Adur & Worthing Councils

Local Cycling and Walking Infrastructure Plan

October 2019

About Sustrans

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

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

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

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

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-	Version 1	SF	SP	03/04/2019
1	Version 2	SF	SP	16/05/2019
2	Version 3	SF	SP	19/07/2019
3	Version 4	SF, SP	SP	10/10/2019
4	Version 5	SF, SP	SP, SF	24/10/2019

Contents

Executive Summary

This is the first Joint Local Cycling and Walking Infrastructure Plan (LCWIP) for Adur and Worthing Councils. The vision underpinning this LCWIP is:

'To create a place where walking and cycling becomes the preferred way of moving around Adur and Worthing.'

The LCWIP concept was introduced in the Government's Cycling and Walking Investment Strategy (CWIS) in 2017. The LCWIP technical guidance and tools have been used in the production of this report.

The key outputs of LCWIPs are:

- a network plan for walking and cycling which identifies preferred routes and core zones for further development
- a prioritised programme of infrastructure improvements for future investment
- a report which sets out the underlying analysis carried out and provides a narrative which supports the identified improvements and network

This report addresses the first and third outputs, but further work will be needed for the second output in respect of prioritisation.

A consortium of West Sussex authorities was awarded 60 days of technical support in December 2017 for development of LCWIPs. This was supplemented locally with funding from pooled business rates. LCWIPS are being developed in Chichester, Crawley, Horsham and Adur & Worthing.

LCWIP work in Adur & Worthing is overseen by a joint working group between West Sussex County Council, Adur & Worthing Councils and local stakeholders, with technical support from WSP.

Report contents

This report is split into three main sections as set out below:

Introduction

Links to local and national policy and case studies from around the UK

Methodology and Mapping

Descriptions of the network planning process and underlying analysis, detailed mapping of the Council areas

Appendices

Detailed cycling and walking route descriptions and maps, introduction to LCWIP tools and recommended measures

The proposed cycling and walking network if fully implemented would represent a big change in the physical environment, but perhaps more importantly would give more people the confidence to walk and cycle for short everyday journeys, with attendant benefits for health and wellbeing, air pollution, climate change, local economy and congestion.

Further detailed work is now required and any infrastructure works could include a number of different interventions on a particular route. Some routes have been studied through the Sustainable Transport Packages (STP) and these are identified on the maps.

Every effort has been made to ensure that the proposals are practical, but it has to be recognised that there are competing demands for highway space and further feasibility and detailed design work will be necessary. In some cases, this may mean that a route is moved to an alternative parallel alignment.

This LCWIP will be used to inform Local Plans, strategies and funding bids, when the more detailed work is completed.

1.0 Introduction

1.01 Adur & Worthing Councils declared a Climate Emergency in July 2019. Global warming emissions associated with transport represent the highest emissions from any single sector in the UK. This is an area where change needs to be delivered urgently.

1.02 By increasing levels of walking and cycling in Adur & Worthing, numerous benefits will follow. For people, it means cheaper travel and better health. For businesses, it means increased productivity, increased footfall in shops and more attractive employment locations. For society as a whole it means lower congestion, better air quality, and vibrant, attractive places and communities. For the world it means reducing our impacts on climate change, as road transport emissions from motorised transport are a substantial contributor of greenhouse gas emissions.

The Councils share the government's ambition:

To make cycling and walking the natural choices for shorter journeys and as part of a longer journey

We share the ambition to achieve this through:

1.03 BETTER SAFETY 'A safe and reliable way to travel for short journeys'

- streets where cyclists and walkers feel they belong, and are safe
- better connected communities
- safer traffic speeds, with lower speed limits where appropriate to the local area
- cycle training opportunities for all children

1.04 BETTER MOBILITY 'More people cycling and walking - easy, normal and enjoyable'

- more high quality cycling facilities
- more urban areas that are considered walkable
- rural roads which provide improved safety for walking and cycling
- more networks of routes around public transport hubs and town centres, with safe paths along busy roads
- better links to schools and workplaces
- technological innovations that can promote more and safer walking and cycling
- behaviour change opportunities to support increased walking and cycling
- better integrated routes for those with disabilities or health conditions

1.05 BETTER STREETS 'Places that have cycling and walking at their heart'

- places designed for people of all abilities and ages so they can choose to walk or cycle with ease
- improved public realm
- better planning for walking and cycling
- more community-based activities, such as led rides and play streets where local places want them
- a wider green network of paths, routes and open spaces

1.06 Transport emissions account for over a third of carbon emissions in Adur & Worthing. Unlike the power sector where emissions have fallen by around 50%, transport emissions locally (and nationally) have been virtually unchanged since 2013. The Councils have committed to reducing carbon emissions, yet transport is the most difficult sector to decarbonise. Increasing walking and cycling offers the greatest hope for change.

1.07 This Local Cycling and Walking Infrastructure Plan (LCWIP) has been developed and set against the backdrop of these challenges and opportunities. The Councils' are keen to create more walking and cycling networks for their social, economic and environmental benefits.

1.08 The Plan has been developed by Sustrans and Adur & Worthing Councils, with the support of local stakeholders, in particular the Adur & Worthing Walking and Cycling Action Group, West Sussex County Council and the West Sussex LCWIP Partners Group. The document has been produced using LCWIP Technical Guidance published by the Department of Transport in 2017.

1.09 The Councils' LCWIP will contribute to achieving and improving on the targets of the Government's Cycling & Walking Investment Strategy, which aims to:

- Double levels of cycling by 2025 (from 2013 base levels)
- 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.

1.10 The LCWIP also aligns with the West Sussex Walking & Cycling Strategy 2016-26 which aims to: support economic development by facilitating travel to work and services without a car; reduce congestion and pollution by encouraging and enabling people to travel without a car; increase levels of physical activity to help improve physical health; help to maintain good mental health and staying independent later in life; increase the vitality of communities by improving access by bicycle and on foot; and help people to access rural areas and enjoy walking and cycling.

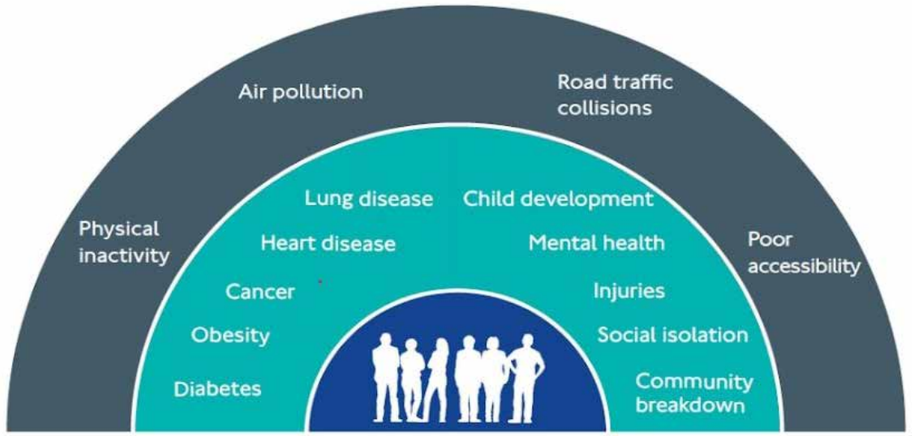
1.11 It will do this by taking a strategic approach to improving conditions for cycling and walking, assisting the councils and stakeholders to:

- identify cycling and walking infrastructure improvements for future investment in the short, medium and long term
- ensure that consideration is given to cycling and walking within both local planning and transport policies and strategies
- make the case for future funding for walking and cycling infrastructure

1.12 Walking and cycling reduces congestion

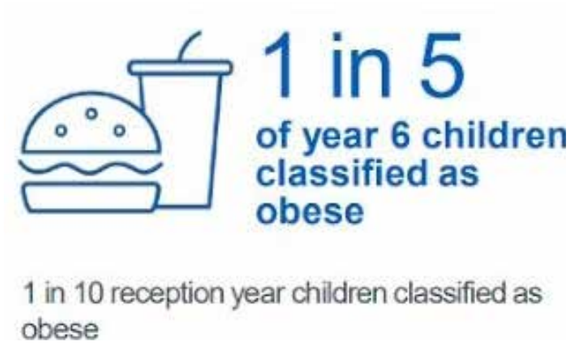
Source: International Sustainability Institute

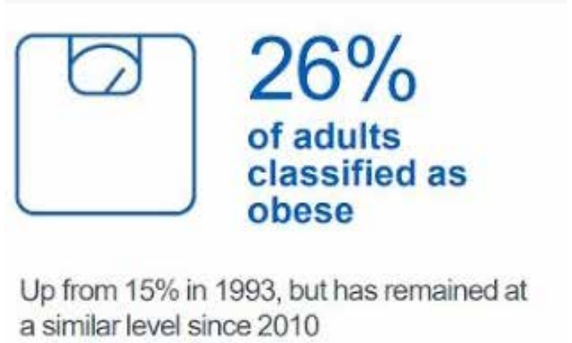
1.13 Walking and cycling reduces the adverse links between motorised road transport and health



Key adverse links between motorised road transport and health

Source: Mayor of London & Transport for London 'Valuing the health benefits of transport schemes' 2015

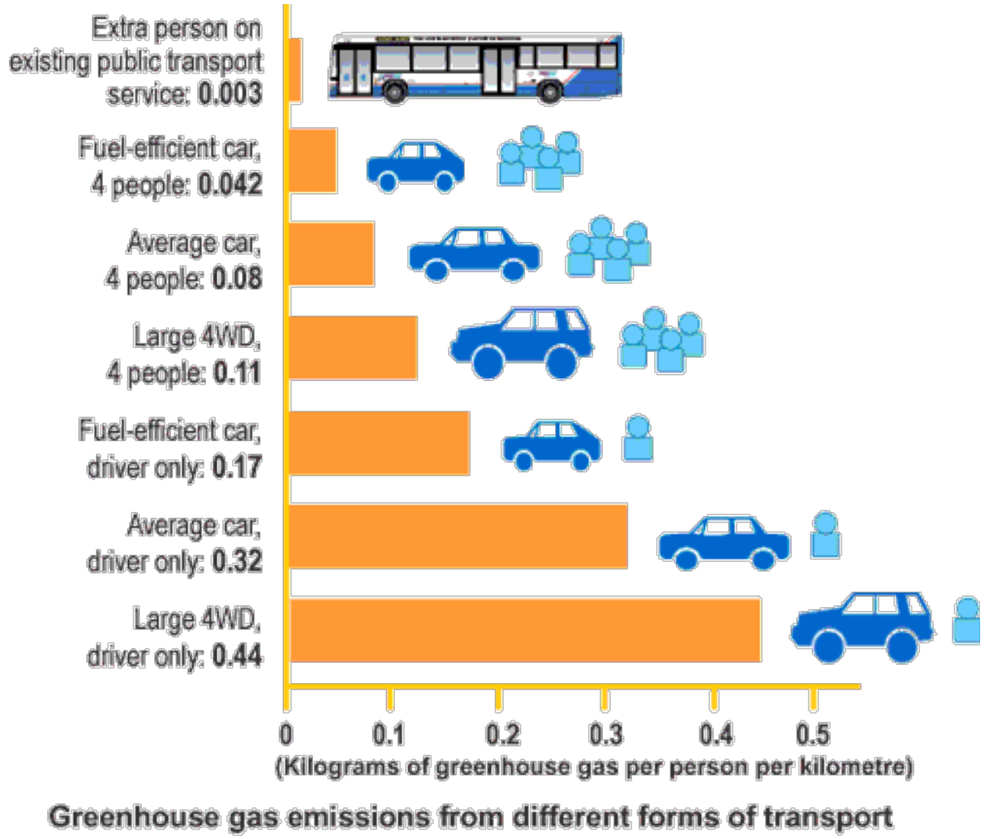




Hospital admissions with a primary or secondary diagnosis of obesity

Source: Statistics on Obesity, Physical Activity and Diet England: 2018

1.14 Walking and cycling reduces greenhouse gas emissions

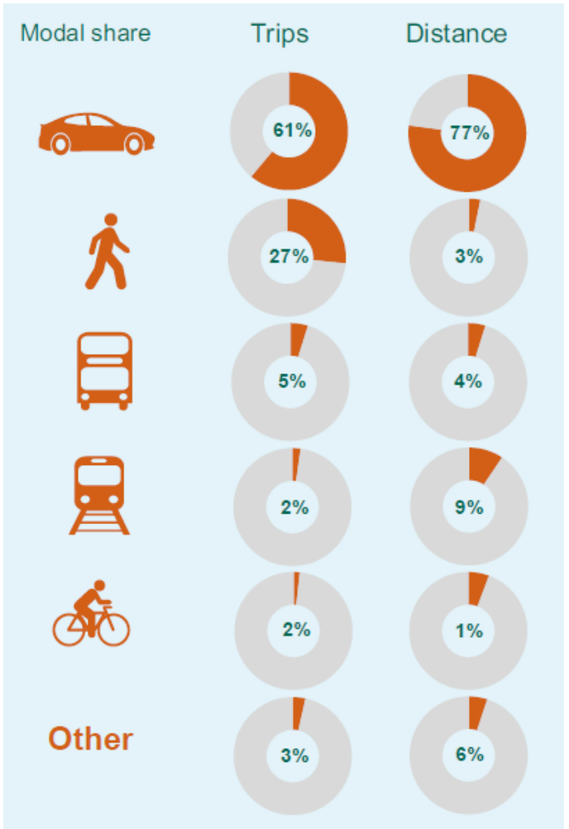


Source: UniSA Sustainable Transport

1.15 Doubling levels of cycling by 2025

The number of people cycling is currently very low across England, although in areas like Cambridge and Oxford much higher levels are recorded. Prior to the 1950's, miles cycled were high but between the 1950's to the 1970's this fell dramatically and is only now starting to rise again. Levels are a long way off compared to 1940's levels when 15 billion miles were cycled a year compared to 3 billion now.

1.16 The number of cycling trips made per person since 2002 hasn't changed, although people that do cycle are cycling further. A very small minority of people in England cycle five times a week: 3.4% but in Adur and Worthing it's even less at 3.2% and 1.5% respectively (NTS 2017). Trips made by the general public, are just 2% by bicycle, 26% on foot, whilst 61% are made by car.

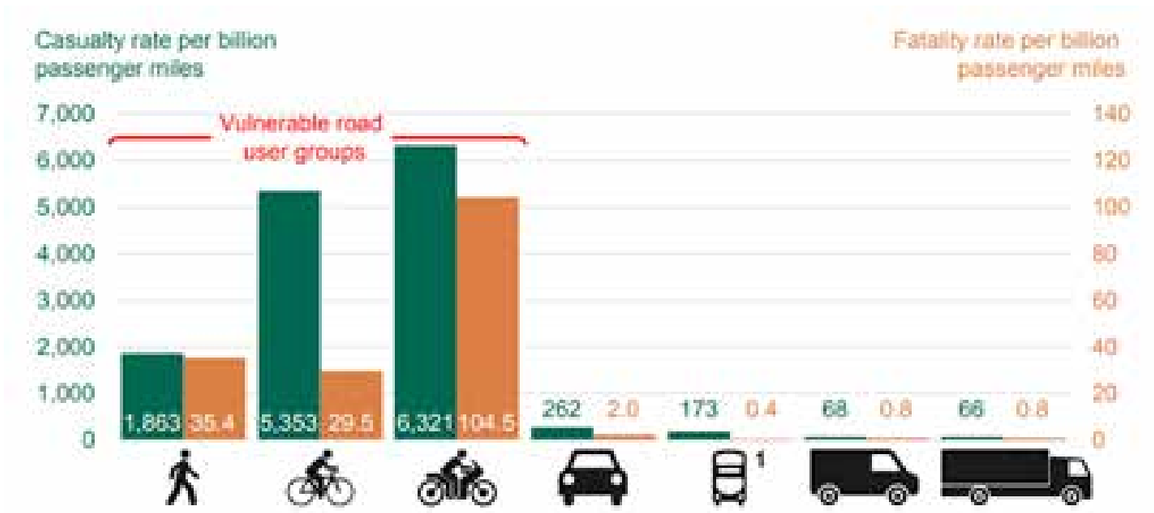


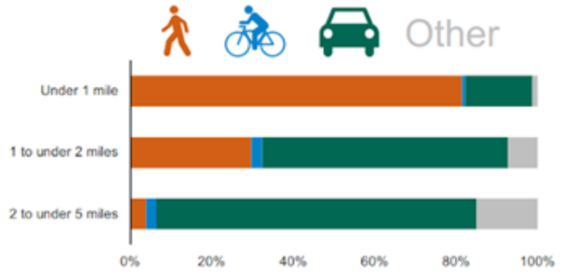
Source: English 2019 National Travel Survey

1.17 Most people (41%) agree that journeys of less than 2 miles made by car could just as easily be walked (British Social Attitudes Survey). However, whilst 81% of trips under a mile are made by walking, this drops to 30% for trips between 1 and 2 miles; and for trips between 2-5 miles, car and van trips make up the majority share at 60%. (NTS 2017)

1.18 Reducing each year the rate of cyclists killed or injured on English roads

Pedestrians and cyclists are much more vulnerable on the road than people in cars. It's crucial the roads are made safer for cyclists and pedestrians so people feel confident and safe to use these methods of travelling. Per billion vehicle miles, 1,011 pedal cyclists are killed or seriously injured, in comparison to 26 car drivers. In West Sussex between 2010-14 on average there were 65 cyclists reported killed or seriously injured each year. Most serious accidents involving cyclists in collisions happen at, or near a road junction, with T-junctions being most common and roundabouts being particularly dangerous for cyclists. The severity of injuries suffered by cyclists increases with the speed limit: riders are more likely to suffer serious or fatal injuries on higher speed roads.





1.19 Reversing the decline in walking activity

Across England, walking is slowly on the increase. In 2017, the average number of walking stages and the average miles travelled per person per year increased since 2012/13 (2017 NTS). However, only about a third of people walk at least 10 minutes five times a week. In England this is 32%, in West Sussex 33.4%, in Adur 35.5% and in Worthing 36.6%. There has been a significant decrease in West Sussex residents that walked for 10 mins, five times per week, this is down from 46.9% in 2012/13.

1.20 Increasing the percentage of children aged 5-10 who usually walk to school.

The number of children walking to primary school is at the lowest figure ever. This is despite a small increase in walking trips for all ages. In the 1970s, 70% of primary school children walked to school, but now only 50% of pupils usually do so. Such a decline impacts on children's health, air quality, traffic congestion and road safety. The proportion of primary school children walking to school in 2017 is the same as it was in 2002 (51%); but the proportion of secondary school children walking to school has decreased from 2002 levels (45%) down to 35% (2017 NTS). Local statistics are not available.

1.21 Transport and health impacts

Walking and cycling are good for our physical and mental health. Switching more journeys to active travel will improve health, quality of life and the environment, and local productivity, while reducing costs to the public purse. These are substantial 'win-wins' that benefit individual people and the community as a whole.

Some key messages from Public Health England on the benefits of Active Travel:

- physical inactivity directly contributes to 1 in 6 deaths in the UK and costs £7.4 billion a year to business and wider society
- the growth in road transport has been a major factor in reducing levels of physical activity and increasing obesity
- building walking or cycling into daily routines are the most effective ways to increase physical activity
- short car trips (under 5 miles) are a prime area for switching to active travel and to public transport
- health-promoting transport systems are pro-business and support economic prosperity. They enable optimal travel to work with less congestion, collisions, pollution, and they support a healthier workforce

2.0 Adur and Worthing

2.1 Introduction & Background

This is the first Joint Local Cycling and Walking Infrastructure Plan (LCWIP) for Adur and Worthing Councils. The vision underpinning this LCWIP is:

'To create a place where walking and cycling becomes the preferred way of moving around Adur and Worthing.'

2.11 It is intended that the LCWIP will support the development of safe routes for cycling and walking and to increase the uptake of active travel modes within Adur District and Worthing Borough.

2.12 Adur & Worthing Councils are committed to the development of more sustainable transport throughout Adur and Worthing. The development of an Adur & Worthing LCWIP is a commitment under the Strategic Vision Platforms for our Places and Sustainable AW, the Councils' sustainability framework.

2.13 Adur & Worthing Councils recently published its Public Health Strategy 2018 - 2021 which sets out five priorities for action. Priority 2 seeks to contribute to improved environmental sustainability. The Councils have a key role in improving environmental resilience in Adur and Worthing through developing sustainable transport opportunities, creating the opportunities and networks for communities to walk and cycle safely, managing local air quality, using innovation, planning and design and supporting the network of environmental community groups in our areas.

2.2 Air Quality

2.21 Poor air quality within Adur and Worthing is primarily a result of traffic emissions. In Adur, two Air Quality Management Areas (AQMAs) have been declared at Shoreham High Street and Old Shoreham Road, Southwick. The Brighton (Portslade) AQMA borders the district boundary. Adur has an Air Quality Action Plan (2007) (which is being reviewed). In Worthing, there is one AQMA which encompasses Offington Corner (A27/A24 junction), Grove Lodge and Lyons Farm (A27 Upper Brighton Road). Worthing has an Air Quality Action Plan (2015) (due for review in 2020). Both Councils use the Sussex Air Quality and Emissions Mitigation Guidance 2019 to assist with assessing and mitigating the air quality impacts of new local development.

2.22 The Councils have recently worked with primary schools close to the AQMAs in Shoreham and Worthing, as part of a Sussex-wide intervention through Sussex Air and also with the West Sussex County Council Inter Authority Air Quality Group to improve air quality whilst also promoting behaviour change. A Sussex Air project aimed at reducing particulate emissions from wood burning is also planned.

2.23 High levels of nitrogen dioxide (NO2) continue to be reported at Grove Lodge roundabout, resulting in the AQMA being reviewed for exceedance of the one hour mean objective for NO2 .None of the monitoring sites in Adur exceeded the 40 µg/m3 annual mean objective for NO2 in 2018. Due to reductions in NO2 levels in Southwick, this AQMA is due to be revoked. Monitoring of particulates in both Adur (PM10) and Worthing (PM2.5) show the relevant objectives currently being met.

2.3 Carbon Emissions

2.31 Adur and Worthing Councils declared a Climate Emergency in July 2019 and committed to work towards becoming Carbon Neutral by 2030. The Councils have also committed to the UK100 Cities pledge to achieve 100% clean energy across Adur and Worthing by 2050. Emissions from transport will be calculated under the Carbon Reduction Plan and monitored annually. The declaration states: "Actions will include virtually eliminating carbon emissions from council energy and transport use through almost entirely ceasing fossil fuel use", with a "shift to electric vehicles".

2.32 Carbon emissions in Adur and Worthing have been decreasing since government monitoring began in 2005. Between 2005 and 2017, per capita annual emissions have reduced from 5.9 to 3.6 tonnes CO2 in Adur and 5.6 to 3.1 tonnes CO2 in Worthing. Whilst this is good news, looking in greater detail, domestic and industrial/commercial emissions have been steadily falling, but transport emissions are higher now than they were in 2012. Transport emissions make up over one third of carbon emissions from Adur and Worthing. Reducing carbon emissions from transport is crucial in the effort towards becoming carbon neutral.

2.4 West Sussex County Council

The County Council is a critical stakeholder as Highway Authority responsible for most of the roads in the area.

2.41 The West Sussex Transport Plan (2011 - 2026) provides strategic direction for transport within Worthing and Adur, focusing on the objectives of promoting economic growth; tackling climate change; providing access to services; employment and housing; and improving safety, security and health. The Plan seeks to ensure that all new development within West Sussex supports and contributes to; increasing the use of sustainable modes of transport ('smarter choices'). Enabling more people to walk, cycle or use public transport will help to reduce costs associated with traffic congestion as well as creating healthier, inclusive and attractive places to live and work.

2.42 The West Sussex Walking and Cycling Strategy (2016-2026) includes over 300 potential new routes that were suggested by local stakeholders. These have been ranked and prioritised using the Sustrans RATE Tool in 2016 and divided into four categories:

- Inter-community utility cycle routes
- Inter-community leisure cycle routes
- Urban cycle improvements
- Walking-only schemes

2.43 Of these, the stated priorities for County Council investment are inter-community utility cycle routes and urban cycle improvements. With the advent of LCWIPs the County Council has undertaken to focus on routes that connect places and to use the LCWIP process to develop business cases for such routes. This will complement the work of the district and borough councils, who are focussing on routes within their local areas. In addition, the South Downs National Park Authority is looking at routes that connect into the Park. Once the LCWIP work has been completed the County Council will review the potential routes listed in the West Sussex Walking & Strategy and reprioritise these as appropriate.

2.44 In addition, the County Council has already started to investigate the scope to improve walking and cycling facilities in Adur and Worthing through Area Sustainable Transport Package (STP) feasibility studies and Road Space Audits, in particular to consider how improved facilities can support planned development and economic growth. The County Council and AWC are working together to ensure this work dovetails with LCWIP development. Routes that are being explored under the STP work are identified on the proposed primary and secondary cycling routes later in this document.

2.5 South Downs National Park

The South Downs National Park Authority (SDNPA) took on full powers from April 2011. The SDNPA has published its Cycling and Walking Strategy 2017-2024.

2.51 The Ambition for Cycling and Walking in the SDNP is:

- The National Park is home to a network of largely traffic free routes providing opportunities for a range of users of differing abilities and ages, who are using the network for recreation and daily utility journeys.
- The network is easily reached from all communities within and near to the National Park and is well connected to public transport.
- Visitors and residents enjoy excellent cycling and walking recreational facilities and information throughout the National Park on trails, at visitor attractions, amenities and accommodation providers.

2.52 The Vision Map of Strategic Routes and Promoted Trails identifies two strategic routes linking the National Park with Adur & Worthing:

- Worthing to Washington, along the A24 corridor
- Downs Link, Shoreham to Steyning

3.0 Worthing Borough

Worthing is located on the south coast between the Sussex Downs to the north and the English Channel to the south which provides a distinctive and much valued setting. Worthing is one of the largest towns in West Sussex and borders Adur District to the east and Arun District to the north and west. Some of the northern parts of Worthing Borough are within the South Downs National Park (SDNP), including Cissbury Ring. Worthing is a compact town and the Built-up Area takes up over 2,282 hectares of the borough's geographical area (3.369 ha).

3.1 Cycling & Walking in Worthing

Department for Transport Statistics for 2016/17 reveals that within the borough of Worthing:

- Once a month, 87% of adults undertake walking or cycling for any purpose
- Once per week, 78% of adults undertake walking or cycling for any purpose
- Five times a week, 41% of adults undertake walking or cycling for any purpose
- These figures are higher than the West Sussex average
- Worthing has the highest walking and cycling statistics for these measures out of the all Districts and Boroughs in West Sussex

3.11 National Cycle Network (NCN) Route 2 runs through Sussex from Worthing to Rye. Brighton to Hastings via Polegate is a part of the Downs and Weald Cycle Route. Worthing to Chichester is still under development. In Worthing NCN2 uses a shared route with pedestrians along the promenade, which currently ends at George V Avenue in West Worthing.

3.12 There is also a cycle route from Worthing railway station to Findon Valley in the north, which is on a shared path north of the A27, but largely an on-road signed route to the south towards the town centre. There are sections of shared use path along the A2032 Littlehampton Road to the west of the Borough, however these do not provide a continuous route towards central Worthing. There are additional largely on-road signed cycle routes from Goring Road in the west and Sompting to the north east, which link to the town centre.

3.13 There is a pedestrian zone in the centre of Worthing as well as footways that extend across most of the local road network including the A27. This provides users with access on foot across the urban area and to towns and villages in the near vicinity as well as into the SDNP. Pedestrians also share the beachfront promenade with cyclists (Worthing Local Plan Transport Assessment, 2018).

3.14 The current provision of pedestrian and cycling facilities across the town are unable to support and maintain sustainable travel. Much of the network is disjointed and suffers from inadequate signing, unsafe crossing points and poor surfacing. However, the NCN2 cycle route along the seafront is the most popular cycle route in West Sussex, with a weekday average of over 637 cyclists recorded near to Brooklands Park in 2018, indicating that there is great potential to grow active travel in the Borough.

3.2 Planning Policy Context

The Worthing Core Strategy was adopted by the Council on 12th April 2011. The document guides planning and development in the Borough up to 2026.

3.21 The Core Strategy recognise that car ownership in Worthing is slightly higher than the national average and, like most urban environments, the town is characterised by areas of heavy road congestion, especially during the morning and evening peaks. This is especially prevalent around the northern edge of the town, where the A27 provides Worthing's only long distance through route. The A24 provides the main road link into the town from the north. The A259 coast road that connects Worthing to the neighbouring centres at Lancing and Shoreham-by-Sea to the east and Littlehampton to the west, also experiences significant peak time congestion.

3.22 Strategic Objective 7 of the Core Strategy seeks to:

"Improve accessibility and to ensure that a sustainable transport network is provided that is integrated with new development and promotes a modal shift towards more sustainable modes of transport."

3.23 The Core Strategy seeks to deliver sustainable transport through Policy 19: Sustainable Travel which seeks to improve walking and cycling networks to create sustainable links between the town centre and the suburbs.

3.24 Worthing Borough Council is progressing a new Local Plan for Worthing. Regulation 18: Preferred Approach consultation was undertaken between October and December 2018. The draft Local Plan sets out that the Council wants to improve connectivity and promote a more integrated and sustainable transport network as well as facilitate improved opportunities for active travel. To achieve this, the Local Plan seeks to locate and design development and supporting infrastructure to minimise the need to travel by car and promote sustainable travel.

3.25 Strategic Objective 20 of the draft Local Plan states:

"Provide an integrated, safe and sustainable transport system to improve air quality, reduce congestion & promote active travel."

3.26 The Local Plan, when adopted, will seek to deliver sustainable transport through delivery of the Plan especially through the following relevant planning policies:

- Policy CP7 Healthy Communities promotes the creation of strong, vibrant and healthy communities and seek a reduction in health inequalities through the enhancement and accessibility of safe active travel routes.
- Policy CP24 Transport seeks to promote opportunities for active transport and accessible and well-connected walking, cycling and public transport; ensure potential impacts of development on transport networks are addressed; and to reduce poor air quality.

3.27 The draft Plan proposes eight site allocations for residential and commercial use in Worthing Borough. The Plan sets out that proposals for development on these sites must be designed to reduce the need to travel and minimise car use. The draft Plan also includes a number of 'Areas of Change' sites where redevelopment is encouraged and supported over the Plan period. The eight proposed site allocations are:

- Caravan Club
- Land west of Fulbeck Avenue
- Upper Brighton Road
- Decoy Farm
- Teville Gate
- Union Place
- Grafton
- Civic Centre Car Park

3.28 Although the exact level of development to be delivered through Worthing Local Plan has yet to be determined, it is estimated that approximately 4,000 additional dwellings will be built in the period to 2033 ,with up to 50,000 sq.m. for employment sites. Given the need to mitigate the transport impacts arising from the level of growth, it is vital that a functional and sustainable transport system is in place.

3.29 The Local Development Scheme 2019 sets out the timetable for preparing the Local Plan. It is envisaged that the next formal stage of public consultation will be undertaken in Summer 2020 with submission of the Plan to the Government for independent examination in Autumn 2020. It is anticipated that the Plan will be adopted by Summer 2021.

3.30 The Worthing Infrastructure Delivery Plan (October 2018) (IDP) is a key evidence base study that identifies infrastructure requirements needed to support future growth which includes walking and cycling. The IDP is a live document and will be updated in tandem with the preparation of the Worthing Local Plan. The IDP and this LCWIP will complement each other.

3.31 To inform and support the development of the new Worthing Local Plan, the Council commissioned the Worthing Local Plan Transport Assessment (2018) which demonstrates the traffic implications of potential new land use development and identifies an associated package of transport improvements.

4.0 Adur District

Adur District covers Shoreham-by-Sea, Southwick, Fishergate, Lancing and Sompting. It is located on the south coast between the Sussex Downs to the north and the English Channel to the south. It borders

Worthing to the west and Brighton and Hove to the east. Over half of Adur District (53%) lies within the National Park boundary, although the population in this area is very low.

4.1 Cycling and Walking in Adur

Department for Transport Statistics for 2016/17 reveals that within the district of Adur:

- Once a month, 85% of adults undertake walking or cycling for any purpose
- Once per week, 77% of adults undertake walking or cycling for any purpose
- Five times a week, 39% of adults undertake walking or cycling for any purpose
- These figures are higher than the West Sussex average

4.11 The cycle infrastructure in the district includes National Cycle Network (NCN) Route 2. Improvements to a section of the NCN2 route through the District are being developed under the Sustainable Transport Package (STP) work by WSCC. The recently constructed Adur Ferry Bridge, provides a new shared pedestrian and cycle crossing, that links Shoreham with Shoreham Beach and which forms part of NCN 2.

4.12 NCN Route 223, which is also known as the 'Downs Link', a 37 mile bridleway, runs along the River Adur from Shoreham (mostly traffic free) to Guildford. There are other unconnected sections of cycle facilities in Adur, for example on Upper Shoreham Road between Buckingham Road and Eastern Avenue, and at the Upper Shoreham Road Holmbush Roundabout.

4.13 The Monarch's Way long distance path passes through Adur District connecting Hove with Shoreham Harbour, following NCN2 along Basin Road South. Signage along the final stretch of the route is non-existent, and improvements could be made to the route in this area. There are many footpaths/public rights of way leading from the urban parts of Adur into the countryside to the north.

4.14 The main local transport route running east – west (the A259) is a poor environment for pedestrians and cyclists. The road is busy, noisy and dusty with HGV and minerals / waste uses along the frontage and being characterised by poor public amenity, although it is subject to redevelopment proposals including STP improvements to the NCN2 cycle facilities. The A270 (Old Shoreham Road) is an alternative route but this also blighted by high volumes of traffic, an Air Quality Management Area (AQMA) and an unwelcoming environment.

4.2 Planning Policy Context

Adur District Council adopted its Adur Local Plan in 2017. This provides a strategy for development in Adur (excluding the National Park) up to 2032. One of the key issues identified is the need to address road congestion and related air and noise pollution whilst improving the existing transport network and facilitating the development of sustainable transport measures. Roads particularly affected include the A27, A259 and the A270. This, along with anticipated future development, could worsen congestion and lead to poorer air quality by 2032 (especially in the AQMAs) unless measures are taken to mitigate these impacts, and encourage modal shift. Objective 9 of the Adur Local Plan states:

"To improve connectivity within and to Adur's communities as well as to Brighton and Worthing, achieve more sustainable travel patterns and reduce the need to use the private car through public transport services and infrastructure, demand management measures, and new and enhanced cycle and footpaths."

4.21 The Adur Local Plan seeks to deliver sustainable transport through the following policies:

- Policy 5: New Monks Farm, Lancing
- Policy 6: Land at West Sompting
- Policy 7: Shoreham Airport
- Policy 28: Transport and Connectivity

4.22 The policies seeks to promote opportunities for active transport and accessible and well-connected walking, cycling and public transport; ensure potential impacts of development on transport networks are addressed; and to reduce poor air quality.

4.23 Over the period of the Local Plan to 2032 it is anticipated that over 3,700 dwellings will be delivered along with over 40,000 sq.m. of employment land. Given the need to mitigate the transport impacts arising from this level of growth, it is vital that a functional and sustainable transport system is in place.

4.24 The Adur Infrastructure Delivery Plan (2016) (IDP) is a key evidence base study that identifies infrastructure requirements which includes walking and cycling needed to support future growth as identified in the Adur Local Plan. This LCWIP will also link up with the IDP.

4.25 The Adur Local Plan was informed by the Adur Local Plan and Shoreham Harbour Transport Study 2013, the Report Addendum 2014 and Second Addendum 2016 which provided an assessment of the impact of potential housing and employment development on the transport network and identified a package of mitigation measures. This package consisted of capacity improvements to the highway network and sustainable transport improvements to reduce demand for the private car. Another study, the Shoreham Town Centre Study Report, March 2014 explored potential highway improvements in the town centre as well as improvements to the cycling and pedestrian infrastructure.

4.3 Shoreham Harbour

Adur District Council is working with its partners (Brighton & Hove City Council; West Sussex County Council; Shoreham Port Authority) on a joint project to regenerate Shoreham Harbour and surrounding areas. The Joint Area Action Plan (JAAP) was adopted in 2019. Objective 5 of the JAAP states:

"To improve connections and promote sustainable transport choices through ensuring new developments are well served by high quality, integrated and interconnected networks, improved pedestrian, cycling and public transport routes and reducing demand for travel by private car in innovative ways."

