

East Sussex County Council

Crowborough

June 2018





About Sustrans

Sustrans is the charity making it easier for people to walk and cycle.

We are engineers and educators, experts and advocates. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

Sustrans works in partnership, bringing people together to find the right solutions. We make the case for walking and cycling by using robust evidence and showing what can be done.

We are grounded in communities and believe that grassroots support combined with political leadership drives real change, fast.

Join us on our journey. www.sustrans.org.uk

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

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

Sustrans was commissioned by East Sussex County Council (ESCC) in March 2017 to support the development of a countywide Cycling and Walking Strategy. Our role is to lead on identifying new and improved walking and cycling routes and infrastructure that align with key County Council policies and programmes that support local economic growth, improvements to health and well-being and the environment, together with the engagement of key local stakeholders, who have a vested interest in the development of the strategy.

The scope of the work was limited to utility trips to work, education and shopping of up to 5km. It does not include consideration of leisure trips outside the urban areas.

Our approach was to review all existing identified schemes and proposals in each of the towns and to plot these on our Earthlight GIS platform. We then identified gaps in the network with support from local stakeholders and surveyed potential routes on foot and bicycle. The methodology we adopted is outlined in the table in the Appendix, which was informed by the Design Guidance published as part of the Active Travel (Wales) Act 2013 and the London Cycling Design Standards guidance on developing a coherent cycle network.

Network Maps

For each town, we produced a series of maps to inform our work and to share with stakeholders. The information was also made available on our online mapping system with a unique password protected login.

Trip Generators

This map identifies origin and destination points for major destinations across each town that are likely to generate significant numbers of trips.

Transport Network

This map identifies major roads, railways, proposed cycling and walking routes and contours. ESCC traffic flow data indicates the busiest roads in each town that present the main challenges to cycling and walking, both along the road and at crossing points.

Proposed Network

This map integrates the existing network, current proposals and our own recommendations from our surveys, the origin and destination points, cycle flows and core walking zones and routes, to convert these into a network of primary and secondary routes and proposed measures. The primary routes are judged to be the most popular and strategic routes, linking residential areas with the key trip generators. Secondary routes can be locally important but are less strategic as they fill the gaps in the primary network.

The primary network has been tested against the Propensity to Cycle website, which takes the Travel to Work data from the 2011 Census to test various scenarios for increasing cycling. It is a useful tool but it only models a fraction of all journeys and does not include school, shopping or leisure trips.

Designing for busy roads

Recently published guidance from Highways England (Interim Advice Note 195/16) is a useful starting point when considering whether the busier roads are likely to be suitable for cycling and walking.

This guidance suggests that the key threshold at all traffic speeds is an average annual daily traffic flow of 5,000 vehicles per day (vpd). At higher traffic flows, physical separation from motor vehicles is recommended.

Reducing traffic speed from 30mph to 20mph is clearly desirable, but if traffic flows cannot be reduced below 5,000 vpd, then physical separation will still be required. In these situations it is tempting to accommodate cyclists on existing footways, but this is not acceptable if it means a reduced level of service for pedestrians.

Speed Limit	Average Annual Daily Traffic (AADT)	Minimum Provision
40+	All flows	Cycle Tracks
30	0-5,000	Cycle Lanes
	>5,000	Cycle Tracks
	<2,500	Quiet Streets
20	2,500-5,000	Cycle Lanes
	>5,000	Cycle Tracks

From Interim Advice Note 195/16

Sustrans recommends a minimum shared path width of 3.0 metres in an urban setting, with reduced widths acceptable in certain circumstances. The table below is taken from the Sustrans Design Manual, a handbook for cycle-friendly design.

On some roads it may not be possible to accommodate cycle lanes, cycle tracks or a shared path and the designer must consider other alternatives, such as closing the road to through traffic or finding a different route alignment.

Type of route	Minimum path width
Urban traffic free	3.0m on all main cycle routes, secondary cycle routes, major access paths and school links; wider on curves and steep gradients. 2.5m possible on access routes and links with low use
Urban fringe traffic free	3.0m on all main cycle routes, major access paths and school links 2.5m possible on lesser secondary cycle routes and access links
Rural traffic free	2.5m on all main routes, major access paths and school links 2.0m possible on lesser routes and links

From Sustrans Design Manual

Traffic restrictions

Experience from towns and cities across the UK and in Europe suggests that in addition to providing good quality infrastructure for walking and cycling, it is necessary to restrict motor vehicles so that active travel is the natural and obvious choice for short trips. This does not mean any lack of accessibility for motor vehicles, just that they may need to make longer trips than the equivalent journey on foot or by bike.

There are various ways that traffic can be restricted and the designer will need to consider the appropriate solution for each location. A number of suggested measures are listed below:

- Vehicle Restricted Areas (pedestrian zones)
- Traffic calming and 20mph zones to reduce vehicle speeds
- Reduced availability of on-street and off-street parking
- Workplace Parking Levy
- Congestion charging
- Clean Air Zones

Filtered permeability

Filtered permeability gives pedestrians and cyclist accessibility and journey time advantages compared to other vehicles by exempting them from access restrictions that apply to motor traffic and by the creation of new connections that are available only to cyclists and pedestrians. Measures can include:

- cycle contraflows on one-way streets
- exemptions from road closures, point closures and banned turns
- permitting cycling in parks and open spaces
- traffic free paths such as links between cul-de sacs and public or permissive routes through private areas
- traffic cells, restricting through traffic in defined areas
- cycle parking situated closer to destinations than car parking

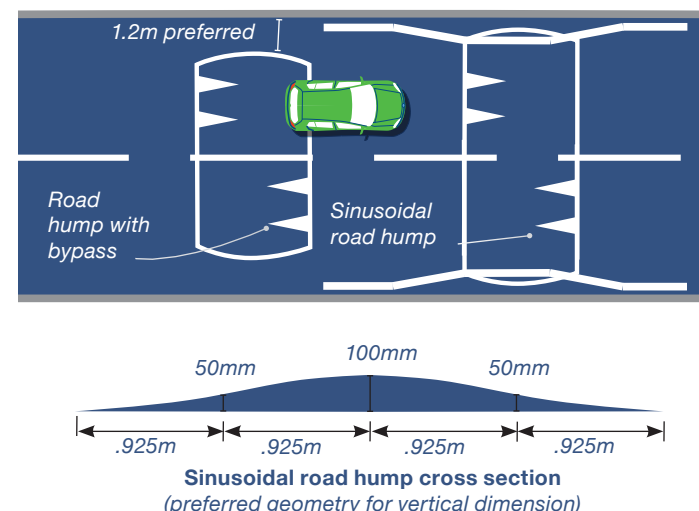
Recommended measures

A number of technical solutions are included in the brief text descriptions for each location and some of these are summarised in this section.

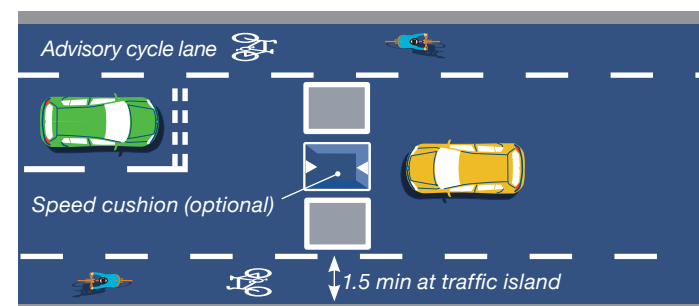
Traffic calming

Physical measures to reduce traffic speed can be useful in locations where the limit is regularly exceeded or there is a record of crashes. There may be objections from local residents, emergency services and bus operators. Extensive traffic calming is unlikely to be supported on major roads, other than for short lengths. Common vertical and horizontal features are illustrated below.

Road humps



Priority system - pinch point



Informal road crossings

Where a footway alongside a main road crosses a side road, clear priority should be given to pedestrians. The most effective approach is to provide a clear, wide contrasting surface that is raised above carriageway level.

If this is not possible for reasons of available space or cost, flush dropped kerbs should be provided as a minimum, according to ESCC Dropped Kerb Policy, included within their Cycling and Walking Strategy.

Zebra crossings

Unsignalled 'priority' crossings for both pedestrians and cyclists are a standard part of the toolkit in many parts of continental Europe but are not authorised for use in the UK. Some local authorities have experimented with "parallel Zebras" where extra space is provided for cyclists. These are becoming increasingly common in London and an example from Canterbury is illustrated below.



Chaucer Road, Canterbury

20mph speed limits

It is widely accepted that 20mph is much safer for all road users in urban areas and many towns across the UK have introduced 20mph as the default speed limit, particularly in residential areas. If collisions do occur, the risk of a fatality or serious injury is significantly reduced at 20mph compared with 30mph.

There are 60 local authorities in the current list of places implementing a community-wide 20mph default speed limit published by 20's Plenty for Us. In the South these include Brighton & Hove, Chichester and Portsmouth. Some towns in East Sussex already have 20mph zones, notably Lewes.

Studies show that a 20mph limit can improve traffic flows and road capacity in some situations, by reducing stop-start traffic and promoting a more even flow through urban streets.

Whilst East Sussex County Council does support schemes to reduce the speed to 20mph, these are delivered within specified areas and 20mph zones will need to be supported by traffic calming measures. These can be difficult to implement due to formal objections from the public and bus operators. They should not be introduced in isolation due to potential for rat-running on parallel routes.

Road closures

Point closures are a simple, cheap, effective and reversible way to remove traffic from streets. They can also reduce the need for more extensive traffic calming and are best implemented across a wider area to avoid traffic displacement onto parallel routes.

Very few of these schemes are implemented in East Sussex due to the legal processes around road closure and concerns of emergency services. There are some examples in the County, such as New Road in Lewes. They have been used extensively in London to create "traffic cells" so that through traffic is eliminated from residential neighbourhoods.

Land Use Planning

The consideration of land use planning was an integral element of the audit work, as many towns and settlements will be accommodating further growth in housing and commercial development, in order to meet the Government targets for development in the South. We have not shown any development sites on our mapping, because these are subject to change and it is difficult to obtain an accurate picture for all towns. We have taken account of potential development sites in our network planning where this has been agreed and published in Local Plans.

There are some references to specific sites in the detailed route descriptions for each town. As a general principle, developers should make walking and cycling easy within their sites. They should also provide good quality connections to the existing walking and cycling network and proposed routes within this report.

