed and considered not feasible.
- D2 Private access road with no public right of way. Network Rail will not support an increased usage of the (PROW footpath) Bedelands Level Crossing by cyclists. New dedicated public access for walkers and cyclists through the Travellers' site may not be welcome by residents or deemed favourable by users. Assessed and considered not feasible.
- D3 Network Rail Land with no public access. There is a lack of available width at pinch points, specifically at Valebridge Close, Bedelands Level Crossing, Vale Viaduct, and Rocky Lane Underbridge. Alignment would require construction on an operational rail embankment, often narrow with significant drops, posing significant design and delivery issues and requiring Network Rail permissions. This option is not considered feasible.
- D4 Valebridge Road has no footway provision beyond Vale Viaduct. Heavy and fast moving traffic is

noted and traffic data indicates AADT in excess of 5,000 making the road unsuitable for carriageway walking and cycling. There is a lack of sightlines for all users at the underbridge and poor sightlines approaching from the south around Valebridge. Assessed and considered unsafe for walkers and cyclists and not considered feasible.

- D5 Rocky Lane has no footway provision. Heavy and fast moving traffic is noted and traffic data indicates AADT in excess of 5,000 making the road unsuitable for carriageway walking and cycling. There is a lack of sightlines for all users at the under-bridge. Assessed and considered unsafe for walkers and cyclists, particularly given limited road verge opportunities coupled with unsighted corners.
- D6 The confined width PROW footpath climbs steeply to Rocky lane squeezed between residential gardens. It is not suitable for cycling. Rookery Way is a private road with no public right of way to Fox Hill. Further assessment recommended if the route can follow future housing development road networks to the Highway.
- DH Drainage along sections of Route DH are considered very poor resulting in extremely difficult walking and cycling conditions. In addition the topography would require two substantial ramps to be constructed to accommodate less able walkers, cyclists and wheelchair users. Inadequate existing wayfinding along this route alongside the lack of significant trip generators makes justification for this alignment difficult. Considering these factors as a whole, Route DH has been deemed unsuitable to accommodate a shared use

Greenway, however, improvements to drainage, stepped sections and wayfinding is recommended for walkers.

Field edge/roadside alignments were also considered, however these are not continuous due to properties, level issues and other obstacles along the way.



D4 - Valebridge Road (©Google, 2019)



D3.3 - Railway Bridge Viaduct



D5 - Rocky Lane



D3.4 - Railway Embankment



D6 - PROW Footpath



D3.5 - Railway Embankment



DH - Steps on Public Footpath

## 4. Design Features

### 4.1 Placemaking and Art

The Burgess Hill to Haywards Heath Greenways will be designed using the principles of placemaking. Placemaking is an urban design technique used to create a place with a strong identity or a memorable route, engaging successfully with its surrounding buildings, natural environment and associated activities. It enhances the character of an area, combining surface materials, planting, furniture, lighting and art to provide an attractive place.

A route designed using placemaking principles is more distinctive and legible. The more attractive and legible a route is, the more people will use it, and return to use it as part of their day to day journeys.

In relation to the Burgess Hill to Haywards Heath Greenways, the project will consider:

- Surface materials, texture and colour
- Planting
- Seating
- Art and Sculpture
- Water and water features
- Appropriate lighting opportunities
- Legibility and wayfinding
- Accessibility for users
- Access points
- Crossing points

Additionally the project will aim to:

- Conserve and enhance the existing ecological value of the route.



Seating artwork by Katy Hallett, Bristol

- Improve water management along the route to reduce likelihood of flooding, using Sustainable Drainage systems (SuDs).

### 4.2 Barriers

Restrictive barriers can be problematic for many legitimate path users, particularly for mobility impaired users and family groups. Design should presume against the use of access control; however, where it is needed, a simple arrangement of bollards, either as a single or staggered where speed is a concern, with 1.5m minimum clear spacing, is an effective way of prevent unauthorised access without negatively affecting legitimate path users.

Centrally placed bollard presents no significant issues to legitimate path users whilst staggered bollards can be used to introduce horizontal deflection for cyclists without creating undue delays or conflict.



Centrally placed bollard



Staggered bollards

### 4.3 One Dig - Auxiliary Ducting

Path construction presents an opportunity to carry out works on the same alignment that will either add value to the project, 'future proof' the path or avoid additional construction and disruption in the future.