4.31 The submission JAAP seeks to deliver sustainable transport through the following policies:

- Policy SH5 Sustainable travel requires new development to demonstrate how it will reduce the need to travel by car and help deliver sustainable transport improvements.
- Policies CA1 South Quayside and CA4 Portslade & Southwick Beaches seek improvements to Dover to Penzance National cycle route NCN2 linking Brighton and Worthing. NCN2 runs through the harbour from Hove Lagoon, along the southern section of the canal (South Quayside) across the canal locks inland to re-emerge in Shoreham-by-Sea, crossing Adur Ferry Bridge, to continue west to the seafront.
- Policy CA5: Fishersgate and Southwick proposes improvements to the pedestrian and cycle route across Southwick Locks and alongside the Canal, and the provision of cycle facilities along the A259.
- Policy CA7: Western Harbour Arm requires new development to deliver a riverside route for pedestrians and cyclists connecting Shoreham Town Centre with Kingston Beach. It is anticipated that once complete this will be designated as part of the England Coast Path. The policy also requires development to be sufficiently set back from Brighton Road to allow the delivery of a high quality segregated cycle route.

4.32 The plan is supported by the Shoreham Harbour Transport Strategy (2016), which sets out a package of sustainable transport measures. These include the provision of a high quality cycle route alongside the A259 between the Adur Ferry Bridge and Hove Lagoon, which is being considered through the STP work.

References

https://www.gov.uk/government/publications/cycling-and-walking-investment-strategy

https://www.gov.uk/government/statistics/national-travel-survey-2017

https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2017

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/523460/Working_Together_to_Promote_Active_Travel_A_briefing_for_local_authorities.pdf

5.0 Case Studies

In addition to the Government's Cycling and Walking Investment Strategy, a number of local authorities and devolved administrations have published their own strategies for increasing levels of walking and cycling and some of these are summarised below, together with a few practical examples.

London Cycling Design Standards

The Mayor of London has set out his vision for cycling and his aim to make London a 'cyclised' city. Building high quality infrastructure to transform the experience of cycling in our city and to get more people cycling is one of several components in making this happen. This means delivering to consistently higher standards across London, learning from the design of successful, well used cycling infrastructure and improving substantially on what has been done before. It means planning for growth in cycling and making better, safer streets and places for all.

The six core design outcomes, which together describe what good design for cycling should achieve, are: Safety, Directness, Comfort, Coherence, Attractiveness and Adaptability.

Adaptability is a measure in the Cycling Level of Service assessment matrix, with scores given against the following factors:

- Public Transport Integration
- Flexibility
- Growth enabled

The key point here is that provision must not only match existing demand, but must also allow for large increases in cycling.

Quietway 2, Margery Street

Greater Manchester: Made to Move

The goal in Manchester is to double and then double again cycling in Greater Manchester and make walking the natural choice for as many short trips as possible. The intention is to do this by putting people first, creating world class streets for walking, building one of the world's best cycle networks, and creating a genuine culture of cycling and walking. According to the 2011 Census, the proportion of commuters who cycled to work in Greater Manchester was 2.2%.

To make the vision a reality, the aim is to create dedicated networks for walking and cycling. This means building segregated cycling routes on main roads and through junctions supported by traffic-calmed cycling routes. It also means improving the quality of the public realm and better wayfinding to make walking short journeys much easier. The key actions being undertaken are listed below.

Taking action

1. Publish a detailed, Greater Manchester-wide walking and cycling infrastructure plan in collaboration with districts.
2. Establish a ring-fenced, 10 year, £1.5 billion infrastructure fund, starting with a short term Active Streets Fund to kick-start delivery for walking and cycling. With over 700 miles of main corridors connecting across Greater Manchester, this is the scale of network being aimed for.
3. Develop a new, total highway design guide and sign up to the Global Street Design Guide.
4. Deliver temporary street improvements to trial new schemes for local communities.
5. Ensure all upcoming public realm and infrastructure investments, alongside all related policy programmes, have walking and cycling integrated at the development stage.
6. Develop a mechanism to capture and share the value of future health benefits derived from changing how we move.
7. Work with industry to find alternatives to heavy freight and reduce excess lorry and van travel in urban areas.

Cycling Action Plan for Scotland

A shared national vision for a 10% modal share of everyday journeys by bike is being targeted, with a related clear aspiration for reduction in car use, especially for short journeys, by both national and local government. A long term increase in sustained funding is required, with year-on-year increases over time towards a 10% allocation of national and council transport budgets as Edinburgh is achieving. The primary investment focus is on enabling cycling through changing the physical environment for short journeys to enable anyone to cycle.

There is commitment to a shared vision of 10% of everyday journeys by 2020 by bike, and positively promoting modal shift away from vehicle journeys which will over time reduce car use for local trips.

At its meeting on 9 February 2012, Edinburgh City Council committed to spend 5% of its 2012/13 transport budgets (capital and revenue) on projects to encourage cycling as a mode of transport in the city, and that this proportion should increase by 1% annually. This funding would be used to support the delivery of the Active Travel Action Plan (ATAP). In 2010, the Council approved its ATAP, which seeks to build on the high level of walking in Edinburgh and the growing role of cycling. It set targets of 10% of all trips and 15% of journeys to work by bike by 2020. These targets are incorporated in the Local Transport Strategy.

South West City Way, Glasgow

From 2014 to 2016, the estimated number of cycling trips on the route of the South West City Way increased by 70%, from 115,450 trips by bike in 2014 to 195,800 in 2016. In 2016, cycling trips made up 22% of all estimated trips on the route. An estimated 43.5% of journeys made on the South West City Way in 2016 were journeys to or from work.

Old Shoreham Road

Closer to home, Brighton & Hove City Council reallocated road space on Old Shoreham Road in 2012 and introduced "hybrid" cycle lanes, with low-level kerbs separating bicycles from motor vehicles and from the footway. The improvements also included:

- Full segregation for cyclists from motor vehicles, achieved by providing a low kerb edge
- Improvements to side road junctions to make crossing the road easier for pedestrians and people with mobility problems.
- Shared areas for cyclists and pedestrians at bus stops.
- A new zebra crossing across Old Shoreham Road at Chanctonbury Road.

Old Shoreham Road, Hove

Bike Life

Sustrans 2017 Bike Life report is the UK's biggest assessment of cycling in seven major cities: Belfast, Bristol, Edinburgh, Birmingham, Cardiff, Greater Manchester and Newcastle.

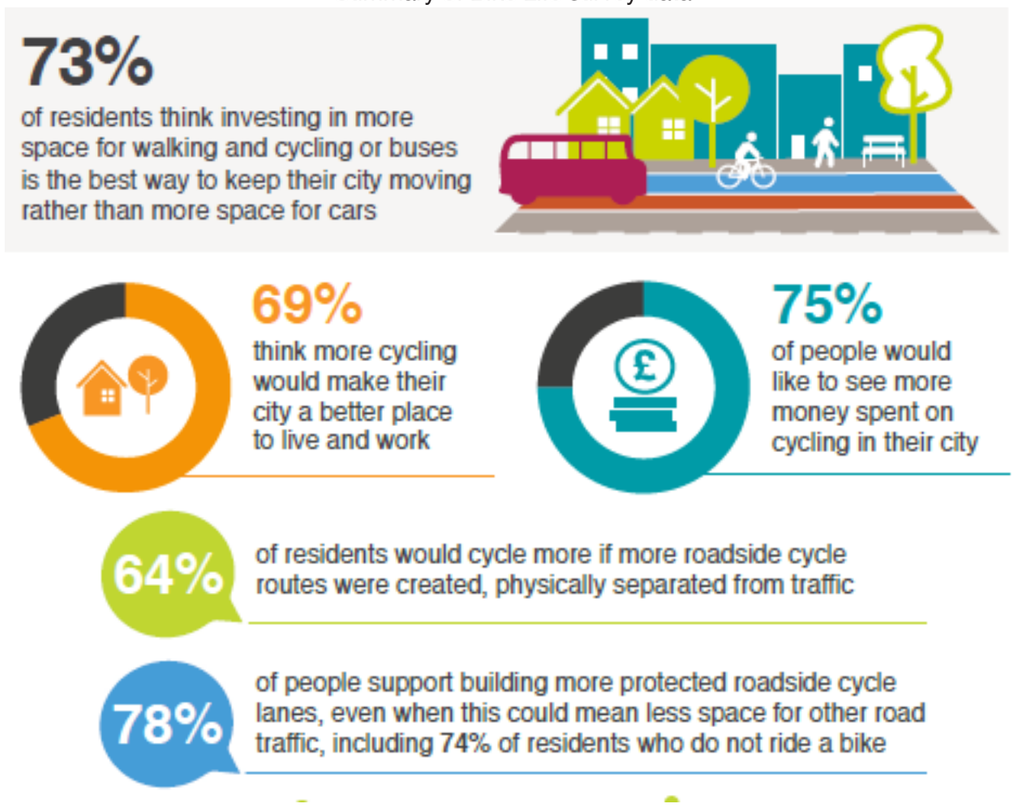
Bike Life is inspired by the Copenhagen Bicycle Account and is an analysis of city cycling development including infrastructure, travel behaviour, satisfaction, the impact of cycling and new initiatives. The information in the report comes from local cycling data, modelling and a representative survey of over 1,100 residents in each city conducted by ICM Unlimited, social research experts. There is widespread public support for creating dedicated space for cycling, as shown in the infographics below.

Liveable Cities and Towns

Sustrans believes that dedicated high quality walking and cycling routes are only part of the overall picture and it is important to regard all public highways as public space and not solely movement corridors for motor vehicles. With this in mind, Sustrans offer the following general principles when designing liveable cities and towns.

1. Ensure that every child who can has the opportunity and confidence to walk and cycle safely to school using high quality walking and cycling routes.
2. Support schools, workplaces and local communities to make walking and cycling the easiest and most attractive option for everybody who can to get around.
3. Create '20 minute neighbourhoods' – places where people can meet most of their everyday needs within a 20-minute walk of their home.
4. Radically reduce the volume and speed of vehicles on main roads, across city and town centres and local high streets – creating places where motorised transport is guest.
5. Remove the through-traffic from our residential areas – creating social streets where walking has priority.
6. Ensure every town and city is served by a dense network of protected cycle routes across urban areas, complemented by off-road routes and routes on quiet streets, as well as walkable routes to and within urban areas. Routes should be attractive, fully accessible, and make people feel safe and secure.
7. Support work to ensure that appealing, comprehensive, affordable and innovative public transport options are available for all, and integrated with walking and cycling.
8. Green our urban areas and ensure everyone can easily access high quality green spaces and green corridors that are good for and connect us to nature.
9. Embrace the potential of cargo bikes to replace vans and cars in the transportation of goods, services and people, whilst removing the negative impacts of freight in the urban environment.
10. Give everyone the opportunity to take up cycling by providing cycles, including electric and adapted, improving cycle parking, and expanding public cycle scheme provision, inclusiveness and integration.
11. Use evidence, insight and stories to make a compelling case for change and win hearts and minds.
12. Encourage a new public debate on motorised transport use – a citizens' assembly which considers the radical and immediate intervention needed to reduce unnecessary journeys by motor vehicles, fairly.
13. Ensure the real cost of motorised transport and its impact on current inequality and future generations is recognised in cross-departmental government decision making, and investment in sustainable and active travel is prioritised.
14. Support diversity in transport and planning, so that decision makers are better representative of the communities that they serve. This is key to making walking and cycling attractive and inclusive activities.

Summary of Bike Life survey data



6.0 Methodology

Sustrans was commissioned by AWC in December 2018 to support the development of a Local Cycling and Walking Infrastructure Plan (LCWIP). Sustrans role is to:

- identify new and improved walking and cycling routes for prioritisation
- align with key Council policies and programmes that support local economic growth, improvements to health and well-being and the environment
- engage key local stakeholders

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.

Sustrans approach was to review all existing identified schemes and proposals in each of the towns and to plot these on an Earthlight GIS platform. This followed with identification of gaps in the network with support from local stakeholders and surveying potential routes on foot and bicycle. The methodology adopted was informed by the Design Guidance published as part of the Active Travel (Wales) Act 2013, the London Cycling Design Standards (first published 2005, latest update 2016) guidance on developing a coherent cycle network and the LCWIP Technical Guidance (published 2017).

6.1 LCWIP Technical Guidance

Under the guidance, the key outputs of LCWIPs are:

- a network plan for walking and cycling which identifies preferred routes and core zones for further development
- a prioritised programme of infrastructure improvements for future investment
- a report which sets out the underlying analysis carried out and provides a narrative which supports the identified improvements and network

This report addresses the first and third outputs, but further work will be needed for the second output.

The LCWIP process has six stages as set out below:

1. Determining Scope

An initial meeting was held with key stakeholders identified by AWC to establish the geographical extent of the LCWIP, and arrangements for governing and preparing the plan.

2. Gathering Information

Identify existing patterns of walking and cycling and potential new journeys. Review existing conditions and identify barriers to cycling and walking. Review related transport and land use policies and programmes.

3. Network Planning for Cycling

Identify origin and destination points and cycle flows. Convert flows into a network of routes and determine the type of improvements required.

4. Network Planning for Walking

Identify key trip generators, core walking zones and routes, audit existing provision and determine the type of improvements required.

5. Prioritising Improvements

Prioritise improvements to develop a phased programme for future investment.

6. Integration and Application

Integrate outputs into local planning and transport policies, strategies, and delivery plans.

Stage 1 was determined by AWC who will lead on Stages 5 and 6 together with West Sussex County Council. Sustrans is responsible for Stages 2, 3 & 4.

6.2 Gathering Information

Comprehensive information and data sources were provided by AWC, which was augmented by publically available datasets from the 2011 Census (e.g. population and employment), DfT Traffic Counts, Road Traffic Accidents, schools, public amenities and previous consultation plans exploring existing and new networks. Review and analysis of the data was undertaken using a bespoke online map created on Sustrans Earthlight platform. The main trip generators were identified and an initial network mapped out to link residential areas with these locations.

A stakeholder workshop was held at an early stage of the process (30 January 2019) to test Sustrans assumptions and to gather useful information from local people. They were asked to identify barriers to walking and cycling, including crossing points of the main barriers (roads, railways, rivers), which form the nodes in the network. Large blank maps were provided for people to draw on, as well as background maps on the local transport network with information on trip generators from the Sustrans GIS database.

The outcomes from this workshop are summarised in the barriers to movement map, which shows existing crossings of the A27, the railway line and River Adur, which are the main barriers in the area. Traffic counts from the DfT have been used to show the major roads in the area, which will need separate provision for walking and cycling due to the high traffic flows.

These crossing points determine the shape of the network to a significant extent, but no new crossings of the railway and the River Adur have been identified at this stage. Crossings of the A27 have been considered by Highways England and WSCC. In particular, the three crossings of the River Adur influence the west-east movement between Sompting, Lancing and Shoreham.

6.21 Existing walking and cycling network

The main existing routes comprise National Cycle Network (NCN) Route 2 along the seafront between West Worthing and Hove and the Downs Link (NCN Route 223) on the former railway line between Steyning and Shoreham. Aside from some sections of shared path in the Durrington and Findon Valley areas, there are also some poorer quality routes in Worthing, which comprise narrow advisory cycle lanes on busy streets such as the A259 Goring Road, or the signed routes linking Findon Valley and Worthing station, and Sompting and Worthing town centre, on quieter roads

There is an extensive Rights of Way network, particularly in the South Downs National Park away from the urban areas. The urban public footpaths do not comprise a comprehensive walking network, although they will be locally useful for trips on foot. With the exception of the Ilex Way public bridleway at Goring, the urban Rights of Way have limited value for horse riding and cycling.

6.22 Suggested walking and cycling network

Sustrans was supplied with a number of datasets indicating potential walking and cycling routes, which provided a useful starting point for our network design. This includes a number of routes plotted by local residents as part of a consultation exercise in 2016 managed by the County Council with support from Sustrans and our Route Assessment and Transport Evaluation (RATE) tool. This exercise has informed what has been labelled the “West Sussex Network” as shown on the suggested network map. These routes indicate a reasonably dense network in Worthing and Shoreham, but very little in Sompting and Lancing.

A further dataset of routes supplied by AWC from the Adur & Worthing Walking and Cycling Action Group overlaps strongly with the first dataset, but shows a comprehensive dense network across the whole urban area. This was derived from an earlier consultation exercise with local residents and community groups and has been labelled as the “Walking and Cycling Action Group Suggested Network”.

6.23 Trip generators

An important starting point in designing a walking and cycling network is to determine the likely origin and destination points for everyday trips to work, school, shopping and leisure. The two trip generators maps in the following pages give a visual indication of these destinations, including: employment areas, secondary schools, shopping areas, hospitals, leisure or sports centres. Future development sites give an indication of potential future transport demand.

There is a significant concentration of trip generators in both town centres, especially retail and employment, but there are also large employment sites at West Durrington, Goring, Broadwater and South Lancing. Secondary schools are dispersed across the whole area, but with some concentration in central Worthing. Leisure and sports centres are also dispersed across the whole area.

Population densities are generally higher in central areas and more dispersed further out, which suggests that short trips are likely to be concentrated in these central areas. However, all residential areas are within 5km of most destinations, providing a strong

argument in favour of a comprehensive walking and cycling network across the whole urban area.

6.24 Propensity to Cycle data

The cycle commute map for Worthing based on census 2011 flow data indicates that Worthing town centre is an important destination, with flows radiating to all parts of the town. The coastal cycle route appears to be well used and there is a strong flow between West Durrington and the town centre. The existing 2011 cycle flows in Adur are much lower and it is difficult to draw any conclusions from this data. It should be noted that commuting is only 14% of all trips nationally.

The school travel map for Worthing shows strong flows in the vicinity of the secondary schools in the central area and weaker but significant flows throughout the urban area, mostly away from the town centre. The Census 2011 school travel map for Adur indicates a number of existing flows that could form the basis of a network, albeit at lower demand levels than for Worthing. It should be noted that education and escort to education is only 13% of all trips nationally.

We have also analysed the short car trips under 5km for journeys to work, on the basis that these might reveal the potential for modal shift towards walking and cycling. These show strong flows into the two town centres, but also significant flows within the main urban areas of Worthing, Sompting & Lancing and Shoreham. Flows between these three areas are much weaker, probably reflecting the greater actual road distances involved. This map suggests that there is good potential for modal shift across the whole urban area.

Commuting, education and escort education trips only account for 27% of all trips in England, so there is a danger that too much weight is given to these types of trip, because the data is readily available from the Census 2011. Shopping accounts for 18% of all trips and leisure 22% so arguably we should focus on these trips, but unfortunately there is limited data available. The full breakdown from the National Travel Survey of English residents published in July 2019 is shown in the table below:

Journey purpose	Annual trips	Percent
Commuting	188	14.16%
Business	43	3.27%
Education	94	7.04%
Escort education	80	6.00%
Shopping	245	18.42%
Other escort	116	8.76%
Personal business	130	9.75%
Visit friends at private home	127	9.58%
Visit friends elsewhere	70	5.26%
Sport / entertainment	99	7.48%
Holiday / day trip	61	4.57%
Other including just walk	76	5.71%
All	1,329	

6.3 Network planning for cycling

There is a wealth of information to consider when planning a cycle network for Adur and Worthing, as described above. Our approach was to work through all the data, switching layers on and off within our GIS mapping system to test the emerging network. The sequence below reflects the series of maps on the following pages:

LCWIP ref	Map ref	Analysis	Recommendations
5.40	Barriers to movement	Crossing points and major roads	New crossings if required
4.4	Existing walking and cycling network	Quality, value for local journeys	Improvements if required
4.5	Suggested walking and cycling network	Value for local journeys	Add or remove routes if required
5.9	Trip generators	Map all important origins and destinations	Ensure the network swerves all major destinations
4.8	Propensity to Cycle Tool (cycle commute, cycle to school and short car trips)	Existing trips and modelled increases	Design network to accommodate the major flows
5.23	Proposed walking and cycling network	Test against core design outcomes	Improvements if required

The proposed network largely coincides with the "West Sussex Network" and the "Walking and Cycling Action Group Suggested Network", but is a less dense network than either of these datasets. We have taken the advice in para. 5.21 of the LCWIP Technical Guidance that "it will take time to develop a network with a tight density, and wider mesh widths of up to 1000m would be expected within the initial phases of the network's development". Further routes can be added at a later stage to create a denser network, but our advice is to start with fewer routes and implement them to a high standard. The proposed network is denser within the central areas of both Districts, closer to the ideal density of 400m between routes.

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. Some sections of secondary routes may have higher flows than parts of the primary routes, so the distinction between primary and secondary is not a reliable guide to investment priorities.

The proposed network has been visually tested against the Propensity to Cycle data and there is a high degree of correlation between the two networks, with all the major employment sites and secondary schools served by the proposed network as shown on the map. The proposed network also serves the main shopping areas, hospitals, leisure or sports centres and development sites

The Route Selection Tool has been used to assess Route 201 between Ferring and Worthing town centre as an example of the use of this tool, which is part of the LCWIP technical guidance.

Trip generators and key constraints have been identified for each route and summarised in a table before the proposed network maps. Some of these constraints may not be possible to resolve, so alternative routes may need to be considered.

6.4 Network planning for walking

We have assumed that the trip generators for walking are the same as those for cycling, albeit that shorter distances will be involved (less than 2km). The proposed cycle network provides a suitable framework for walking trips, although it is recognised that a much finer-grained network is required for walking since most streets have footways. When the cycle network is designed, it will be vital to ensure that people on foot do not have a reduced level of service, for example no existing footways to be converted to shared use without widening. All crossings on the cycle network must accommodate people on foot and on bikes.

We have identified primary and secondary walking zones, with the two town centres as the primary zones. The secondary zones are based on local shopping centre locations as defined by the local authority. The LCWIP Technical Guidance (para 6.15) suggests that core walking zones should have a minimum diameter of 400m, so we have extended the zones out from the boundaries given by the local authority to account for this. Key walking routes should extend up to a 2km radius from the core walking zones, as shown by the buffer on the map. As a first approximation, we have assumed that the cycle network within this 2km radius will comprise the key walking routes.

The main gateways into Worthing and Shoreham town centres have been identified and these are described in the following pages. All walking routes within the core walking zone should be audited, but that is beyond the scope of this report.

All other key walking routes should also be audited and three routes have been chosen to demonstrate

the process of using the Walking Route Audit Tool. Route 311 links Northbrook Business Park, Downsbrook Middle School, St Andrew's High School for Boys, Worthing town centre and Worthing Hospital, using residential streets and a short length of the B2223. Public footpath 3137 runs parallel to the on-road route and has been assessed separately. Routes 201 and 202 link East Worthing with Worthing town centre.

6.5 Door to door journeys

In addition to planning for local trips on foot and by bike, it is important to ensure that longer distance journeys are made as easy as possible by integrating walking and cycling networks with public transport interchanges.

The concept of the "door-to-door" journey was introduced by the Campaign for Better Transport in 2011, leading to the publication of a Government door to door strategy in 2013. The emphasis is on access to public transport interchanges at both ends of the journey – perhaps walking or cycling from home to the train station, then picking up a hire bike to the final destination.

The government strategy focuses on four areas:

- accurate, accessible and reliable information about the different transport options for their journeys;
- convenient and affordable tickets, for an entire journey;
- regular and straightforward connections at all stages of the journey and between different modes of transport
- safe, comfortable transport facilities.

As most public transport journeys involve a mode change, interchange between these is very important. Users do not want to have to go out of their way to access the next mode. It also needs to be clearly signed, passengers often have short connection times so need reassurance they will be able to locate their next waiting time within their time frame.

Larger interchanges, such as train station to bus station, should also have facilities appropriate to usage. If there is shelter from the elements, a safe place to wait and possibly additional facilities such as a coffee shop then wait times can seem shorter than they actually are. It is also very useful to provide real-time information at interchanges.

Where users are not taking a motorised form of transport to access or exit their next mode of transport then interchange is still as important. Cycling facilities needs to be safe and secure and in an accessible place for changing modes quickly. This is the same for bike hire facilities. Walking and cycling routes need to be well signed giving distances and potentially times to key destinations. Provision for taxis, good pedestrian access and, where appropriate car parking, also need to be made.

6.6 Implementation

The inclusion of a route in the network plan is no guarantee that it will be implemented. While we have made every effort to ensure that our proposals are practical, it has to be recognised that there are competing demands for highway space and further feasibility and detailed design work will be necessary. In some cases, this may mean that a route is moved to an alternative parallel alignment.

It should be noted that this report is not a feasibility study, but a high level assessment, and all proposals would need to be subject to further feasibility work, then detailed design development and consultation in due course. We recognise that there are other competing demands for road space, including cars, parking, buses, taxis and parking. Proposed road space reallocations for walking and cycling will need to carefully consider implications across all modes, although the ultimate aim must be to reduce the dominance of motor vehicles, thereby easing congestion.

If schemes are to be progressed, they will need to be prioritised for inclusion in delivery programmes alongside other proposals, with schemes subject to the appropriate level of business case development.

Key constraints for each of the proposed LCWIP routes are listed in a table that precedes the two proposed network maps for Worthing and Adur. Start and end points, length of route and trip generator are also listed.

Propensity to Cycle Scenarios

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.

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 and school trips, therefore only 27% of all journeys. Travel to 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 people on foot. 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.

The first map shows current levels of cycling to work, which are above average in Worthing. The second map shows the Government Target scenario, which indicates a modest increase in commuter cycling trips.

The third map shows the "Go Dutch" scenario, which indicates that a significant proportion of commuter trips could be made by bike.

While the Government Target scenario models relatively modest increases in cycle commuting, the Go Dutch scenario is an ambitious vision for what cycling in England and Wales could look like. People in the Netherlands make 28.4% of trips by bicycle, fifteen times higher than the figure of 1.6% in England and Wales, where cycling is skewed towards younger men. By contrast in the Netherlands cycling remains common into older age, and women are in fact slightly more likely to cycle than men. Whereas the cycle mode share is 'only' six times higher in the Netherlands than in England for men in their thirties, it is over 20 times higher for women in their thirties or men in their seventies.

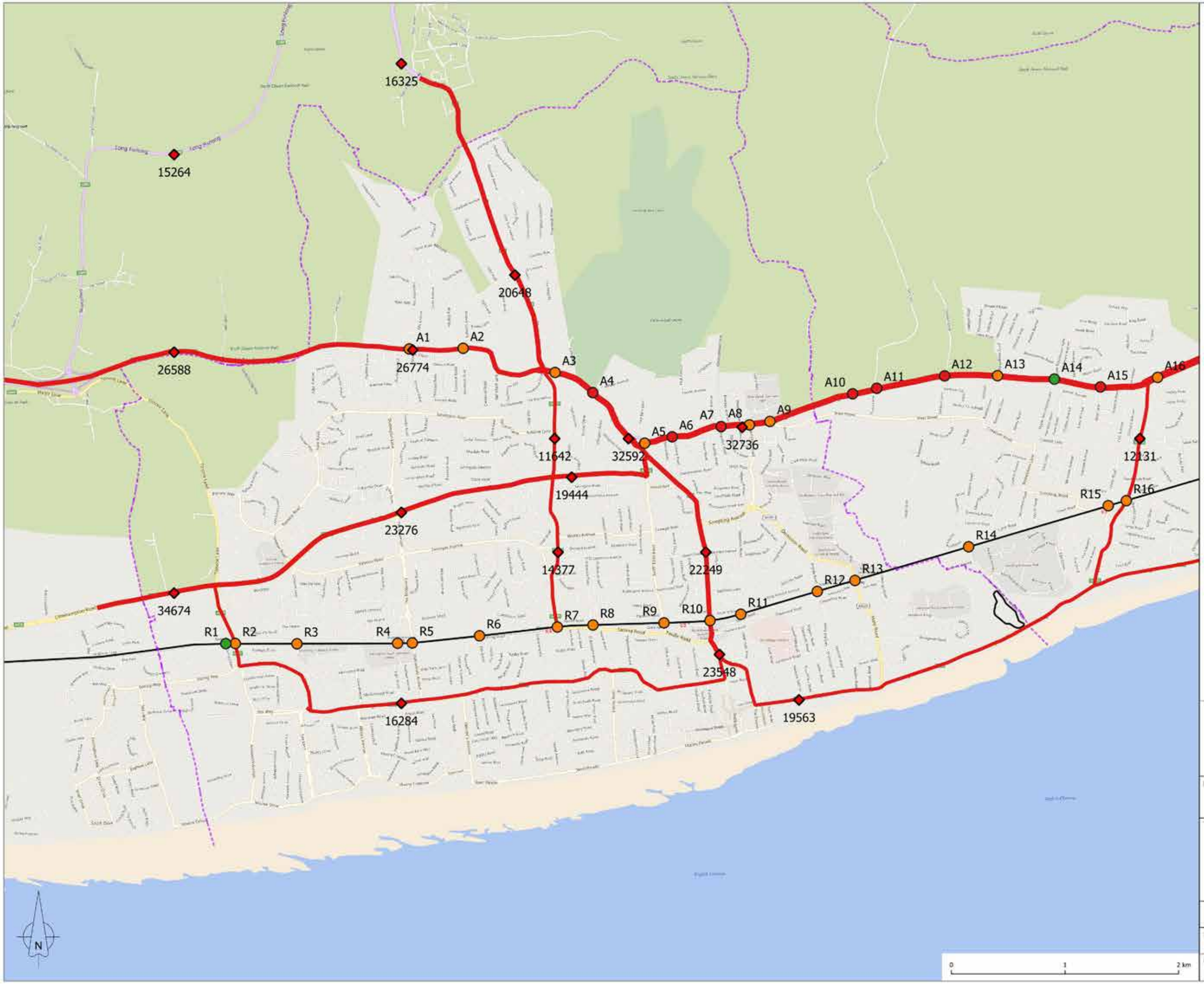
The Go Dutch scenario represents what would happen if English and Welsh people were as likely as Dutch people to cycle a trip of a given distance and level of hilliness. This scenario thereby captures the proportion of commuters that would be expected to cycle if all areas of England and Wales had the same infrastructure and cycling culture as the Netherlands.

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=west-sussex

We have created a series of maps based on data available on the PCT website, which are displayed on the following pages:

- Commuter and school travel area data for West Sussex, based on the Census 2011, Government target and Go Dutch scenarios
- Commuter route data for Worthing and for Adur, based on the three scenarios
- School route data for Worthing and for Adur, based on the three scenarios
- Commuter short car trips based on Census 2011 data



KEY

DfT Traffic 2016 Traffic CountsTotal Vehicle Average Annual Daily Flow (AADF)

- 0 - 5000
- 5,000 - 10,000
- 10,000+

Road Barriers

Traffic Volumes

- 10,000-20,000
- 20,000-30,000
- 30,000-40,000
- 40,000+

Barrier Crossing Point Quality Rating

- Green
- Amber
- Red
- Railway Line
- Administrative Boundary

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
WORTHING EXISTING BARRIERS AND CROSSINGS

Drawn	Checked	Date	Scale at A3
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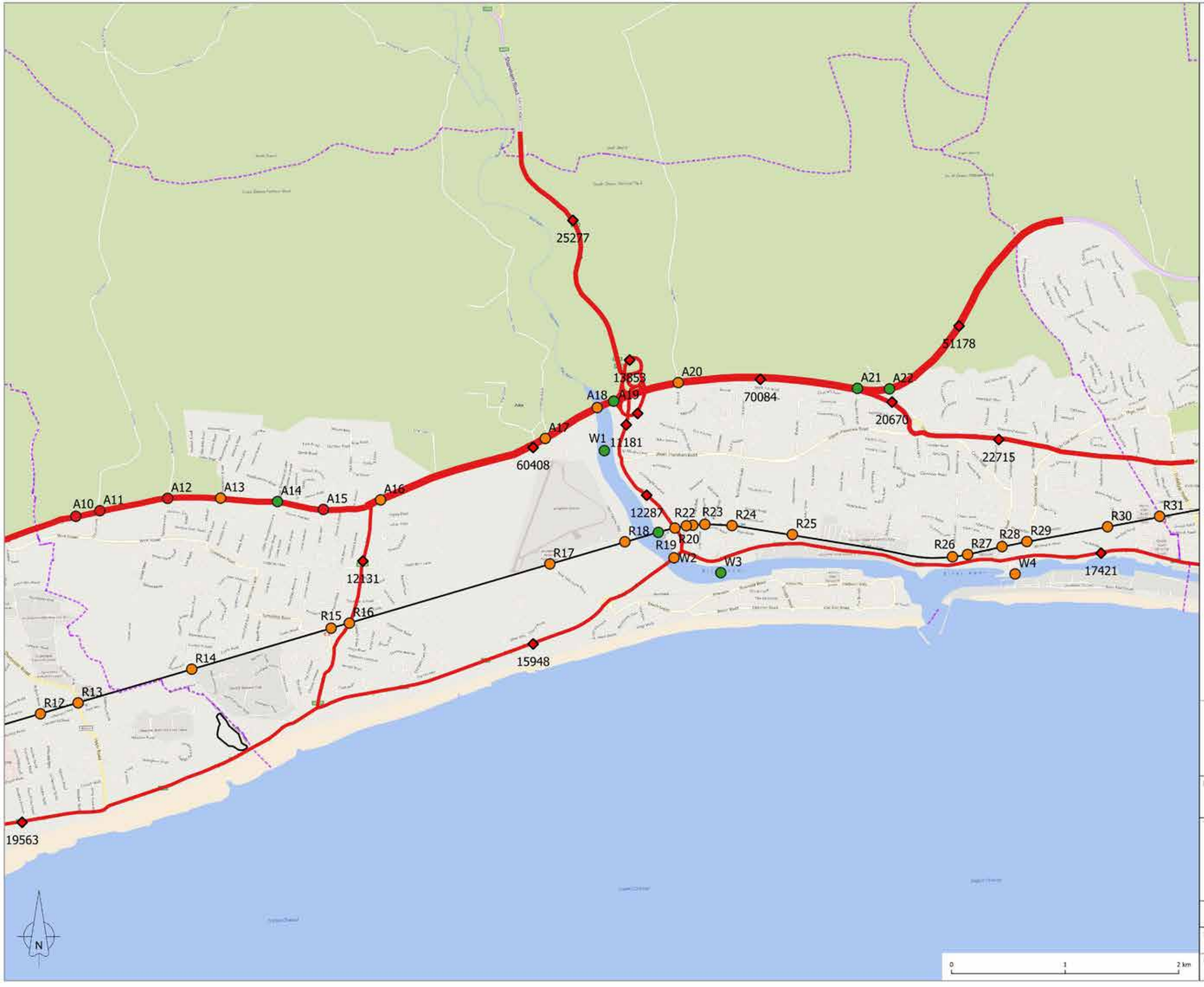
DRAWING NUMBER: 11880WOR-SD-MAP-00-11

REVISION: D



KEY

DfT Traffic 2016 Traffic Counts Total Vehicle Average Annual Daily Flow (AADF)

- 0 - 5000
- 5,000 - 10,000
- 10,000+

Road Barriers

Traffic Volumes

- 10,000-20,000
- 20,000-30,000
- 30,000-40,000
- 40,000+

Barrier Crossing Point Quality Rating

- Green
- Amber
- Red

Barrier Crossing Point Quality Rating

- Railway Line
- Administrative Boundary

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
ADUR EXISTING BARRIERS AND CROSSINGS

Drawn	Checked	Date	Scale at A3
SM	SF	23/10/2019	1:30000

STATUS: ISSUE

DRAWING NUMBER	REVISION
11880AD-SD-MAP-00-11	E

Barriers to Movement

Many of the crossing points of three barriers (A27, railway and River Adur) were identified by stakeholders in the January 2019 workshop and we have added some from A27 studies and some from our own investigation.