Propensity to Cycle Tool

The aim of the PCT is to inform planning and investment decisions for cycling infrastructure by showing the existing and potential distribution of commuter cycle trips and therefore inform which investment locations could represent best value for money. PCT uses two key inputs:

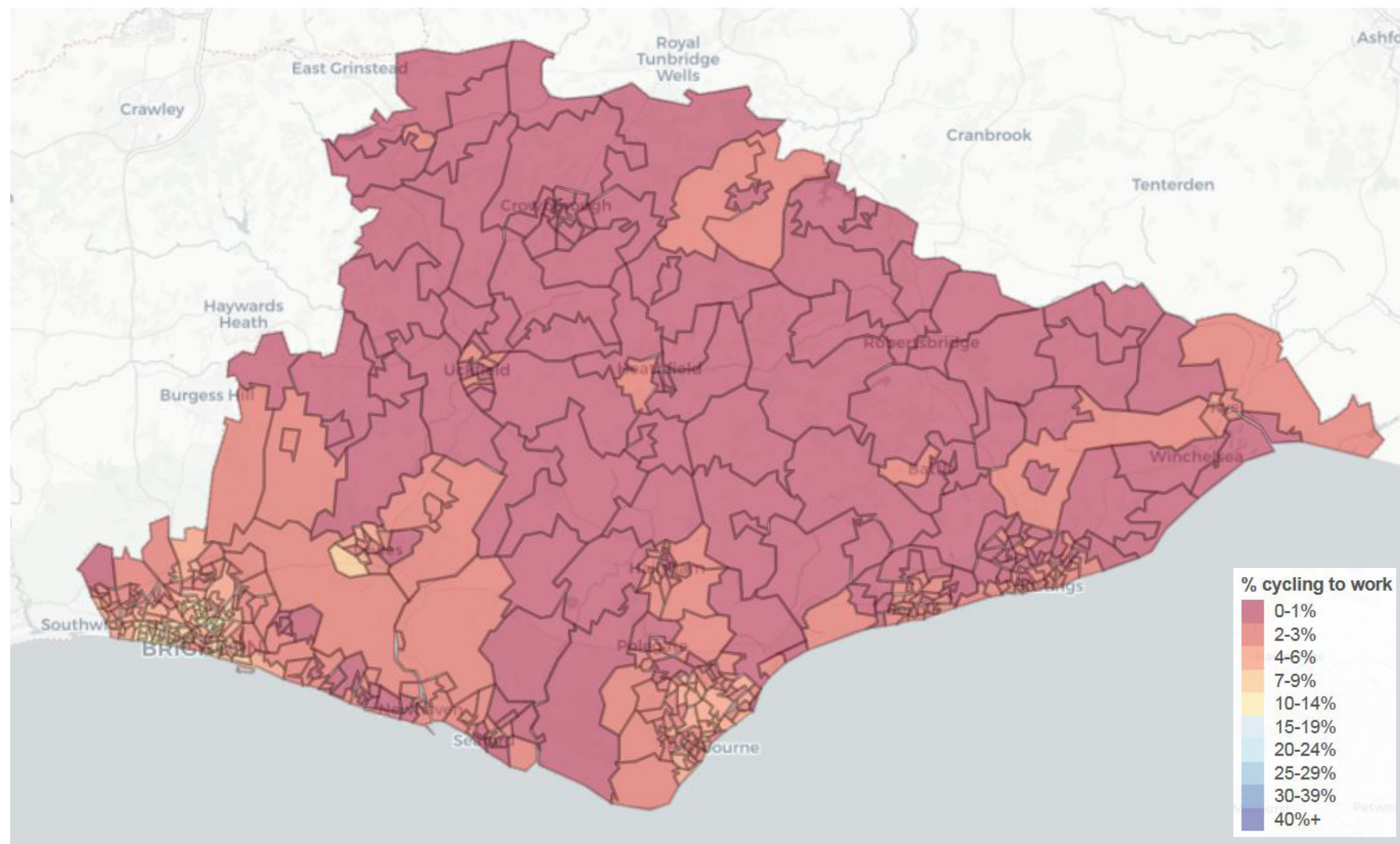
- Census 2011 Origin and Destination commuting data (O-D data)
- Cycle Streets routing

The model estimates cycling potential adjusted for journey distance and hilliness as well as predicting the likely distribution of those trips using the Cycle Streets routing application.

The model can be applied to consider different scenarios such as: Gender Equality, where women cycle as frequently as men; Go Dutch, if cycling levels were the same as in the Netherlands; and, Government Target, where cycling levels meet the target for current government's aim for cycling (based on the Cycling Delivery Plan).

There are a number of limitations to this model which should be considered especially when making decisions based on the patterns shown. These limitations include the data only showing travel to work trips, therefore only covering a small proportion of all journeys. Travel to school, shopping and for leisure is not included. The data also misses out the minor stages of multi-stage commuter trips so cycle journeys to train stations and bus stops are not represented. Lastly the distribution of journeys is a prediction of the likely route taken based on the Cycle Streets routing algorithm and not the actual routes being used.

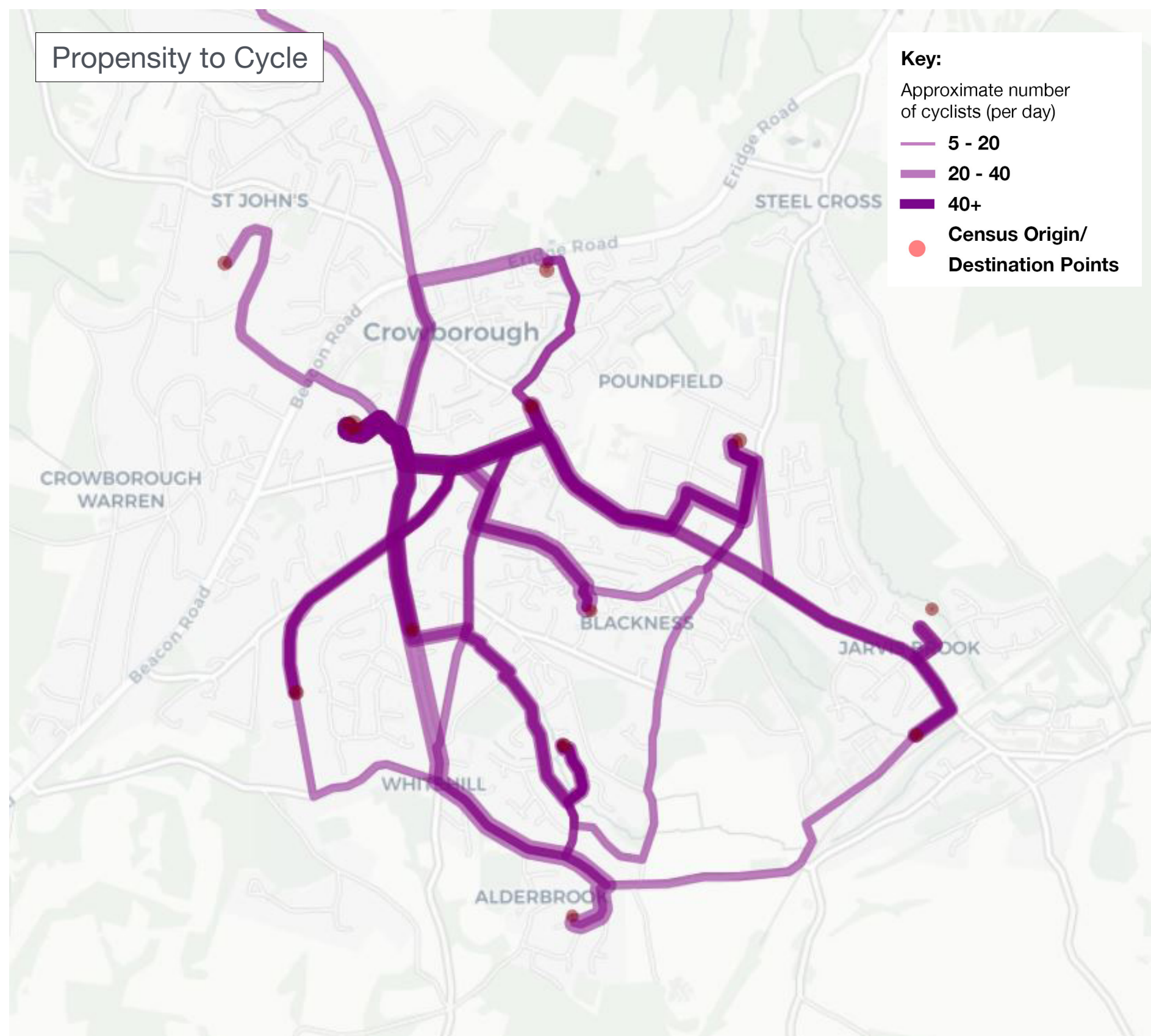
It is worth noting that whilst the model builds an assessment of cycling propensity, it does not segment potential users, or provide any insight into pedestrians. Although this model does provide planners with an overview to identify areas for appropriate investment for cycling trips to work, it does not provide further information on those potential cyclists and their personal attributes and behaviours to help design the most effective interventions.



In East Sussex we have used the “Go Dutch – Fast Routes” scenario to produce PCT maps for each town. The map above shows current levels of cycling to work, which are very low with the exception of some parts of Lewes and Eastbourne. The map includes Brighton and Hove, where the proportion of trips made by bike is significantly higher.

PCT is an open source transport planning system, part funded by the Department for Transport. It was designed to assist transport planners and policy makers to prioritise investments and interventions to promote cycling. More information is available from the PCT website:

<https://www.pct.bike/m/?r=east-sussex>





Introduction

Crowborough started out as a series of separate villages and hamlets that merged and grew to 20,607 people in 2011. The main population is concentrated around Alderbrook, Whitehill, Blackness and Poundfield with Crowborough Warren, St John's and Boarshead on the periphery. The Population is relatively affluent with 4 out of 12 wards within the 10% least deprived areas in the country (2015).

Transport

The A26 is the main road link for Crowborough running along the west side of the town, connecting to Tunbridge Wells in the North and Newhaven, via Uckfield and Lewes, to the South.

The station is located on the east side of the town and runs two peak service trains per hour to London Bridge and Uckfield. The station provides for 140 car parking spaces at a daily weekday charge of £4.00.

A regular, frequent bus service passes through the town, linking it with Brighton and Tunbridge Wells.

Planned Development

The Wealden Core Strategy identifies that around 300 homes are expected to be provided in Crowborough over the Plan period up to 2027. These homes will be provided across three strategic allocations:

SDA8 – Pine Grove (110 homes)

SDA9 – Jarvis Brook (around 30 homes)

SDA10 – South West Crowborough – Walshes Farm (around 160 homes)

Air Quality

Crowborough sits on the eastern edge of Ashdown Forest and the whole area is part of the High Weald Area of Outstanding Natural Beauty which means it's subject to specific air quality restrictions.

Trip Generators

Commuter travel is split evenly between destinations within Crowborough and destinations outside the settlement. London, Royal Tunbridge Wells and East Grinstead make up a large part of the external commuter journeys.

The main pole of attraction is centred on the high street with a cluster of destinations in close proximity including the group of education facilities either side of the B2100, the leisure centre and a number of supermarkets. Jarvis Brook, on the east side of town is the other main cluster of destinations that includes the station, a local highstreet and two retail/industrial estates.

It is likely that journeys to the surrounding area to access high order services and facilities will be a feature of most peoples travel patterns.

Cycling and Walking in the area

Crowborough is relatively small and, as a result, most journeys within the settlement could be either walked or cycled. For example the furthest house from the station is 3.7km so there is significant potential for a high sustainable transport mode share. However, despite this, current levels of walking and cycling are low indicating a number of town-wide barriers that need to be addressed before this suppressed demand can be realised.

These barriers include:

- Lack of crossings of major roads
- Inappropriate speed limits in residential areas
- A low level of service for pedestrians town wide
- No cycle provision
- A street network and spatial layout that's difficult to retrofit for cycling and walking
- Country lane type roads in residential areas
- Freight and bus access that needs to be maintained
- A significant collision record

Constraints

Highway boundary widths across Crowborough are generally very restricted, fluctuating between 7 and 11m. As a result there are limited options for road space reallocation and therefore the measures available to improve cycling and walking are also highly limited.