The design will include opportunities to implement this approach, and engagement is ongoing to ensure coordination between the Place and Connectivity Programme and Full Fibre broadband projects. Additionally, auxiliary ducting should be considered to support future schemes and growth and could be utilised for lighting, electric charge points, digital wayfinding and the like. Auxiliary ducts and chambers should be located in such a way that they are easily identified and that future maintenance will disrupt the structure of the path as little as possible.

### 4.4 Lighting

Sustrans recommends that utility cycling and walking routes are lit to improve visibility and reduce issues of personal security and perceptions of safety, in order to encourage greater numbers of users and to assist in modal shift away from motor vehicles. This is particularly important in key commuter routes that are likely to be used throughout winter during the hours of darkness.

Appropriate provision of lighting should be considered as a future phase of the route development. Where continual lighting of a route is not desirable or possible, consideration should be given to lighting at key junctions, locations and access points.

Where ecological concerns regarding lighting exist, products including low level down lights and inset stud lights are available that allow for appropriate lighting of the path and help to produce a pleasant environment.

## 5. Data and Constraints

### 5.1 Flood Maps

Environment Agency flood mapping for the area is shown below. There is some flood risk associated with the water course that passes through the area and engagement with the Environment Agency will be necessary, however the proposed routes are not extensively affected by flood risk.

### 5.2 Collision Data

Collision data shows a small number of serious incidents on Isaac's Lane and Lunce's Hill over a 5 year period involving pedestrians or cyclists, with no obvious clusters. The low number of incidents should not be taken as an indication that the area is safe; unsafe environments will deter users, resulting in suppressed demand and few casualties. Provision of walking and cycling infrastructure in these areas should be made with due regard to the local conditions.

### 5.3 Public Rights of Way

The existing network of Public Rights of Way Footpaths and Bridleways are shown in Figure 6. The main east and west route alignments highlighted in this report follow the alignment of existing Public Footpaths or Bridleways throughout their length.

### 5.4 Highway Boundaries

Highways boundary data has been provided and is available for use on both GIS and CAD systems.

### 5.5 Land Ownership information

Land registry searches have been made for the routes and initial approaches have been made to relevant land owners.

### 5.6 Topographical Surveys

Topographical surveys have not been undertaken at this time and will form part of the design phase of the project.

### 5.7 Geotechnical Surveys

Limited superficial geological information is available and geotechnical surveys and interpretive reports are not available and have

not been carried out. Where required, these will be undertaken in the design phase of the project.