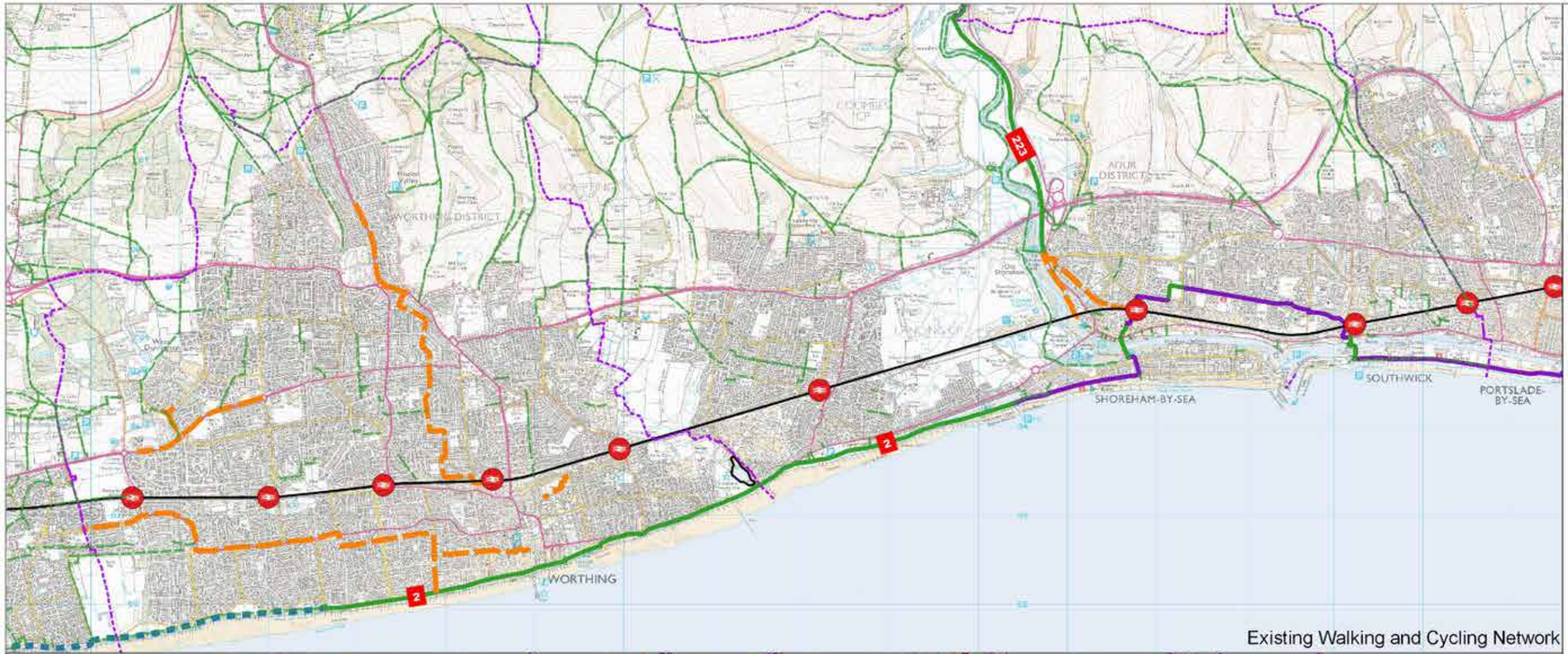
Crossings are classified according to a simple "traffic light" system, where

- Green = good quality crossing
- Amber = existing crossing, improvements needed
- Red = new crossing needed

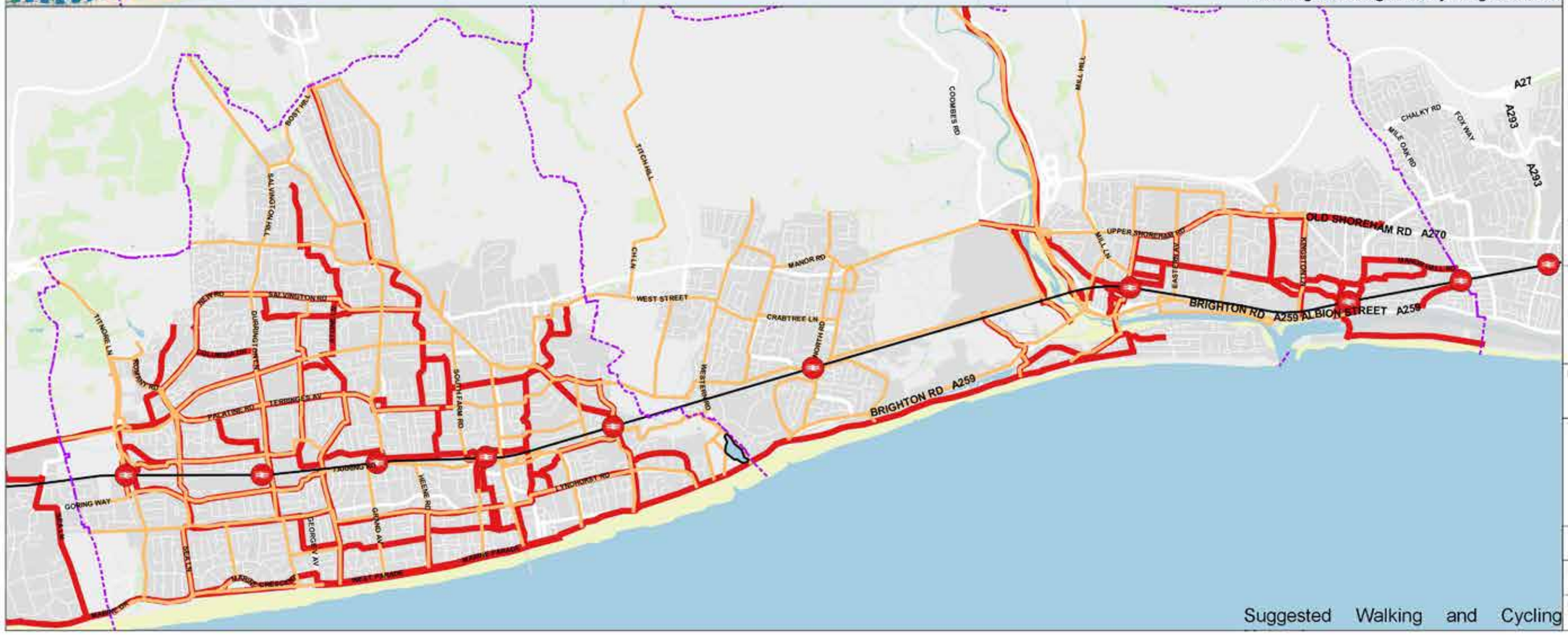
The table below describes each crossing and lists recommendations for improvement. It is unlikely that all crossings will be needed where they are close together. Further feasibility assessment is necessary to understand the key constraints, including impact on traffic flows on the A27.

Ref	Class	Route	Existing	Recommendations
Crossings of the A27				
A1	Amber	302	Staggered signal crossing	Upgrade to Toucan and improve links
A2	Amber	n/a	Single stage Pelican	Upgrade to Toucan and improve links
A3	Amber	310	Single stage Pelican	Upgrade to Toucan and improve links
A4	Red	n/a	None	New crossing to link with bridleway
A5	Amber	210	Staggered signal crossing	Upgrade to Toucan
A6	Red	210	Uncontrolled crossing	Install signal crossing
A7	Red	210	Uncontrolled crossing	Install signal crossing
A8	Amber	210	Staggered signal crossing	Improve crossing with larger waiting areas
A9	Amber	311	Staggered signal crossing	Improve crossing with larger waiting areas
A10	Red	n/a	None	New crossing for public footpath
A11	Red	n/a	None	New crossing at Church Lane
A12	Red	n/a	None	New crossing at Dankton Lane
A13	Amber	313	Staggered signal crossing	Improve crossing with cycle provision
A14	Green	n/a	Footbridge with ramps	n/a
A15	Red	n/a	Uncontrolled crossing	New crossing at West Lane
A16	Amber	210	Staggered Puffin crossing	Improve links north of crossing
A17	Amber	210	Two stage Pelican	Improve links on both sides
A18	Amber	n/a	Bridge over footpath	Improve surface
A19	Green	330	Bridge over Downs Link	n/a
A20	Amber	n/a	Bridge under minor road	n/a
A21	Green	332	Bridge under bridleway	n/a
A22	Green	n/a	Bridge under restricted byway	n/a
Crossings of the River Adur				
W1	Green	210	Old Shoreham Bridge	n/a
W2	Amber	202	Norfolk Bridge	Potential for segregated cycle paths
W3	Green	200	Adur Ferry Bridge	n/a
W4	Amber	202	Shoreham Harbour Lock	Improve walk and cycle provision

Crossings of the railway				
R1	Green	300	Level crossing	n/a
R2	Amber	n/a	Bridge under A259	Potential for segregated cycle paths
R3	Amber	301	Subway	Improve cycle provision on approaches
R4	Amber	n/a	Stepped footbridge	n/a
R5	Amber	302	Level crossing	Improve cycle provision
R6	Amber	n/a	Ramped footbridge with shallow steps	Improve signage and cycle provision
R7	Amber	303	Level crossing	n/a
R8	Amber	n/a	Stepped footbridge	Improve signage and cycle provision
R9	Amber	304	Level crossing	Improve walk and cycle provision
R10	Amber	310	Bridge under A24	Install segregated cycle paths
R11	Amber	311	Narrow subway, cyclists dismount	Improve links on both sides
R12	Amber	n/a	Ramped footbridge	Improve signage and cycle provision
R13	Amber	312	Bridge over Western Road	Potential for segregated cycle paths
R14	Amber	313	Bridge under B2223	n/a
R15	Amber	202	Level crossing	Improve cycle provision
R16	Amber	320	Bridge under A2025	Install segregated cycle paths
R17	Amber	321	Bridge over New Salts Farm Road	Improve cycle provision
R18	Amber	202	Viaduct over footpath and access track	Improve cycle provision
R19	Green	330	Viaduct over riverside path	n/a
R20	Amber	n/a	Bridge over A283	Improve cycle provision and access to riverside
R21	Amber	n/a	Bridge over Victoria Road	n/a
R22	Amber	n/a	Narrow bridge over West Street	Traffic management in wider area
R23	Amber	n/a	Bridge over Southdown Road	n/a
R24	Amber	331	Level crossing	n/a
R25	Amber	n/a	Level crossing	Improve walk and cycle provision
R26	Amber	333	Bridge over Kingston Lane	n/a
R27	Amber	n/a	Narrow bridge over Victoria Road	Traffic management in wider area
R28	Amber	202	Narrow bridge over Grange Road	n/a
R29	Amber	n/a	Bridge over B2167	n/a
R30	Amber	n/a	Stepped footbridge	Improve signage and cycle provision
R31	Amber	n/a	Stepped footbridge	n/a



Existing Walking and Cycling Network



Suggested Walking and Cycling

KEY - EXISTING NETWORK

WALKING AND CYCLING NETWORK

National Cycle Network

- Traffic Free
- On-road
- Proposed NCN Route
- Local Cycle Network
- Pubic Rights of Way

OTHER

- Railway Station
- Administrative Boundary

KEY - SUGGESTED NETWORK

WALKING AND CYCLING NETWORK

- West Sussex Network
- Walking and Cycling Action Group Suggested Network

N 0 1 2 km

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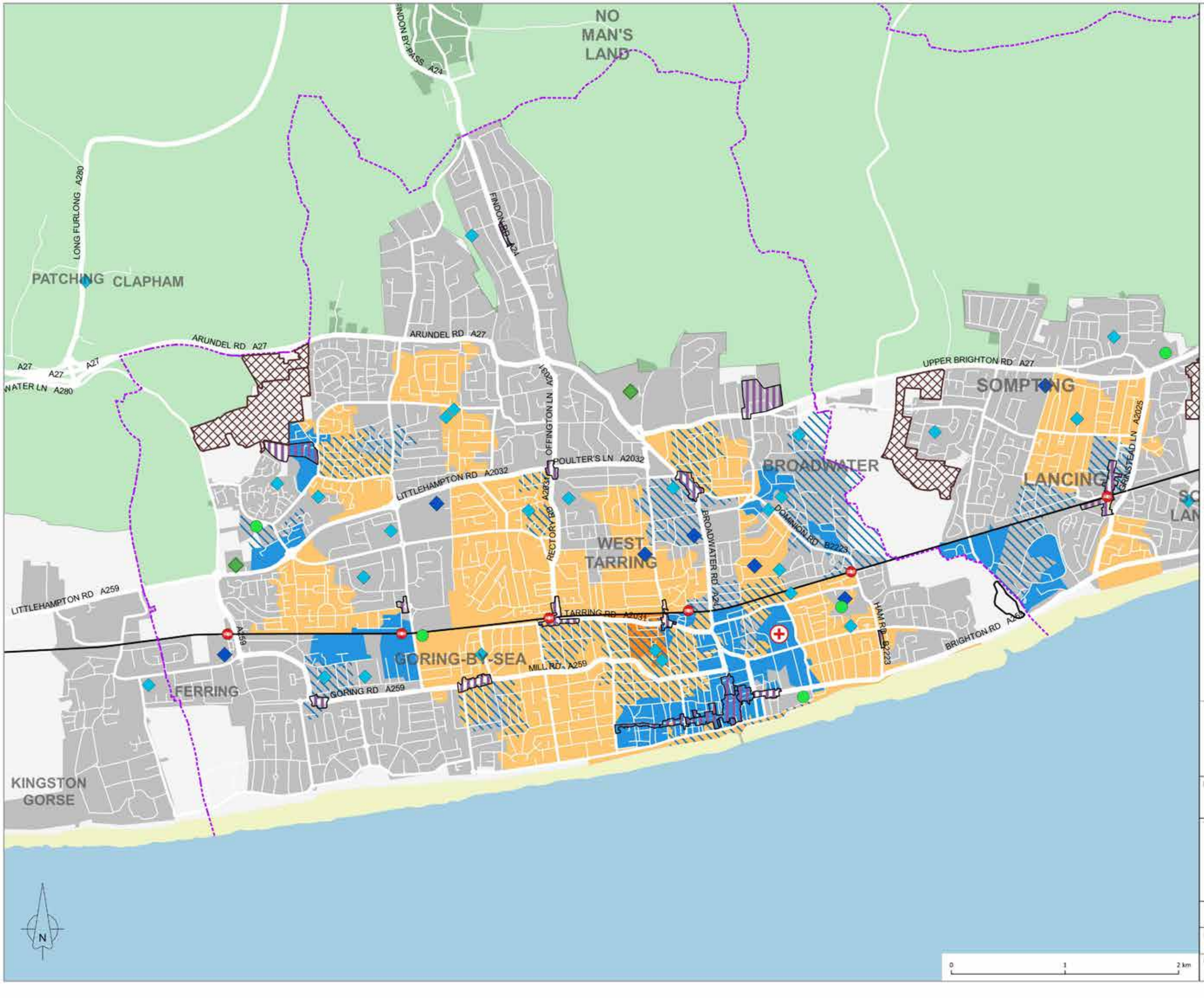
PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
ADUR AND WORTHING EXISTING AND SUGGESTED WALKING AND CYCLING NETWORKS

Drawn	Checked	Date	Scale at A3
SM	SP	7/10/2019	1:50000

STATUS: ISSUE

DRAWING NUMBER	REVISION
11880WOR-SD-MAP-00-09	C



KEY

EMPLOYMENT
2011 Census Workzones
Density of Employment (Jobs per Hectare)
- 20 - 50
- 50 +

POPULATION
2011 Census Population Density
(People per Hectare)
- 0-50
- 50 - 100
- 100+

TRIP GENERATORS
Retail
- Shopping Areas

Services
- Hospital

Leisure
- Leisure or Sports Centre

Schools
- Primary School
- Secondary School
- Further Education
- Future Development Sites

OTHER
- Administrative Boundary
- South Downs National Park

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

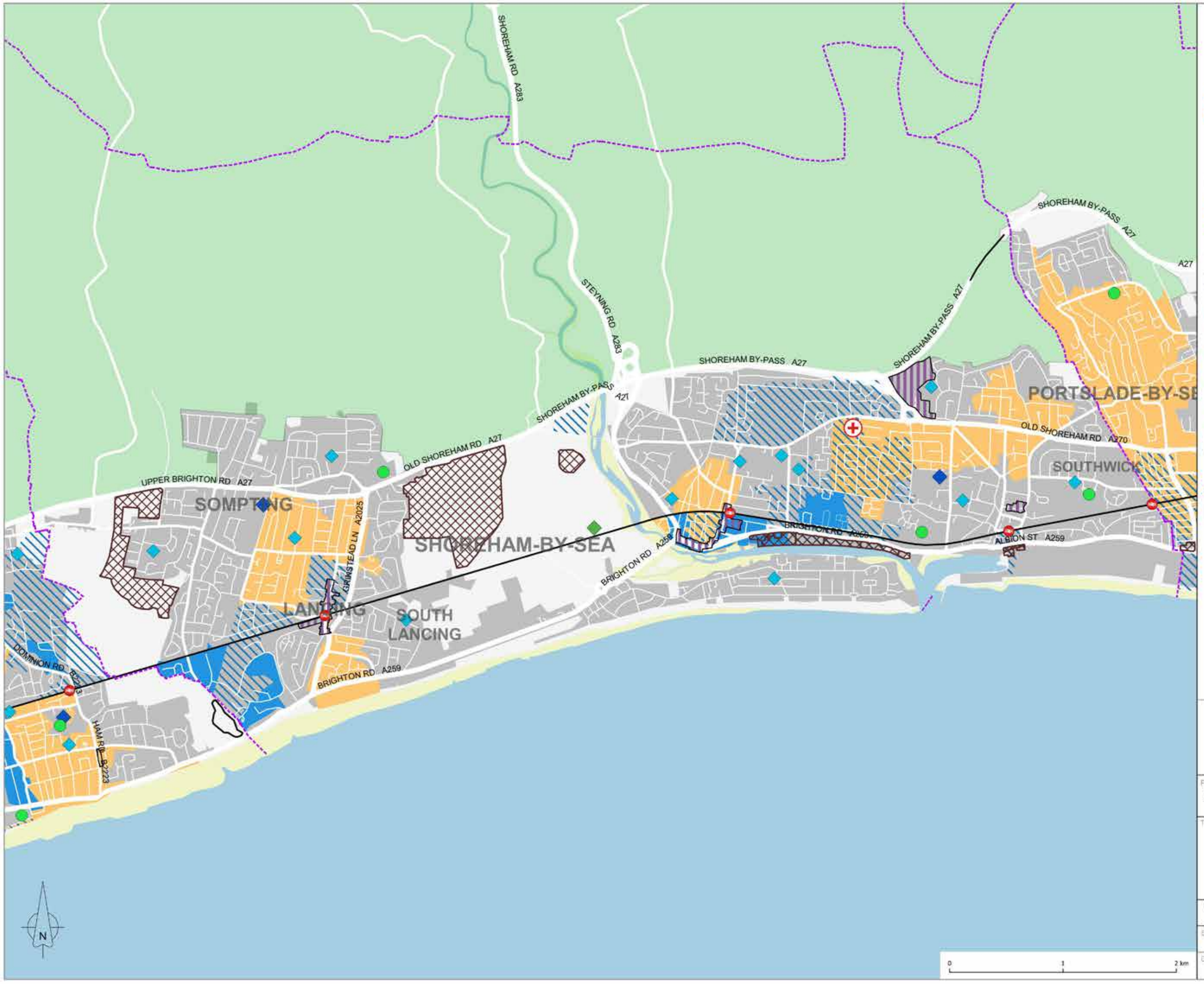
TITLE
WORTHING
TRIP GENERATORS AND
LOCAL ATTRACTORS

Drawn	Checked	Date	Scale at A3
SM	SP	3/10/2019	1:30000

STATUS: ISSUE

DRAWING NUMBER: 11880WOR-SD-MAP-00-01

REVISION: E



KEY

EMPLOYMENT
2011 Census Workzones
Density of Employment (Jobs per Hectare)
- 20 - 50
- 50 +

POPULATION
2011 Census Population Density
(People per Hectare)
- 0-50
- 50 - 100
- 100+

TRIP GENERATORS
Retail
- Shopping Areas

Services
- Hospital

Leisure
- Leisure or Sports Centre

Schools
- Primary School
- Secondary School
- Further Education
- Future Development Sites

OTHER
- Administrative Boundary
- South Downs National Park

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
ADUR
TRIP GENERATORS AND LOCAL ATTRACTORS

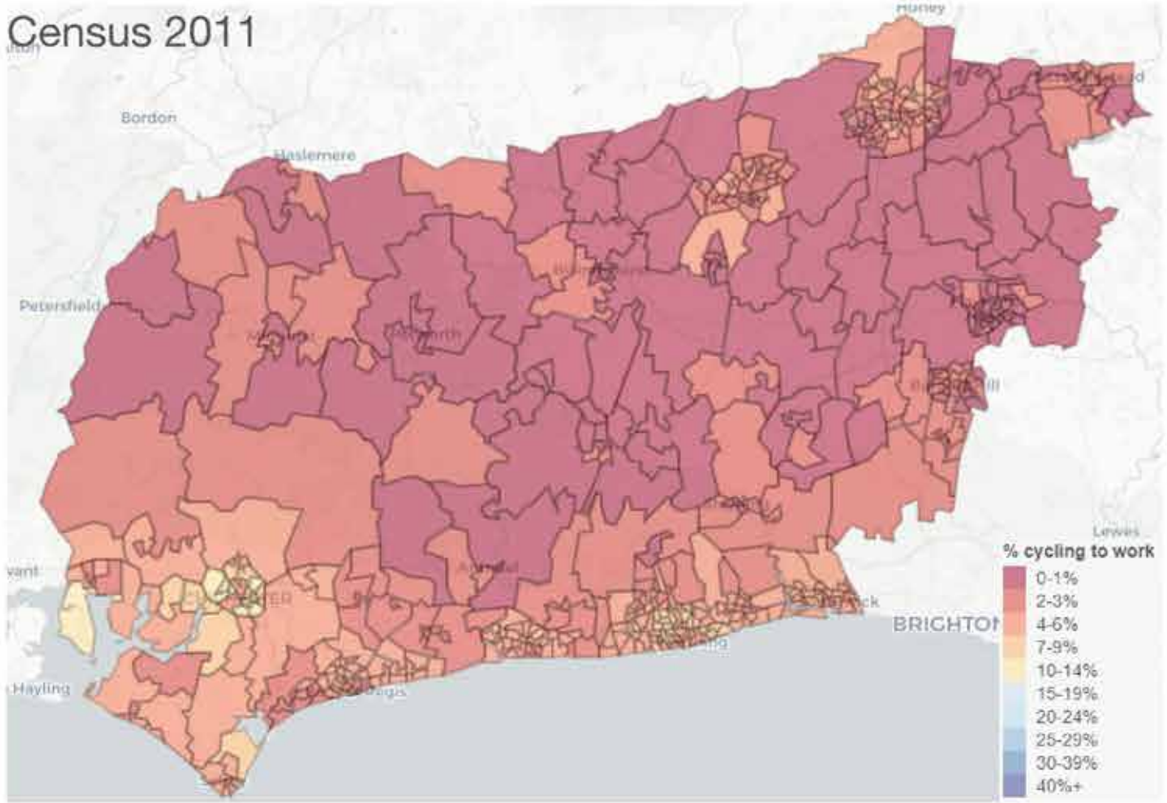
Drawn	Checked	Date	Scale at A3
SM	SP	23/10/2019	1:30000

STATUS
ISSUE

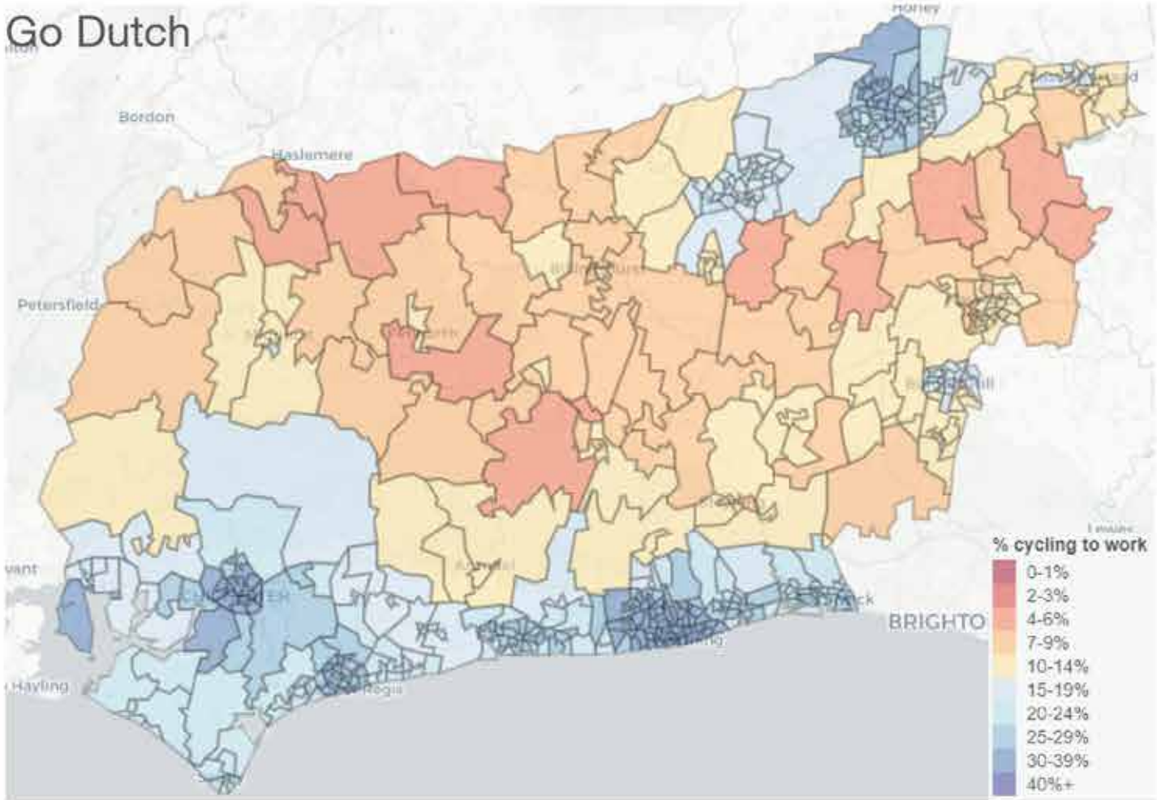
DRAWING NUMBER	REVISION
11880AD-SD-MAP-00-01	F