Recommendations Overview

Crowborough, at 3km by 2km wide and gently undulating, is an extremely walkable settlement; however, the existing street environment means the pedestrian level of service is very low and therefore addressing this is the primary focus.

In light of the width constraints, the best option for promoting cycling and walking is to create a hierarchy of streets across Crowborough with the aim of pushing traffic to the main roads and limiting a number of streets to local access only to create a network of low volume, low speed links that are conducive to all ability cycling and walking.

Key Interventions include:

- Restricting general vehicle access to the High Street (Bus only) and Croft Road (Pedestrianise with cycle access)
- Improved crossings of the A26
- *Suit of Area Wide Traffic management measures for Area A (Crowborough Warren, St John's) and Area B (Blackness, Alderbrook, Whitehill) &
- Town wide footway widening
- Improved cycle parking at key locations
- School engagement and codeisgn to create slow streets and safe routes for Kids
- Traffic management will include measures such as modal filters at strategic points to reduce traffic and create local access only quiet streets suitable for active travel. This should also make journeys by bike and on foot more direct and therefore competitive against car journey times. Finding the optimum configuration of measures will require further investigation.

Travel and Collision Pattern

As shown by the 2011 commuter flow Census data, the car makes up 71% of local commuter trips, all of which are under 3km and have significant potential to be swapped for cycling or walking.

The percentage of pupils travelling to school by car is high overall, the 91% at Mark Cross Primary puts it amongst the highest in the country.

The five year collision record identifies a number of clusters of severe and slight pedestrian incidents along the B2100 as shown on the collision map. There is also a significant number of incidents in Area B especially along South View Road.

Traffic Flow Data

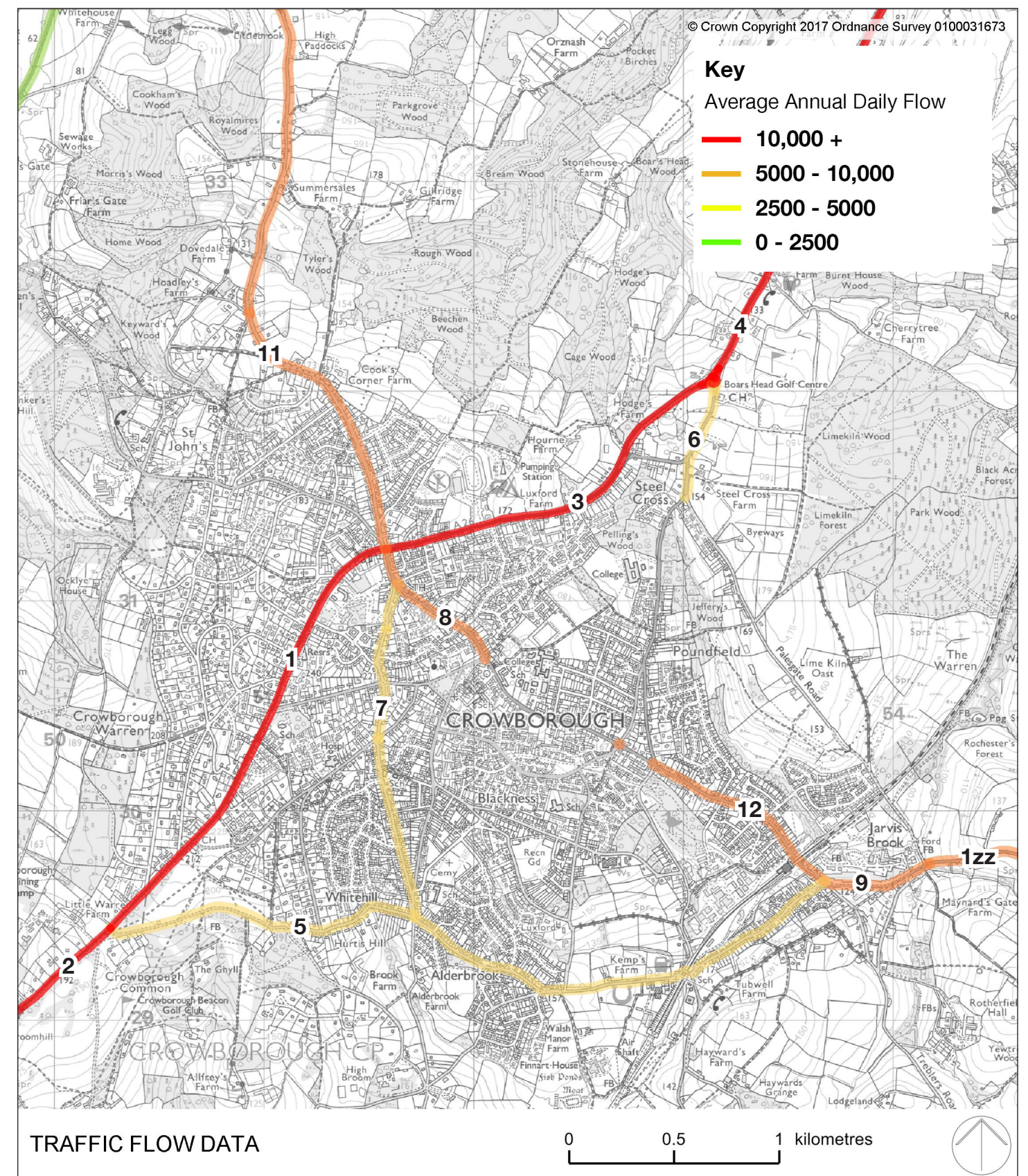
ID	ROAD	FLOW	% HGV
1	A26	13840	2.9
2	A26	17040	2.6
3	A26	13350	2.6
4	A26	17970	2.5
5	C254	4650	1.9
6	B2157	4730	1.4
7	C11	4380	1.2
8	B2100	8920	0.9
9	B2100	9900	0.8
10	B2100	7330	0.8
11	C11	7950	0.7
12	B2100	9780	0.6

Census 2011 Commuter Trips Under 5km

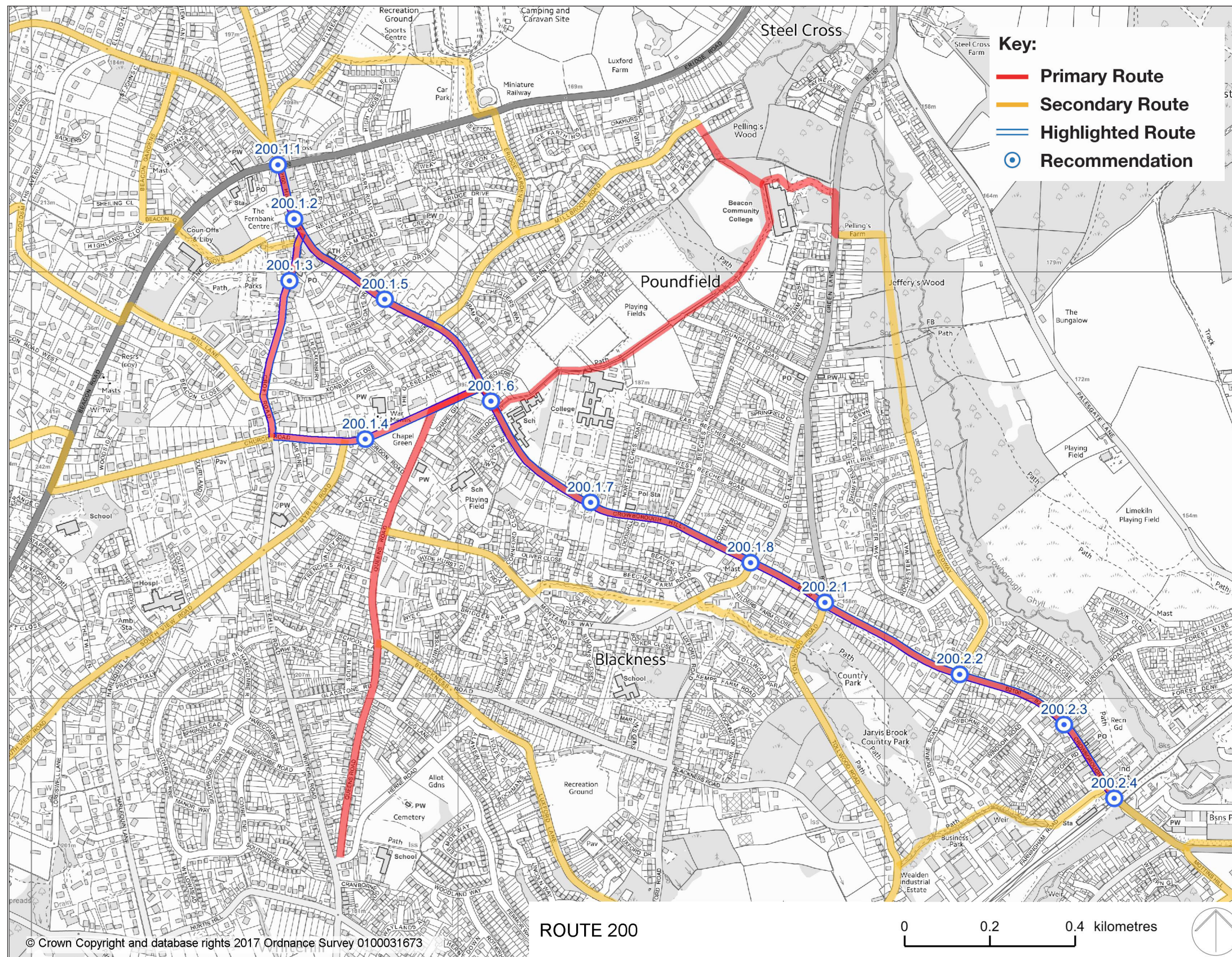
% Walk	% Cycle	% Car	% Bus	% Other
24	1	71	2	2

School Census Travel Mode Data 2011

School	% Walk	% Cycle	% Car	% Bus
Mark Cross Church of England Aided Primary School	9	0	91	0
St John's Church of England Primary School	19	0	81	0
Jarvis Brook Primary School	25	0	75	0
Grove Park School	0	0	74	25
St Marys Catholic Primary School	23	0.1	73	4
Whitehill Infant School	41	0.1	58	0
Rotherfield Primary School	50	0	50	0
Sir Henry Fermor Church of England Primary School	53	0	47	0
Herne Junior School	59	0.1	41	0
Walsh Manor School	No Data			
Beacon Community College	No Data			







Route 200: The B2100 from the A26 to the Station

Route description

A spine route for journeys within Crowborough, it runs east/west for 2.5km and joins up all other routes (300, Area A, Area B, 210 & 310).

The route joins up most of the major destinations including residential areas, education facilities, the station and the major retail areas.

The B2100 is a major source of severance for mobility in Crowborough, therefore providing a link that allows safe movement both along and across this road will significantly improve the town for active travel.

There is currently no cycle provision and the pedestrian level of service is generally low. This is a chronic problem around the shopping areas and the school cluster.

The lack of provision is reflected in the 5 year collision record which includes 11 pedestrian and 3 cyclist casualties from 14 separate incidents.

Background

Signal controlled shuttle working at Jarvis Brook Railway Bridge is mentioned in the Transport assessment as the most popular option amongst those consulted as part of this work.

The route links to the National Cycle Network and Rotherfield via route 210.