### 5.8 Utilities/Statutory Undertakers Information

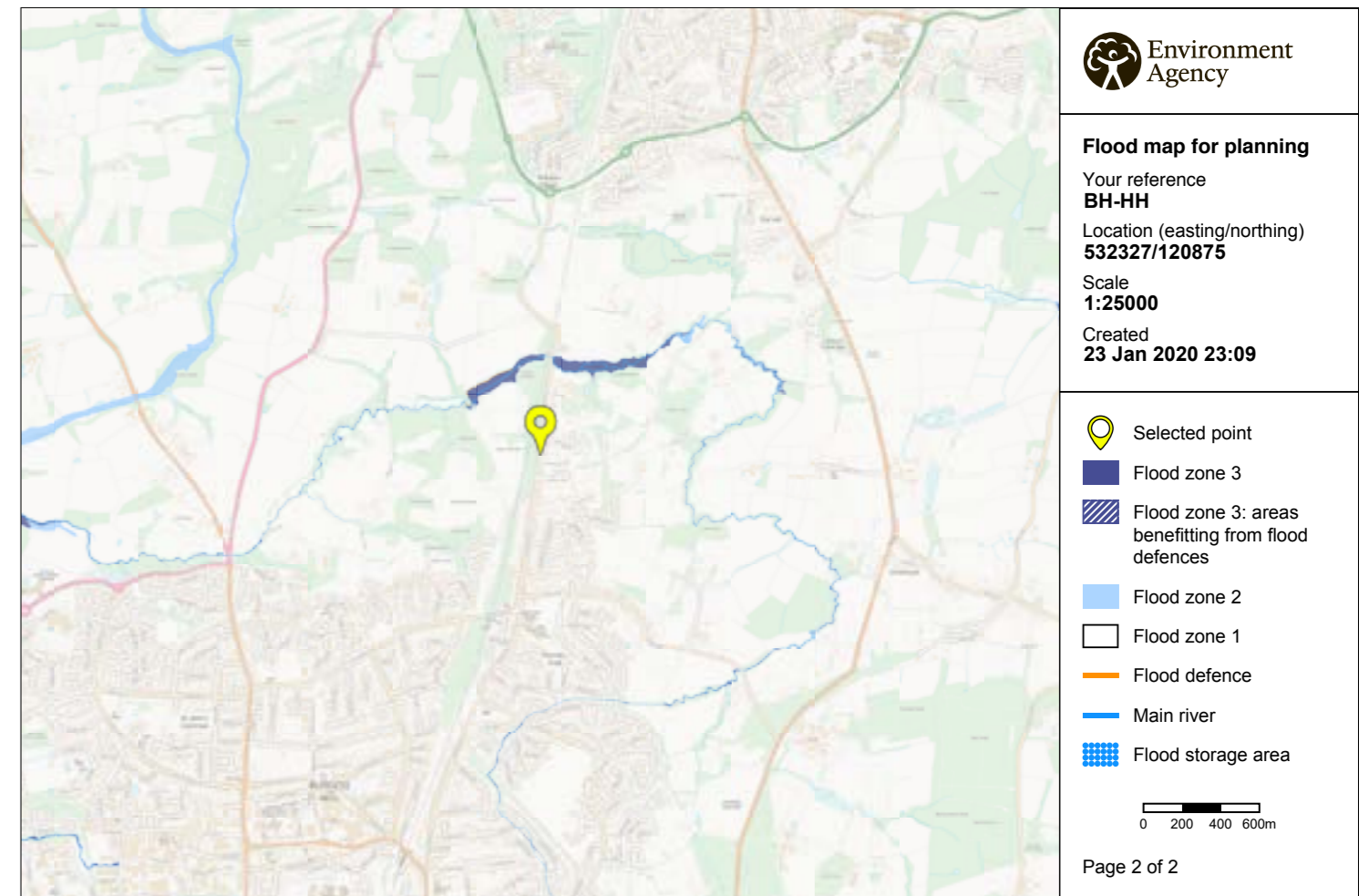
Preliminary inquiries (C2) have not been undertaken at this time and will form part of the design phase of the project. Buried and overhead utilities are not anticipated to place substantial constraints on the project.

### 5.9 Ecological Surveys

Preliminary Ecological Surveys are programmed to be complete in Spring 2020, in time for any follow up surveys to be carried out. These are likely to be take place concurrently with the final design phase of the project. The consequential ecological risk is acknowledged, and mitigations will take place as necessary.

### 5.10 Land Registry Information

The relevant land registry information has been procured for all landowners along the full length of all of the routes highlighted in this report.



© Environment Agency copyright and / or database rights 2018. All rights reserved. © Crown Copyright and database right 2018. Ordnance Survey licence number 100024198. Figure 3 - Flood Map, Environment Agency (Not to Scale)