PCT Commute Data

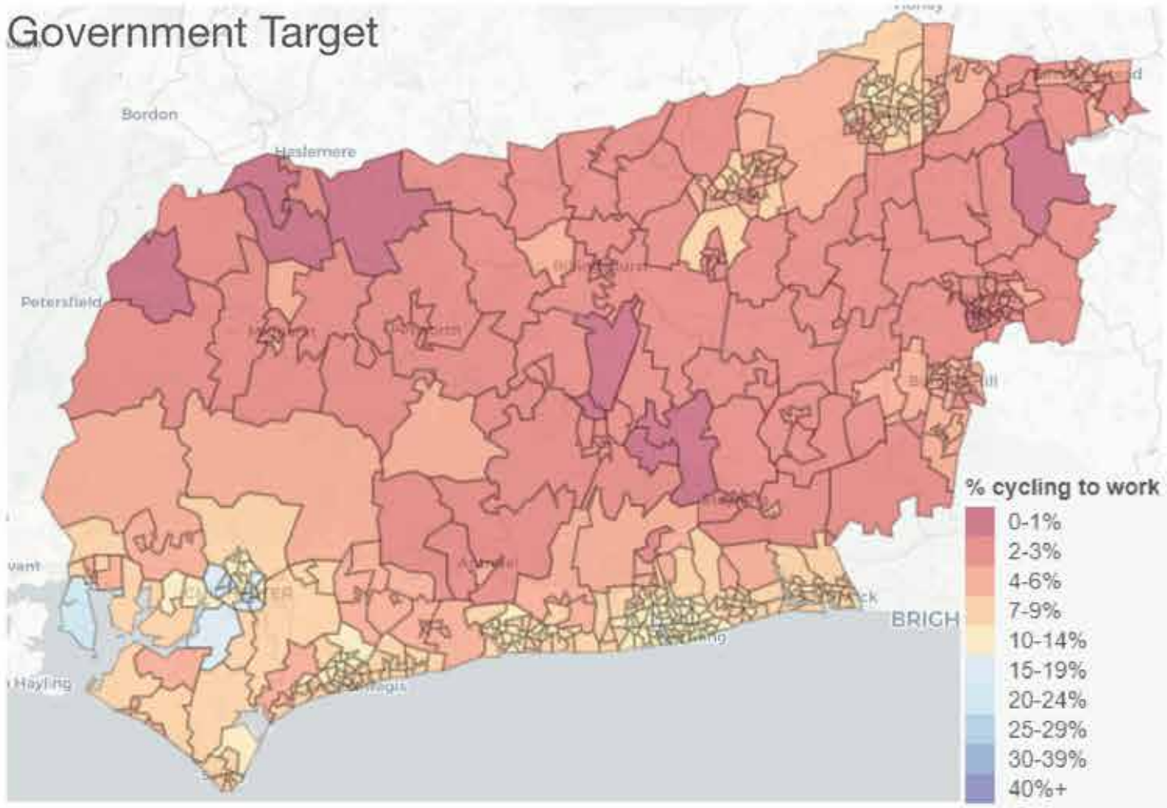
Census 2011



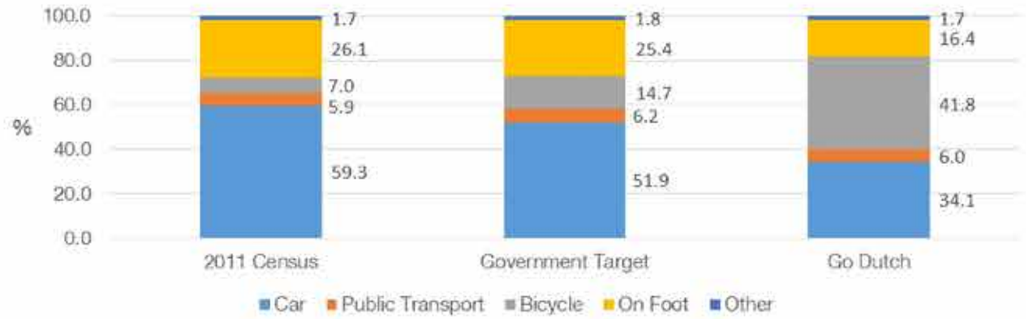
Go Dutch



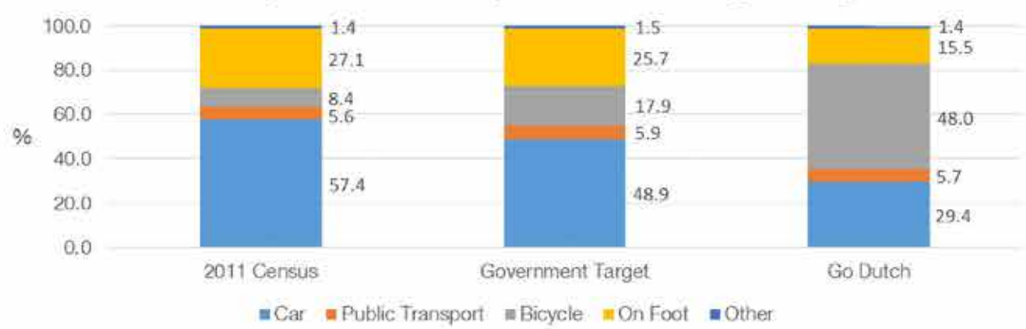
Government Target



Modal Split: Commute Trips Within Adur Borough

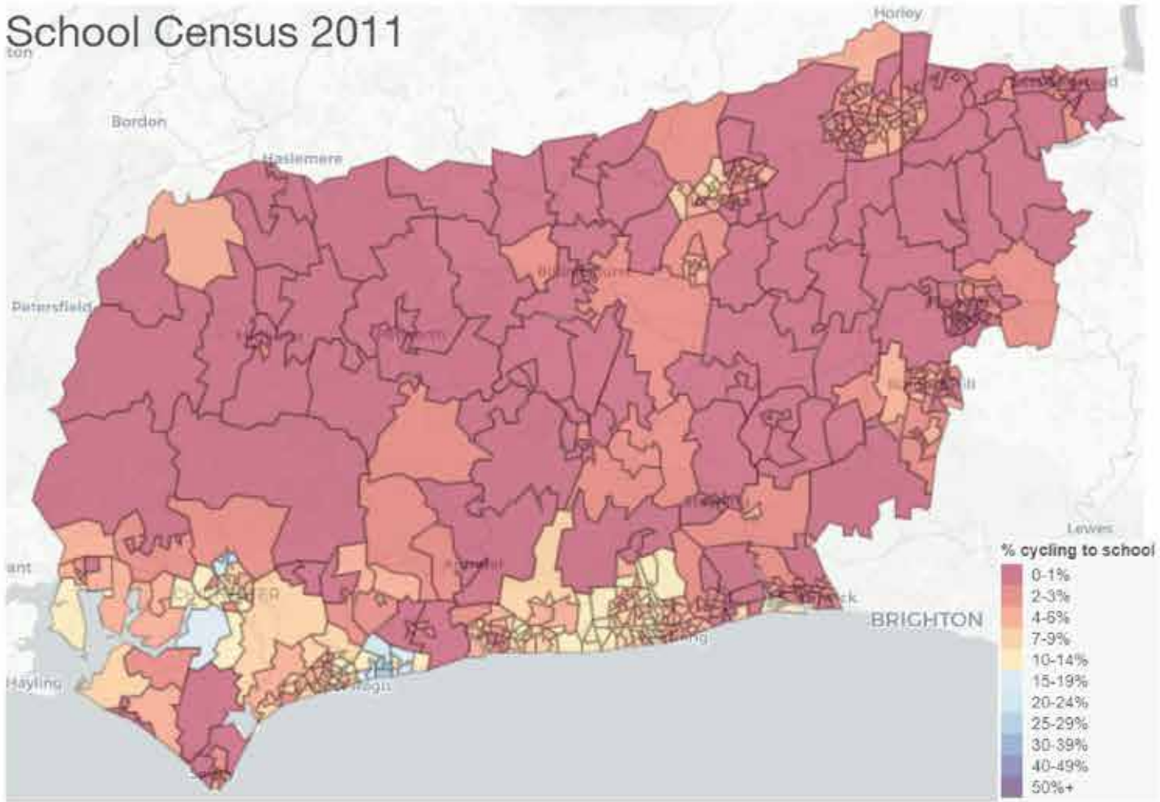


Modal Split: Commute Trips Within Worthing Borough



PCT School Data

School Census 2011



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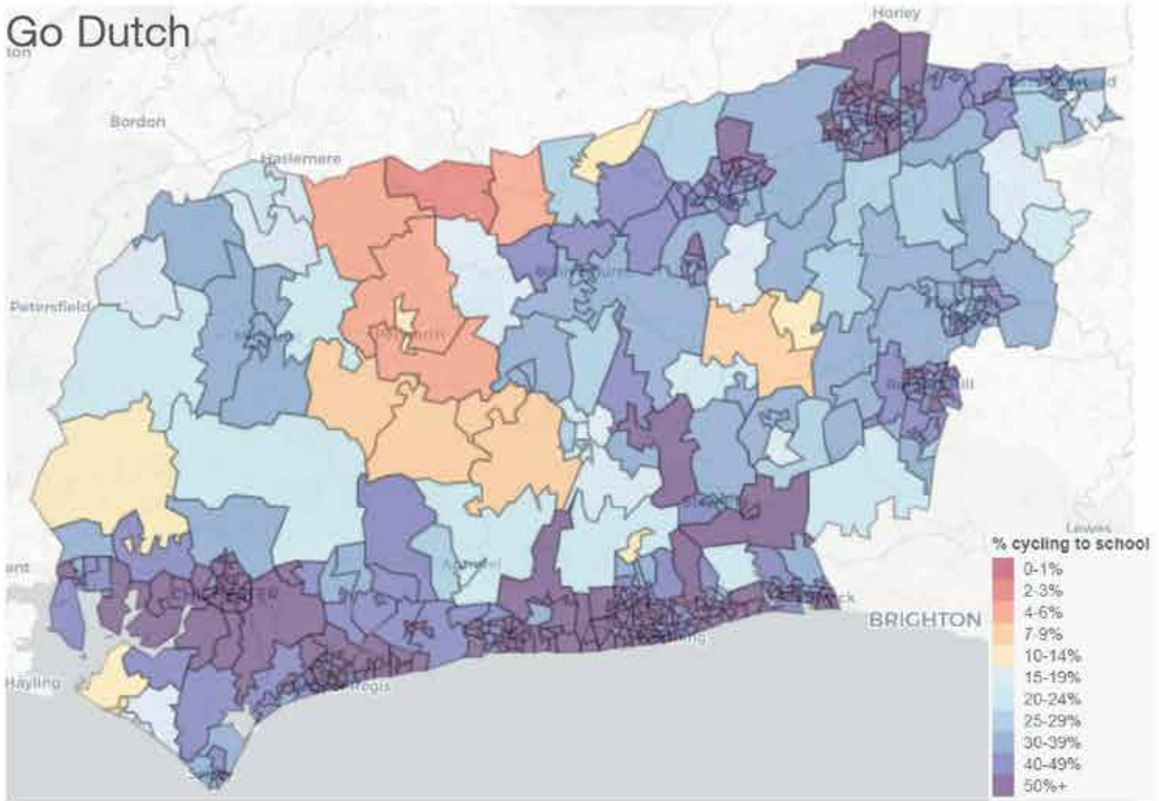
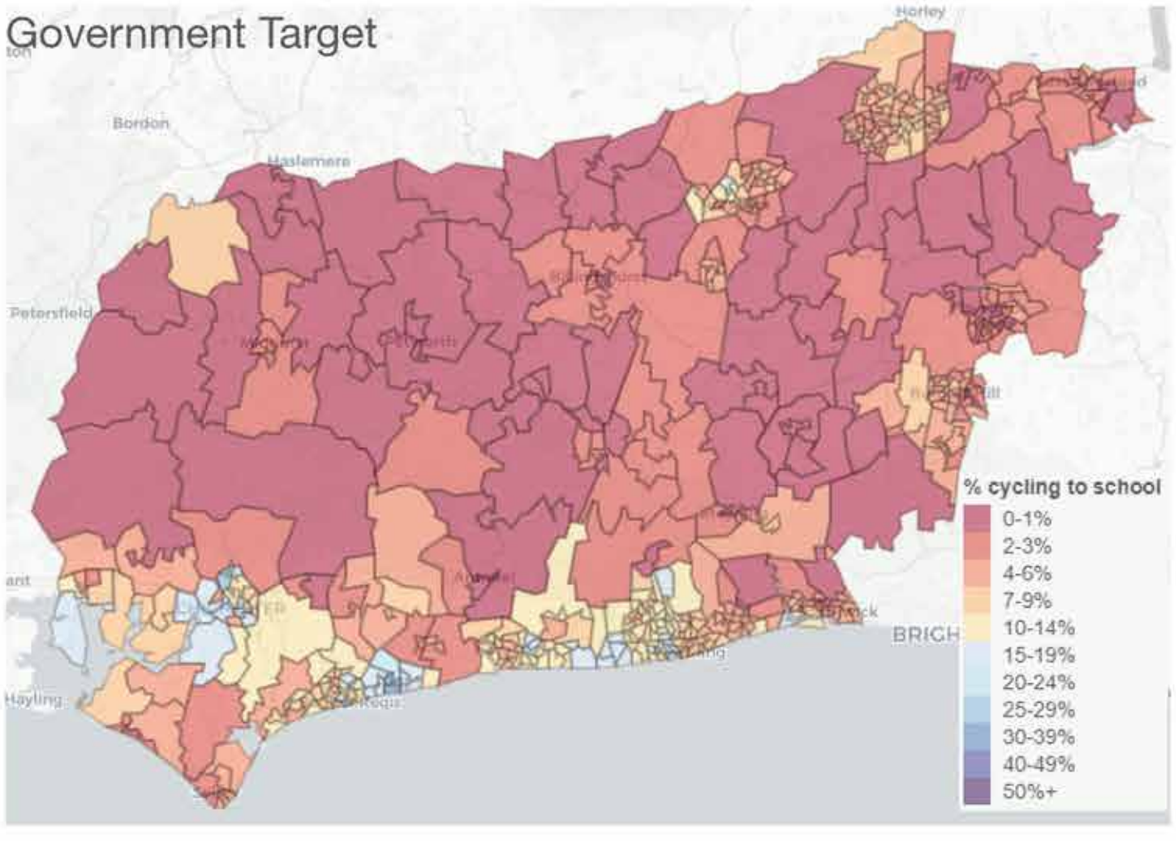
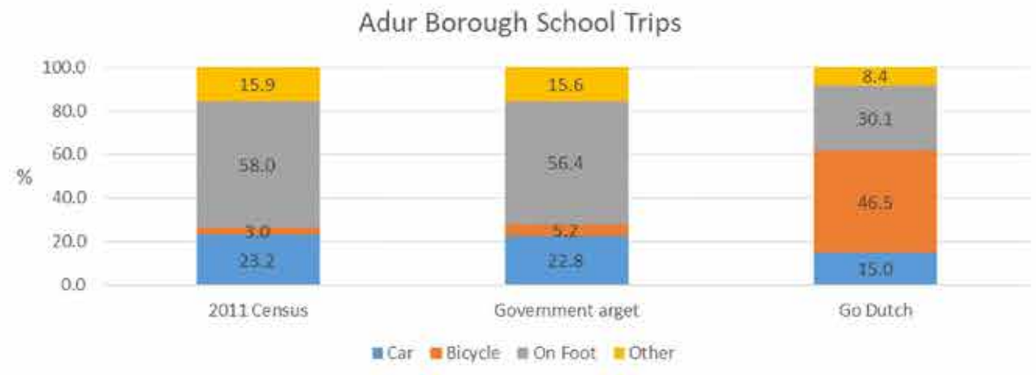
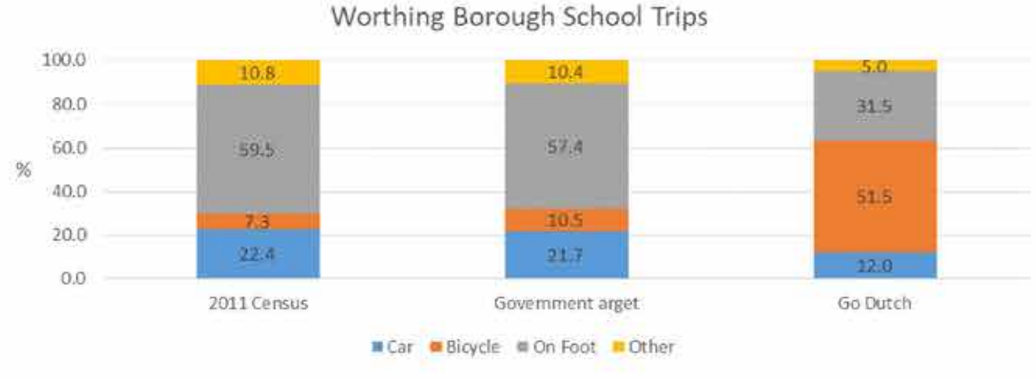


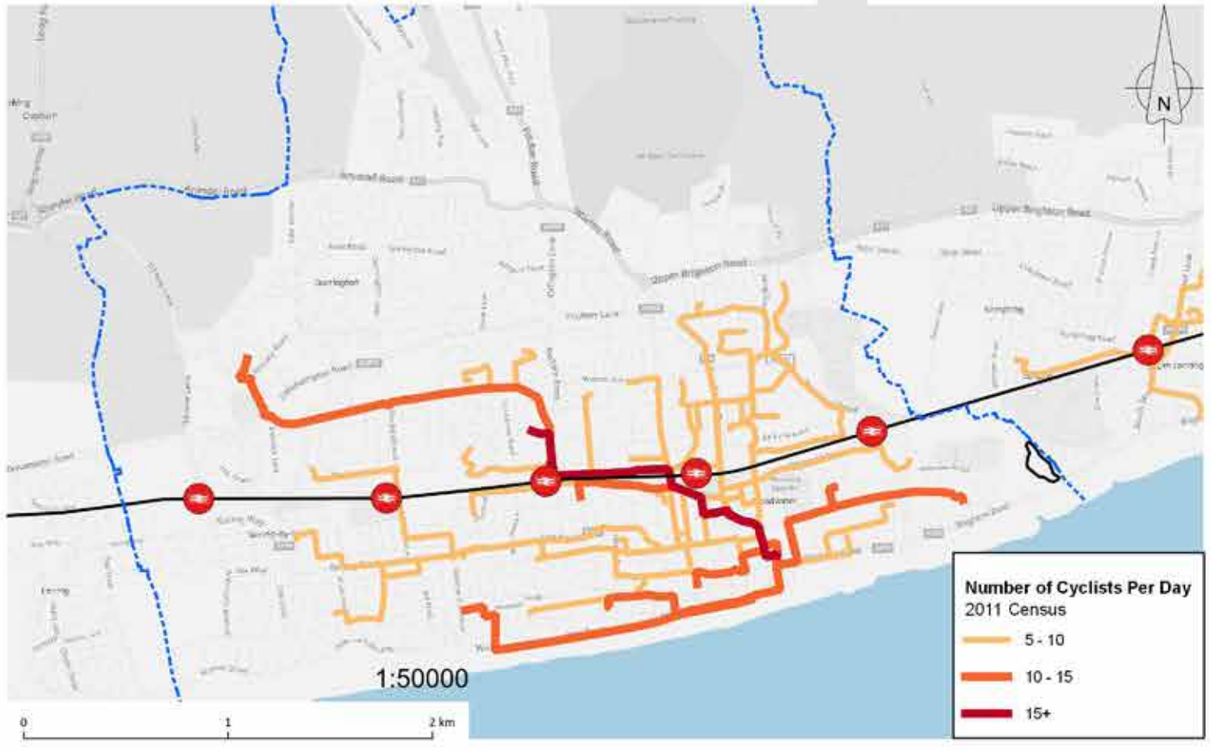
Government Target



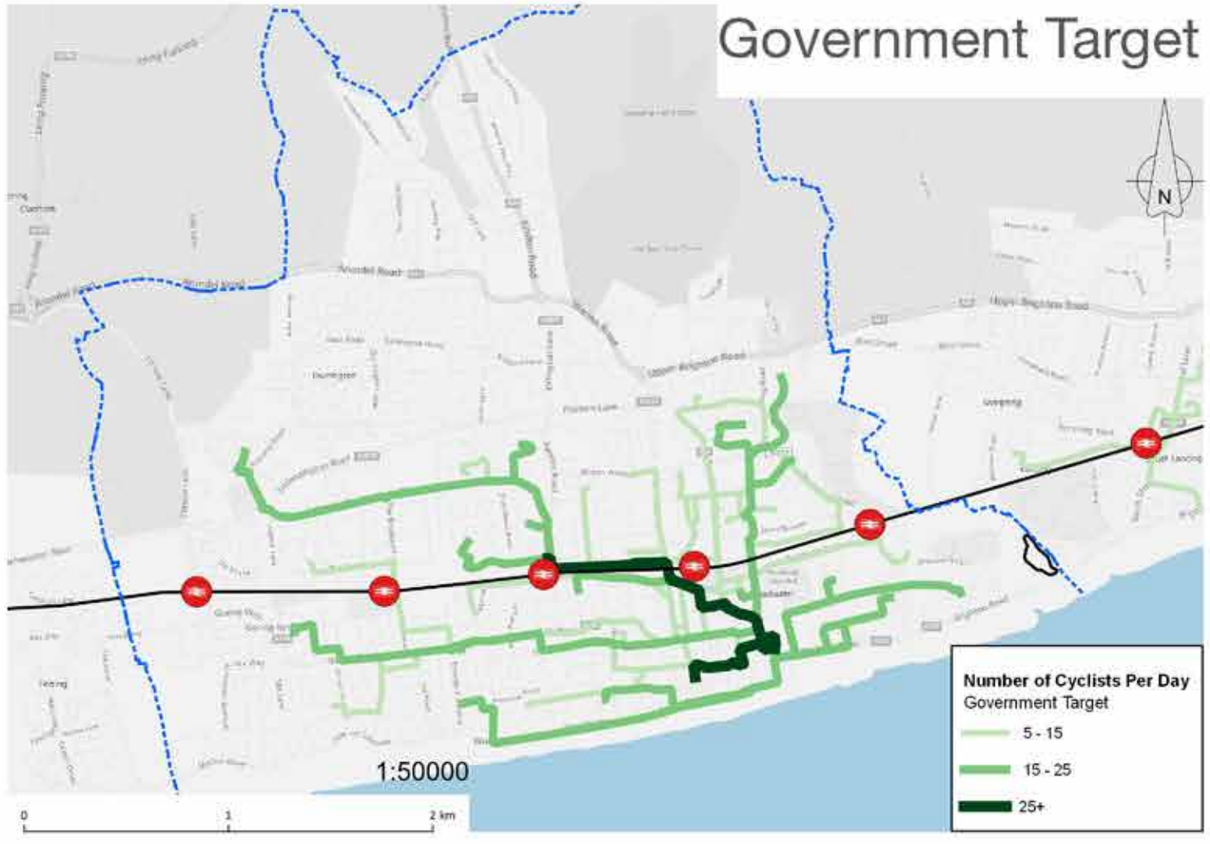




Worthing PCT Commute Data 2011 Census



Government Target



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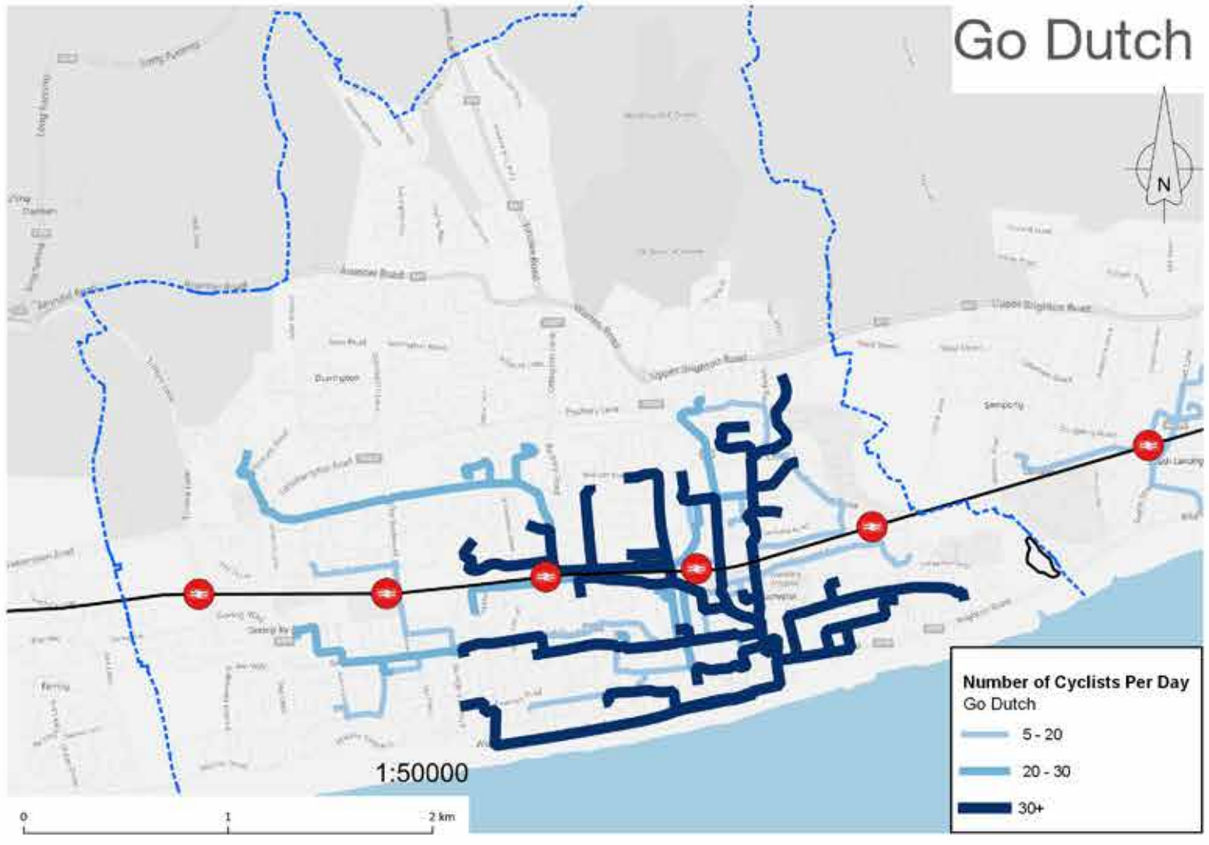
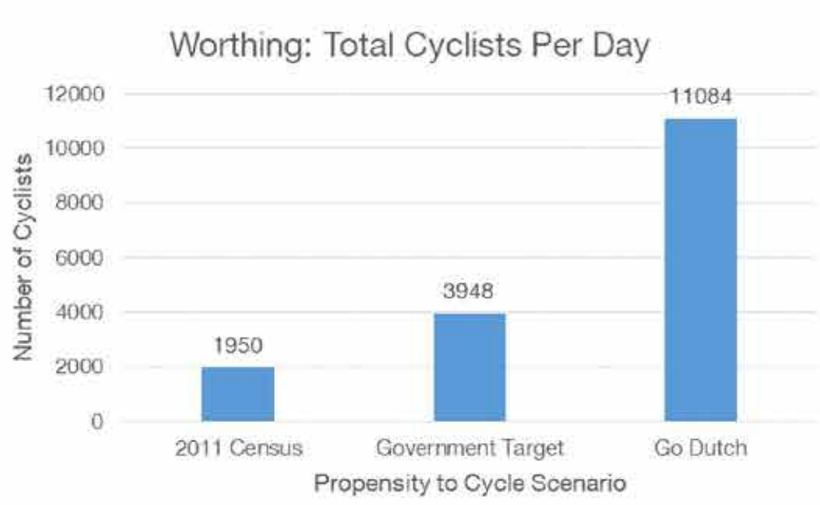




PCT Commute Data

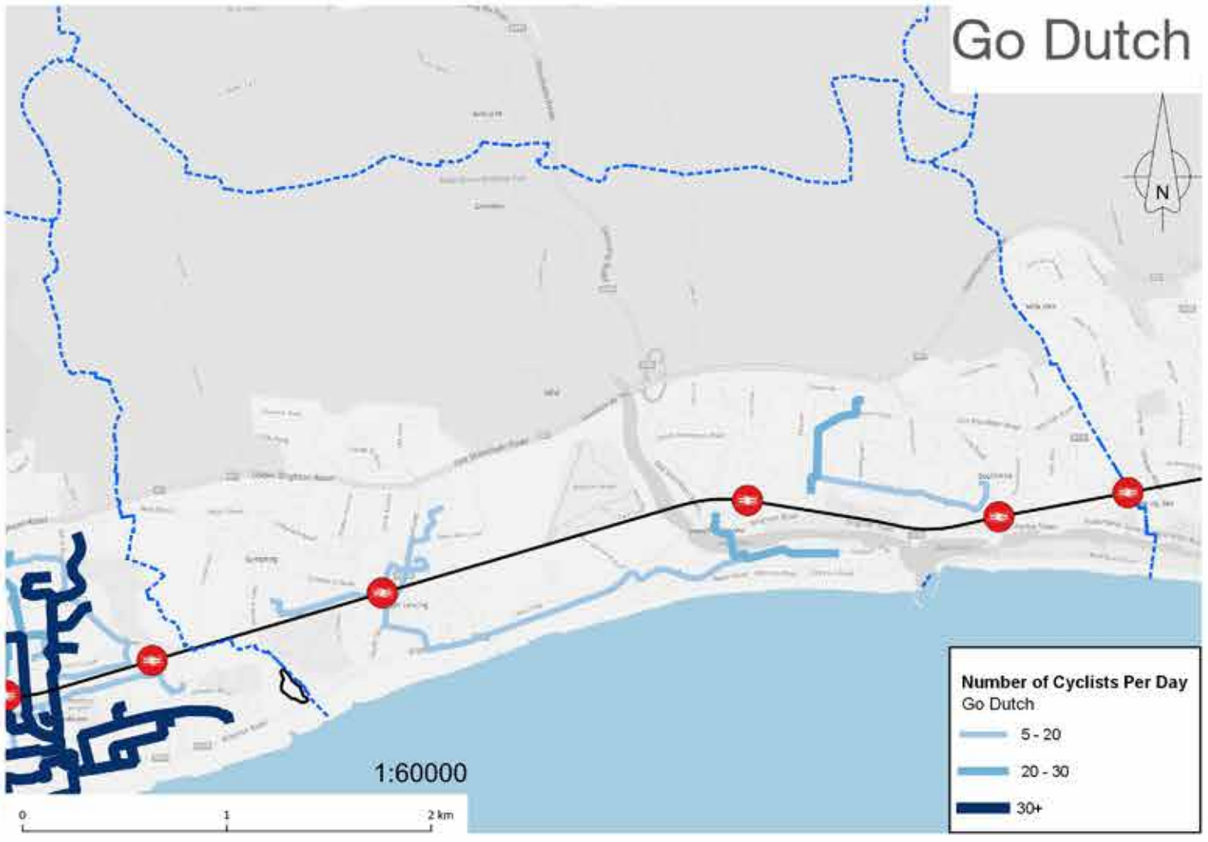
These maps of cycling routes to work are derived from Census 2011 data, so do not reflect any recent changes in employment sites. If the local priority is enabling more people to cycle to work, then these travel patterns are a useful guide to routes where investment is needed. However, it must be remembered that commuting is only 14% of all trips.

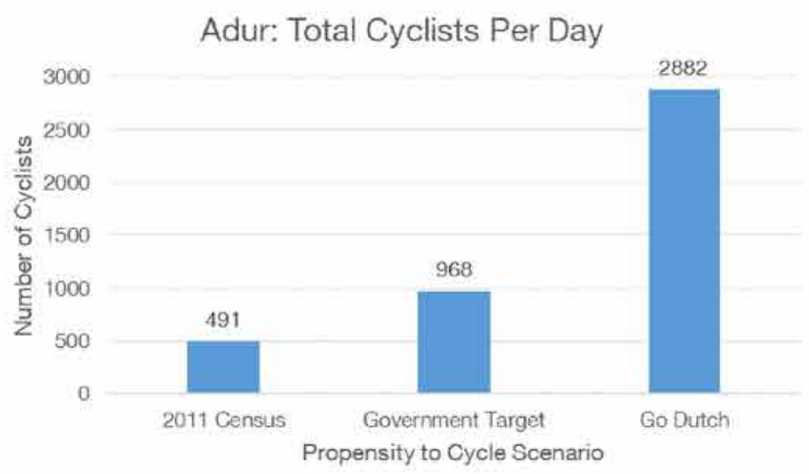
In Worthing, there is clearly huge potential for increasing cycle trips to work. The Government target would see a doubling of trips, while the Go Dutch scenario suggests that cycling could increase more than five-fold.

Adur PCT Commute Data 2011 Census

Government Target

Go Dutch



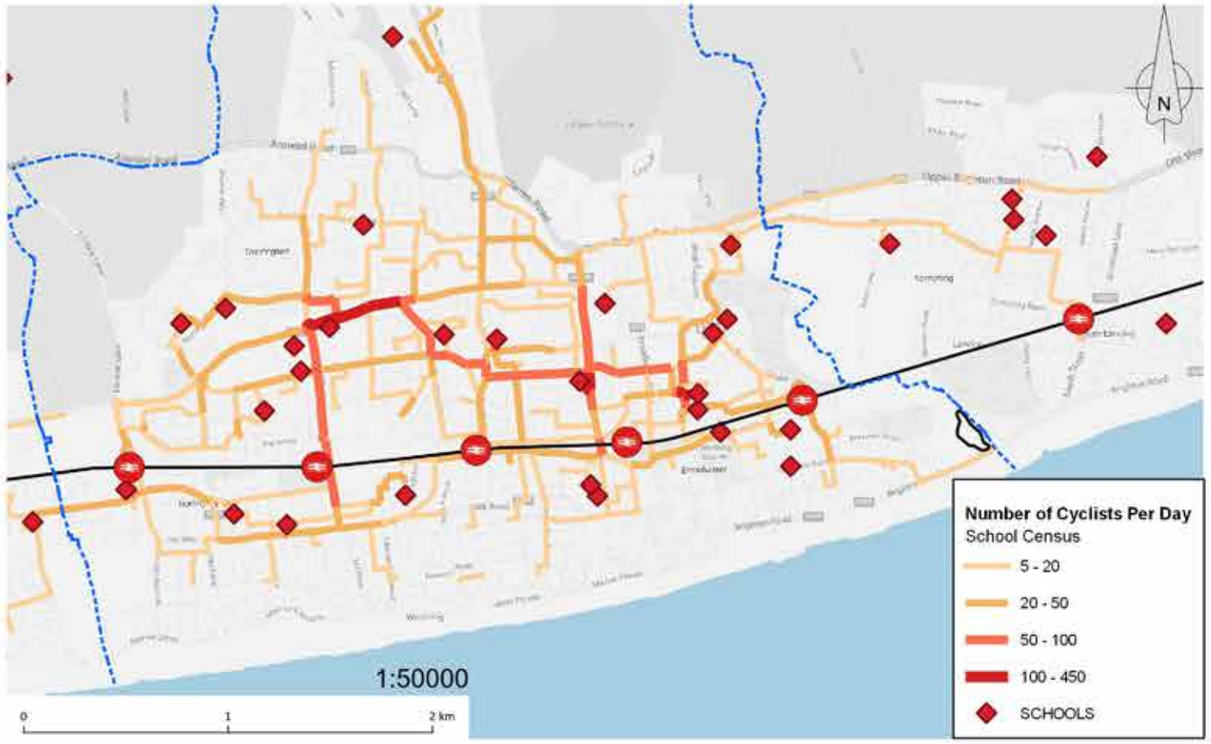


In Adur, there are fewer commuting trips overall, which reflects the smaller population and longer journey distances to work. The Government target would see a doubling of trips, while the Go Dutch scenario suggests that cycling could increase nearly six-fold.

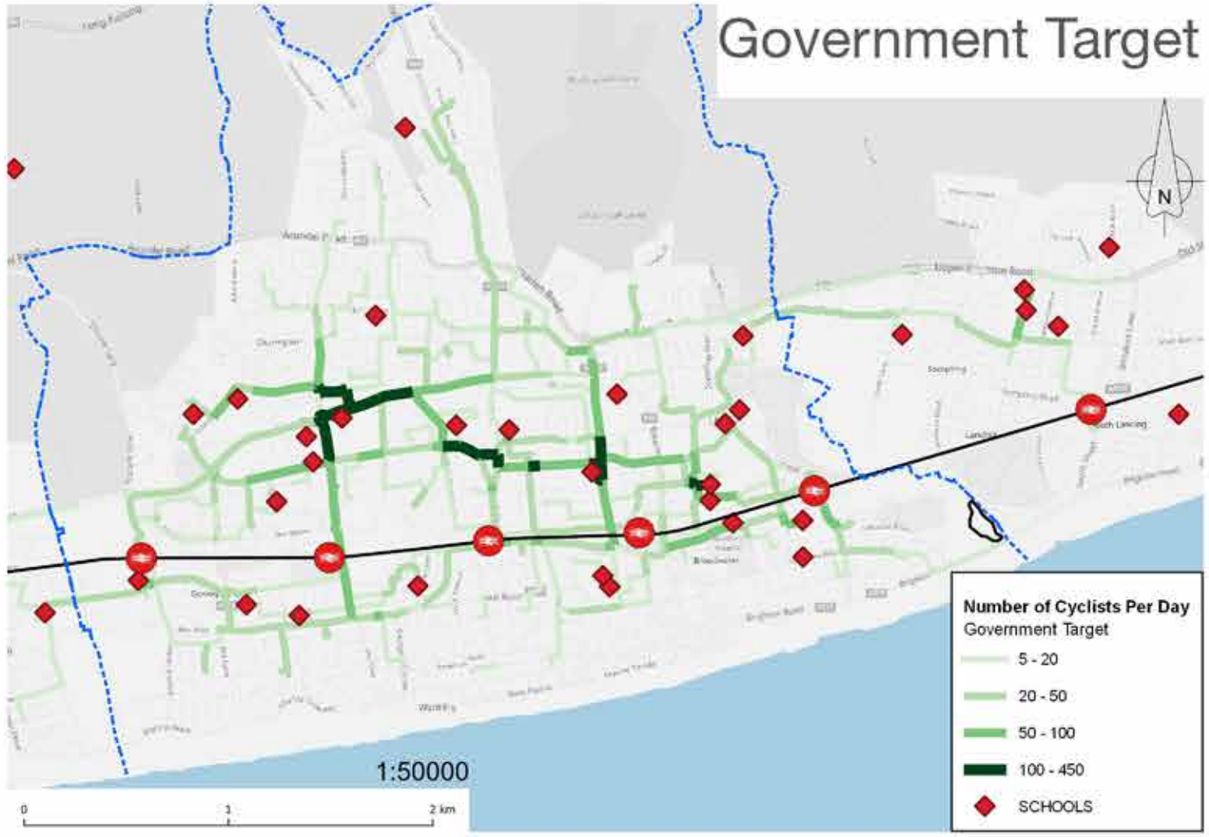
The NCN2 shared path at Brooklands Park is the busiest recorded stretch of cycle route in West Sussex. It is possible that the PCT tool is under-representing cycle flows in Adur, although most trips along the seafront may not be for commuting.

Worthing PCT School Data

School Census



Government Target



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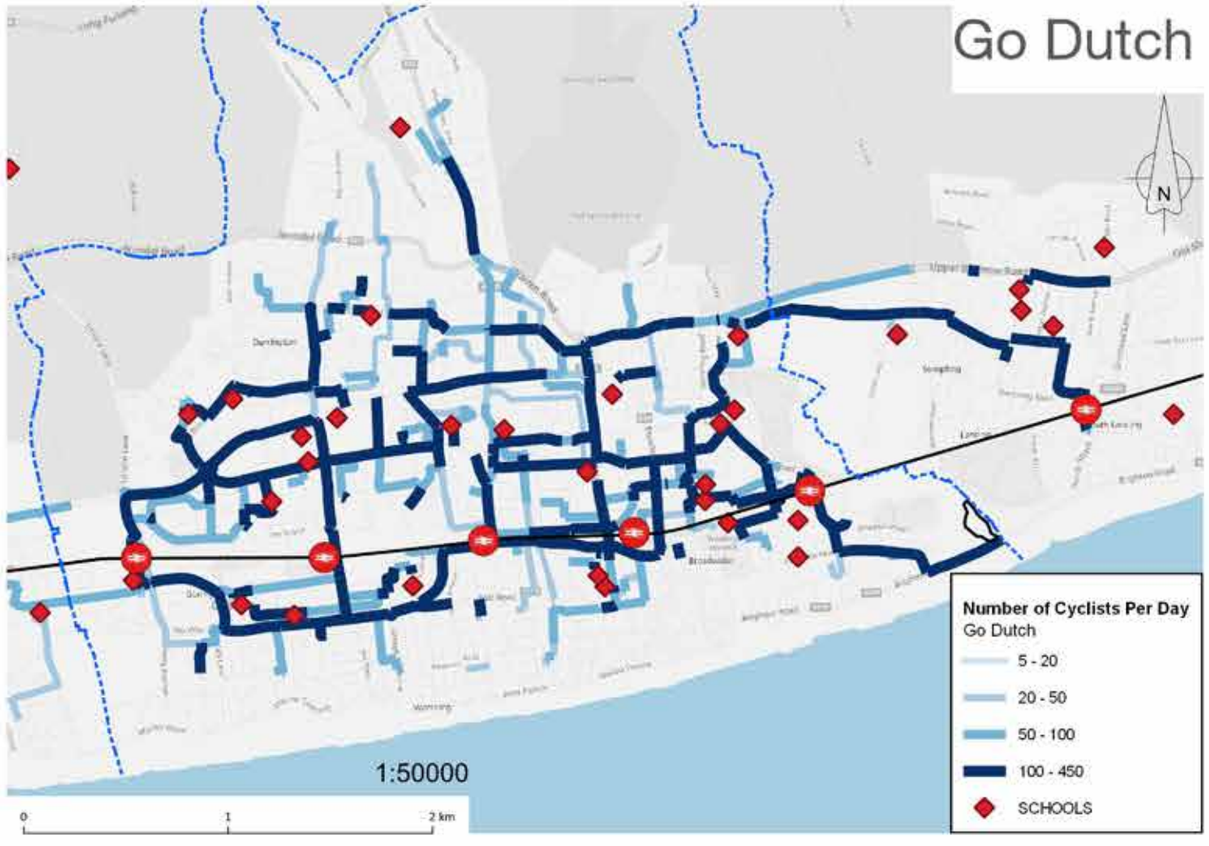
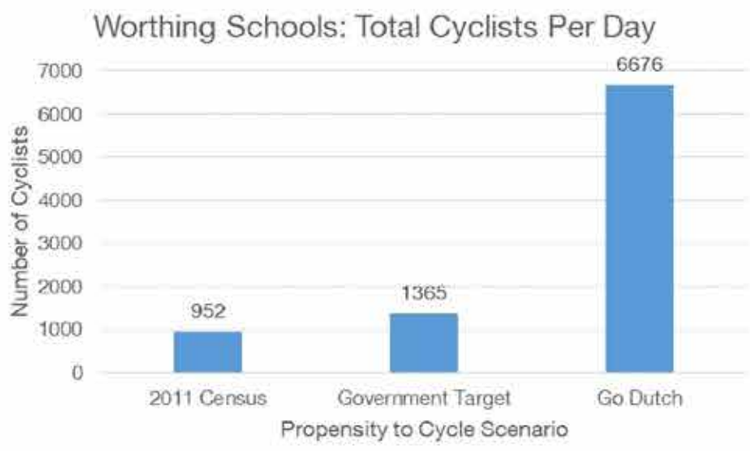




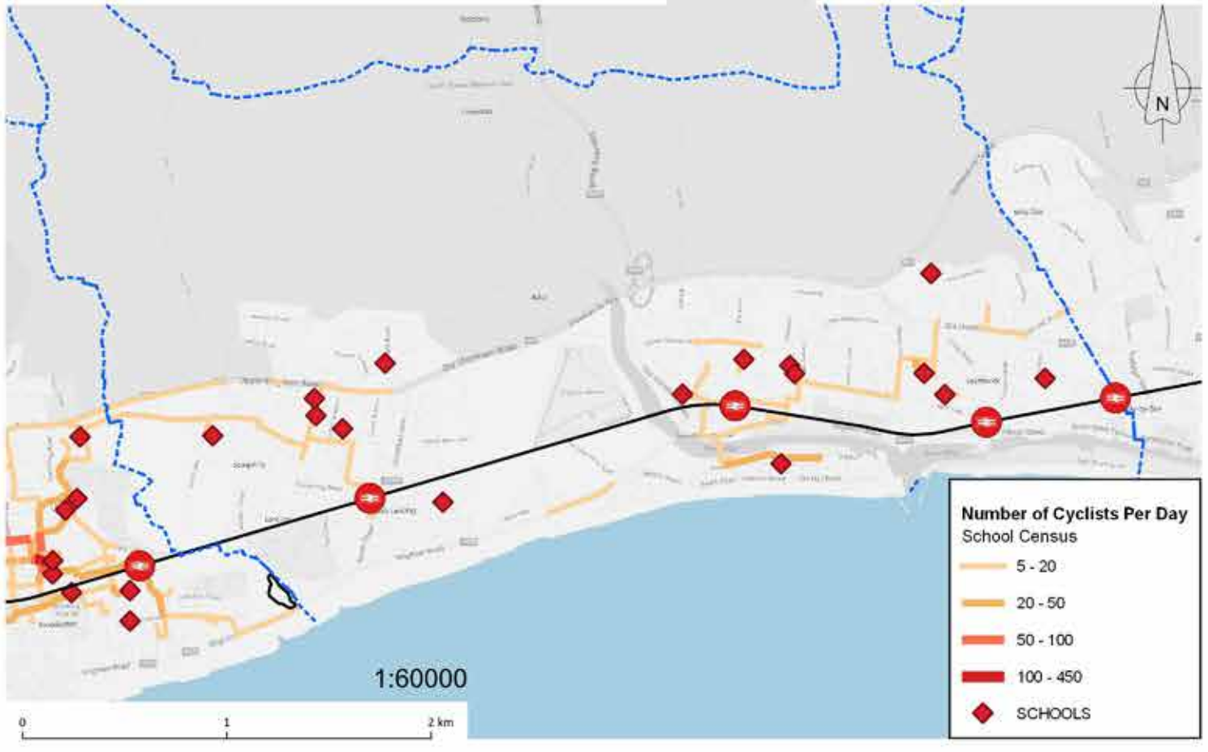
PCT School Data

These maps of cycling routes to school are derived from School Census 2010/11 data, so do not reflect any recent changes in school sites or catchment areas. If the local priority is enabling more students to cycle to school, then these travel patterns are a useful guide to routes where investment is needed. However, it must be remembered that education and escort to education is only 13% of all trips.