200.1 The B2100 from the A26 to the junction with Green Lane and the Croft Road/Church Road Triangle

Existing conditions

Croft Road has daily flows of 4000+ vehicles and the B2100 has daily flows of 8500+ vehicles.

The route starts at Crowborough Cross where the A26 and B2100 meet, this is currently a signal controlled junction with a three stage method of control (two vehicle stages and one all direction pedestrian stage). Moving east the High Street/ Croft Road has three zebra crossings and just past the junction with Church Street there are two signal crossings around the school cluster.

Barriers to walking and cycling

The four main junctions on the route including the A26, Croft Road, Church Road and Green Lanes are a problem for pedestrians and cyclists. Crowborough Cross is particularly bad and would return a low score against the junction assessment tool and pedestrian comfort level referenced in the LCWIP. For pedestrian the wide crossings, narrow footway and short green time of 6 seconds combine to create a poor environment.

Moving along this corridor the location of crossings away from desire lines, narrow footways and lack of priority at junctions and side roads make for poor conditions for pedestrians.

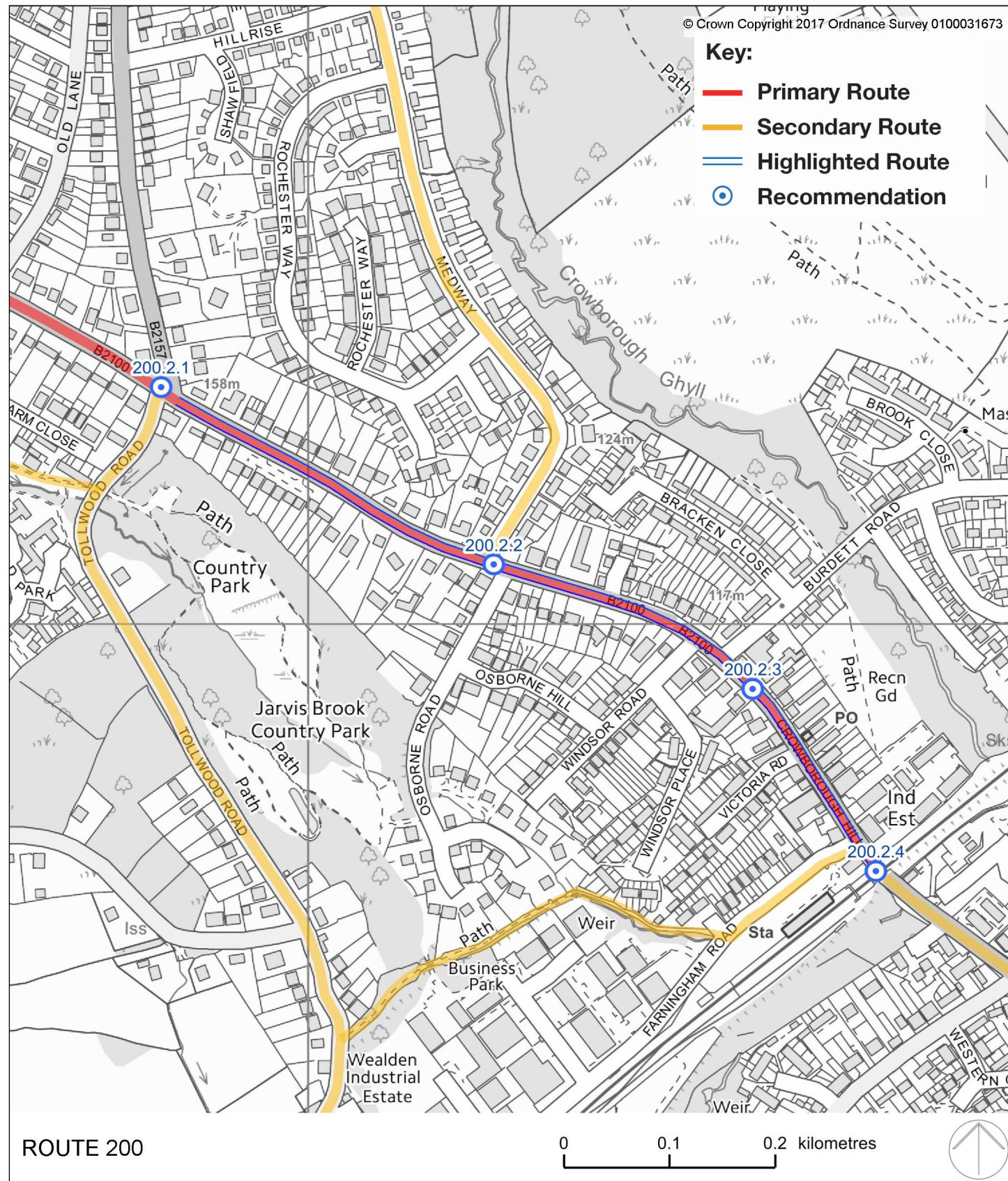
Cyclists' on the road have to deal with high volumes of traffic that include significant numbers of large vehicles. Lane widths fluctuate between 3.1 and 3.8m making conditions unsafe and creating conflict.

Recommendations

- 200.1.1 Tighten geometry and increase pedestrian green time, allowing diagonal crossing.
- 200.1.2 Convert the High Street to one-way working with contraflow cycling. Potentially this could be made a bus only link if there was enough local support.
- 200.1.3* Pedestrianise Croft Road as far as the Waitrose car park entrance allowing cycle access.
- 200.1.4 Install model filter to restrict general traffic moving east/west along Church Street.
- 200.1.5 Add physical traffic calming along length. Add informal crossings on desire lines and continuous footways over side roads. Narrow road, restrict parking and widen footway where appropriate.
- 200.1.6 Engage school in street redesign project to create safe slow street environment. Dome mini-roundabout, tighten geometry and install zebra crossing on west arm. Area wide traffic management in the residential area south of the B2100 combined with restrictions at the High Street and Croft Road should make this junction very quiet.
- 200.1.7 Removing railings and upgrade crossing to a Toucan.
- 200.1.8 Remove right turning ghost islands releasing road space for footway widening and a new pocket park. Table junction, switch priority to North/South and provide informal crossings set back on each arm.

* This will require some re-routing of bus services, although this should be mitigated if the High Street become bus only.





200.2 The B2100 from the junction with Green Lane to the Station

Existing conditions

The B2100 at Crowborough Hill has a daily flow of 9000+ vehicles. There's one zebra crossing and one signal crossing along this section. The road has a significant collision record with 7 incidents involving cyclists and pedestrians over 5 years.

Barriers to walking and cycling

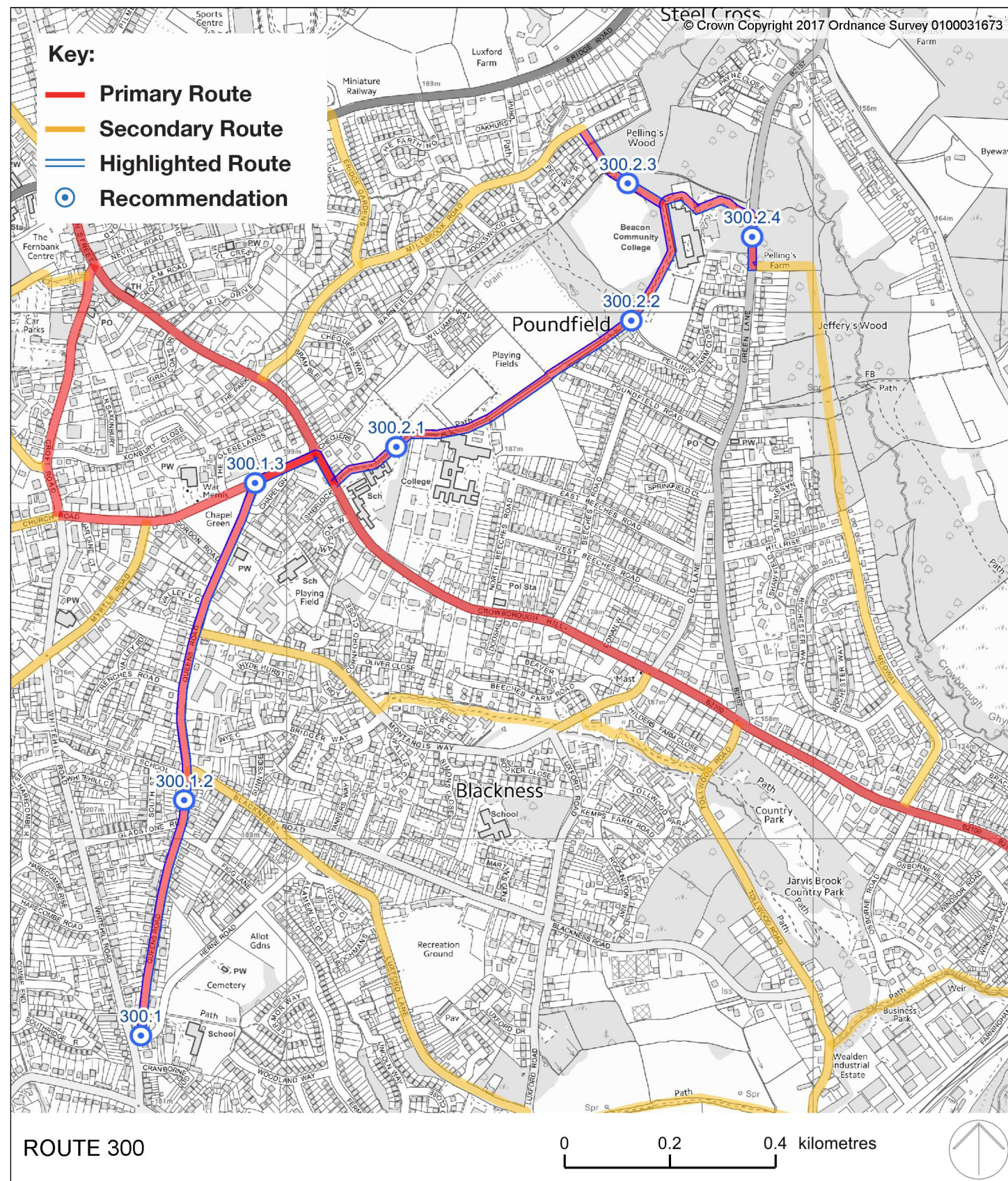
Issues seen along the rest of B2100 also create a low level of service for both pedestrians and cyclists on this section.

The highway boundary width fluctuates around 12m along this 900m length.

Recommendations

- 200.2.1 Tighten geometry and remove left slip lane. Install continuous footway over Toolwood Road and zebra crossing of Green Lane.
- 200.2.2 Reduce lane width to 3m with visual narrowing and centre line removal along length. Install continuous footways over side roads, restrict parking and widen footway where appropriate.
- 200.2.3 Install visual narrowing in front of shops, remove centre line and install crossings on desire lines.
- 200.2.4 Convert to signalised shuttle operation providing footway on both sides through underbridge.





Route 300: North/South link via Queens Road and Poundfield

Route description

A 2.4km north/south link that strings together the majority of school facilities in Crowborough including, three primary schools, the secondary school and sixth form college. The route connects the signal crossing of the B2100 and Green Lane as well as route 200.