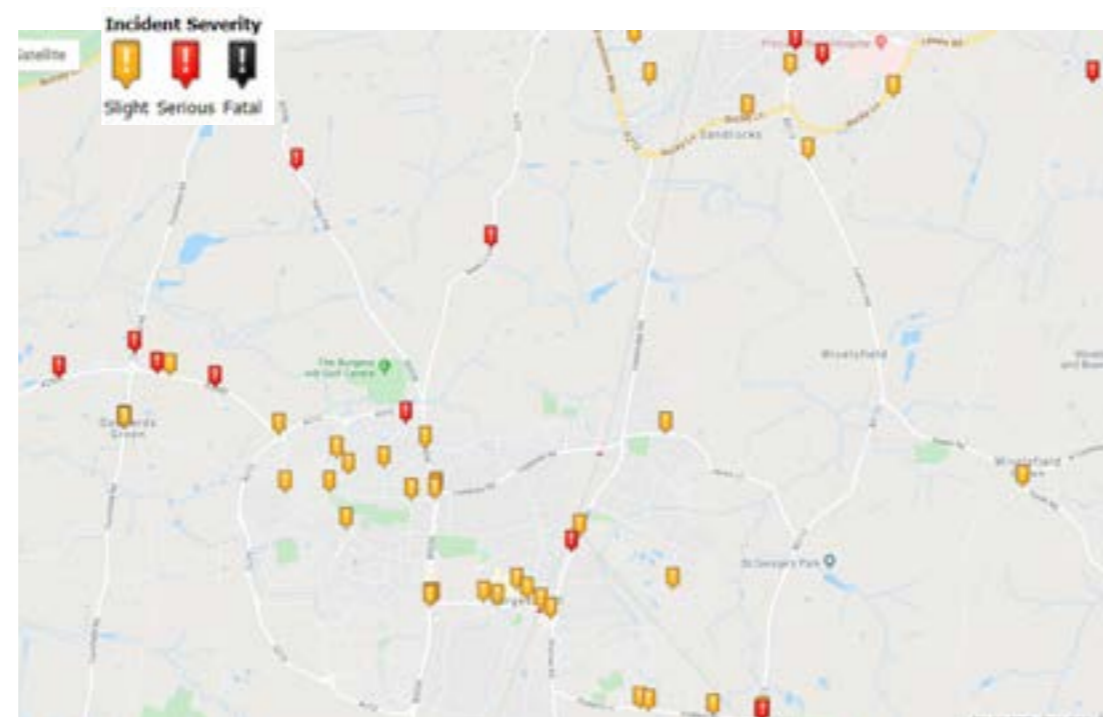


Figure 4 - Cycling Casualties 2014-2018, source CrashMap

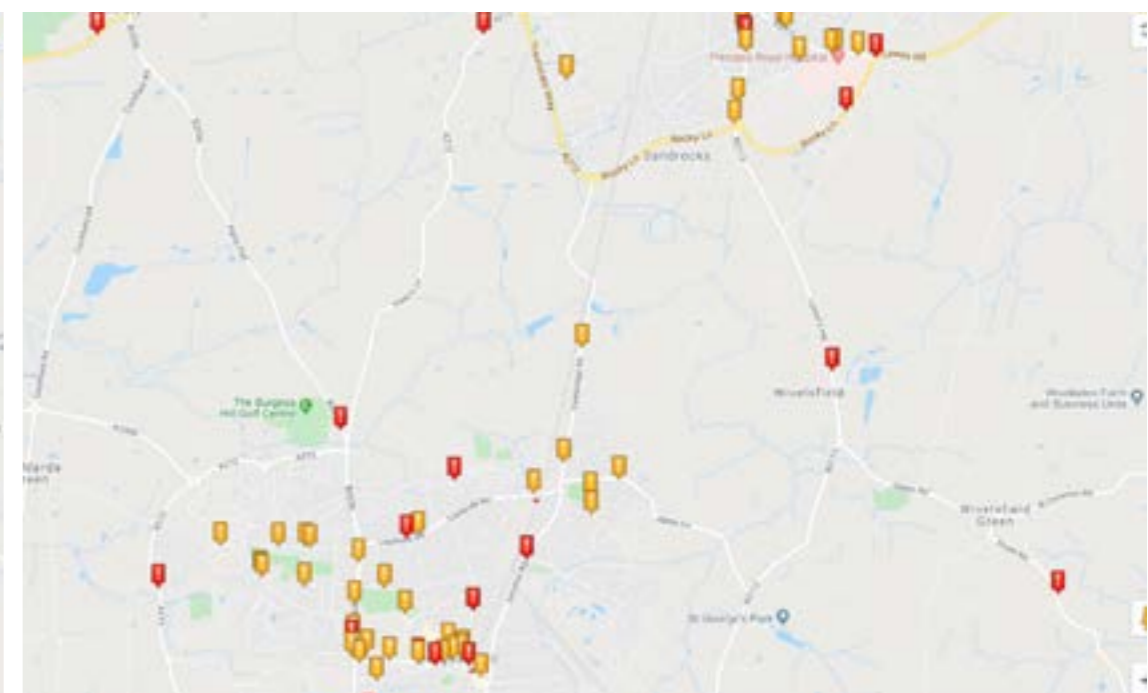


Figure 5 - Pedestrian Casualties 2014-2018, source CrashMap