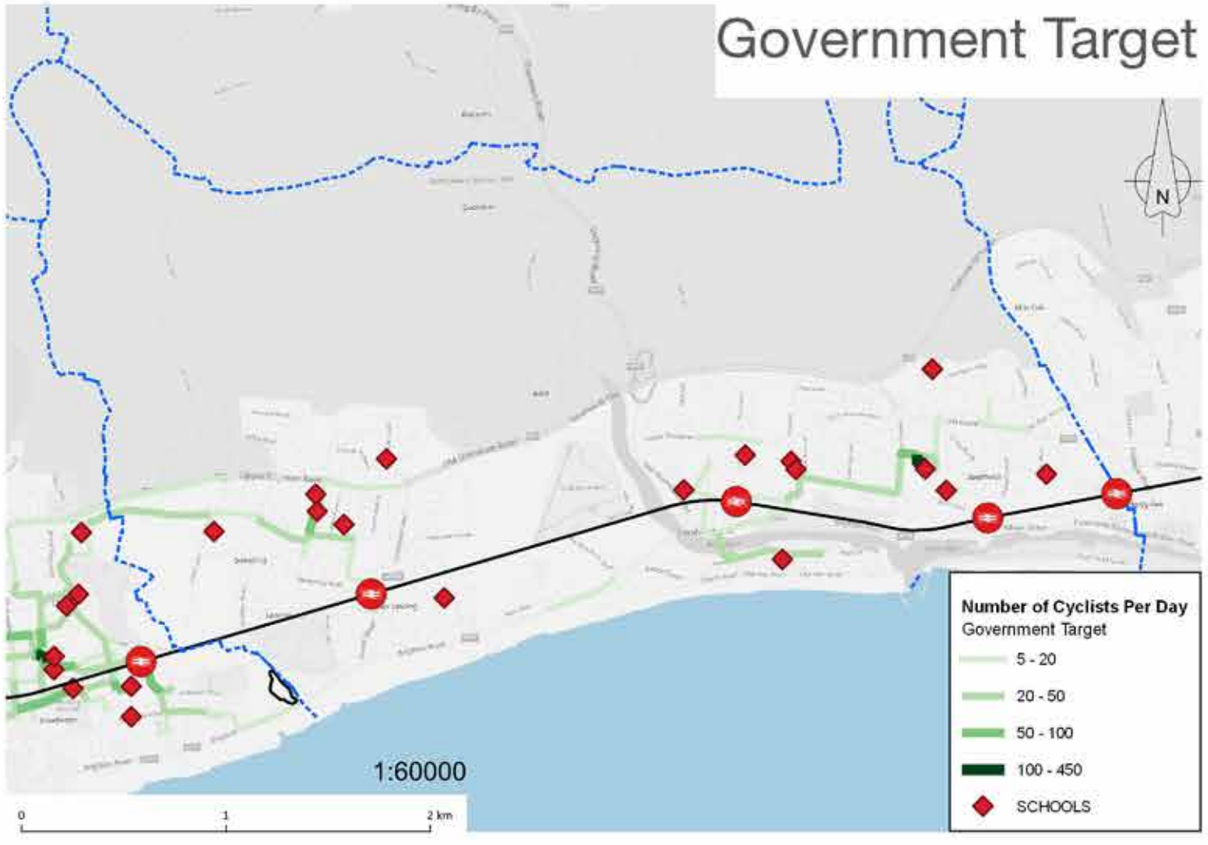
In Worthing, the Government target would see a modest increase of 43% in cycling to school, while the Go Dutch scenario suggests that cycling could increase to seven times 2010/11 levels.

Adur PCT School Data

School Census



Government Target



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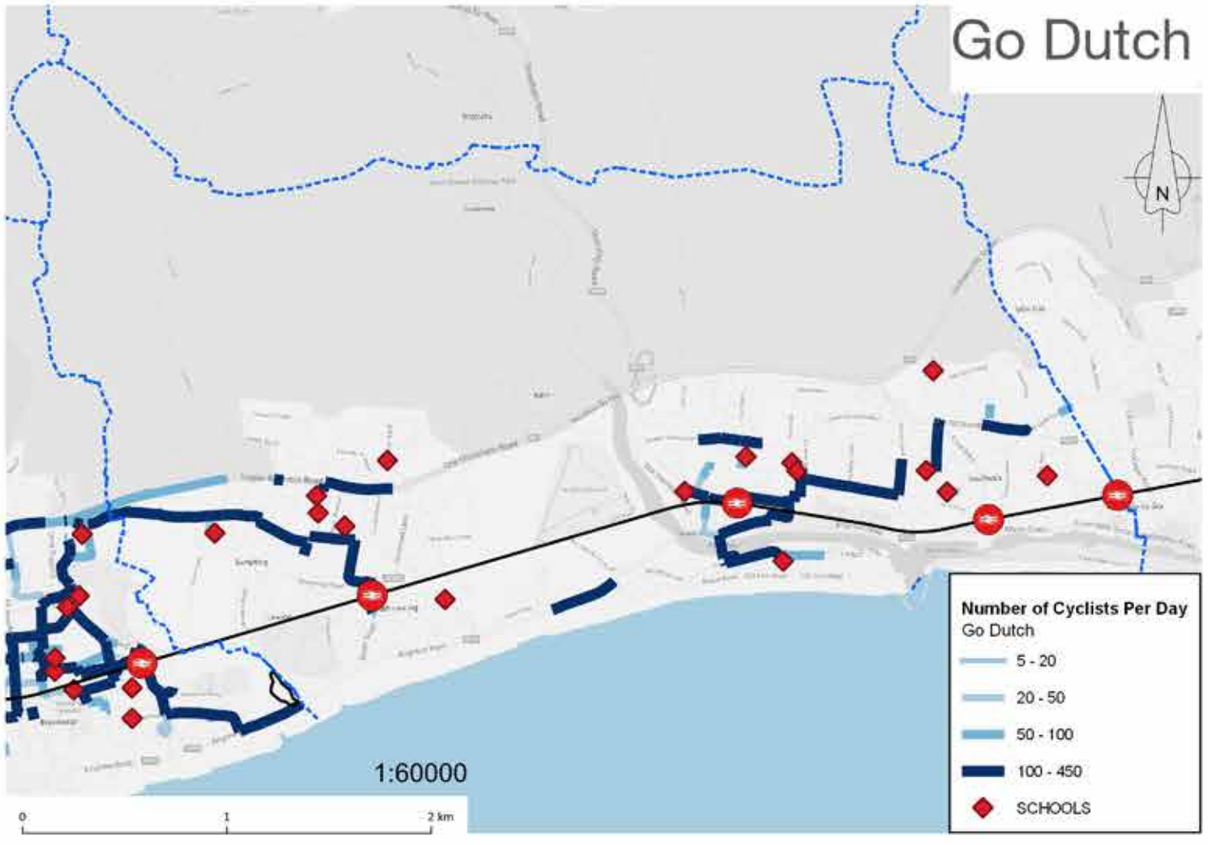

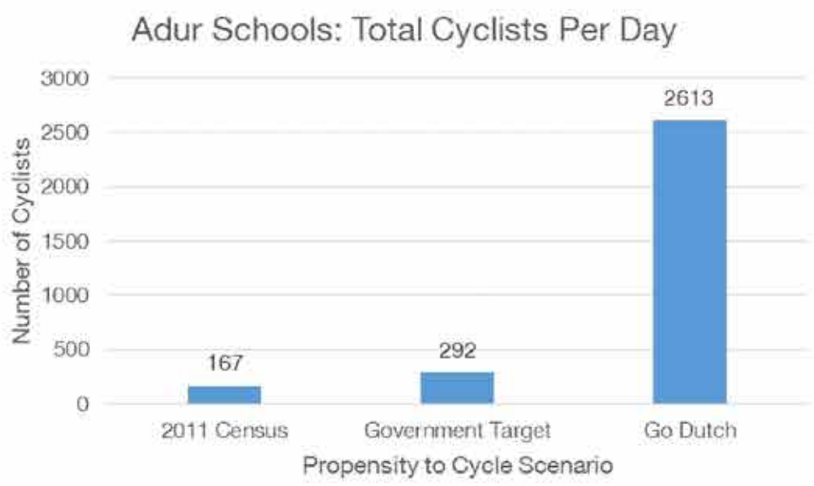

In Adur, the number of cycling trips to school in 2010/11 was much lower than in Worthing, even after allowing for the smaller population. The Government target would see a modest increase of 75% in cycling to school from low levels, while the Go Dutch scenario suggests that cycling could increase to over 11 times 2010/11 levels.

KEY

2011 Census

Number of Commuters by Car per day (journeys under 5km) based on PCT Fastest Routes

- 15-25
- 25-35
- 35+

Employment

Density of Employment (Jobs per Hectare)

- 20 - 50
- 50 +

Other

- Administrative Boundary

PCT short car trips

One weakness of the PCT cycle commute model is that it is based on existing trips by bike and will tend to emphasis those routes that are already being used. The target market for new cycle trips is people currently driving short distances to work. This map shows the car trips under 5km from the Census 2011 travel to work data, mapped to the best available roads.

Unsurprisingly, many of the same corridors are indicated for car trips as they are for cycle trips, with some notable exceptions. For example, the A24 from Findon Valley to Worthing town centre is well used by car but does not feature on the cycle trip maps. This may reflect the poor quality of cycle infrastructure in this corridor.

The relevant paucity of trips in Adur compared with Worthing probably reflects longer distances to work. The 5km distance is measured along the actual routes, not the crow fly distance. This may explain the unexpected small number of trips on the A259 and the A27 between Shoreham, Lancing and Worthing.

N

0 1 2 km

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
ADUR AND WORTHING 2011 CENSUS COMMUTERS BY CAR (JOURNEYS UNDER 5KM)

Drawn	Checked	Date	Scale at A3
SM	SF	3/10/2019	1:45000

STATUS: ISSUE

DRAWING NUMBER	REVISION
11880WOR-SD-MAP-00-06	B

Summary of proposed cycle routes with key constraints						
Route	**Class**	**Km**	**Start Point**	**End Point**	**Trip generators**	**Key constraints**
200	Primary	16.9	Marine Drive j/w Amberley Drive	A259 Fishersgate Terrace j/w Brambledean Road	Seafront, Worthing town centre, Splashpoint, Shoreham town centre, Southwick local centre, development sites	Goring Greensward (Village Green), width, width of seafront path, A259 Brighton Road highway width
201	Secondary	7.8	Sea Lane Ferring	Brougham Road j/w A259 Brighton Road	Goring local centre, Goring Road shops, Our Lady of Sion School, Worthing town centre, Worthing Hospital, East Worthing local centre	A259 Richmond Road and Lyndhurst Road highway width
202 West	Secondary	9.6	Goring Way j/w Singleton Crescent	South Street j/w A2025 Grinstead Lane	Chatsmore High School, Durrington employment zone, West Worthing local centre, Worthing town centre, railway stations, Worthing Hospital, Davison High School, Lancing local centre	A2031 Tarring Road/Teville Road highway width, on-street parking and trees in footway, access to allotment site, Western Road rail bridge
202 East	Secondary	6.9	Cecil Pashley Way j/w New Salts Farm Road	Basin Road South at District boundary	Shoreham Airport, Shoreham town centre, railway stations, Shoreham Academy, Southwick local centre	Private land at Shoreham Airport, A259 Norfolk Bridge highway width, Middle Road highway width
203	Secondary	4.2	Palatine Road j/w A2032 Littlehampton Road	Georgia Avenue j/w Beaumont Road	West Durrington employment zone, Worthing High School, Bohunt School, St Andrew's High School	Residential roads highway widths and on-street parking, crossing of A24
210	Primary	17.7	A259 j/w Ferring Lane	A270 Old Shoreham Road j/w Applesham Way	Northbrook College, West Durrington employment zone, Durrington High School, Worthing College, Lyons Farm retail and business park, Sompting local centre, Robert Woodard Academy, New Monks Farm, Lancing College, Southlands Hospital, Holmbush retail park	Capacity at key junctions, A2032 Poulter's Lane highway width, Broadwater Village Green, A27 Upper Brighton Road highway width
211	Secondary	6.3	Romany Road j/w Yeoman Road	Harrison Road j/w Dominion Way	West Durrington retail and business parks, Worthing College, Broadwater local centre, Broadwater business park	Residential roads highway widths, trees in verge
212	Secondary	2.2	A27 at Arun boundary	A27/A24 junction at Offington Corner	Worthing College	A27 Arundel Road highway width
300	Secondary	3	Titnore Lane j/w Titnore Way	Aldsworth Avenue j/w Marine Drive	West Durrington development, Northbrook College, Chatsmore High School	A2032 Goring Crossways crossing, highway widths
301	Secondary	3.3	Titnore Way j/w Titnore Lane	Sea Lane j/w Marine Drive	West Durrington development, West Durrington employment zone, Goring local centre, Goring railway station, Seafront	Railway subway
302	Secondary	6.5	Bost Hill j/w A24 Findon Road	George V Avenue j/w West Parade	Durrington employment zone, Goring Road shops, Worthing Leisure Centre, development sites, Durringon railway station, Seafront	Residential roads highway widths
303	Secondary	3.7	A2031 Offington Lane j/w A27 and A24	Grand Avenue j/w West Parade	West Worthing local centre, West Worthing railway station, Seafront	Highway widths, capacity at Thomas A Beckett junction
304	Secondary	2.6	South Farm Road j/w A2032 Poulter's Lane	West Buildings j/w Marine Parade	Worthing High School, Our Lady of Sion School, Worthing town centre, Worthing railway station, Seafront	Highway widths, Broadwater Village Green, West Buildings one-way street
310	Primary	6.1	A24 Findon Road j/w Bost Hill	South Street j/w Marine Parade	Findon local centre, Worthing College, Broadwater local centre, Northbrook College, Worthing High School, Worthing railway station, Worthing town centre, Teville Gate development site, Seafront	A24 Warren Road highway width, A24 Broadwater shops highway width and parking, capacity at key junctions
311	Secondary	3	Morland Avenue j/w Upper Brighton Road	The Steyne j/w Marine Parade	Lyons Farm retail and business park, Broadwater business park, St Andrew's High School, Worthing Hospital, Worthing town centre, Seafront	B2223 Dominion Road crossing, narrow railway subway, A259 High Street highway width
312	Secondary	3.1	Loose Lane j/w West Street	B2223 Ham Road j/w A259 Brighton Road	West Sompting Strategic Allocation, Broadwater business park, Davison High School, East Worthing local centre, East Worthing railway station, Seafront	Private farm land and West Sompting development, B2223 Ham Road highway width
313	Secondary	3.1	Halewick Lane j/w Howard Road	Western Road j/w A259 Brighton Road	Sompting local centre, Lancing business park, Brooklands Park, Seafront	Western Road highway width, A259 Brighton Road crossing
320	Primary	2	Grinstead Lane j/w A27 Old Shoreham Road	The Perch on Lancing Seafront	New Monks Farm, Lancing local centre, Lancing railway station, Seafront	A2025 South Street highway width
321	Secondary	2.7	Cecil Pashley Way j/w Old Shoreham Road	Kings Crescent j/w West Beach Road	Shoreham Airport, Seafront	Private land at Shoreham Airport, A259 Brighton Road crossing
330	Primary	4.4	Disused Cement Works	A259 High Street j/w East Street	Downs Link, Shoreham town centre	A259 High Street highway width, crossing of A283 at Ropetackle
331	Secondary	1	The Drive j/w Downside	Buckingham Road j/w Rosslyn Road	Shoreham town centre, Shoreham railway station	Highway widths
332	Secondary	1	New Barn Road j/w A27 bridge	Hammy Lane j/w Middle Road	Southlands Hospital	Highway widths
333	Secondary	1.6	Upper Kingston Lane j/w Hawkins Crescent	Kingston Lane j/w A259 Brighton Road	Shoreham Academy	A270 Old Shoreham Road crossing, highway widths
334	Secondary	1.6	Mile Oak Road j/w Ridgeway	Watling Road j/w Park Lane	Southwick local centre, Southwick railway station	B2167 Watling Road highway width

KEY

Proposed Walking and Cycling Network

- Primary Cycle Route
- Secondary Cycle Route
- Primary Walking Zone
- Secondary Walking Zone
- 2km Walking Buffer
- WSCC STP ROUTES

Trip Generators

Employment

2011 Census Workzones - Density of Employment

- 50 + Jobs Per Hectare

Retail

- Shopping Areas

Education

- Secondary School
- Further Education

Services and Amenities

- Leisure
- Hospital

Other

- Town Centre Boundaries
- Public Rights of Way
- Railway Station
- Development Sites
- Administrative Boundary

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
WORTHING PROPOSED WALKING AND CYCLING NETWORK

Drawn	Checked	Date	Scale at A3
SM	SP	7/10/2019	1:25000

STATUS: ISSUE

DRAWING NUMBER: 11880WOR-SD-MAP-00-05

REVISION: D

0 1 2 km

N

KEY

Proposed Walking and Cycling Network

- Primary Route
- Secondary Route
- Primary Walking Zone
- Secondary Walking Zone
- 2km Walking Buffer
- WSCC STP Routes

Trip Generators

Employment

2011 Census Workzones - Density of Employment

- 50 + Jobs Per Hectare

Retail

- Adur Primary Shopping Areas

Education

- Secondary School
- Further Education

Services and Amenities

- Leisure
- Hospital

Other

- Town Centre Boundaries
- Public Rights of Way
- Railway Station
- Development Sites
- Administrative Boundary

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PROJECT
Adur & Worthing Local Cycling and Walking Infrastructure Plan (LCWIP)

TITLE
ADUR PROPOSED WALKING AND CYCING NETWORK

Drawn	Checked	Date	Scale at A3
SM	SP	23/10/2019	1:30000

STATUS: ISSUE

DRAWING NUMBER	REVISION
11880AD-SD-MAP-00-05	E

0 1 2 km

Appendices

Primary Cycle Routes

Route 200: Goring–Fishersgate (seafront)

Route 210: Goring– Fishersgate (A2032, A27& A270)

Route 310: Worthing–Findon Valley

Route 320: Lancing Beach–North Lancing

Route 330: Shoreham–District Boundary

Secondary Cycle Routes

Route 201: Ferring-Worthing

Route Selection Tool

Route 202: Shoreham-Southwick

Walking Routes

Route 311: Lyons Farm-Worthing

Walking Route Audit Tool

Routes 201 & 202: East Worthing-Worthing

Worthing Core Walking Zone

Shoreham Core Walking Zone

Design recommendations

A27 Worthing and Lancing improvements

Low traffic neighbourhoods

Sustrans design principles

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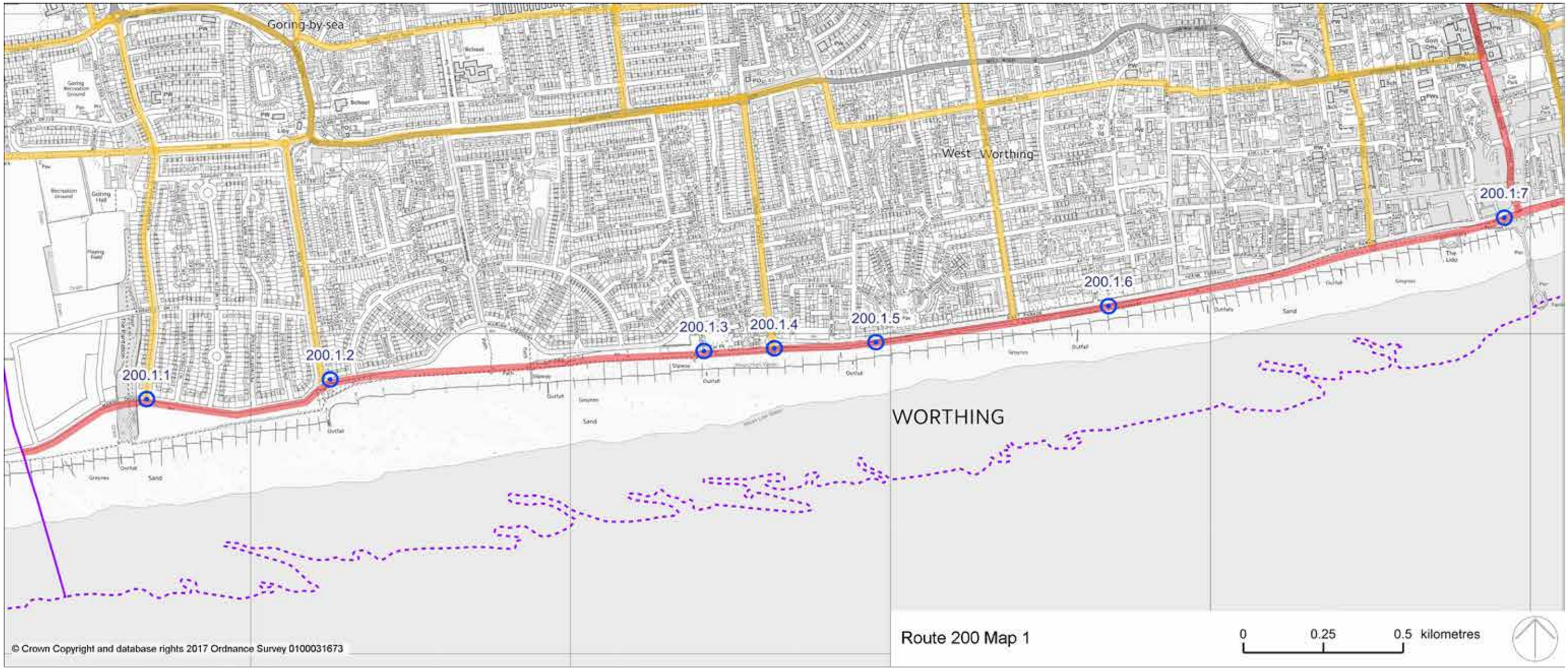
- WSCC STP Routes




200.1.1 Aldsworth Ave/Marine Drive


200.1.2a Sea Lane Café/Marine Drive


200.1.2b Footpath from Sea Lane Café


200.1.3 Sea Place/Beach Path

Route 200: Goring–Fishersgate

Route Description

This is the main west-east coastal route through the area, linking Worthing to the west with Lancing, to Shoreham-by-Sea in the east. The route is 10 miles long. It is designated as National Cycle Network Route 2, with the exception of Marine Drive in Goring-by-Sea to the west and Albion Street in Shoreham-by-Sea to the east.

Background

Feasibility study work has been undertaken by WSCC through the Local Transport Improvement Programme regarding extension of the existing promenade path from George V Avenue, West Worthing to Sea Lane, Goring. The Shoreham Area STP feasibility study has also considered the route section between Shoreham Adur Ferry Bridge and the County Border at Fishersgate. The Worthing Seafront Investment Plan is expected to consider the route at Marine Parade, Worthing.

200.1 Goring-by-Sea - Worthing Pavilion

Existing conditions

On road seafront route initially, with beach-side footway, turning to raised shared use path along promenade. The route passes through Worthing Conservation Area along the seafront, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

Moderately busy seafront road, with no cycling provision or designation. Disjointed connection onto raised shared use section, which has some signage and access on and off.

Recommendations

200.1.1 Marine Drive is a wide suburban seafront road with a wide footway on the landward side and a wide grass common on the seaward side. We recommend installation of a minimum 3m wide shared path parallel to road along common, subject to local agreements as this is registered as a village green.

200.1.2a Marine Drive roundabout at Sea Lane Café, the road is very congested at this point with on road parking and the café car park. We recommend that a shared use cycle path exits off this roundabout, or just before to lead up to the café.

200.1.2b At Sea Lane Café, the current pedestrian-only footway becomes very narrow, with beach shingle either side. We recommend the installation of a new 3m shared use path to run in front of the café, then behind the car park.

200.1.3 Where Sea Place meets the beach path, a new development has installed a narrow pedestrian link to the beach path. The link onto the proposed shared path needs to be improved for access to all, subject to agreement with landowner.

200.1.4 At George V roundabout an existing steep footway provides limited access up to the promenade. We recommended that the link is improved by widening and providing a maximum 1:20 gradient shared path to the promenade.

200.1.5 This play park is also the turning point for the promenade train. The shared path narrows to protect access to the play park. Improved signage and surfacing to slow cyclists and land train drivers is recommended.

200.1.6 The promenade is raised up from West Parade and has an existing shared use path. Improved signage to define this area is suggested.

200.1.7 Worthing Pavilion is very cluttered, with various stepped changes in level. The continuation of a segregated cycle path here next to the highway, would fit well with proposals shown in the Worthing Seafront Investment Plan. This is within the Worthing Conservation Area and the pavilion building is listed, therefore solutions must respect and where possible enhance the surrounding area.


200.1.4 George V Ave Roundabout

200.1.5 Waterwise Park/Promenade


200.1.6 West Parade Promenade


200.1.7 Pavilion/Marine Parade

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Key:

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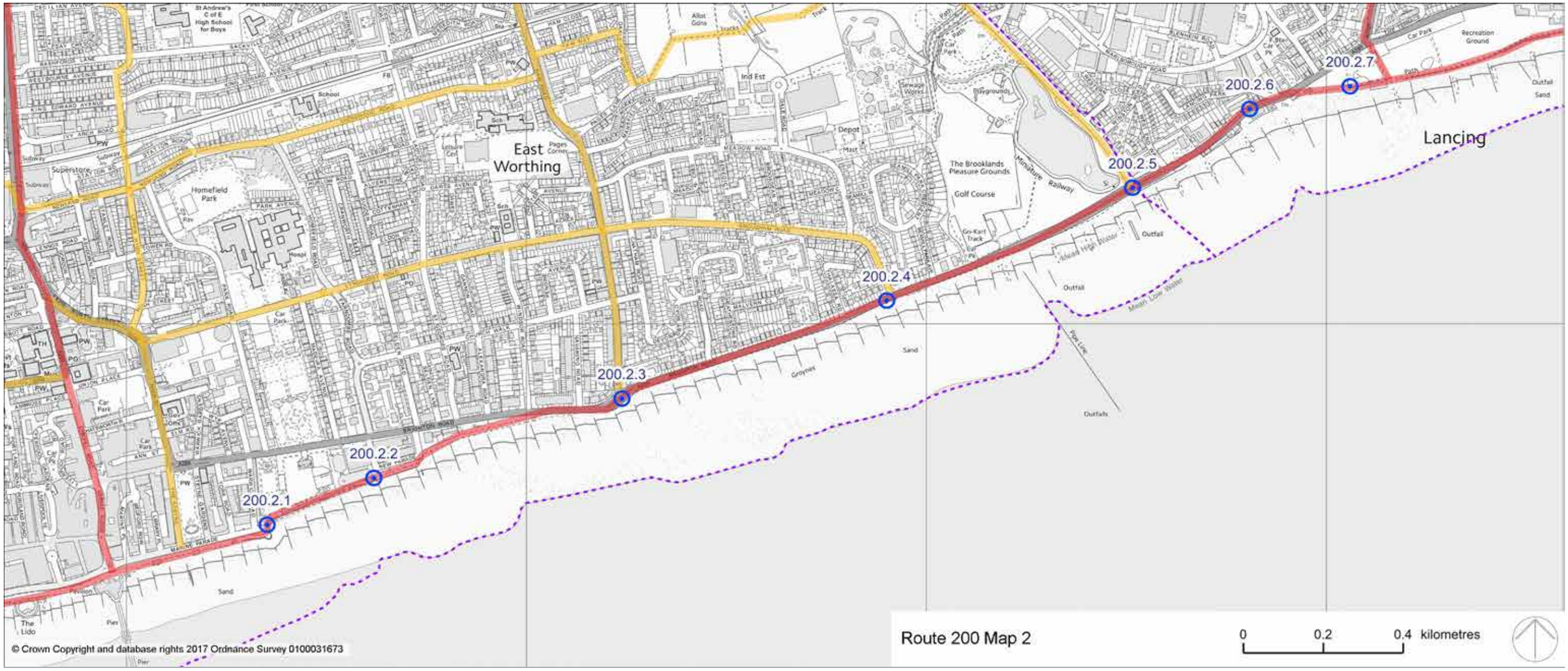
- Secondary Route
- Recommendation
- WSCC STP Routes



200.2 Worthing Pavilion – Lancing Beach

Existing conditions

Brighton Road A259 is the main seafront road linking Worthing town centre and Lancing. It is mainly residential, with a park and access through Western Road into an industrial estate. The route passes through Worthing Conservation Area, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

The route is mostly on existing segregated and shared use paths next to a busy highway, with limited links on and off the route.

Recommendations

200.2.1 The beach path here is busy with cafes and an existing segregated cycle path. We recommend that this is extended to the end of Marine Drive, widened and upgraded with a protective edge installed to prevent pebbles from the beach migrating over the path. This is within the Worthing Conservation Area, therefore solutions must respect and where possible enhance the surrounding area.

200.2.2 This is a good wide section of traffic free segregated route, but the cycle access on and off the route and signage is recommended for improvement.

200.2.3 At Ham Road the segregated path turns into a shared path at the bus stop and lights. It is recommended that the pedestrian crossing is upgraded to accommodate cycles.

200.2.4 The segregated beach path is very disjointed at this point. The ramp down to Brighton Road is suggested for widening for shared use and to provide access for a safe cycle and pedestrian crossing, including linking across Brougham Road.

200.2.5 At the Brighton Road crossing at Western Road, the path narrows to a 2m shared path. There is sufficient room to widen the path, ensure all plants are cut back to ensure there is no encroachment onto the pathway. There is also the potential to improve the crossing for cyclists to link with Western Road and Brooklands Park.

200.2.6 The shared path is narrow in places through here. It may be possible to adjust street furniture and narrow the carriageway in sections through here to enable a wider shared or segregated path.

200.2.7 Connections between Brighton Road (A259) and this traffic free route could be improved. There is space to widen and create a segregated path and improve paths connecting to the A259.


200.2.1 Coast Café/Beach Path


200.2.5 Western Road/A259


200.2.2 New Parade


200.2.6 A259/Lancing Park


200.2.3 Ham Road/Brighton Road (A259)


200.2.7 Perch on Lancing Beach


200.2.4 Brougham Road/A259

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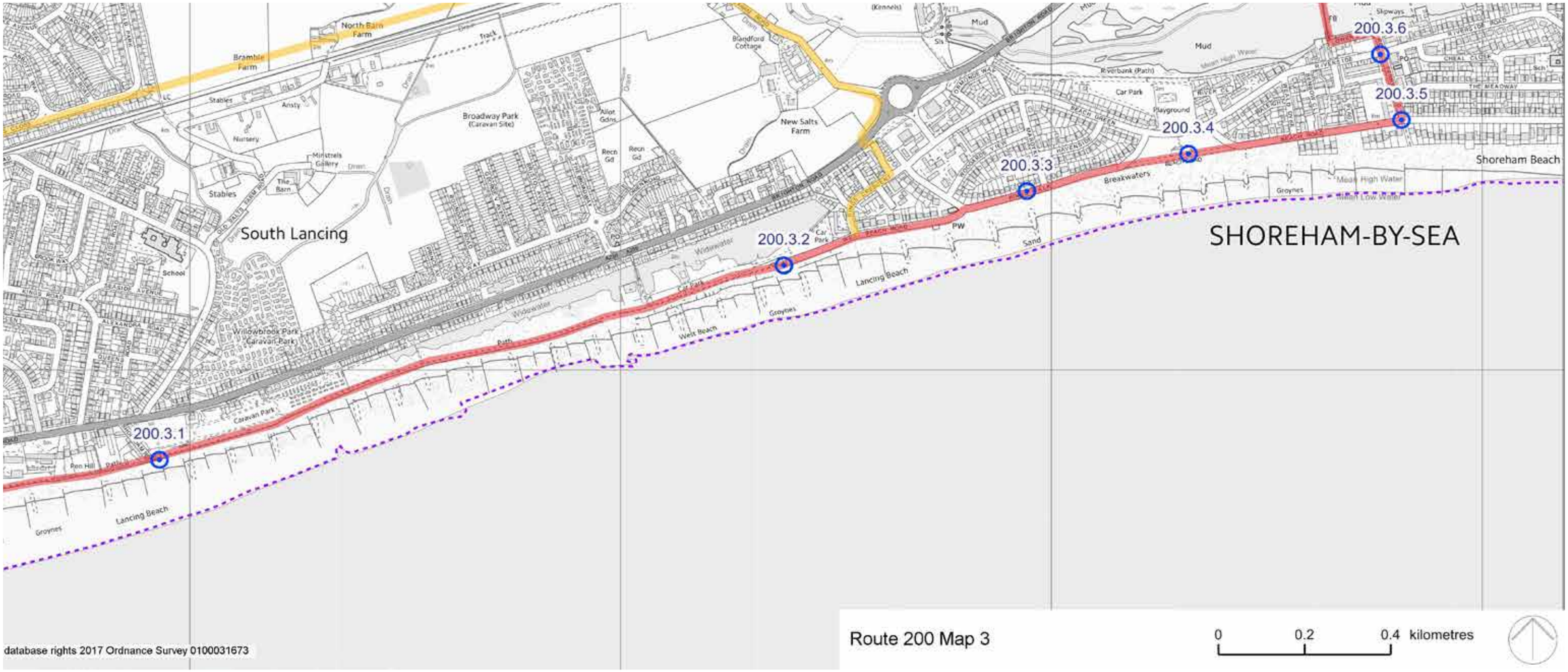
JOIN THE MOVEMENT

Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



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Route 200 Map 3

0 0.2 0.4 kilometres

200.3 Lancing Beach – Adur Ferry Bridge

Existing conditions

Quiet traffic free and residential streets forming National Cycle Network Route 2. The area to the north of Adur Ferry Bridge is part of Shoreham Conservation Area, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

The route is mostly on existing, traffic free and residential streets next to the beach, with limited links on and off the route. Some of the surfaces are in a poor condition. No lighting is present, which could deter some users after dark.

Recommendations

200.3.1 At Lancing Sailing Club the shared use path is 2.5m wide and further narrowed by seating, drainage issues, vegetation and shingle. Widening of the path towards beach to 3.5m is recommended.

200.3.2 Where the traffic free shared path re-joins the road, there is no footway and the road is narrow (4.5m). Although traffic levels are low, consideration could be given to installing a 20 mph speed limit and traffic calming measures.

200.3.3 Kings Walk has 2.5m footways on both sides and traffic levels are low. Installation of a 20 mph speed limit and traffic calming measures are recommended.

200.3.4 Surface improvements and alteration of barriers are recommended along this unmetalled section of road to create a traffic free segregated path for pedestrians and cyclists. There are proposals for a new cafe/toilet block in this location, which represents a good opportunity to improve surfaces and provision for pedestrians and cyclists.

200.3.5 A point closure of Ferry Road could be considered to create an access only road and an improved active travel route from Adur Ferry Bridge to the beach.

200.3.6 We recommend considering a raised table along Ferry Road and the new shared path approach to Adur Ferry Bridge. We recommend that the existing Zebra crossing is upgraded to a parallel crossing to also serve cyclists.


200.3.1 Lancing Sailing Club


200.3.5 Beach Road/Ferry Road

200.3.2 Widewater Lagoon/West Beach Road


200.3.6 Riverside Road/Adur Ferry Bridge


200.3.3 Kings Walk/Beach Road


200.3.4 Beach Road/Beach Green

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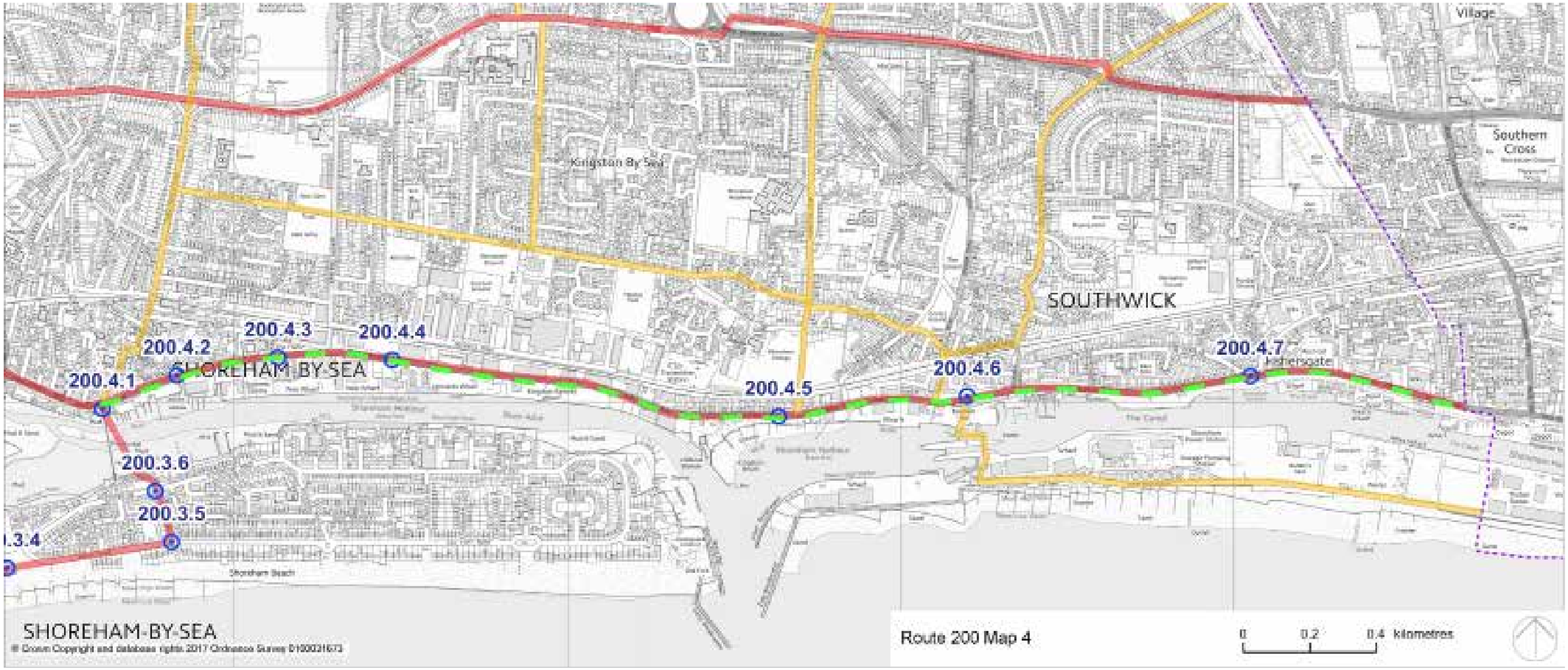
Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



200.4 Adur Ferry Bridge – Fishersgate

Existing conditions

The A259 Brighton Road/Albion Street is the main road linking Shoreham town centre in the west with Fishersgate, Portslade, Hove and Brighton to the east. It is mainly largely industrial interspaced with civic and residential areas although is the subject of redevelopment proposals for additional housing and new employment space through the Shoreham Harbour Joint Area Action Plan. The route passes through Shoreham and to a lesser extent Southwick Conservation Areas, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

The volume of traffic is the main barrier, with little provision for cycling. Busy industrial activity along Shoreham Harbour and few crossing points, makes for limited pedestrian access. West Sussex County Council have produced feasibility plans to enable rerouting of the NCN2 along the more direct A259 corridor via a high quality segregated/"hybrid" path through the Shoreham Area STP feasibility study that looks to overcome many of these barriers.