2011 school census data shows that this group of schools sees between 50 and 70% of pupils arrive by car, the secondary school has the highest walking levels with 68.7% of trips made on foot. Cycling is below 1% of journeys at all the education facilities in the area representing a significant level of suppressed demand.

300.1 Queens Road to the B2100

Existing conditions

Queens Road is a quiet residential street with no parking restrictions, narrow footways and carriageway widths that fluctuate around 6/7m.

Barriers to walking and cycling

The B2100 and the mini roundabout are the major barriers for cyclists and pedestrians on this alignment.

Forward visibility and long straight sections encourage vehicles to drive at speed especially those using this as a through route. Parking creates pinch points leading to conflict between cyclists and oncoming vehicles.

Substandard footways widths and the wide geometry of side road junctions allow vehicles to negotiate at speed creating issues for pedestrians.

Recommendations

A useful starting point would be to engage the schools across the town to understand the main barriers to cycling and walking.

- 300.1.1 Install model filter to restrict general traffic accessing Queen Street from Whitehill Road. This should make Queen Street a quiet local access only street although further vehicle restrictions might be required on Gladstone Road.
- 300.1.2 Install build outs with planting to reduce visibility and reduce speeds. Explore options for creating a 'home zone' street type environment similar to the Kartoffelrækkerne in Copenhagen (see page 15).
- 300.1.3 Engage school and church to design slow streets measures around Chapel Green. Run route across the Green linking to a bidirectional track running along the north side of the green up to a parallel crossing of the west arm of the roundabout junction with the B2100.



300.2 Poundfield Footpath

Existing conditions

Green Lane has a daily flow of 4000+ vehicles.

The signal crossing in front of the Primary School links to a well-used footpath running from the B2100 behind the schools and linking to residential streets and Green Lane via the college.

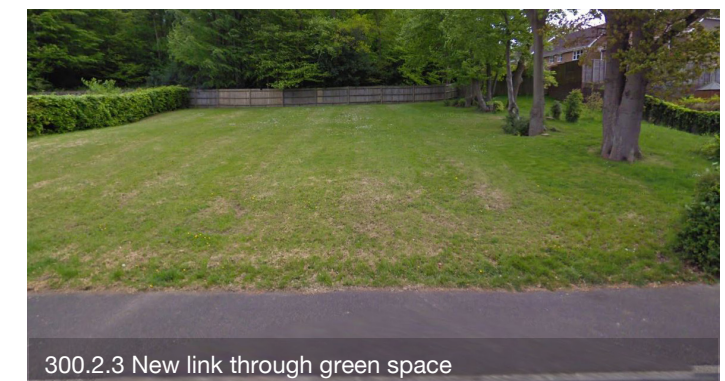
Footpath width fluctuates either side of 2m.

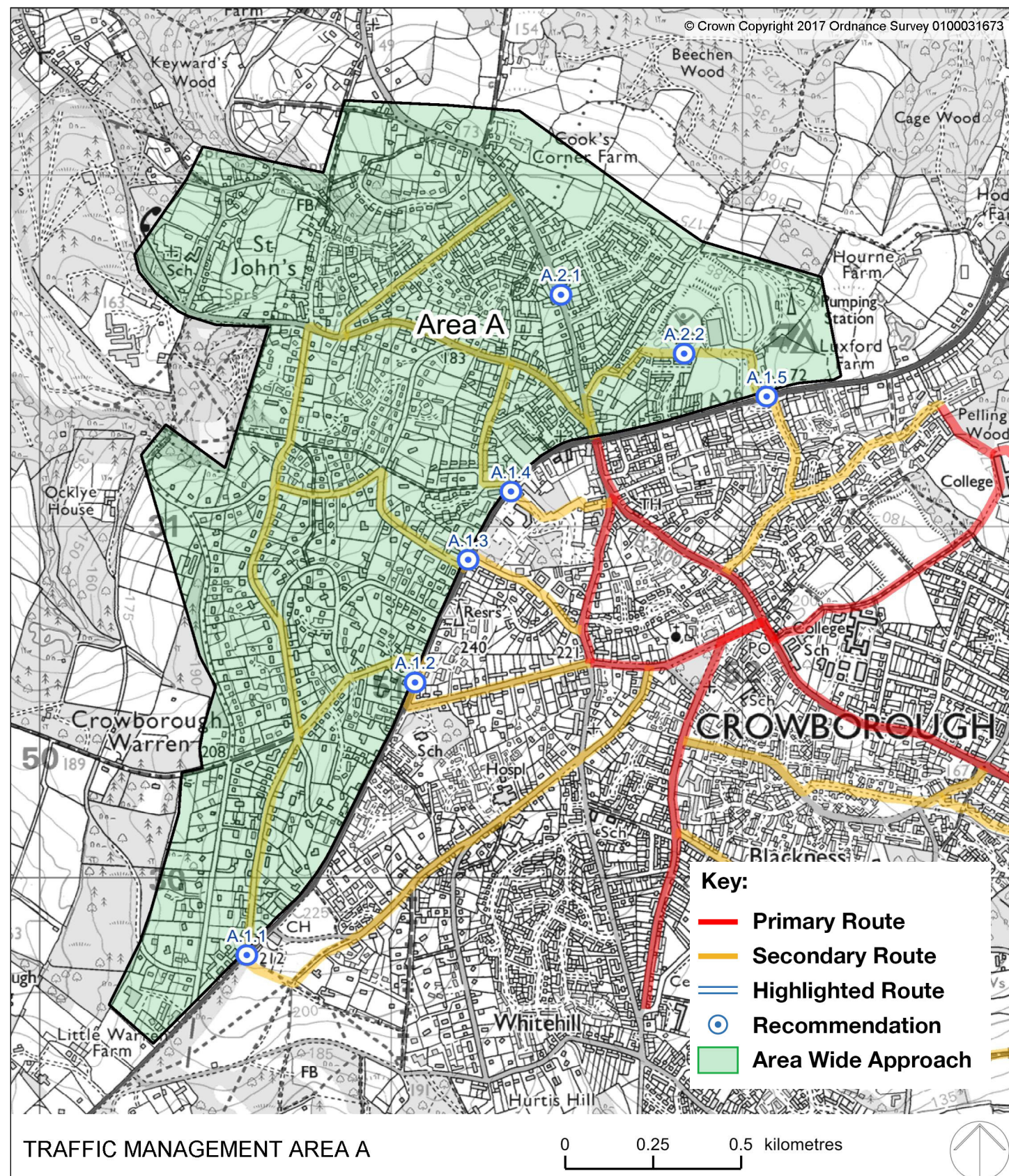
Barriers to walking and cycling

Substandard widths make the footpath unsuitable for shared use compounded by vertical constraints that reduce the effective width.

Recommendations

- 300.2.1 Investigate feasibility of widening path.
- 300.2.2 Upgrading lighting and surface the unsealed sections.
- 300.2.3 Investigate adding a new link through to Millbrook Road.
- 300.2.4 Install parallel crossing and narrow road by removing hatching. Install shared use provision on east side of Green Lane connecting to route 310.





Area A: West of the A26, Crowborough Warren & St Johns Residential Area

Area description

The Crowborough Warren/St Johns area has 5000 residents at the 2011 census and is formed from a collection of residential streets. These are mostly access only as they run up against the edge of Ashdown Forest moving west, although it is possible to move north/south.

The area is residential with the exception of the leisure centre, therefore, access to the rest of Crowborough is key. Currently permeability for active travel is limited with few safe entry and exit points, this locks in car dependency and cuts off residents from the rest of the town.

This severance is combined with a street environment that in places resembles a country lane.

A likely symptom of this is St Johns Primary School which sees 81.4% of its 210 pupils arriving by car.

Unlocking this area for active travel and giving residents multiple transport choices rather than just the car has significant potential in this part of the town.

Area Based Approach

An area based approach is being recommended here as the appropriate strategy for creating a good environment for cycling.

The focus is on improving crossings of the main roads and making the rest of the streets quiet residential and therefore good for cycling and walking by default.

A.1 A26 Beacon Road and the London Road west of the Junction with the A26

Existing conditions

The A26 Beacon Road has a daily flow of 13,000+ with 3% HGVs. The London Road has a daily flow of 7,500+.

There's currently no existing provision for cycling and often substandard pedestrian facilities. The lack of priority crossings of both the A26 and the London Road combined with the lack of priority at side road entrances creates a low level of service for pedestrians and cyclists.

Barriers to walking and cycling

The A26 is a significant source of severance with high traffic volumes and high speeds, and a high proportion of large vehicles.

Sections lack footway, and substandard widths mean users can't pass in both directions. There's a lack of crossing points for both pedestrians and cyclists with only two signal crossing points.

30mph speed limits are only in force 1000m either side of Crowborough Junction and rising rapidly to 60mph towards the edge of the settlement.

A significant number of residential streets have national speed limits and a street environment that resembles a country lane.

General Recommendations

Along the length of the A26 within Crowborough footway widths should be widened by removing hatching and narrowing the carriageway.

To reduce speeds the centre line should be removed and the 30mph limit extended to the edge of town.

Along the length of the A26 the geometry of all side roads should be tightened and continuous footways installed where appropriate.

Recommendations

- A.1.1 Possible access through golf course linking to a Toucan crossing with shared use access to Fielden Lane and Fielden Road.
- A.1.2 A link here between Church Road and Warren road would be useful although may prove impractical due to physical constraints. Further investigation is required.
- A.1.3 Redesign junction to allow cyclists and pedestrians to cross safely.
- A.1.4 Add new crossing as part of the Pine Grove development providing safe cycle and walked access from Beacon Gardens through to Croft Road.
- A.1.5 Redesign junction to allow cyclists and pedestrians to cross safely.



A.2 Crowborough Warren and St Johns Residential Streets

Existing conditions

The B2100, London Road sees daily flows of 7,000+ with 1.5% HGVs.

Collection of mostly quiet residential streets.

Barriers to walking and cycling

The London road is a source of severance.