Recommendations

200.4.1 Install segregated cycle path on south side of road from Adur Ferry Bridge going east.

200.4.2 The crossing island at this point provides limited access by pedestrians and cycles across to the new Harbour development and proposed shared path. A new signal controlled pedestrian crossing will be provided as part of development.

200.4.3 This wide junction provides an opportunity to install improve crossings for both pedestrians and cyclists to link the proposed segregated cycle route on the south side of the A259.

200.4.4 Potential for links across A259 to proposed segregated cycle/pedestrian path. Cycle route proposals are to consider priority for pedestrians and cyclists across redevelopment site accesses on south side of the road.

200.4.5 Potential for crossing improvements at this junction to enable cycle access to segregated cycle path on south side of road.

200.4.6 We recommend widening and improving the existing segregated cycle path on south side of road and linking this in with existing shared use path on northern side to improve this whole section for both cycling and walking.

200.4.7 Improvements to this staggered junction for cyclists and widening of the shared use paths north and south are recommended to greatly improve access in this area, in line with the STP study proposals.


200.4.1 High Street/East Street


200.4.5 Brighton Road/Kingston Lane


200.4.2 Brighton Road/Tarmount Lane


200.4.6 Albion Street/Shoreham Port


200.4.3 Brighton Road/The Ham


200.4.7 Albion Street/The Gardens

200.4.4 Brighton Road/New Wharf

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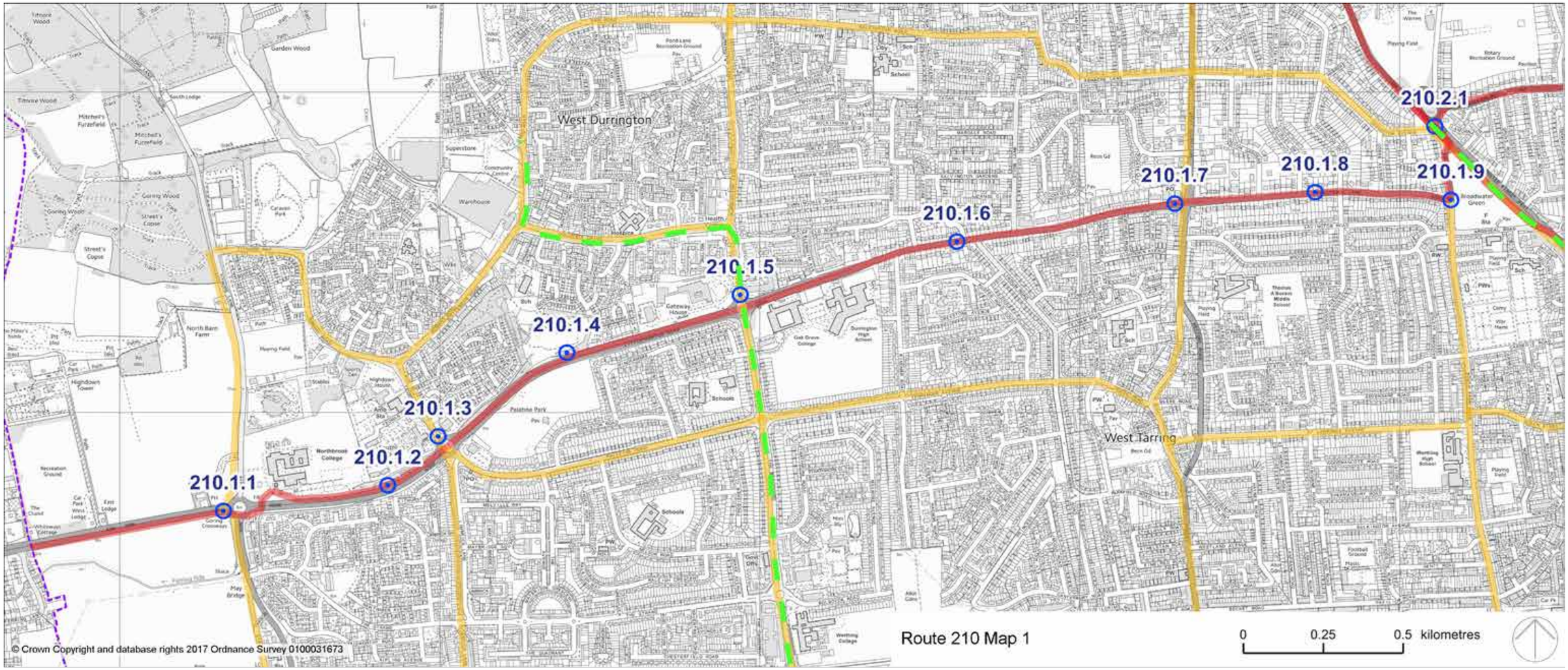
Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes




210.1.1 Goring Crossways/A2032


210.1.2 A2032/Ferring Rife


210.1.3 A2032/Yeoman Road


210.1.4 A2032/Longcroft Park

Route 210: Goring–Fishersgate

Route Description

This is one of the main west-east routes through the area, linking Worthing to the west with Lancing, to Shoreham-by-Sea in the east. It is designed to avoid the A27 main vehicular highway as much as possible. The route is 10 miles long, mirroring in length Route 200.

Background

The Worthing Local Plan Transport Assessment has identified junction capacity pressures at key junctions along the route with some mitigation measures (Goring Crossways and Durrington Lane/The Boulevard roundabouts and at the A2031 Thomas A Beckett junction crossroads), whilst the A27 is the subject of Highways England improvements through this area. The Worthing Area Sustainable Transport Package (STP) is also considering north-south routes which interact at the Durrington Lane/The Boulevard roundabout and at A24 Broadwater St West. The Shoreham Area STP has drawn up feasibility plans for a section of the route for West Street, Sompting, along Cokeham Road/Crabtree Lane and Grinstead Lane to the A27 roundabout.

210.1 Goring - Broadwater

Existing conditions

The A2032 is one of the major inter-county routes linking Littlehampton to Worthing. It carries more than 20,000 vehicles per day with several large roundabouts and junctions. There is a history of both cyclist and pedestrian accidents. From Northbrook College near to the Goring Crossways roundabout as far as the Durrington Lane/The Boulevard roundabout there is a shared path route runs adjacent to the highway.

Barriers to walking and cycling

The A2032 is a busy road, recently assigned as part of the DfT Major Road Network. In part dual carriageway with 50mph limit, with several large junctions that are currently difficult for pedestrians and cyclists to cross from North to South. These junctions have limited traffic capacity and are frequently congested, so any changes will need to be carefully designed. The existing shared footway takes advantage of the wide carriageway, but is narrow in parts.

Recommendations

210.1.1 This busy roundabout is the main access into Worthing from neighbouring Arun. There are well used shared use paths on the south west and north east sides of this junction but no coherent link between them and no continuous link from the south west side across to Northbrook College, except by dismounting and using the pedestrian overbridge. By installing a signal crossing it could provide a safe connection for these two routes, however the traffic impacts on this junction would need to be considered. There is stakeholder demand for a crossing to connect with Highdown Gardens and the most southerly section of the National Park here.

210.1.2 The shared use path runs alongside the busy A2032 50mph dual carriageway. There are several pinch points along its length. It is recommended that the path is widened to at least 3m width along its entire length.

210.1.3 Another busy roundabout, which would benefit from having signal controlled crossings considered on the north and south sides to aid west east journeys.

210.1.4 Along this stretch next to walled private boundaries, the shared path would benefit from widening to 3.5m to compensate for the wall.

210.1.5 This roundabout has signal crossings across the A2032 on the eastern and southern and northern sides of the junction but they are set back from the junction. Crossings improvements are recommended for the western and northern arms, in particular to meet desire lines in relation to the proposed strategic development site at Centenary House. This junction forms part of the Worthing Area STP feasibility study.

210.1.6 There is highway width to install a shared or segregated cycle path.

210.1.7 This busy signalled junction, is a key constraint given the capacity pressures identified through the WLP Transport Assessment. It may be possible to consider narrower lanes and narrower shared use paths to provide a connection through the junction for cyclists, but accommodating provision will be challenging.

210.1.8 Poulter's Lane between Offington Lane and Broadwater Green is significantly narrower than the A2032 to the west and it will be difficult to accommodate a segregated cycle path on this section. The footway has a number of mature trees and it may be necessary to consider Lavington Road as an alternative route.

210.1.9 This route around Broadwater Green is recommended as a segregated cycle path, to connect Poulter's Lane with the segregated cycle path that leads from the Grove Lodge roundabout north up the A24. Broadwater Green has village green status, so any proposal will be dependent on local community support, and solutions must respect and where possible enhance the surrounding area.


210.1.5 A2032/The Boulevard


210.1.6 A2032/Ringmer Road


210.1.7 A2032/Offington Lane


210.1.8 Poulter's Lane


210.1.9 Poulter's Lane/Broadwater Green

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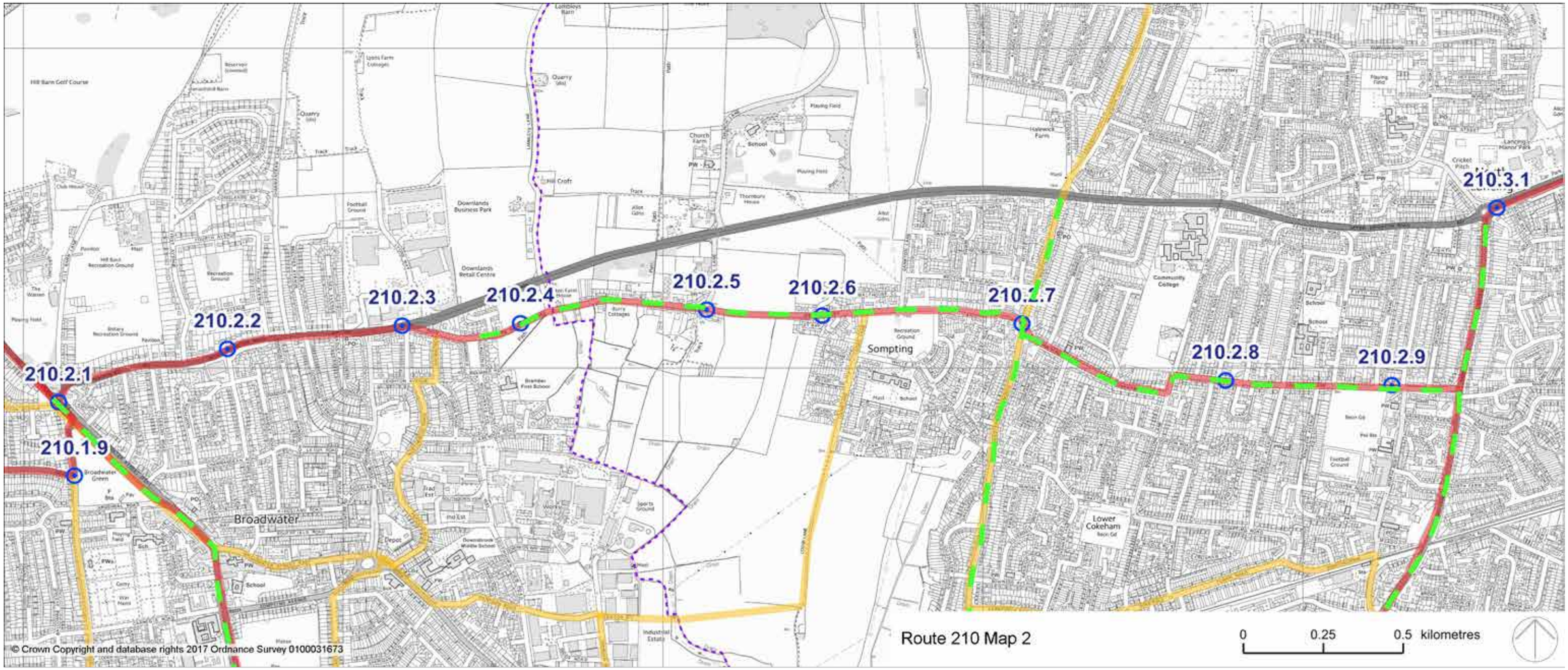
JOIN THE MOVEMENT

Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes




210.2.1 A24/Upper Brighton Road


210.2.2 Upper Brighton Road/Forest Road


210.2.3 Lyons Farm/B2222


210.2.4 B2222 Upper Brighton Road

210.2 Broadwater – Lancing

Existing conditions

At its westerly end the A27 is a major vehicular route through the county and carries more than 30,000 vehicles per day. There is an Air Quality Management Area at this location. Upper Brighton Road leading to West Street and Crabtree Lane, are much quieter streets through Sompting and Lancing. West Street in particular experiences significant problems due to narrow width and traffic from A27 rat-running. The section of route from West Street Sompting east to Grinstead Lane has been considered through the Shoreham Area STP study. The route passes through Sompting Conservation Area, therefore solutions must respect and where possible enhance the surrounding area. Development proposals in both Worthing emerging and Adur adopted Local Plans are located in this area and both could provide an opportunity to improve provision for cyclists and pedestrians.

Barriers to walking and cycling

The route alignment is currently mostly on road with very little cycling provision. The A27 is a trunk road managed by Highways England, see separate description.

Recommendations

210.2.1 This large intersection at Grove Lodge is traffic controlled on its southern arm, with a dropped kerb crossing. Both pedestrians and cyclists could benefit from a signalled crossing at this point, although this is known to be a very busy junction for traffic. There is an opportunity at this location to signpost a cycle route north into the National Park via Hill Barn Lane connecting with the bridleway east of the golf course.

210.2.2 The existing shared use path finishes at this point and cyclists have to re-join the carriageway. The highway is wide with a central hatched area and could accommodate a segregated cycle path. The grass verge on both sides of the road could also contribute to this.

210.2.3 This large junction at Lyons Farm Retail Park is very busy and has a history of both cycle and pedestrian accidents. Although this is a large intersection, any design to accommodate off-carriageway cycle provision is likely to be very challenging. Alternative on-road routes via quieter streets may be required.

210.2.4 Opportunity to investigate provision of a shared path subject to landowner support, as highlighted in Shoreham Area STP study.

210.2.5 Consider traffic calming to improve junction for cyclists and improve pedestrian safety. See Shoreham Area STP proposals for on-road cycle provision at this location.

210.2.6 Install shared path as shown in Shoreham Area STP study.

210.2.7 Install raised crossing as shown in Shoreham Area STP study.

210.2.8 Install segregated cycle path as shown in Shoreham Area STP study.

210.2.9 Installation of segregated/shared cycle path through here as shown in Shoreham Area STP study.


210.2.5 Upper Brighton Road/Church Lane


210.2.9 Crabtree Lane/Orchard Avenue


210.2.6 West Street/St Mary's Close


210.2.7 West Street/Busticle Lane


210.2.8 Crabtree Lane/Lancing Close

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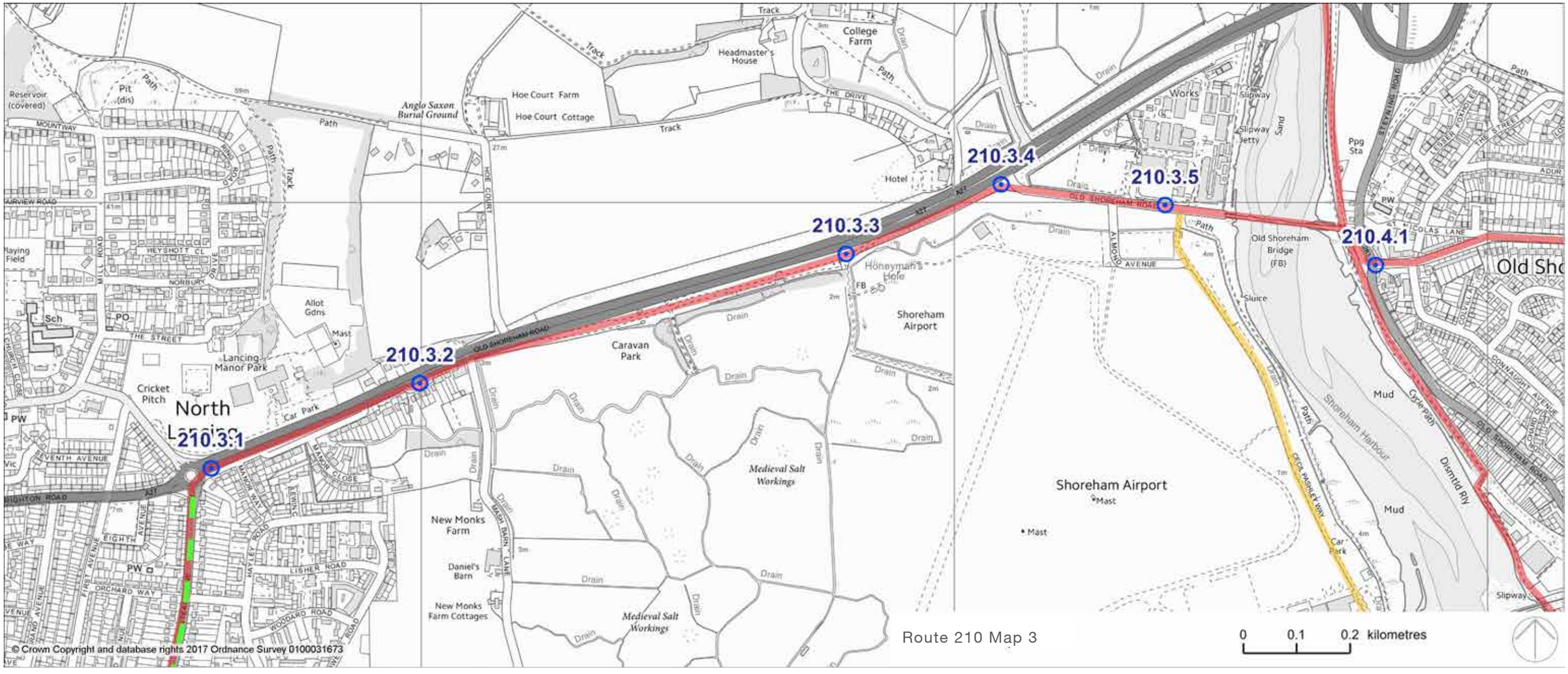
Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



Route 210 Map 3

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210.3 A27 North Lancing – Old Shoreham Bridge

Existing conditions

This is the main west-east route through the area. Linking Worthing and Adur to the west with Hove and Brighton to the east. It carries more than 50,000 vehicles per day. See also Route 320 for description of Grinstead Lane.

Barriers to walking and cycling

The route is very busy where it runs adjacent to the A27, with limited connections north south, as featured in the Shoreham Area STP- A27 NMU Crossings Report.

Recommendations

210.3.1 We recommended installation of a shared path at this busy roundabout and improved access from Grinstead Lane to the south. The junction is due to be improved as part of the New Monks Farm development (ref. AWDM/0961/17).

210.3.2 We recommend improving the existing mixed shared/on-road cycle path. Also due to be improved as part of New Monks Farm development.

210.3.3 Major roundabout proposed at this location. Proposed residential and retail development and country park at New Monks Farm with shared use path and multi-phase toucan crossings proposed with roundabout.

210.3.4 Improve signal crossing and links north south to Lancing College. The crossing proposed to be downgraded with New Monks Farm development with upgrade of footpath to bridleway under A27 flyover on west bank of River Adur.

210.3.5 We recommended installing a minimum 3m shared use path along this minor road leading to Old Shoreham Bridge.


210.3.1 Grinstead Lane/A27


210.3.5 Shoreham Old Rd/Old S'ham Bridge


210.3.2 A27 Old Shoreham Road


210.3.3 A27/Shoreham Airport


210.3.4 Sussex Pad /Old Shoreham Road

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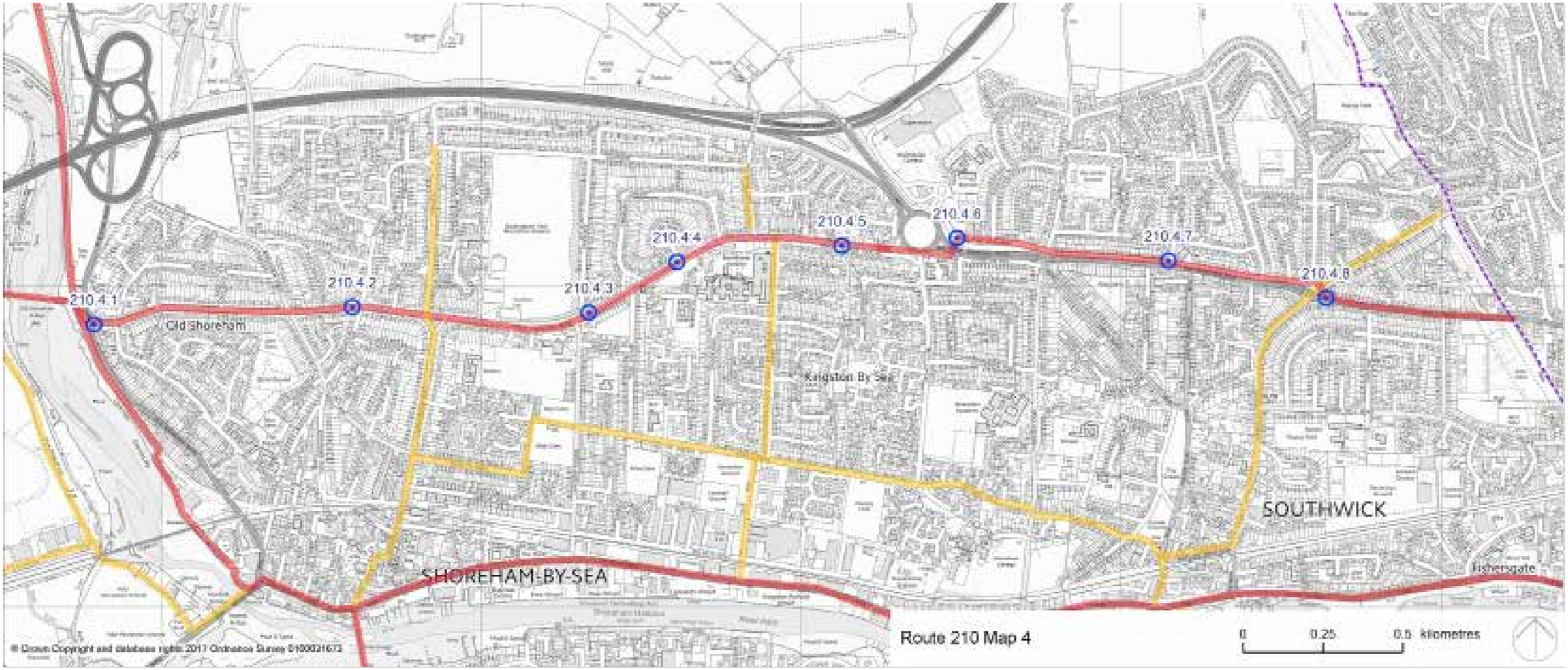
JOIN THE MOVEMENT

Key:

- Primary Route
- Secondary Route
- Recommendation



210.4 Old Shoreham Bridge - Fishersgate

Existing conditions

This route initially follows the Old Shoreham route that is now by-passed by the A27 to the north. The route is wide, with good potential for cycling provision. The eastern end however runs along the A270, a major route into Fishersgate and then Hove and Brighton beyond. The route passes through Old Shoreham and Southlands Conservation Areas, therefore solutions must respect and where possible enhance the surrounding area. The route also passes through an Air Quality Management Area on Old Shoreham Road.

Barriers to walking and cycling

The route is very busy where it runs adjacent to the A270, with some poor connections north to south.

Recommendations

210.4.1 Connections for cycling are disjointed at the mini roundabout here and could benefit from traffic calming and a wider crossing for cycles to more easily connect to the Downs Link path.

210.4.2 Upper Shoreham Road is wide with regular central refuges for pedestrian crossing and grass verges. There is room on these wide sections for segregated cycle paths on both sides.

210.4.3 This section past Buckingham Park, has existing segregated cycle path markings on both sides of the carriageway. They are recommended for improvement and extension, to create a physical partition to deter kerb parking and create a safer route.

210.4.4 West of the hospital there are designated parking areas and grass verges along both sides of the road with narrow footways. By widening these footways and creating shared use paths, this would cater for all the different users.

210.4.5 We recommend extending the segregated cycle path here along the wide grass verge to replace this narrow footway. Pedestrians could use the footway along by the houses.

210.4.6 To extend cycle provision from the toucan crossing over Upper Shoreham Road, consider installing 20 mph speed limit and traffic calming measures along Kingston Broadway.

210.4.7 Lower Drive is a narrow access road running parallel to Old Shoreham Road and could be utilised as a quiet on-road route.

210.4.8 Old Shoreham Road is very busy at this junction, with multiple lanes and a 40mph speed limit. Lane width reduction and installation of a shared use path to continue further east is recommended for investigation.

210.4.1 Old Shoreham Rd/Upper Shoreham Rd


210.4.2 Upper Shoreham Rd/Oxen Ave


210.4.3 Upper Shoreham Rd/Parkside


210.4.4 Upper Shoreham Rd/Garden Close


210.4.5 Royal George Parade/Hammy Lane

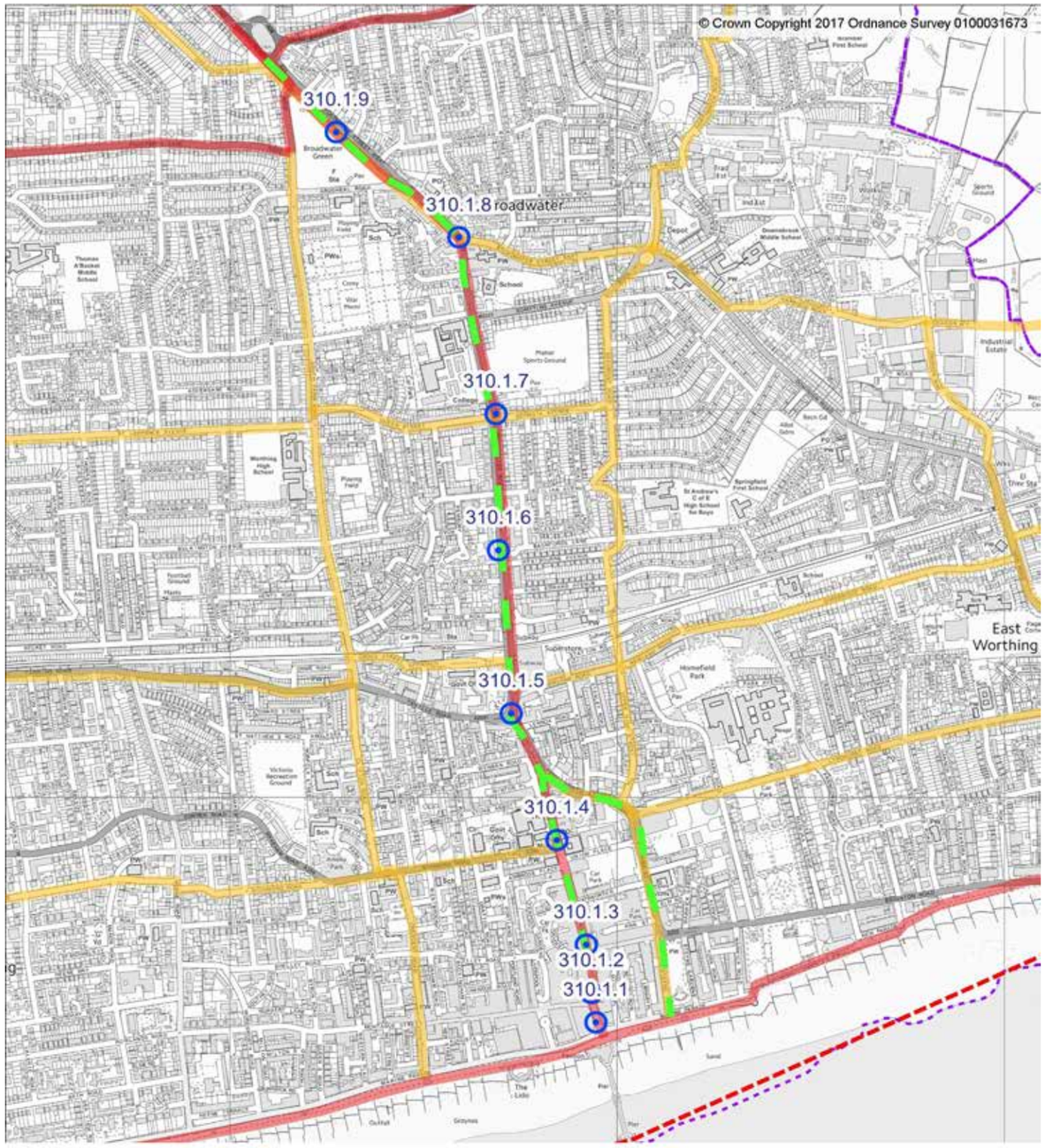
210.4.6 Kingston Broadway/Hawkins Road


210.4.7 Lower Drive/Upper Kingston Lane


210.4.8 Old Shoreham Rd/Mile Oak Rd

Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



Route 310 Map 1

Route 310: Worthing–Findon Valley

Route Description

This is the main route into Worthing town centre from the north. Linking Findon Valley, the most northerly urban centre in Worthing Borough, via the A24/A27 to Worthing town centre and the main shopping, civic and visitor destinations. Also a key link north out of Worthing and connecting via Findon Valley and Findon to the National Park.

Background

Sections of the route are or have been considered through the Worthing Area STP study (Grove Lodge to Chapel Road), and through WSCC design work to consider extended the existing Findon Valley shared use path north towards Findon Village and Washington. The A27/A24 Warren Road is being considered for Highways England improvements. There are also related public realm proposals for Chapel Road and South Street that are being considered. In addition there are potential opportunities to improve cycling and walking provision as part of the town centre redevelopment proposals.

310.1 Worthing Town Centre – Grove Lodge Roundabout

Existing conditions

This route is the main road in and out of Worthing Town Centre. Carrying over 20,000 motor vehicles per day from the A27 into the highest density employment area in the Borough, including Worthing Hospital. Some existing routes link to and from this route, but there is limited provision along much of the route. The route passes through significant parts of a Conservation Area, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

The A24 is a very busy road, leading into the town centre and is a dual carriageway for most of its length. There is a history of cycle and pedestrian accidents. Several subways exist that provide access around the station and Chapel Road junction area avoiding the A24, but these are in need of renovation and act as a barrier in themselves. Broadwater Green has Village Green status, which restricts development affecting the green space.

Recommendations

310.1.1 The south end of South Street is busy with vehicles illegally parking and blocking access. It is recommended that proposals for public realm improvements enhance the priority for pedestrians and cyclists through this area.

310.1.2 The carriageway here has limited width. It is recommend that the public realm proposals enhance priority for pedestrians and cyclists.

310.1.3 Where the pedestrian zone ends, there is a natural desire line across Chapel Road here. We recommend consideration is given to installing a raised crossing, giving pedestrian and cycling priority which would slow down traffic at this junction and allow cycles to re-join the highway.

310.1.4 The wide walkway in front of the Council buildings has a tree planted verge and another paved area next to the carriageway, which is suitable for creating a segregated cycle path leading from the Richmond Road/Chapel Road junction.

310.1.5 This busy double junction provides multiple challenges for cyclists and pedestrians and has recorded a number of accidents. We recommend installing a shared/segregated cycle path either side of the junction to link Chapel Road with the A24. Also, we recommend widening the existing signal crossing on Teville Road to accommodate shared use. Development proposals at Teville Gate provide an opportunity to improve conditions in this area.

310.1.6 Broadwater Road is a dual carriageway with a central reservation. There is carriageway width to install a shared or segregated cycle way along its length.

310.1.7 Options for lane narrowing or lane reallocation could be considered here to enable continuation of a shared use or segregated path.

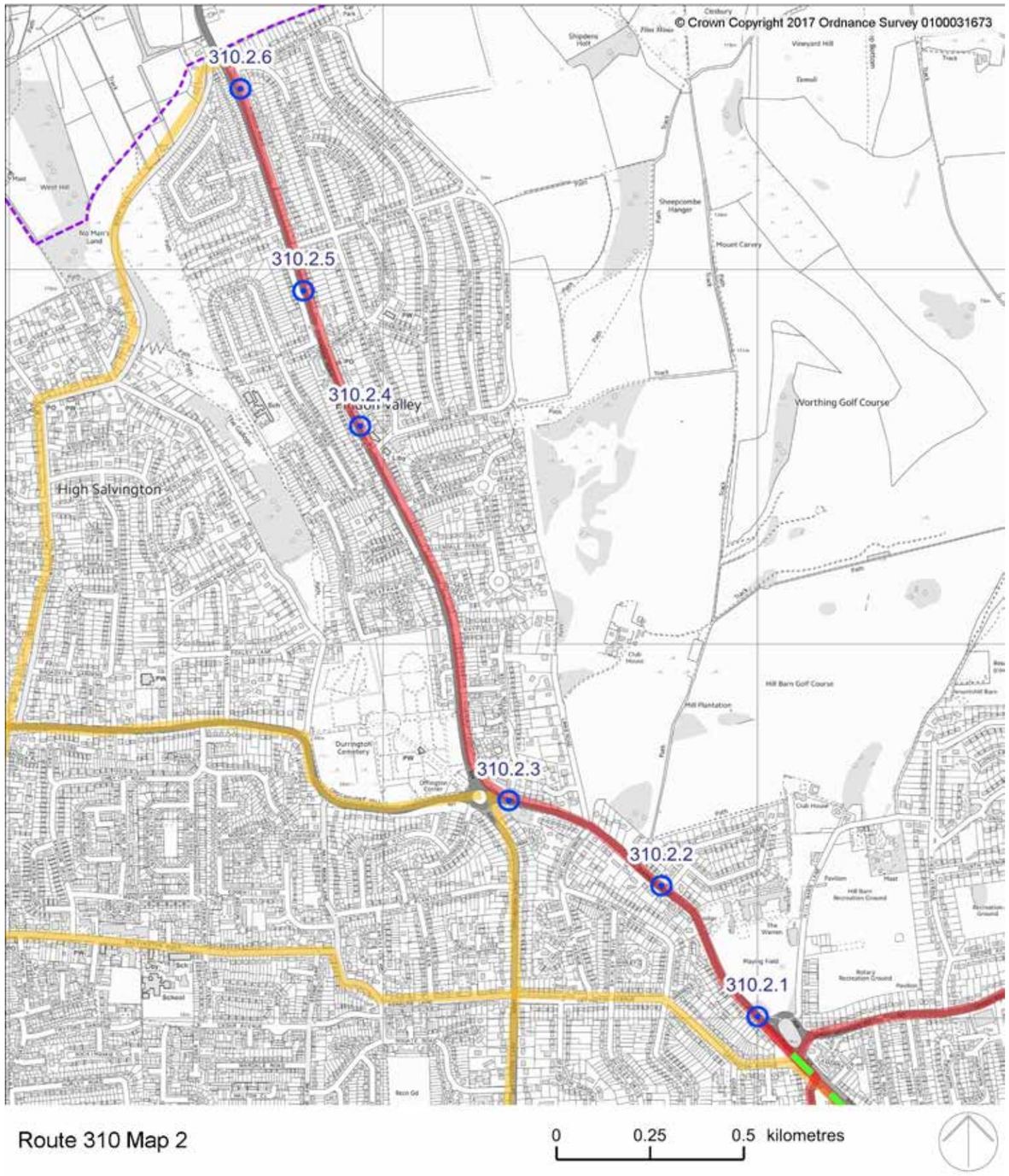
310.1.8 Through Broadwater shopping area, there are records of accidents involving pedestrians and cyclists. Narrowing traffic lanes, consolidating parking and providing space for segregated cycle provision through the area could help to address safety issues.