National speed limit along some roads

Sections lack footway on both sides and limited footway widths mean users can't pass

General Recommendations

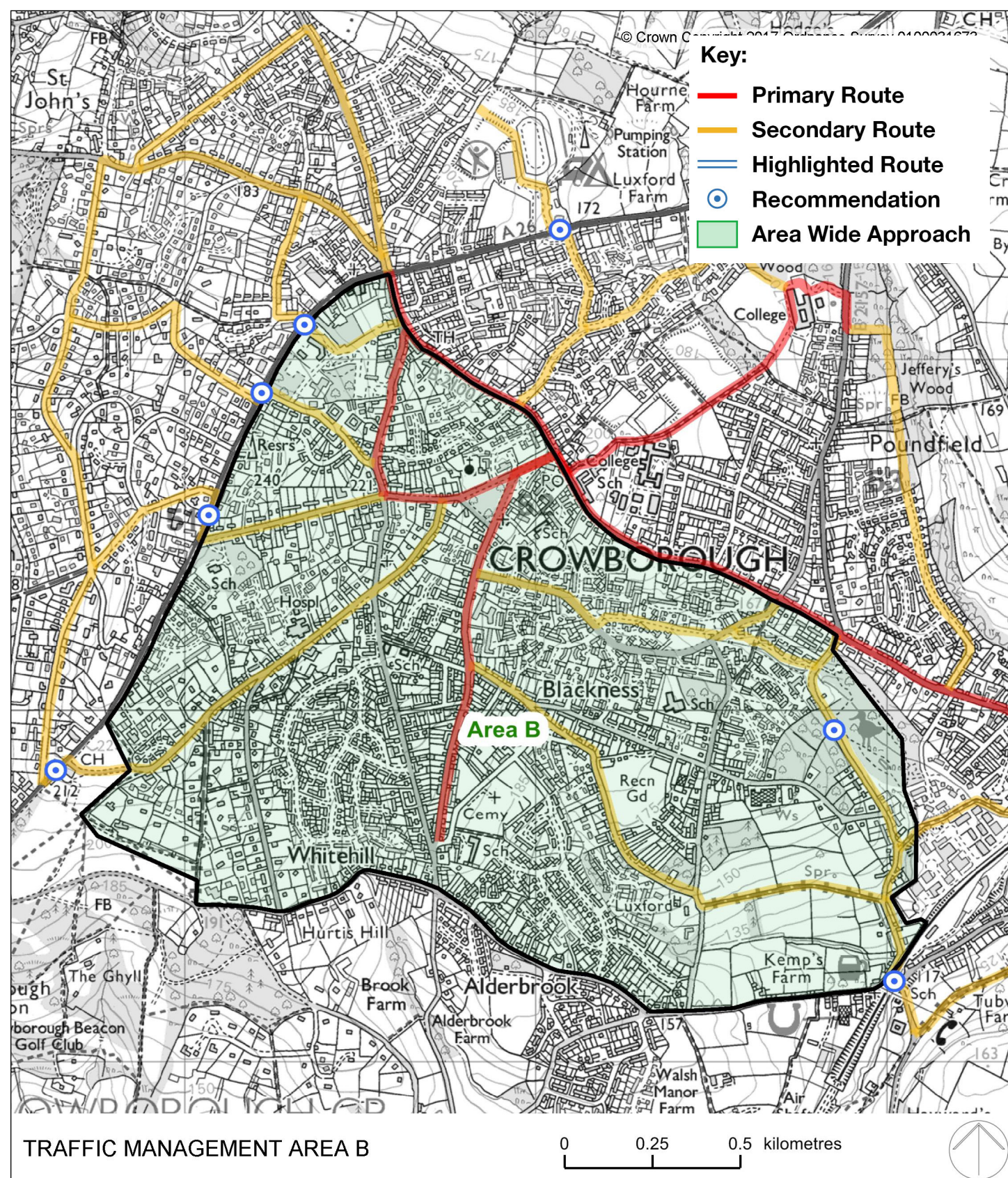
Create a quiet residential street environment by installing traffic management.

Change speed limit to 20mph throughout with physical traffic calming as required to enforce speed reduction. This should be combined with street greening that reduces sight lines.

Recommendations

- A.2.1 Add crossing and widen footways along length.
- A.2.2 Widen and surface existing link connecting to A.1.5 crossing of the A26





Area B: South of the B2100 and East of the A26, Alderbrook, Blackness & Whitehill Residential Area

Area description

Comprising of 9,645 people (2011) this area makes up half the residential population of Crowborough. The area consists of a collection of residential streets with some connector roads such as Whitehill Road that carry local and through traffic seeing 4000+ vehicles per day.

Area Based Approach

An area based approach is being recommended as the appropriate strategy for creating a good environment for cycling and walking.

Installing traffic management at strategic points will create a collection of quiet residential streets that promote cycling and walking by offering safe direct journeys.

The suite of traffic management measures outlined for the High Street (Bus only) Croft Road (Pedestrianise with cycle access) and Church Street (Modal filter) will reduce most of the area to local access only.



Existing conditions

Conditions vary across the area but, generally, pedestrian provision is patchy and often substandard.

There are a few narrow and, in some places, unsurfaced footpath connections.

On road conditions for cyclists are heavily impacted by widths with pinch points caused by parked vehicles, causing conflict.

Barriers to walking and cycling

The area has poor permeability for pedestrians and cyclists.

Sections of street lack footway provision on both sides and in places resemble country lanes. Limited footway widths mean users can't pass in opposite directions.

The limited street widths that fluctuate between 6 and 11m, restrict the options for improving conditions for cycling and walking.

General Recommendations

Creating a hierarchy of streets that allow a number of good links for cycling, walking and kids play.

Some further restrictions will be required to complement this however to find the optimum configuration further investigation is required.

Recommendations

- B.1.1 Instal Modal filter
- B.1.2 Widen and upgrade path to allow shared provision.
- B.1.3 Signalise and install shuttle working to allow widening of footways and cycle link through.



Secondary Routes

310: Jarvis Brook – St Johns via Medway and Millbrook Road

Brief Overview

A useful 3km northern loop that links to route 300, the town centre and the leisure centre and offering an alternative to Green Lane.

Recommendations

Create an off-road path through a small section of Jefferys Wood.

Narrow carriageway and widen footway where possible on Green Lane.

300.2.1 Modal filter or switch to one way

311: Jarvis Brook– Mount Pleasant via Tubwell Lane

Brief Overview

A short 1km link that avoids Western Road which is a major barrier in this part of town and was highlighted as an issue in the recent transport assessment.

Recommendations

Upgrade and surface link along Tubwell Lane.

210: Jarvis Brook– Rotherfield

Brief Overview

A useful 2km route from Crowborough station to Rotherfield. Traffic volume and the mix of heavy vehicles on the B2100 is an issue although the major barrier on this alignment is how to get users safely to the centre of Rotherfield.

Recommendations

Investigate building an in field path along the B2100.

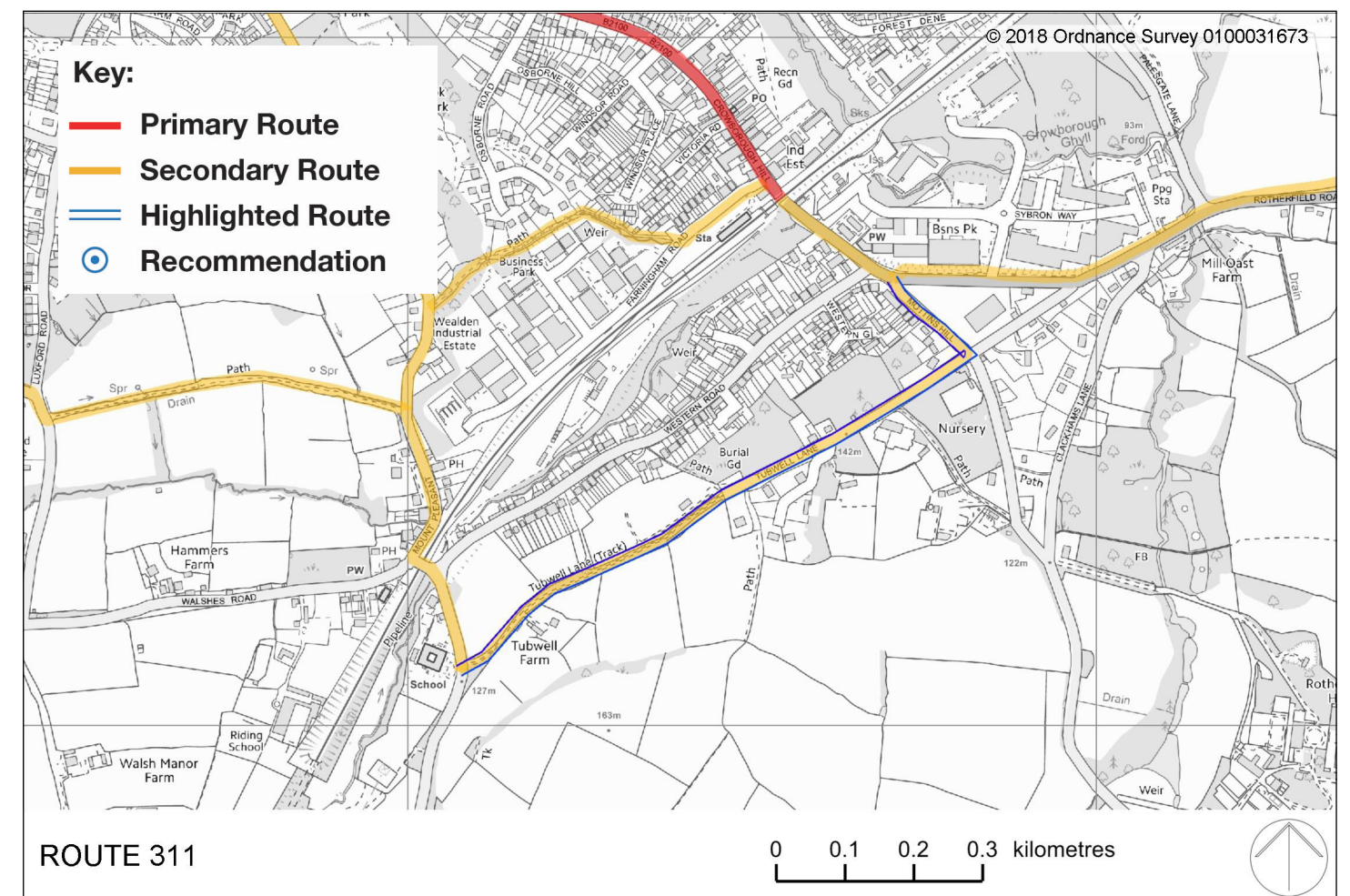
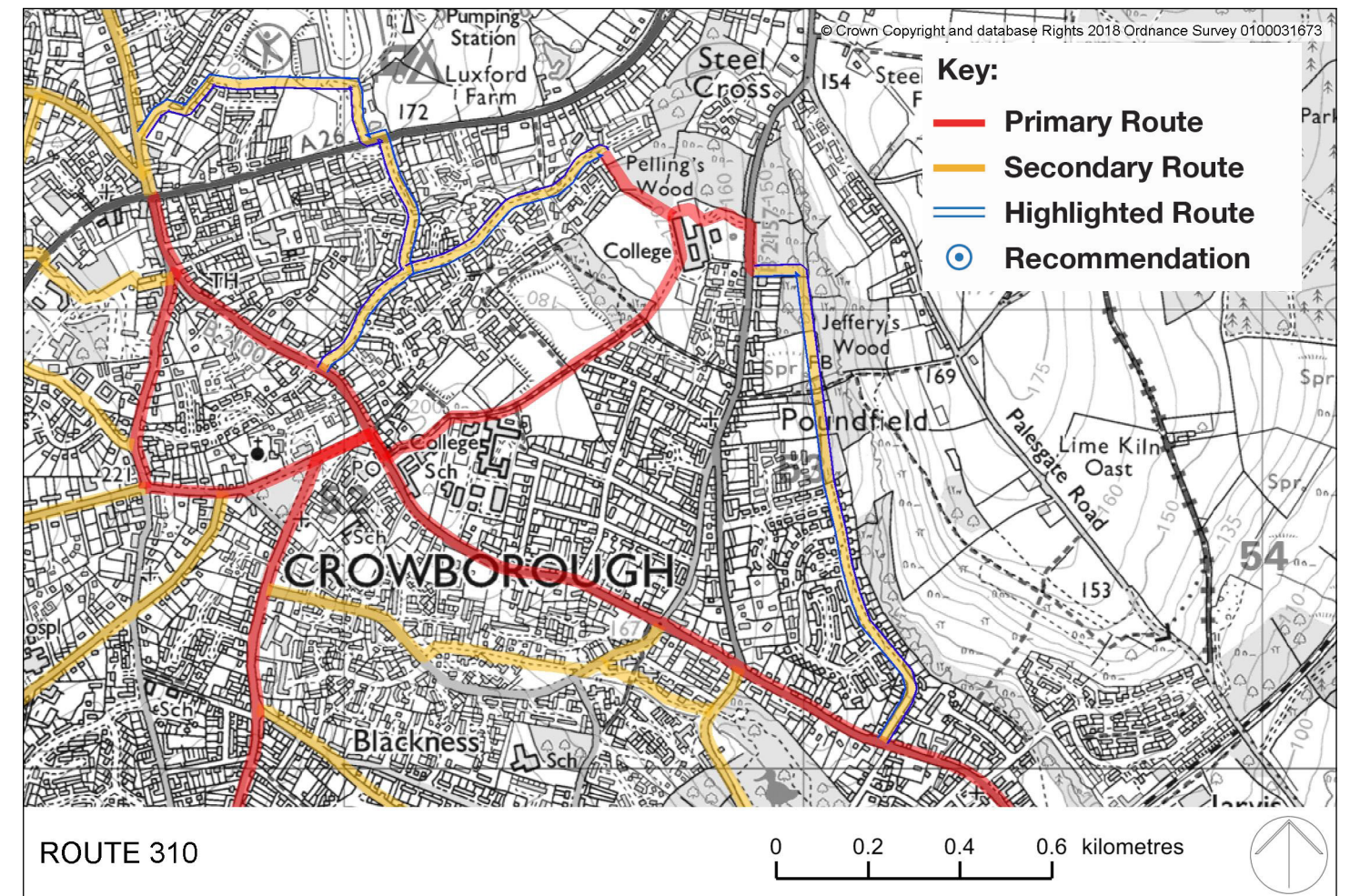
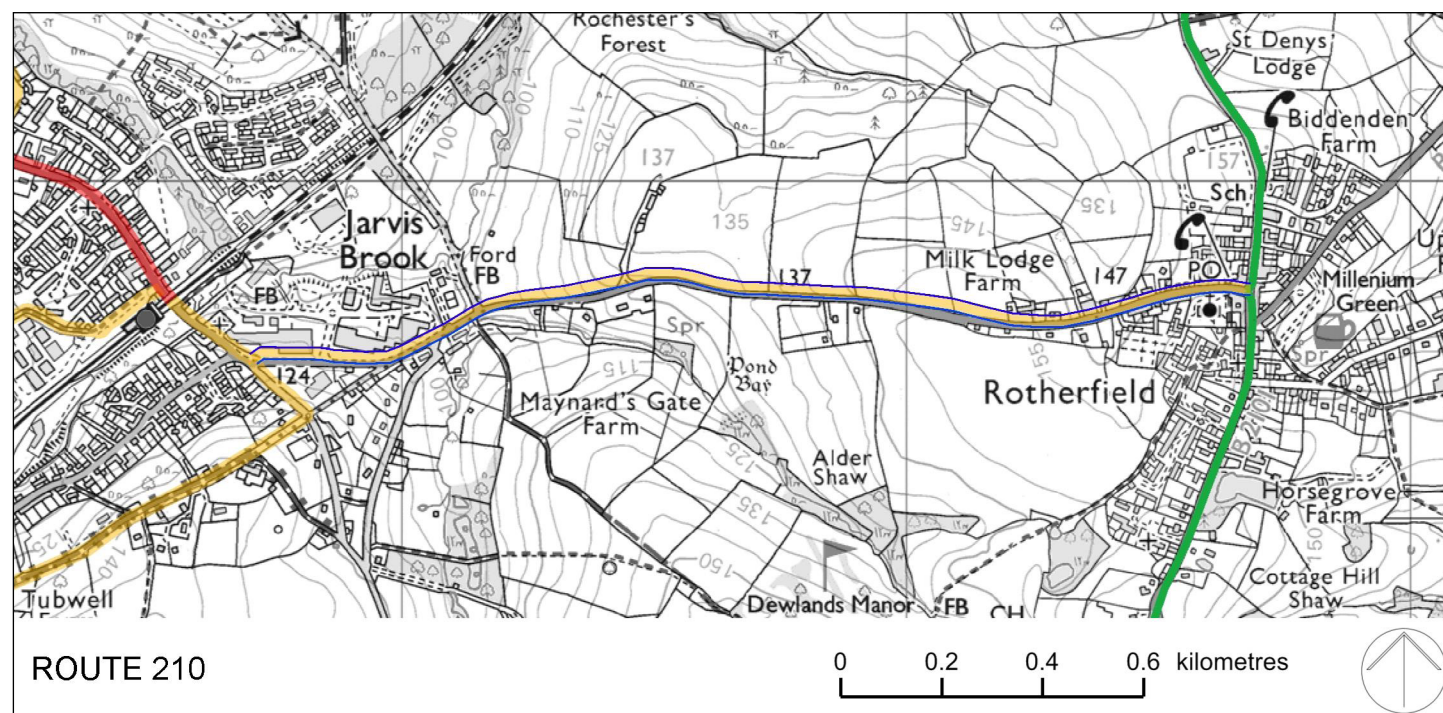