310.1.9 The route alongside Broadwater Green is recommended for a segregated cycle path, with options which can be considered within or parallel to the Green on Broadwater Road, subject to local community support. This could make a significant improvement for access to the Green. A path on Broadwater Street West is likely to require reallocation of existing parking.


310.1.9 A24/Broadwater Green

Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



310.2 Grove Lodge Roundabout – Findon Valley

Existing conditions

This is the main north/south route in and out of Worthing. Carrying over 20,000 motor vehicles per day from the north to the A27 connection and towns along the West Sussex coastline.

Barriers to walking and cycling

The A24 Warren Road is a very busy road, leading to and from Findon Valley and Grove Lodge. It is a wide carriageway for most of its length, with two big junctions. There is a good shared use path along Findon Road, but it finishes along the busiest stretches, where the most accidents have been reported.

Recommendations

310.2.1 There is a good segregated path that ends at the northern crossing of the Grove Lodge intersection. The carriageway is wide enough to extend this two way segregated cycle path up Warren Road on the north side, subject to Highways England A27 proposals. An alternative route through the grounds of Worthing College could also be considered subject to landowner consent.

310.2.2 There are wide grass verges and wide carriageway with a number of crossing points and central reservation. Replacing the existing sporadic shared use paths, with a segregated cycle path is recommended. There is a bridleway connection to the National Park at this location and any improvements to crossings will deliver benefits to access to the SDNP.

310.2.3 We recommend improving this signal crossing to include cycles and linking the existing shared use path on Findon Road with the proposed cycle path on Warren Road.

310.2.4 At Kings Parade the existing shared use path finishes. There is a concrete raised reservation between the Parade and Findon Road, that could be improved to stop illegal parking and widened to accommodate a cycle path, and improved bus stop.

310.2.5 Findon Road is wide, with several access roads/parades running parallel to the road, mostly behind hedge lined verges. Installing a segregated cycle path alongside the carriageway is recommended.

310.2.6 Coming into Findon Valley from the north there is a wide verge that could accommodate a shared use path, by widening the existing footway. There are County Council proposals to develop a cycle link north of here into the National Park at Washington.

310.2.5 Findon Road/Cissbury Drive

310.2.6 Findon Road/May Tree Avenue

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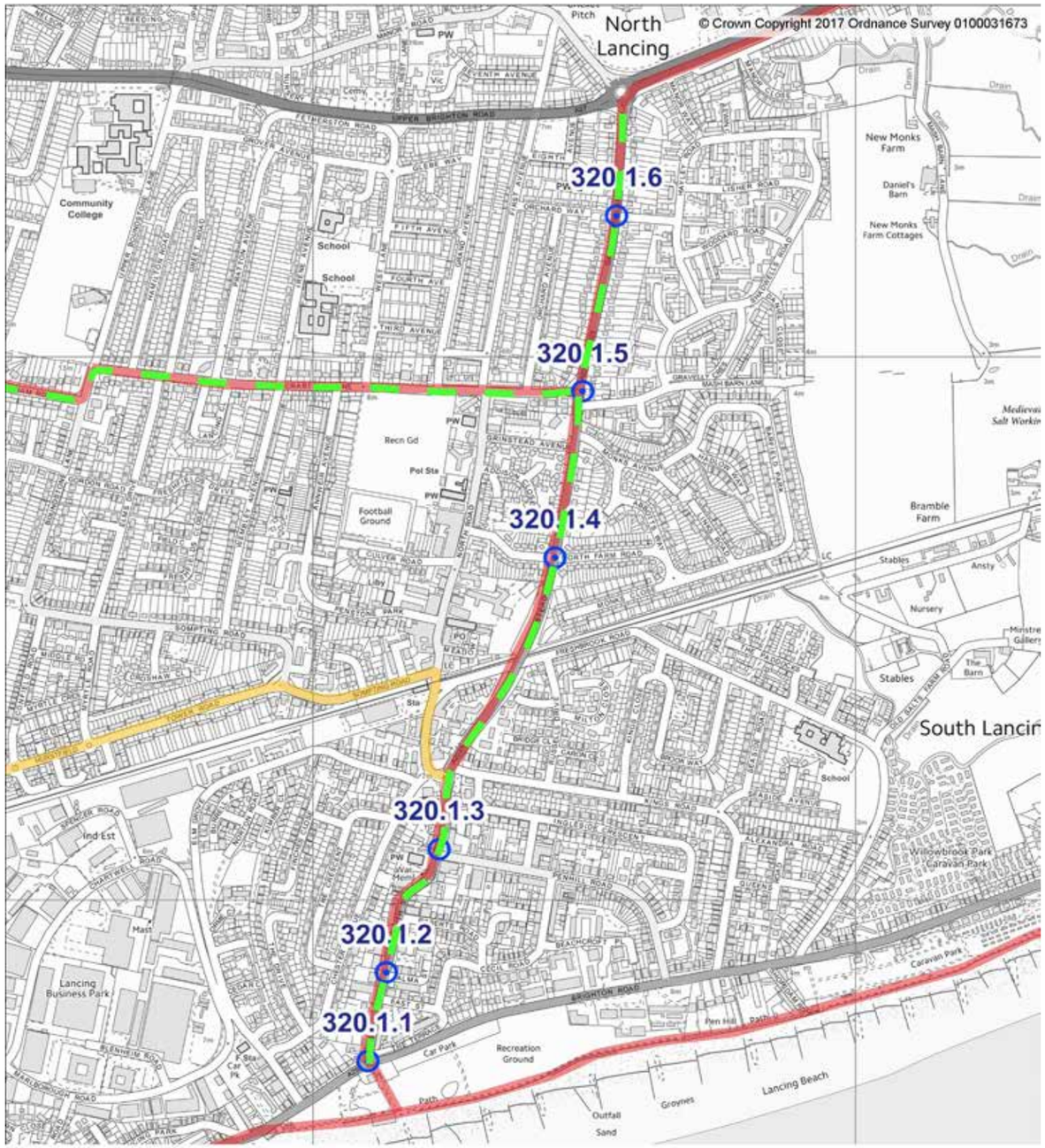
Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



Route 320 Map 1


320.1.1 South Street/Brighton Road


320.1.2 South Street/Alma Street


320.1.3 South Street/Penhill Road


320.1.4 Grinstead Land/North Farm Road

Route 320: Lancing Beach–North Lancing

Route Description

This is the main route that connects the settlements of Lancing, Sompting and East Worthing to the A27, carrying over 10,000 motor vehicles per day. Destinations include the centre of Lancing, the beach and parkland areas, several caravan sites and a large industrial estate.

Background

This route has been considered by the Shoreham Area STP feasibility study.

320.1 Lancing Beach – North Lancing

Existing conditions

This is a busy route connecting Lancing Beach in the South, to the A27 at North Lancing. It has currently no cycling provision, but has good potential, in terms of wide carriageways and footways.

Barriers to walking and cycling

The A2025 is very congested at the Lancing Beach end, with a lot of on-street parking, often on both sides of the carriageway, particularly outside shops. Records show there has been a history of pedestrian and cyclist road traffic accidents in the Lancing area. Large vehicles also use this road to access the seafront area.

Recommendations

320.1.1 This roundabout has no cycling provision and poor pedestrian provision, as highlighted in the STP study. Solutions including toucan crossings, shared path provision and cycle lanes are discussed in the STP study.

320.1.2 The southernmost end of South Street has parking on both sides of the carriageway. The STP study assumes on-road cycle provision along this stretch due to concerns about loss of this parking. In order to provide a continuous off-road shared path, parking would need to be removed from one side of the road. In addition a 20mph speed limit could be introduced as suggested by the STP study.

320.1.3 The carriageway is wide here, with staggered parking areas. Consider installing shared/segregated cycle provision, including past the parking bays, depending on approach further south.

320.1.4 The rail flyover and Grinstead Lane both have wide carriageways and could accommodate two way shared/segregated cycle paths with raised crossings at junctions along the length of Grinstead Lane.

320.1.5 This junction leading to Sompting Village via Route 210, requires shared use paths both sides of the carriageway, raised crossings and toucan signalled crossing.

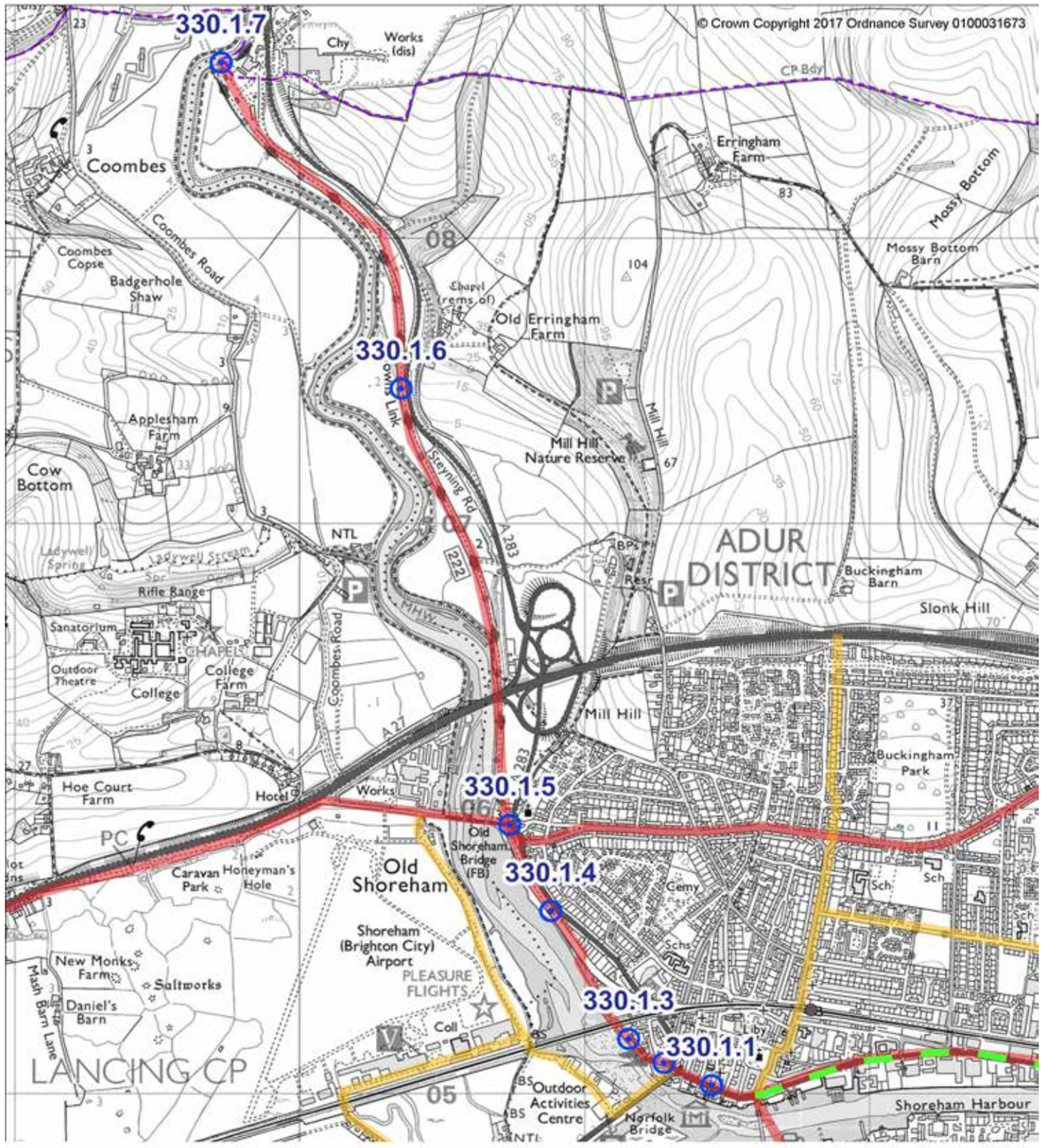
320.1.6 Install two way segregated cycle paths, with accommodation for bus stops and raised crossings at junctions.

320.1.5 Grinstead Lane/Crabtree Lane

320.1.6 Grinstead Lane/Curvins Way

Key:

- Primary Route
- Secondary Route
- Recommendation
- WSCC STP Routes



Route 330 Map 1

Route 330: Shoreham–District Boundary

Route Description

This route links Shoreham-by-Sea town centre to the South Downs National Park. Most of the route is traffic free, avoiding the 60mph A283, which has reported serious accidents involving cyclists. The exception to this traffic free route, is the short section along the High Street through Shoreham town centre, which carries over 10,000 motor vehicles per day.

Background

The A259/A283 Norfolk Bridge roundabout and the A259 High Street is the subject of highway proposals to improve traffic flow by improving capacity of the roundabout and addressing parking related congestion and air quality issues.

330.1 Shoreham – Adur District Boundary

Existing conditions

This route connects Shoreham's High Street, a busy through A road, with the South Downs National Park. The majority of the route is rural and traffic free, with good quality wide shared use paths. Where the route meets the town, there is very little cycle provision and the route is squeezed through private housing. The town centre and Old Shoreham routes are within Conservation Areas, therefore solutions must respect and where possible enhance the surrounding area.

Barriers to walking and cycling

Shoreham High Street is congested with no provision for cycling. Some of the shared use paths around Broad Reach housing development are narrow and around Ropetackle Arts Centre paths are cluttered and narrow with limited cycling provision.

Recommendations

330.1.1 Shoreham High Street carries the busy A259 road. Pavements have been widened, but ideally parking could be reduced more, to allow for more pavement widening and a 20mph speed limit would aid cycling through this area. An alternative on-road route is signposted to the Downs Link via Connaught Avenue but this misses out a section of the riverside path.

330.1.2 Where the pedestrian area around the Ropetackle Arts Centre meets the High Street roundabout, there are several pinch points, due to path width and street furniture. Options for improving cycle provision at the roundabout to be investigated, ideally with a signal crossing across Old Shoreham Road.

330.1.3 This area has a narrow shared use path along Broad Reach. Options to indicate cyclists to use quiet residential roads here instead are recommended.

330.1.4 Access onto the cycle path here is narrow. We recommend widening the entrance and paths connecting up to the route to a minimum of 2.5m.

330.1.5 This is the main access point onto the Downs Link and the junction between Routes 210 and 330. The entrance here could be improved to reflect this, including widening both the entrance way and path up to the routes.

330.1.6 This is one of the few access points from the A283 onto the Downs Link path. The path linking the layby to the route is recommended to be widened and the surface improved.

330.1.7 The corner here, at the disused cement works, as the path leaves the District, is very sharp and narrows suddenly. Reducing the height of the hedgerow would improve sight lines.


330.1.5 Old Shoreham Bridge/A283


330.1.6 Downs Link/A283


330.1.7 Downs Link/River Adur

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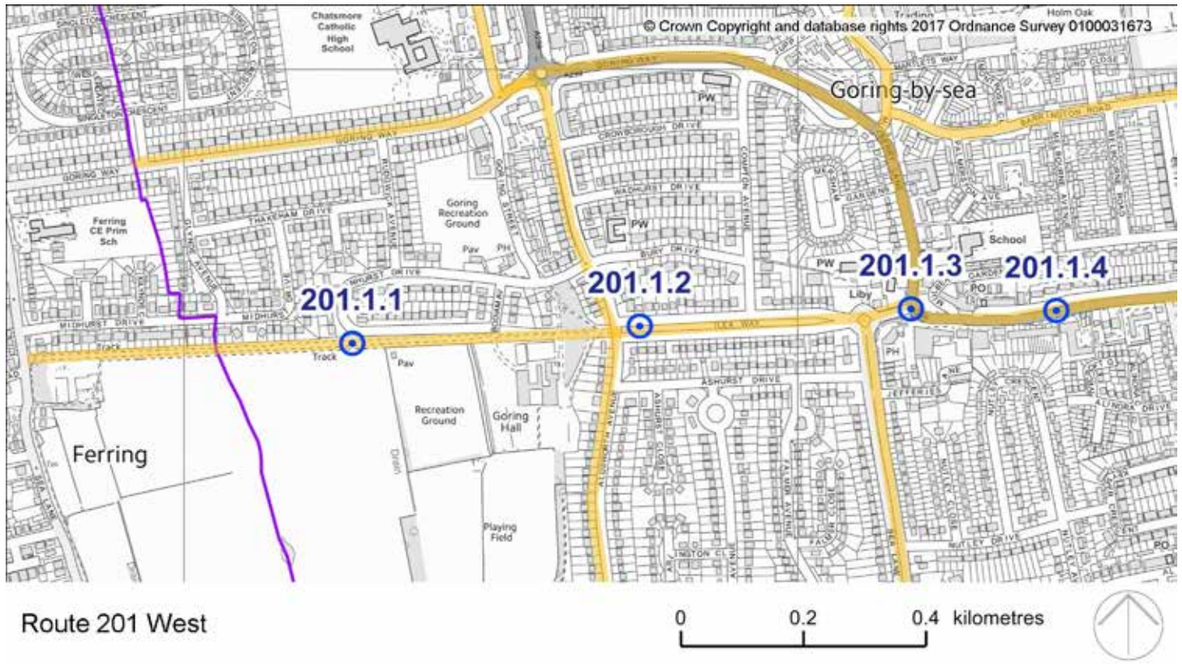
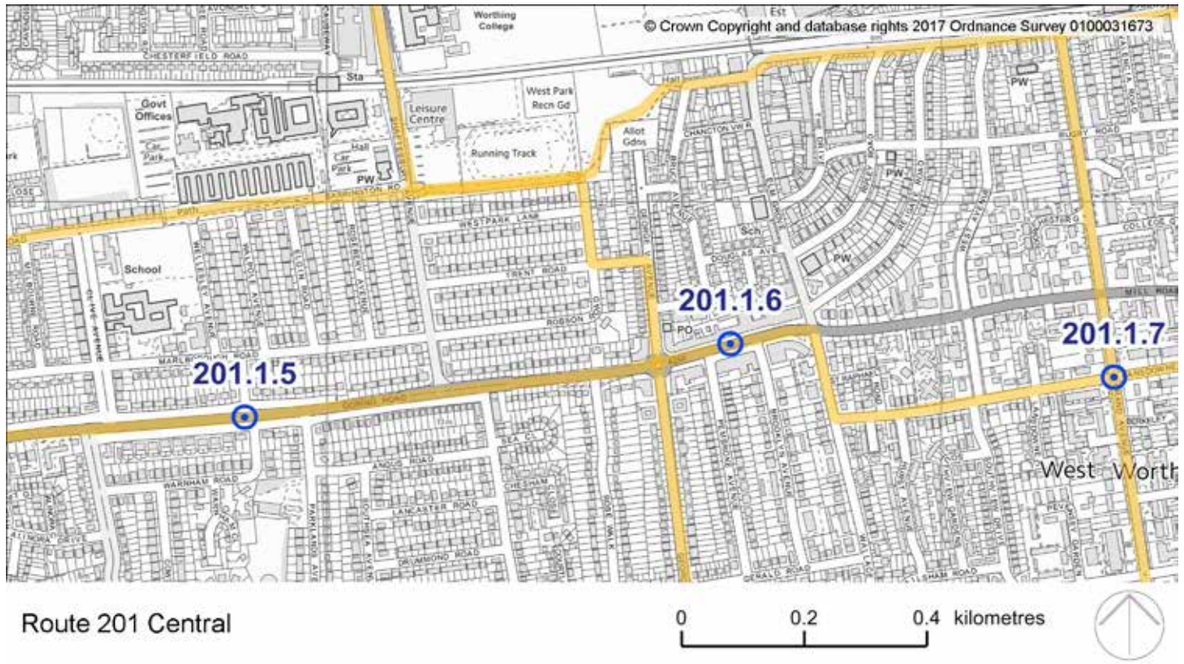
Key:

- Primary Route
- Secondary Route
- Recommendation



Route 201 West



Route 201 Central

Route 201 East

Route 201: Ferring-Worthing

Route Description

This is one of the main west-east routes through the area, linking Ferring, Worthing and Lancing. The section between Ferring and Worthing town centre was audited using the Route Selection Tool and is described in the text below.

Background

Parts of the route are included in the West Sussex network proposals and the Adur & Worthing Walking and Cycling Action Group suggested network.

201.1 Ferring – Worthing town centre

Existing conditions

The first section follows the Ilex Way bridleway, an unsurfaced tree lined avenue. The A259 is one of the major inter-county routes linking Littlehampton to Worthing. It carries around 15,000 vehicles per day with several difficult junctions. Residential roads experience some rat-running and on-street parking.

Barriers to walking and cycling

The A259 is a busy road, with a 40mph speed limit in places, with several junctions that are currently difficult for pedestrians and cyclists to cross. On-road advisory cycle lanes offer limited protection from motor vehicles.

Recommendations

201.1.1 Provide a hard wearing surface on the Ilex Way bridleway between Sea Lane Ferring and Aldsworth Avenue.

201.1.2 Provide a hard wearing surface on the Ilex Way bridleway between Aldsworth Avenue and Sea Lane Goring.

201.1.3 Consider installing controlled crossing of the A259 Goring Road to replace existing uncontrolled crossing.

201.1.4 Consider options for protected cycle lane provision within available highway verge space also accommodating parking.

201.1.5 Consider reducing speed limit from 40mph to 30mph and install protected cycle lanes on both sides of Goring Road. It may be possible to use the service roads in the short term as a low-cost solution.

201.1.6 Consider redesign of Goring Road shopping area to improve public realm and provide space for cycling on both sides of the road.

201.1.7 Consider installing speed table at Grand Avenue and provide Zebra crossings on both sides of the junction.

201.1.8 Consider installing a Low Traffic Neighbourhood with modal filters to prevent rat-running on Lansdowne Road and Richmond Road.

201.1.9 Consider reducing speed limit to 20mph on Richmond Road from Tennyson Road to Chapel Road and install traffic calming to keep traffic speeds down. There is limited highway space for protected cycle lanes.


201.1.2 Ilex Way at Aldsworth Avenue


201.1.6 Goring Road shops


201.1.3 Goring Road crossing


201.1.7 Lansdowne Road/Grand Avenue


201.1.4 Goring Road (west)


201.1.8 Richmond Road/Manor Road


201.1.1 Ilex Way near Fernhurst Drive


201.1.5 Goring Road near Alinora Avenue

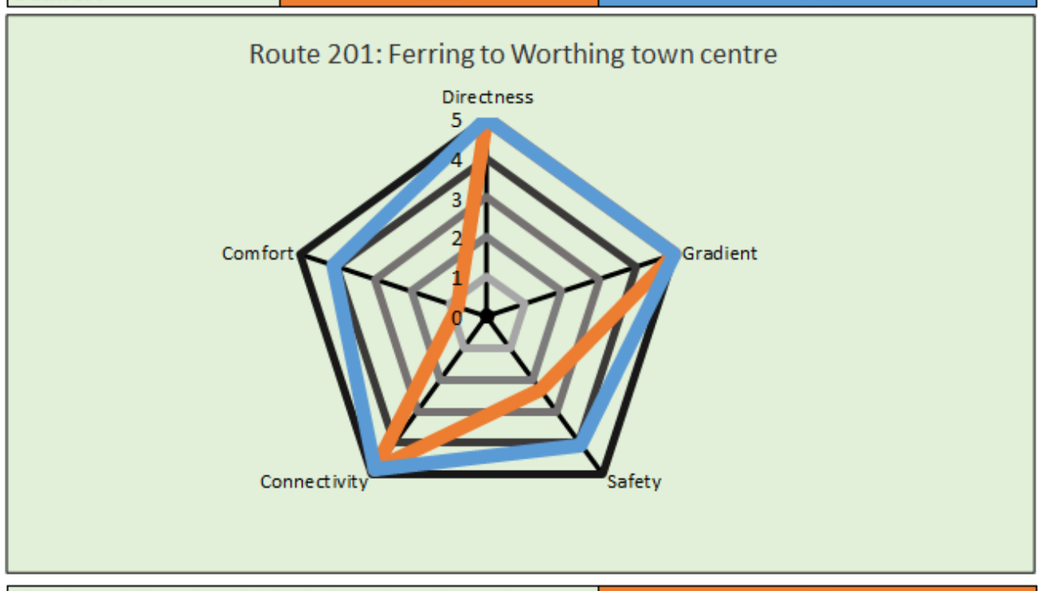

201.1.9 Richmond Road/Clifton Road

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

ROUTE SUMMARY

Route Name	Route 201: Ferring to Worthing town centre
Overall Length	5.29km
Name of Assessor(s)	Simon Pratt
Date of Assessment	18 September 2019

	Performance Scores	
Criterion	**Existing**	**Potential**
Directness	5.00	5.00
Gradient	5.00	5.00
Safety	2.34	4.05
Connectivity	4.81	4.81
Comfort	0.76	4.10



Number of Existing Critical Junctions/Crossings	10
Number of Potential Critical Junctions/Crossings	2
Description of Improvements	Protected cycle lanes along the A259 Goring Road with continuity through junctions. Low Traffic Neighbourhood in West Worthing. Speed reduction on Richmond Road.
Indicative Cost	

Route Selection Tool

The primary function of the RST is to assess the suitability of a route against a set of core design outcomes. The RST enables a route to be assessed in both its existing state and potential future state, if improvements were made. The tool uses a range of criteria to assess how well a route meets the core design outcomes, with scoring ranging from 5, being the highest, to 0, being the lowest.

The criteria are:

- directness
- gradient
- safety
- connectivity
- comfort

The number of 'critical junctions' are also recorded to enable a high-level evaluation of both links and junctions within one tool. A 'critical junction' is defined as one that has characteristics that are hazardous for cyclists e.g. high traffic volumes, lack of priority or segregation, crossing high speed on-off slip roads or large roundabouts.

The aim is to choose routes that have the potential to be brought up to a score of at least 5 for each criterion, ideally with no critical junctions.

The summary table opposite compares Route 201 between Ferring and Worthing in its current condition (existing) and its condition if all recommendations are implemented (potential). The most significant factors are safety and comfort and the detailed scores for both options are reproduced on the following page.

The scores in the blue tables show how the scores for each section are calculated

It is clear from the RST model that a traffic volume of 2,500 vehicles per day is a critical threshold for on-road routes, which reflects current guidance. Roads that have higher traffic volumes must have separated provision for people on bikes in order to reach the required standard.

We only have access to traffic count data on the major roads in Adur and Worthing, so our assessment of minor roads is based on a subjective view of conditions at the time of the survey. Any measures to reduce traffic speed and volume on residential streets will have wider benefits for people on foot and bike or with limited mobility.

The two remaining "critical junctions" on this route would be:

1. Wykeham Road and Richmond Road, where bikes need to cross traffic on the A259 when travelling from west to east. There is a signal crossing 40 metres to the northwest at the entrance to Victoria Recreation Ground, but connecting footways are too narrow for shared use.
2. Double mini-roundabouts on Richmond Road at the junctions with Clifton Road and Crescent Road, where the impact of traffic can be mitigated with a 20mph speed limit and traffic calming.

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

SAFETY

Assessed for sections of route of similar characteristics - max 1km each

AADT - Average Annualised Daily Traffic

			Existing Route				Potential Route			
Section Number	Section start point	Section end point	Section Length (km)	Motor Traffic Speed (mph)	Motor Traffic Volume (AADT)	Score	Section Length (km)	Motor Traffic Speed (mph)	Motor Traffic Volume (AADT)	Score
1	Sea Lane Ferring	Sea Lane Goring	1	n/a	n/a	5	1	n/a	n/a	5
2	Sea Lane Ferring	Sea Lane Goring	0.311	n/a	n/a	5	0.311	n/a	n/a	5
3	Sea Lane Goring	Southdown House	0.485	30	16000	1	0.485	n/a	n/a	5
4	Southdown House	Shaftesbury Avenue	0.57	40	16000	0	0.57	n/a	n/a	5
5	Shaftesbury Avenue	Wallace Avenue	0.717	30	16000	1	0.717	n/a	n/a	5
6	Wallace Avenue	Down View Road	0.801	30	2000	3	0.801	30	2000	3
7	Down View Road	Tennyson Road	0.812	30	3000	2	0.812	30	2500	3
8	Tennyson Road	Chapel Road	0.595	30	14000	1	0.595	20	10000	2
9										
10										

Safety Scores Table			Motor Traffic Speed		
			20 mph	30 mph	>30 mph
Mixed Traffic Table Scores	Motor Traffic Volume	<2500	4	3	2
		2500-5000	3	2	1
		>5000	2	1	0
Route physically protected from motor vehicles or off highway completely	n/a		5		
Unlit routes	n/a		Deduct 1 point		
Routes without passive surveillance	n/a		Deduct 1 point		

Safety Score for Route	Existing	Potential
	2.34	4.05

Local Cycling and Walking Infrastructure Plan: Route Selection Tool

COMFORT

Assessed for sections of route of similar characteristics - max 1km each

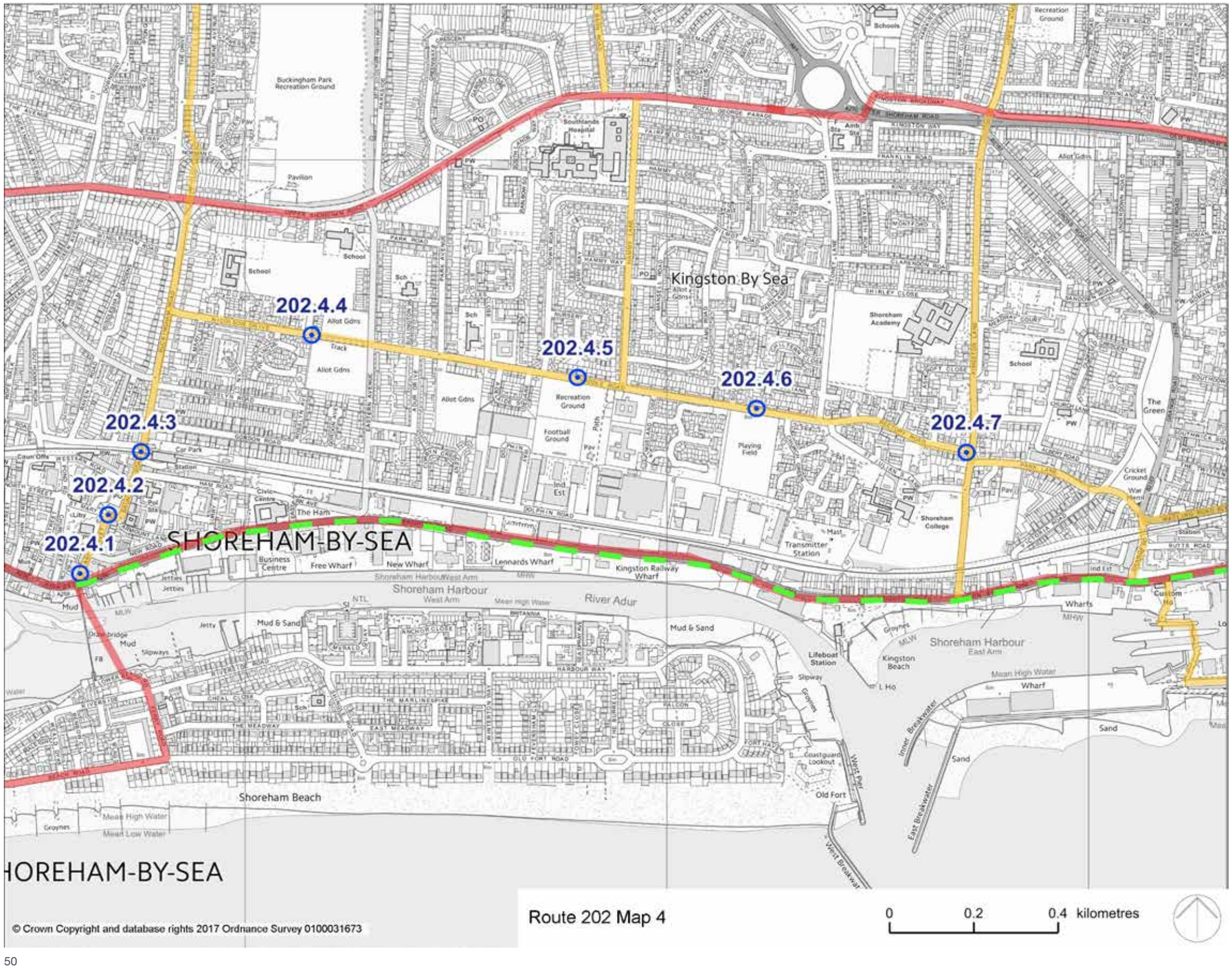
			Existing Route				Potential Route			
Section Number	Section start point	Section end point	Section Length (km)	Surface Type	Available Width (m)	Score	Section Length (km)	Surface Type	Available Width (m)	Score
1	Sea Lane Ferring	Sea Lane Goring	1	*Unsurfaced*	4	0	1	*Smooth, Machine-laid bituminous or similar*	4	5
2	Sea Lane Ferring	Sea Lane Goring	0.311	*Unsurfaced*	4	0	0.311	*Smooth, Machine-laid bituminous or similar*	4	5
3	Sea Lane Goring	Southdown House	0.485	*Smooth, Machine-laid bituminous or similar*	4	0	0.485	*Smooth, Machine-laid bituminous or similar*	3	4
4	Southdown House	Shaftesbury Avenue	0.57	*Smooth, Machine-laid bituminous or similar*	4	0	0.57	*Smooth, Machine-laid bituminous or similar*	3	4
5	Shaftesbury Avenue	Wallace Avenue	0.717	*Smooth, Machine-laid bituminous or similar*	4	0	0.717	*Smooth, Machine-laid bituminous or similar*	3	4
6	Wallace Avenue	Down View Road	0.801	*Smooth, Machine-laid bituminous or similar*	4	5	0.801	*Smooth, Machine-laid bituminous or similar*	4	5
7	Down View Road	Tennyson Road	0.812	*Smooth, Machine-laid bituminous or similar*	4	0	0.812	*Smooth, Machine-laid bituminous or similar*	4	5
8	Tennyson Road	Chapel Road	0.595	*Smooth, Machine-laid bituminous or similar*	4	0	0.595	*Smooth, Machine-laid bituminous or similar*	4	0
9										
10										

Comfort Score for Route	Existing	Potential
	0.78	4.10

Comfort Scores Table		Available Width				
One-Way Track/Lane		≥ 2.1m	< 2.1m, ≥ 1.8m	< 1.8m, ≥ 1.5m	< 1.5m, ≥ 1.2m	< 1.2m
Two-Way Track/Lane		≥ 3.5m	< 3.5m, ≥ 3m	< 3m, ≥ 2.5m	< 2.5m, ≥ 2m	< 2m
Surface Type	Smooth, Machine-laid bituminous or similar	5	4	3	1	0
	Hand-laid bituminous or similar	4	3	2	1	0
	Concrete/stone paviours with filled level joints	3	2	1	0	0
	Concrete/stone flags	2	1	0	0	0
	Unbound graded aggregate	1	0	0	0	0
	Unsurfaced	0	0	0	0	0

Other

Notes: Mixed traffic streets carrying more than 2500 vehicles per day score zero
Mixed traffic streets with less than 2500 vpd should be assessed as two-way tracks with available width > 3.5m


202.4.1
202.4.2
202.4.3
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202.4.6
202.4.7
SHOREHAM-BY-SEA
Kingston By Sea
Shoreham Harbour
River Adur
Shoreham Beach
Buckingham Park Recreation Ground
Pavilion
Southlands Hospital
Recreation Ground
Shoreham Academy
Shoreham College
Transmitter Station
Business Centre
Free Wharf
New Wharf
Lennards Wharf
Kingston Railway Wharf
Shoreham Harbour West Arm
Shoreham Harbour East Arm
Lifeboat Station
Kingston Beach
Coastguard Lookout
Old Fort
West Pier
East Breakwater
Inner Breakwater
Wharf
Sand
Mud & Sand
Mean High Water
Mean Low Water
Route 202 Map 4
0 0.2 0.4 kilometres
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Route 202: Ferring–Fishersgate

Route Description

This is an important secondary route running west-east parallel to the railway line through Worthing and Adur. It links Ferring, Goring, Worthing and Lancing then Shoreham Airport, Shoreham, Southwick and Fishersgate. Unfortunately there is a significant gap between Lancing and Shoreham Airport, which is unlikely to be filled in the short term.