Table of recommendations

The tables below summarise all the recommended interventions which are itemised in the descriptions of each route. A brief description of each item is provided, along with a very broad assessment of priority and cost.

Priority

High = safety critical and essential to the overall quality of the route

Medium = not safety critical but important to the quality of the whole route and important in its own right

Low = not essential, but would improve the quality of the route

Cost

High = more than £100,000

Medium = £20,000 to £100,000

Low = less than £20,000

These are very broad values and not intended as a precise guide to final costs. More work is needed to provide detailed cost estimates, which is beyond the scope of this report.

Item	Brief Description	Priority	Cost
B2100 from the A26 to the junction with Green Lane and the Croft Road/Church Road Triangle 3300m			
200.1.1	Redesign junction	High	High
200.1.2	Restricting general vehicle access to the High Street	High	Medium
200.1.3	Pedestrianise Croft Road	High	High
200.1.4	Install modal filter	High	Low
200.1.5	Traffic calming, continuous footway and road narrowing	Medium	High
200.1.6	School co-design project	High	Medium
200.1.7	Upgrade crossing	Medium	Medium
200.1.8	Redesign junction	Medium	High
200.2.1	Redesign junction	Medium	High
200.2.2	Lane width reduction and centre line removal	Medium	Low
200.2.3	Road narrowing and continuous footways	High	Medium
200.2.4	Signalised shuttle operation through under bridge	High	High

Item	Brief Description	Priority	Cost
North/South link via Queens Road and Poundfield 2400m			
300.1.1	Install modal filter	Medium	Low
300.1.2	Home zone	Low	Medium
300.1.3	School co-design project	Medium	Medium
300.2.1	Widen path	High	Medium
300.2.2	Lighting and surfacing	Medium	Low
300.2.3	New off-road link	Low	High
300.2.4	Install Parallel crossing	High	Medium
Area A: West of the A26, Crowborough Warren & St Johns Residential Area			
General	Footway widening, Speed limit change and continues footways along A	High	High
A.1.1	Install crossing	High	Medium
A.1.2	Install crossing	High	Medium
A.1.3	Install crossing	High	Medium
A.1.4	Install crossing	High	High
A.1.5	Install crossing	High	High
General	Traffic management and area wide speed limit change	Medium	Medium
A.2.1	Install crossing	Medium	High
A.2.2	Upgrade existing link	Medium	Medium
Area B: South of the B2100 and East of the A26, Alderbrook, Blackness & Whitehill Residential Area			
General	Traffic management at strategic points	High	High
B.1.1	Install modal filter	Medium	Low
B.1.2	Widen and upgrade path	Medium	Medium
B.1.3	Signalise and install shuttle working	High	High
310: Jarvis Brook – St Johns via Medway and Millbrook Road		Low	High
311: Jarvis Brook– Mount Pleasant via Tubwell Lane		Medium	Low
210: Jarvis Brook– Rotherfield		Medium	High

East Sussex Delivery Methodology

The following methodology draws upon the Active Travel Act (Wales) and LCDS to provide a sequential process for the ESCC Walking and Cycling Strategy (NB. This is for cycling only, a separate process will be used for walking based on Wales guidance)

Stage	Purpose	Inputs	Outputs	Tools/ Guidance	Stakeholders Engaged
1. Network Criteria	<p>To identify and agree network aims of client and local authority, in order to focus route scoping, planning and engagement. This should be in line with project brief and local policy and should include:</p> <ul style="list-style-type: none"> - Type of journeys the route should cater for - Density of the network - Specific network requirements - Quality criteria 	<p>Engagement and research to understand existing and future aspirations through:</p> <ul style="list-style-type: none"> - Review of existing plans and strategies (including transport strategy) - Review of relevant quality criteria - Review of project brief - Engagement with client 	<p>One page document outlining agreed aims and requirements around:</p> <ul style="list-style-type: none"> - Priority journey types (e.g. utility/leisure journeys) - Aspirational network density (mesh widths and clustering of destinations) - Network requirements (coherence, directness, safety, comfort, attractiveness) - Levels of Service measurement to be applied 	<ul style="list-style-type: none"> - LCDS – Section 2.1.2, Cycle Network Strategy - Active Travel Wales Design Guide – Section 5.7, Network Planning For Cycling - Active Travel Wales Design Guide – Section 5.8.4, Network Aims and Requirements 	<ul style="list-style-type: none"> - East Sussex County Council - District/Borough Councils (Planning Policy, Environment & Sustainability)
2. Information Gathering	<p>To gather the information required to plan and scope network routes that connect to key trip generators, make best use of existing and planned active travel infrastructure, and reflect future aspirations of local authorities and stakeholders.</p> <p>It will also highlight future opportunities for investment and delivery, by identifying future highways, regeneration, housing, and business developments.</p>	<ol style="list-style-type: none"> Desktop research to identify the following: <ul style="list-style-type: none"> - Employment and residential areas - Local amenities (shopping centres, schools, leisure centres, council offices) - Transport interchanges - Greenspace and leisure routes - Existing cycle and walking routes (classified by type) - Plans within wider strategies (e.g. town centre regeneration, traffic management plans, Local Development Plans, active travel plans) - ONS data on travel patterns (Propensity to Cycle) - Collision data - Existing PRow, walking paths Stakeholder engagement to identify the following: <ul style="list-style-type: none"> - Cycle and walking routes currently planned or in delivery - Aspirational cycle and walking routes - Future highways upgrades - Future regeneration, housing, business development projects - Traffic volumes and speeds - Local land use constraints and opportunities - Barriers to movement 	<p>Comprehensive base map containing:</p> <ul style="list-style-type: none"> - All existing trip generators within study area - Future developments and projects that will influence demand - Overview of existing road network, classified by accessibility - Existing and planned cycle and walking network - Aspirational networks defined by stakeholder group 	<ul style="list-style-type: none"> - Sustrans GIS Earthlight mapping - Wales Active Travel Act: Design Guidance – Section 5.8.21, Information Gathering - LCDS – Section 2.3.3, Mesh Density Analysis - LCDS – Section 2.3.4, Accessibility classification 	<ul style="list-style-type: none"> - East Sussex County Council - Local Cycle Groups - Local Walking Groups/Ramblers - District/Borough Councils (Planning Policy, Environment & Sustainability) - South Downs National Park Authority - Local Access Forum

Stage	Purpose	Inputs	Outputs	Tools/ Guidance	Stakeholders Engaged
3. Network Mapping	<p>To identify the geographic locations that will form the strategic trip generators of the network, and the types of route required to connect them.</p> <p>Identify if/ where new cycle and walking connections are required to deliver a cycle network that meets the requirements of client aims.</p>	<ol style="list-style-type: none"> Identification of trip generators across the study area, plotting links, and designating route type. This will involve: <ul style="list-style-type: none"> Plot departure and destination trip generators using base mapping Clustering trip generators to reduce complexity of connections (e.g. larger employment sites) Identify desire lines between trip generators Classification of route type (primary, secondary, local routes) Assess connectivity of existing and proposed network <ul style="list-style-type: none"> Overlay network desire lines with existing and proposed routes Assess suitability of existing and proposed routes against network requirements (coherence, directness etc.), and route type Identify gaps in network to be resolved in stage four. 	<p>Revised network map(s) to share with stakeholders showing:</p> <ul style="list-style-type: none"> Clusters of departure and destination points/ trip attractors Existing, planned and aspirational routes classified by route type (primary, secondary, local) Gaps within the network shown as desire lines, and type of route requirements to meet network criteria Options to resolve gaps for site assessment 	<ul style="list-style-type: none"> Sustrans GIS Earthlight mapping Wales Active Travel Act: Design Guidance – Section 5.8.49 – Assessment of Routes LCDS – Figure 2.3, Cycling Levels of Service Assessment 	<ul style="list-style-type: none"> East Sussex County Council District/Borough Councils (Planning Policy, Environment & Sustainability)
4. Route Assembly & Assessment	<p>To scope and identify deliverable routes and infrastructure that will complete strategic connections to meet network requirements.</p> <p>To identify routes to be included within network plan based on ability to meet network criteria and deliverability.</p>	<ol style="list-style-type: none"> Desktop review of potential route connection to resolve gaps within network Audit of existing routes and planned routes Engagement with local stakeholders to seek local knowledge around connections (if insufficient information at Stage 2) Survey and assess potential routes against network requirements and level of service criteria. <ul style="list-style-type: none"> Classify type of connection Route ride with stakeholders Undertake levels of service assessment to review directness, coherence, safety, comfort, attractiveness Identify upgrades required to deliver routes, and major barriers to delivery Assess deliverability of route options Select routes to be included within Network Map 	<p>Draft network map to be shared with project stakeholders for validation, including:</p> <ul style="list-style-type: none"> Proposed network routes, classified by type (primary, secondary, local), and by stage of delivery (existing, planned, new) Key trip generator clusters (including existing and planned destinations) 	<ul style="list-style-type: none"> Wales Active Travel Act: Design Guidance – Section 5.8.49 – Assessment of Routes LCDS – Figure 2.3, Cycling Levels of Service Assessment 	<ul style="list-style-type: none"> Local Cycle Groups Local Walking Groups/Ramblers District/Borough Councils (Planning Policy, Environment & Sustainability) South Downs National Park Authority Local Access Forum
5. Validation	<p>To validate the draft network map with community and local authority stakeholders to ensure aspirations and comments are captured correctly,</p>	<ol style="list-style-type: none"> Engagement with stakeholders involved through the project as agreed with client to attain comments and approval of map. Engagement to be conducted through face to face meetings, or submission of draft map as required. 	<p>Agreed network map to be submitted to client for review.</p>	<ul style="list-style-type: none"> Wales Active Travel Act: Design Guidance – Chapter 5.8.58, Validation of Integrated Map 	<ul style="list-style-type: none"> East Sussex County Council Local Cycle Groups Local Walking Groups/Ramblers District/Borough Councils (Planning Policy,

Glossary of Terms

(taken from London Cycling Design Standards)

Advisory cycle lane

A dashed white line marking an area of the carriageway designated for the use of cyclists. Motor vehicles may need to cross the markings but generally should not enter the lane unless it is unavoidable.

ASL – Advanced stop line

Stop line for cyclists at traffic signals ahead of the stop line for general traffic, with a waiting area marked with a large cycle symbol and extending across some or all of the traffic lanes.

Bus lane

Lane designated for bus use during the signed hours of operation. Signs also advertise whether other vehicles, such as cycles, are permitted in the lane during those times.

Bus stop bypass

A bus stop layout in which through-movement for cycles is away from the carriageway and from the bus stop cage. Can be achieved with shared use or partially separated footway around the bus stop but usually features a dedicated cycle track passing behind the bus shelter.

Carriageway

That part of a road or highway constructed for the use of vehicular traffic (including cycles).

Chicane

A horizontal deflection in the carriageway used as a speed-calming measure.

Continuous footway

Technique used at priority junctions and other vehicular accesses to assert visual priority for pedestrians over turning vehicles by continuing the footway material across the access or the mouth of the junction. A ‘continuous cycleway’ can be added in a similar way if a cycle lane or track is present.

Contraflow or Cycle contraflow

A facility allowing cyclists to travel in the opposite direction to one-way motor traffic. Requires a Traffic Order and can be implemented using lane markings, which may or may not have some other form of physical protection, or by using signing only.

Courtesy crossing

Location designed to invite pedestrians (or cyclists) to cross and to encourage vehicles on the carriageway to give way – although there is no legal obligation to do so. Often used as part of a design approach aimed at reducing vehicle speeds.

Cycle bypass

Form of physical separation for cycles enabling them to avoid a controlled feature for other road users – e.g. traffic signals or a pinch-point requiring ‘give way’ to oncoming traffic.

Cycle street

A street where the carriageway is dominated by cyclists and, by virtue of the width and design of the street, all motor traffic moves at the speed of the slowest cyclist.

Cycle track

A cycle facility physically separated by kerbs, verges and/or level changes from areas used by motorists and pedestrians. It may be next to the road or completely away from the carriageway and may either be at footway level, carriageway level or in-between.

Decluttering

Rationalisation of street furniture, signs and signals aimed at minimising the amount of such objects in the street environment, thereby reducing visual and physical clutter.

Dropped kerb

Feature to facilitate access, usually between the footway and the carriageway. Must be flush when provided for pedestrians, wheelchair users or cyclists.

‘Dutch-style’ roundabout

A type of roundabout where cyclists are physically separated from other road users with orbital cycle tracks. It is one of many types of roundabout seen in the Netherlands.

Entry treatment or Raised entry treatment

Raised carriageway surfacing at a side road junction, taking the form of a hump with ramps on either side and usually provided at footway level. The purpose is principally to slow vehicle movements at the junction.

Filtered permeability

An area-based network planning approach to improving conditions for cycling by removing through motorised traffic in zoned areas. Cyclists can pass freely through motorised traffic restrictions between zones and so are favoured in terms of journey time and convenience.

Footway build-out

Area of footway that extends out further than the previous kerb edge and narrows the carriageway.

Greenways

Various shared use route types largely or entirely off-highway – generally designed for people of all abilities to use on foot, cycle or horseback, for leisure, local connection or commuting.

Homezone

A group of streets and spaces designed primarily to meet the needs of non-motorised users and where the speed and dominance of motorised traffic is reduced. A 10mph limit normally applies.

Horizontal traffic calming

Forms of traffic calming that work by changing the width available for driving. Typically these take the form of static elements such as build-outs or traffic islands, but they may also utilise car parking or temporary features.

Junction table or Raised table

Raised carriageway surface (often to footway level) at a junction, used as a speed control measure and a way of supporting pedestrian movement and

pedestrian priority.

Light segregation

The use of intermittently placed objects to separate and protect a cycle facility (usually a marked cycle lane) from motorised traffic.

Mandatory cycle lane

A section of the carriageway marked by a solid white line that is designated for the exclusive use of cyclists during the advertised hours of operation.

Parallel priority crossings or ‘parallel crossing’

A cycle crossing next to a zebra crossing where users of the main carriageway have to give way to both pedestrians and cyclists crossing that carriageway.

Pedestrian crossings

One of various crossing types for pedestrians that do not allow cycle access. Includes signal-controlled types (Pelican, Puffin and Ped-X crossings) and priority crossings (Zebra crossings).

Pedestrian Zone

Area closed to vehicles, including cycles – often marked with exceptions for loading. Cycles may also be specifically exempted, or they may be included by designating a ‘Pedestrian and Cycle Zone’.

Pinch point

Locations where the carriageway narrows, often as a result of traffic calming measures or addition of refuge islands. Unless well designed, they can add to collision risk and discomfort for cyclists by forcing them into close proximity with motorised traffic.

Point closure

Method of closing a street to through-traffic, ideally in the form of a modal filter (i.e. allowing access for cyclists).

Priority junction

A junction where the priority is shown by ‘give-way’ road markings – i.e. the minor arm gives way to the major arm.

Quietway

A branded cycle route type established by the London Mayor's Vision for Cycling (2013). Quietways are strategic routes using less heavily trafficked local streets and off-carriageway facilities.

Raised delineator

A raised strip, between 12 and 20mm high, that separates areas used by cycle and pedestrians when they are at the same level. It is defined in TSRGD (diagram 1049.1) and therefore has legal status as a road marking.

Refuge islands

Islands in the carriageway to support either pedestrian crossing or vehicle right turns (which may include cycle-only turning pockets). Their placement and design should avoid creating hazardous pinch-points for cyclists.

Segregated cycle lane/track

Cycle facility separated by a continuous or near-continuous physical upstand along links (usually verges or kerbed segregating islands).

Shared use area, footway or path

A footway, footpath or part of any public space shared between pedestrians and cyclists but where motorised vehicles are not permitted. It is identified by the shared use sign – a blue circle with white pedestrian and cycle symbols. In these spaces, pedestrians have priority.

Shared space

A design approach that seeks to change the way streets operate by reducing the dominance of motor vehicles, primarily through lower speeds and encouraging drivers to behave more accommodately towards pedestrians and cyclists.

Shared surface (level surface)

A street or space either with no distinction between footway and carriageway or no kerb upstand between the two.

Speed cushions

Small speed humps installed across the road with gaps at distances that, ideally, allow certain users such as buses and large emergency service vehicles to pass easily, but force most other motorised vehicles to slow down to negotiate the humps.

Speed humps

Raised areas, typically placed horizontally across the carriageway, designed to reduce traffic speeds. The ramps either side of the hump should have a sinusoidal profile so as to minimise discomfort to cyclists.

Tactile paving

Textured paving that helps people with sight impairments to read the street environment around them by feeling the change in surface underfoot and/ or seeing the change in material.

Two-stage turn

A manoeuvre allowing cyclists to make an opposed turn at a junction in two stages, without having to move across lanes of moving traffic. Between two traffic signal stages, the cyclist waits in the junction, away from the traffic flow.

Uncontrolled crossing

A pedestrian and/or cycle crossing where vehicles do not legally have to give way but may do so out of courtesy. They are used where vehicle flows and speeds give safe opportunities for crossing the street without the need for a controlled facility.

Vertical traffic calming

Forms of traffic calming that rely on a change of level in the carriageway for slowing effect – typically speed humps or speed cushions.

Visibility splay

The physical space at an access or junction through which a road user exiting from the minor arm needs good, clear visibility in order to see potential conflicts or dangers in advance of the distance they need in order to brake and come to a stop.