Background

Parts of the route are included in the West Sussex network proposals, while the Adur & Worthing Walking and Cycling Action Group suggested network includes most of the route. The section of Route 202 between East Worthing and Worthing town centre is audited as a walking route in the following pages.

202.4 Shoreham High Street - Southwick

Existing conditions

These is a useful east-west routes, linking Shoreham town centre to the communities to the east. It follows mainly residential roads, but with local traffic accessing the town centre. The document Making Middle Road Better was compiled by Shoreham By Cycle in January 2019 and the rest of the route was audited by Sustrans in February 2019 and Shoreham-By-Cycle in October 2019, giving the combined recommendations below.

Barriers to walking and cycling

Existing infrastructure has some improvements needed in Shoreham town centre and there are quality issues, especially along Middle Road. This very busy route between multiple schools and housing, is the subject of much concern from local parents and Councillors.

Recommendations

202.4.1 This route is part of NCN2, where Adur Ferry Bridge meets the A259 High Street. The existing crossing could be upgraded to a parallel/toucan crossing for the bridge to align with East Street.

202.4.2 There is currently some conflict between cyclists and drivers on East Street. We recommend improvements to road markings on the northern section to make clear that cycles are permitted in both directions.

Where St Mary's Street meets Brunswick Road, the cycle contraflow here is obstructed by parking close to the junction. We recommend installing double yellow lines to prevent parked cars blocking the entrance to the cycle contraflow.

202.4.3 This level crossing and the busy junction from Ham Lane onto Brunswick Road would be improved by installing segregated cycle paths, particularly for southbound cycles.

202.4.4 This unadopted track at the end of Nicolson Road, leading to Ham Field allotments, has an existing shared use path on one side. This route is well used by young children and is regarded as unsafe for this shared use. There is ample space available to create a segregated cycle path and improve access for all users.

202.4.5 There are several traffic calming build outs along Middle Road and adjoining Stoney Lane. We recommend the creation of cycle by-passes behind the build-outs and adjust parking to suit.

202.4.6 There are several conflicts along this stretch of Middle road, with shops, narrow carriageway and close proximity to schools. Consider segregated cycle/ pedestrian path along this route where possible. We also recommend adjusting parking restrictions near shops, to increase visibility and carriageway width.

202.4.7 Kingston Lane is a significant school route and connects north and south Shoreham to Shoreham Academy. This junction and much of Kingston Lane has the space to create a segregated cycle path. A feasibility study is recommended to look into the issues and how this can connect into the network.


202.4.1 High Street/East Street


202.4.4 Nicolson Road/Ham Field Allotments


202.4.2a East Street North


202.4.5 Middle Road/Hammy Lane


202.4.2b St Mary's Street/Brunswick Road


202.4.6 Middle Road/Stoney Lane


202.4.3 Brunswick Road/Ham Road


202.4.7 Middle Road/Kingston Lane

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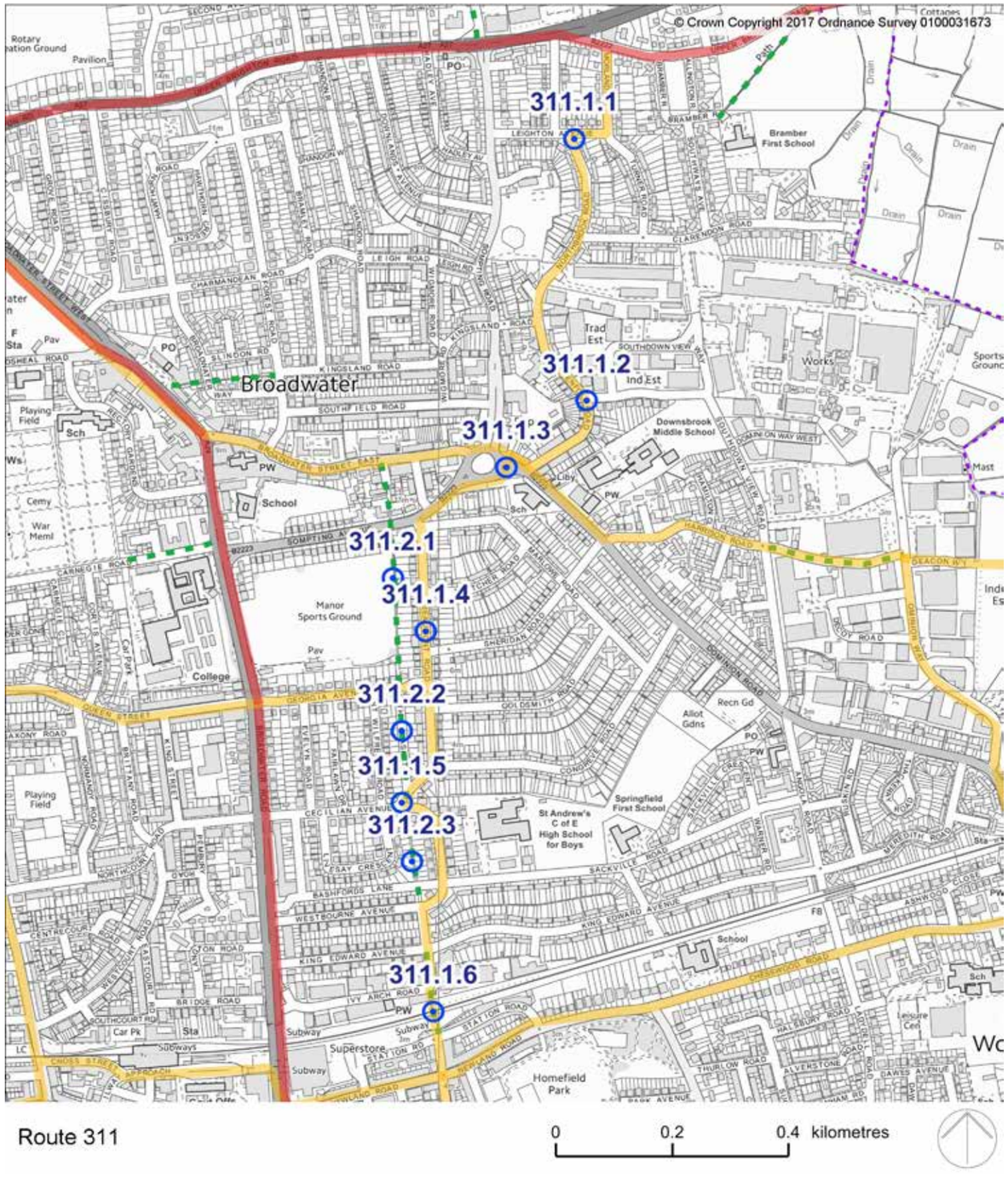
Key:

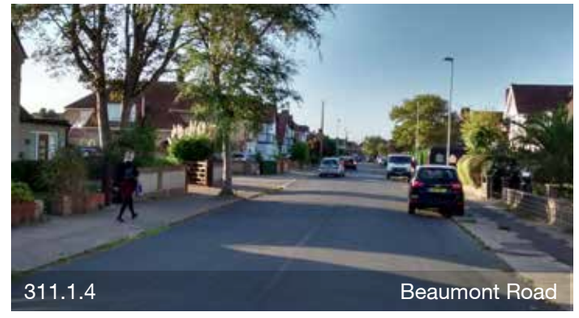
- Primary Route
- Secondary Route
- Recommendation




311.1.3a Dominion Road crossing


311.1.3b Sompting Road crossing


311.1.1 Northbrook Road/Leighton Avenue


311.1.4 Beaumont Road


311.1.2 Southdownview Road


311.1.5 Congreve Road/Cecilian Avenue

Route 311: Lyons Farm-Worthing

Route Description

This is a useful north-south walking route, linking Lyons Farm Retail Centre and Business Park, several other business parks, schools and Worthing town centre. It is mainly on quiet residential roads, but some of these roads experience rat-running and there is a difficult crossing of Dominion Road. The section between Lyons Farm and Newland Road and the parallel public footpath WSx/3137/1 were audited using the Walking Route Audit Tool and are described in the text below.

Background

The route is also signed as a cycle route. The public footpath runs from Broadwater Street East to Westbourne Avenue.

311.1 Lyons Farm – Worthing town centre

Existing conditions

The first section follows residential roads with commercial traffic to the nearby business parks. The roundabout at Sompting Avenue has no controlled crossings. Residential roads experience some rat-running and pavement parking.

Barriers to walking and cycling

The residential roads are moderately busy, making walking and cycling uncomfortable. The roundabout is a significant barrier as it is difficult to cross. Pavement parking and poor footway conditions are a barrier to walking.

Recommendations

311.1.1 Consider improving footway surfaces throughout the route as required.

311.1.2 Consider installation of modal filter on Southdown View Road to prevent access to business parks for commercial traffic from residential streets.

311.1.3 Consider whether improved controlled crossings can be accommodated on all arms of the Sompting Avenue roundabout. This is a particular issue for pupils of Downsbrook Middle and Whytemead Primary Schools.

311.1.4 Consider measures to control pavement parking throughout the route.

311.1.5 Consider installing a modal filter at junction of Garrick Road and Cecilian Avenue to prevent rat-running at this difficult junction with poor visibility.

311.1.6 Narrow subway under the railway is not suitable for shared use and cyclists are required to dismount.

311.2 Footpath WSx/3137/1

Existing conditions

The footpath runs parallel to Beaumont Road, but is narrow in places. It offers a green and quiet space away from motor vehicles.

Barriers to walking and cycling

The route is unsuitable for shared use with people on bikes due to restricted width between private gardens in places. The isolated location with no natural surveillance is likely to deter some people.

Recommendations

311.2.1 Public footpath is narrow and could be widened into the adjacent Manor Sports Ground. This section is not suitable for shared use as it is constrained between private gardens.

311.2.2 Consider improved surface of The Quashetts, which is wide enough for shared use.

311.2.3 Public footpath is narrow with limited scope for widening. Overhanging vegetation needs to be trimmed back regularly. Although it is lit, the isolation of the path may deter some people, especially at night.

Walking Route Audit Tool

The primary function of the WRAT is to assess the current condition and suitability of a walking route. The tool uses a range of criteria to assess how well a route meets the core design outcomes, with scoring ranging from 2, being the highest, to 0, being the lowest.

The core design outcomes are:

- attractiveness
- comfort
- directness
- safety
- coherence

A score of 70% (28 out of 40 points) should normally be regarded as a minimum level of provision overall. Routes which score less than this, and factors which are scored as zero should be used to identify where improvements are required. The actions column allows auditors to record solutions to any of the issues identified on the route.

The route is assessed as a whole, on the basis that one issue will limit the value of the route for people on foot. Walking alongside the on-road cycle route is assessed as having a score of 29, but with a zero score for the uncontrolled crossing of the B2223 Dominion Road and for frequent pavement parking. The parallel public footpath is given an overall score of 33, with one zero score for the difficult crossing at Cecilian Avenue. The footpath crosses the B2223 Sompting Avenue with a single phase Pelican crossing.

311.1.6 Railway tunnel


311.2.1 Manor Sports Ground


311.2.2 The Quashetts


311.2.3 Footpath N. of Bashfords Lane

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments	Actions
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	2	Overgrown vegetation in one location at Sompting Avenue.	Cut back vegetation
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	2		
3. ATTRACTIVENESS - traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	1	High traffic levels at Sompting Avenue, some rat-running on other streets.	Low Traffic Neighbourhood
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			2		
ATTRACTIVENESS				7		
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	1	Uneven footways in some locations, such as Morland Avenue and Beaumont Road. Paving slabs with patch repairs.	Footway resurfacing.
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	1	Narrow footways in some locations, such as Penfold Road. Sompting Avenue footway is too narrow for shared use.	Footway widening
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	2	Width is OK but controlled crossing needed, see item 13.	
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	0	Pavement parking is a consistent problem along this route.	Education and enforcement.
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	2		
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			2		
COMFORT				8		
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	2		
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	2		
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	0	Uncontrolled crossing of Dominion Road requires users to wait for traffic to gvie way.	Install controlled crossings on all arms of the roundabout.
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	2		
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	2		
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			2		
DIRECTNESS				10		
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	1		
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	1		
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	0	Poor visibility on corner of Cecilian Avenue.	Instal modal filter as part of Low Traffic Neighbourhood.
SAFETY				2		
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	2		
COHERENCE				2		
			Total Score	29		

ROUTE SUMMARY

Route Name	Route 331: Lyons Way to High Street
Length	
Name of Assessor(s)	Simon Pratt
Date of Assessment	19 September 2019

Criterion	Performance Scores
Attractiveness	7
Comfort	8
Directness	10
Safety	2
Coherence	2
Total	29

Comments	Route just passes the minimum score of 28, but uncontrolled crossing at Dominion Road is a concern.
Actions	Install controlled crossings on all arms of Sompting Avenue roundabout.

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments	Actions
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	1	Overgrown vegetation in places.	Cut back vegetation.
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	1	Route is isolated in places and bounded by fences.	
3. ATTRACTIVENESS - traffic noise and	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	2		
4. ATTRACTIVENESS - other	Examples of "other" attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			2		
ATTRACTIVENESS				6		
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	1	Poor quality surfaces in places.	Surface improvements.
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	1	Narrow widths in places, with limited scope to widen unless private land can be acquired.	Widen footpath where possible.
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	2		
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	2		
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	2		
10.COMFORT - other	Examples of "other" comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			2		
COMFORT				10		
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	2		
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	2		
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	1	Difficult to cross Cecilian Avenue on bend.	Instal modal filter as part of Low Traffic Neighbourhood.
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	2		
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	2		
16.DIRECTNESS - other	Examples of "other" directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			2		
DIRECTNESS				11		
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	2		
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	0	Poor visibility on corner of Cecilian Avenue.	Instal modal filter as part of Low Traffic Neighbourhood.
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	2		
SAFETY				4		
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	2		
COHERENCE				2		
			Total Score	33		

ROUTE SUMMARY

Route Name	Route 331: Footpath WSx'3137/1
Length	
Name of Assessor(s)	Simon Pratt
Date of Assessment	19 September 2019

Criterion	Performance Scores
Attractiveness	6
Comfort	10
Directness	11
Safety	4
Coherence	2
Total	33

Comments	Although this alignment scores higher than the on-road route, it is perhaps not suitable at night for some people.
Actions	

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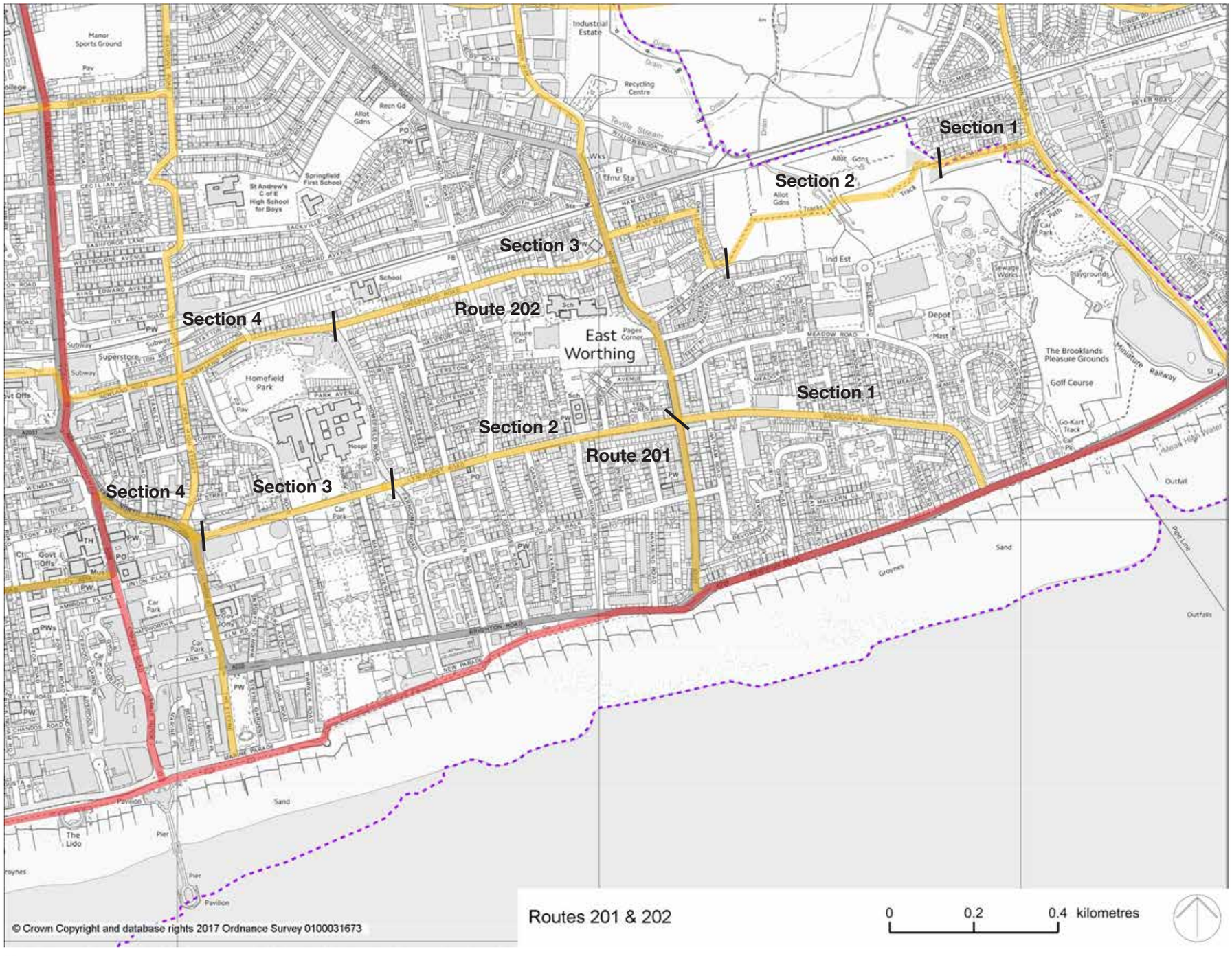
Key:

- Primary Route
- Secondary Route
- Recommendation



Routes 201 & 202: East Worthing-Worthing

Route Description

These are useful east-west walking routes, linking East Worthing with Worthing town centre. They follow mainly residential roads, but with local traffic accessing the town centre. The section of Route 202 across the allotment site is not publicly accessible. Both routes were audited by WSP staff on 7 October 2019 using the Walking Route Audit Tool and the results, including recommended actions, are shown on the following pages.

The routes were divided into four sections for audit purposes, summarised below and shown on the map opposite:

Route 201

Section 1: Brougham Road from .Brighton Road to Ham Road

Section 2: Lyndhurst Road, Ham Road to Farncombe Road

Section 3: Lyndhurst Road, Farncombe Road to North Street

Section 4: A259 North Street and A24 Broadwater Road

Route 202

Section 1: St Paul's Avenue

Section 2: Allotment site, not audited as it is not accessible

Section 3: Oakleigh Road, Ham Way and ChesswoodRoad

Section 4: Newland Road, Homefield Road to Broadwater Road

Route 201 audit summary

Section 1 – score 18

High traffic volumes, poor visibility and high HGV turning counts

Section 2 – score 23

High pedestrian footfall with shop frontage and cafes with outside seating providing a pleasant street scene. The street would benefit from reduced speed limit to 20mph to increase safety levels.

Section 3 – score 25

High wall pinch point with high traffic flows and pedestrians close to traffic, after hospital going westbound

Section 4 – score 14

Two major junctions with high traffic flows cause a hostile pedestrian environment. Difficult to cross these junctions without significantly increasing journey time. The subway at the North Street/A259 Junction lacked sufficient wayfinding.

Route 202 audit summary

Section 1 – score 29

Route is a dead end, with no through access to Section 2. A large gate prevents access. The route is a quiet route suitable for walking and cycling and would provide a good link towards East Worthing.

Section 2 – score n/a

This section is not accessible, it is blocked at both ends with access to allotments, not a public right of way. Mapping does show a path, however, this is not accessible to the general public.

Section 3 – score 25

No crossing at B2223; needs a crossing to access Chesswood Road/Ham Way more easily. Currently hazardous with high flows on B2223 and poor visibility looking north over railway bridge.

Section 4 – score 23

Residential streets, parked cars on either side reduce crossing visibility but generally a good route.

Route comparisons

The average score for Route 201 is 20, well below the recommended minimum of 28. Significant improvements are needed before this route can be promoted as part of the walking network.

The average score for Route 202 is 26, which suggests that with minor improvements it is an acceptable route. The whole route is dependent on access being secured to the allotment site.

Route 201	Section 1			Section 2			Section 3			Section 4		
Audit Categories	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**
1. ATTRACTIVENESS - maintenance	**0**	Overgrown vegetation in footway	Cut back vegetation overhanging the highway	**1**	Overgrown vegetation in footway	Cut back vegetation overhanging the highway	**1**	Overgrown vegetation in footway	Cut back vegetation overhanging the highway	**2**	Footways well maintained with no significant issues noted.	
2. ATTRACTIVENESS - fear of crime	**2**	No evidence of vandalism. Sufficient natural surveillance		**2**	No evidence of vandalism. Sufficient natural surveillance		**2**	No evidence of vandalism. Sufficient natural surveillance		**0**	Route passes through underpass with no passive surveillance.	Consider installation of CCTV or enhanced lighting
3. ATTRACTIVENESS - traffic noise and pollution	**0**	High Volumes	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise)	**1**	High Volumes	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise).	**0**	high traffic flows, particulalry outside hospital	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise).	**0**	High Volumes	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise)
4. ATTRACTIVENESS - other	**2**			**2**	No other issues and lighting is present		**2**	Lighting is present.		**1**	Extenisve use of bollards and guardrails	Review pedestrian routes in relation to desire lines, and amend if appropriate. Add lighting to route section. Consider removal/relocation of bollards.
ATTRACTIVENESS	**4**			**6**			**5**			**3**		
5. COMFORT - condition	**0**	Some evidence of footway damage with cracked uneven paving near tree roots	Maintenance/resurfacing works required on the footway.	**0**	Some evidence of footway damage with cracked uneven paving near tree roots close to St Georges Rd jct	Maintenance/resurfacing works required on the footway.	**2**	Footways are level and generally in good condition.		**2**	Footways are level and generally in good condition	
6. COMFORT - footway width	**1**	Usable footway width is narrowed approaching w/b junction with B2223	Identify opportunities to widen footway	**0**	Trees narrow effective width	Identify opportunities to widen footway	**0**	Pinch points on both sides, narrow after Park Road with a high wall restrictring footway width to 1.0	It is considered that width constraints and requirements for two-way vehicular traffic movements mean that sections of narrow footway are likely to remain. Options are likely to be reliant on reallocating carriageway space	**1**	Usable footway width is narrowed in places along North Street	Identify opportunities to widen footway
7. COMFORT - width on staggered crossings/ pedestrian islands/ refuges	**2**	No staggered crossings or pedestrian refuges within audit section.		**2**	No staggered crossings or pedestrian refuges within audit section.		**2**	No staggered crossings or pedestrian refuges within audit section	.	**0**	Width of pedestrian refuges (i.e space between carriageway lanes) at junction with Lidl crossing points are estimated to be less than 1.5m wide	Review, and if required redesign, pedestrian refuge at lidl to ensure there is suitable usable width for all users.
8. COMFORT - footway parking	**0**	Vehicles were observed parked on the footways at the time of the site visit (weekday daytime). Parking on footways observed at Brougham Road after Brooklands Road jct. Parking on footways observed at Junction with Meadow Road.	Further study required to understand whether on-carriageway parking can be formalised, or whether traffic regulation order to prohibit parking is required, or bollards required to prevent footway parking.	**2**	No footway parking observed at the time of the site visit.		**2**	No footway parking observed at the time of the site visit. This may not represent characteristics at different times of the day or at weekends.		**0**	outside parade of shops	Consider whether a traffic regulation order (prohibiting footway parking on a particular section of highway).
9. COMFORT - gradient	**2**	No substantial footway slopes were identified.		**2**	No substantial footway slopes identified		**2**	No substantial footway slopes were identified.		**1**	Footway slopes may cause discomfort for less mobile pedestrians at Subway Ramps	Consider redesigning junction remove subway and to provide a more level footway surface for less mobile pedestrians.
10.COMFORT - other	**1**	Wide side road crossing at Meadow Road results in longer pedestrian crossing distances.	Consider whether side road crossing distances can be reduced for pedestrians at Meadow Road junction by amending kerblines.	**2**	No other comfort issues identified.		**1**	Bus shelters outside hospital restricting footway width	Remove bus stop layby outside hospital and reallocate the space to footway width and bus shelter.	**2**	No other comfort issues identified.	
COMFORT	**6**			**8**			**9**			**6**		
11.DIRECTNESS - footway provision	**2**	Footways cater for desire lines		**2**	Footways cater for desire lines		**2**	Footways cater for desire lines		**2**	Footways cater for desire lines	
12.DIRECTNESS - location of crossings in relation to desire lines	**0**	Crossings are located slightly off the desire line crossing Meadow Road	Redesign Meadow Road junction to provide the pedestrian crossing on the desire line.	**2**	Crossings follow pedestrian desire lines.		**2**	Crossings follow pedestrian desire lines.		**0**	Crossings are not located on the desire line at Lyndhurst Road North street and Morrisons junction	Redesign the two major junctions to provide the pedestrian crossing on the desire line.
13.DIRECTNESS - gaps in traffic (where no controlled crossings)	**0**	Crossing of side roads without pedestrian priority over heavy flows of turning vehicles.	Consider constructing continuous footways across side roads to give greater pedestrian priority.	**1**	Crossing of side roads generally easy, direct and without delay but without pedestrian priority over vehicles	Consider constructing continuous footways across lightly trafficked side roads to give greater pedestrian priority.	**1**	Crossing of side roads generally easy, direct and without delay but without pedestrian priority over vehicles	Consider constructing continuous footways across lightly trafficked side roads to give greater pedestrian priority	**0**	Crossing of side roads without pedestrian priority over heavy flows of turning vehicles.	Consider constructing continuous footways across side roads to give greater pedestrian priority.
14.DIRECTNESS - impact of controlled crossings on journey time	**2**	No controlled crossings within the audit section.		**1**	Slight delay crossing B2223	Review signal crossing timings to reduce pedestrian delay.	**2**	Crossings outisde hospital is single phase Pelican, Puffin or Zebra crossings.		**0**	Staggered crossings cause significant delays to journey times	Review whether existing two-stage crossing layouts can be replaced with single-stage pedestrian crossing.
15. DIRECTNESS - green man time	**2**	No controlled crossings within the audit section.		**1**	Crossing B2223 minimum seven second green time.	Install on-crossing pedestrian detection as part of future signal upgrades at signal crossing	**1**	Minimum seven seconds at hospital ped signal crossing	Install on-crossing pedestrian detection as part of future signal upgrades	**1**	Morrisons Junction Puffin crossing does not have on-crossing detectors to modify green man time and take account of pedestrian crossing speeds.	Install on-crossing pedestrian detection as part of future signal upgrades
16.DIRECTNESS - other	**2**	No other directness issues identified		**2**	No other directness issues identified		**2**	No other directness issues identified		**0**	Confusing layout exascerbates severance	Consider introducing wayfinding signs and maps
DIRECTNESS	**8**			**9**			**10**			**3**		
17.SAFETY - traffic volume	**0**	High traffic volumes observed at time of site visit (weekday 11am)	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car	**0**	High traffic volumes observed at time of site visit (weekday 11am)	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car	**0**	High traffic volumes observed at time of site visit (weekday 11am)	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car.	**0**	High traffic volumes observed at time of site visit (weekday 11am)	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car
18.SAFETY - traffic speed	**0**	Road is subject to 30mph speed limit and pedestrians are in relatively close proximity. Monitoring would be required to confirm driver adherence to speed limits.	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.	**0**	Road is subject to 30mph speed limit and pedestrians are in relatively close proximity. Monitoring would be required to confirm driver adherence to speed limits.	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.	**0**	Road is subject to 30mph speed limit and pedestrians are in relatively close proximity. Monitoring would be required to confirm driver adherence to speed limits.	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.	**0**	Road is subject to 30mph speed limit and pedestrians are in relatively close proximity. Monitoring would be required to confirm driver adherence to speed limits.	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.
19.SAFETY - visibility	**0**	There is poor visibility at Meadow Road Crossing	Improve visibility at the crossing/junction/ road through tightening junction radii / adding controlled crossings to improve pedestrian safety.	**0**	There is poor visibility at side road crossings.	Improve visibility at the crossing/junction/ road through tightening junction radii / adding controlled crossings to improve pedestrian safety.	**1**	There is poor visibility at park road side road Crossing	Improve visibility at the crossing/junction/ road through tightening junction radii / adding controlled crossings to improve pedestrian safety.	**2**	Considered to be good visibility for all road users	
SAFETY	**0**			**0**			**1**			**2**		
20. COHERENCE - dropped kerbs and tactile paving	**0**	No tactile paving / dropped kerbs at Brook dean, benedict drive, chatham road side roads	Install tactile paving / dropped kerbs	**0**	No tactile paving / dropped kerbs at side roads	Install tactile paving / dropped kerbs	**0**	None at madiera Avenue, and Park Road	Install tactile paving / dropped kerbs	**0**	No tactile at side roads	Install tactile paving
COHERENCE	**0**			**0**			**0**			**0**		
Total Score	**18**			**23**			**25**			**14**		

Route 202	Section 1			Section 2			Section 3			Section 4		
Audit Categories	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**	**Score**	**Comments**	**Actions**
1. ATTRACTIVENESS - maintenance	**1**	Some minor maintenance issues, overgrown weeds between paving blocks	Address footway maintenance issues	**n/a**			**1**	Rubbish bin bag on the footways awaiting collection. Further surveys would be required to confirm whether this is a regular occurrence.	If littering and rubbish bags on the footway are a regular occurrence, consider enhancing street cleaning programme or installing extra bins	**1**	Overgrown vegetation by park and overflowing bins	If littering and rubbish bags on the footway are a regular occurrence, consider enhancing street cleaning programme or installing extra bins
2. ATTRACTIVENESS - fear of crime	**1**	One side of the road is naturally surveilled the other is not		**n/a**			**2**	No evidence of vandalism; sufficient natural surveillance		**1**	EB park on the right and high wall not overlooked	Consider installation of enhanced lighting
3. ATTRACTIVENESS - traffic noise and pollution	**2**	Low traffic street		**n/a**			**1**	Chesswood Road experiences steady flow of traffic at the time of site audit.	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise), such as 20mph speed limit and traffic calming measures.	**0**	High volumes of traffic and noise	Consider measures to reduce vehicle speeds (and in turn reduce traffic noise), such as 20mph speed limit and traffic calming measures.
4. ATTRACTIVENESS - other	**2**	None		**n/a**			**2**	Lighting Present		**2**	Lighting is present.	
ATTRACTIVENESS	**6**						**6**			**4**		
5. COMFORT - condition	**0**	Cracked uneven footway	Maintenance/resurfacing works required on the footway.	**n/a**			**0**	Ham Way paving trip hazard uneven paving	Maintenance/resurfacing works required on the footway.	**1**	Minor defects at driveways and cracks and uneven footway at tree roots	Maintenance/resurfacing works required on the footway.
6. COMFORT - footway width	**0**	Narrow footway	Widen footway where space permits.	**n/a**			**2**	Footway widths are estimated to be mostly greater than 2m.		**1**	Usable footway width is narrowed alongside park where trees are present.	Widen footway where space permits
7. COMFORT - width on staggered crossings/ pedestrian islands/ refuges	**2**	No staggered crossings or pedestrian refuges within audit section.		**n/a**			**2**	No staggered crossings or pedestrian refuges within audit section.		**2**	No staggered crossings or pedestrian refuges within audit section.	
8. COMFORT - footway parking	**2**	No footway parking observed at the time of the site visit. This may not represent characteristics at different times of the day or at weekends		**n/a**			**2**	No footway parking observed at the time of the site visit. This may not represent characteristics at different times of the day or at weekends.		**1**	Vehicles were observed parked on the footways at the time of the site visit (weekday daytime) at Newlands Road	Further study required to understand whether on-carriageway parking can be formalised
9. COMFORT - gradient	**2**	No substantial footway slopes were identified		**n/a**			**2**	No substantial footway slopes were identified.		**2**	No substantial footway slopes were identified.	
10.COMFORT - other	**2**	No other comfort issues identified		**n/a**			**2**	No other comfort issues identified		**2**	No other comfort issues identified.	
COMFORT	**8**						**10**			**9**		
11.DIRECTNESS - footway provision	**1**	No footway provision on EB, also no trip generators on the East bound side		**n/a**			**2**	Footways cater for desire lines		**2**	Footways cater for desire lines	
12.DIRECTNESS - location of crossings in relation to desire lines	**1**	Slightly off desire lines over priority		**n/a**			**0**	Ham Road to Ham Way no available crossing	Redesign Ham Road / Ham Way crossing junction to provide a pedestrian crossing on the desire line.	**0**	Crossings are not located on the desire line at A24/Teville Road RBT	Redesign junction to provide the pedestrian crossing on the desire line.
13.DIRECTNESS - gaps in traffic (where no controlled crossings)	**2**	Crossing of road comfortable, direct and without delay.		**n/a**			**1**	Crossing of side roads generally easy, direct and without delay but without pedestrian priority over vehicles	Consider constructing continuous footways across lightly trafficked side roads to give greater pedestrian priority.	**0**	Crossing of side roads generally easy, direct and without delay but without pedestrian priority over vehicles	Consider constructing continuous footways across lightly trafficked side roads to give greater pedestrian priority.
14.DIRECTNESS - impact of controlled crossings on journey time	**2**	No controlled crossings within the audit section.		**n/a**			**2**	Crossings are single phase Pelican, Puffin or Zebra crossings		**2**	No controlled crossings within the audit section.	
15. DIRECTNESS - green man time	**2**	N/a		**n/a**			**2**	Pelican crossing outside school provides sufficient crossing time		**2**	n/a	
16.DIRECTNESS - other	**2**	No other directness issues identified		**n/a**			**2**	No other directness issues identified		**2**	No other directness issues identified	
DIRECTNESS	**10**						**9**			**8**		
17.SAFETY - traffic volume	**2**	Relatively low traffic volumes observed at time of site visit (weekday daytime)		**n/a**			**0**	Ham Road high volumes	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car.	**1**	Moderate traffic volumes observed at time of site visit (weekday daytime 10am)	The LWCIP and other city council transport programmes aim to enable or encourage more travel by non-car modes and less travel by car
18.SAFETY - traffic speed	**2**	Road is subject to a 30mph speed limit and generally no through road into residential streets means speeds are low		**n/a**			**0**	Ham Road High speeds	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.	**1**	Road is subject to 30mph speed limit and pedestrians are in relatively close proximity. Monitoring would be required to confirm driver adherence to speed limits.	Consider measures to reduce traffic speeds, including 20mph speed limit, with the objective of reducing the potential incidence and severity of pedestrian collisions.
19.SAFETY - visibility	**1**	On street parking around junctions restricting view	Formalise on street parking to move away from junction crossing points.	**n/a**			**0**	Wide splays on side road such as Chesswood Rd/ Ham Rd and Ham Rd/Ham Way	Improve visibility at the crossing/junction/ road through tightening junction radii / adding controlled crossings to improve pedestrian safety.	**0**	Parked cars on both sides restrict visibility crossing main road	Improve visibility at the crossing/junction/ road through tightening junction radii / adding controlled crossings to improve pedestrian safety.
SAFETY	**5**						**0**			**2**		
20. COHERENCE - dropped kerbs and tactile paving	**0**	None present	Install tactile paving / dropped kerbs	**n/a**			**0**	None at Chesswood Road/Ham Road	Install tactile paving / dropped kerbs	**0**	Drop kerb and tactile absent at numerous roads e.g. Park Road and Ashdown Road	Install tactile paving / dropped kerbs
COHERENCE	**0**						**0**			**0**		
Total Score	**29**			**n/a**			**25**			**23**		

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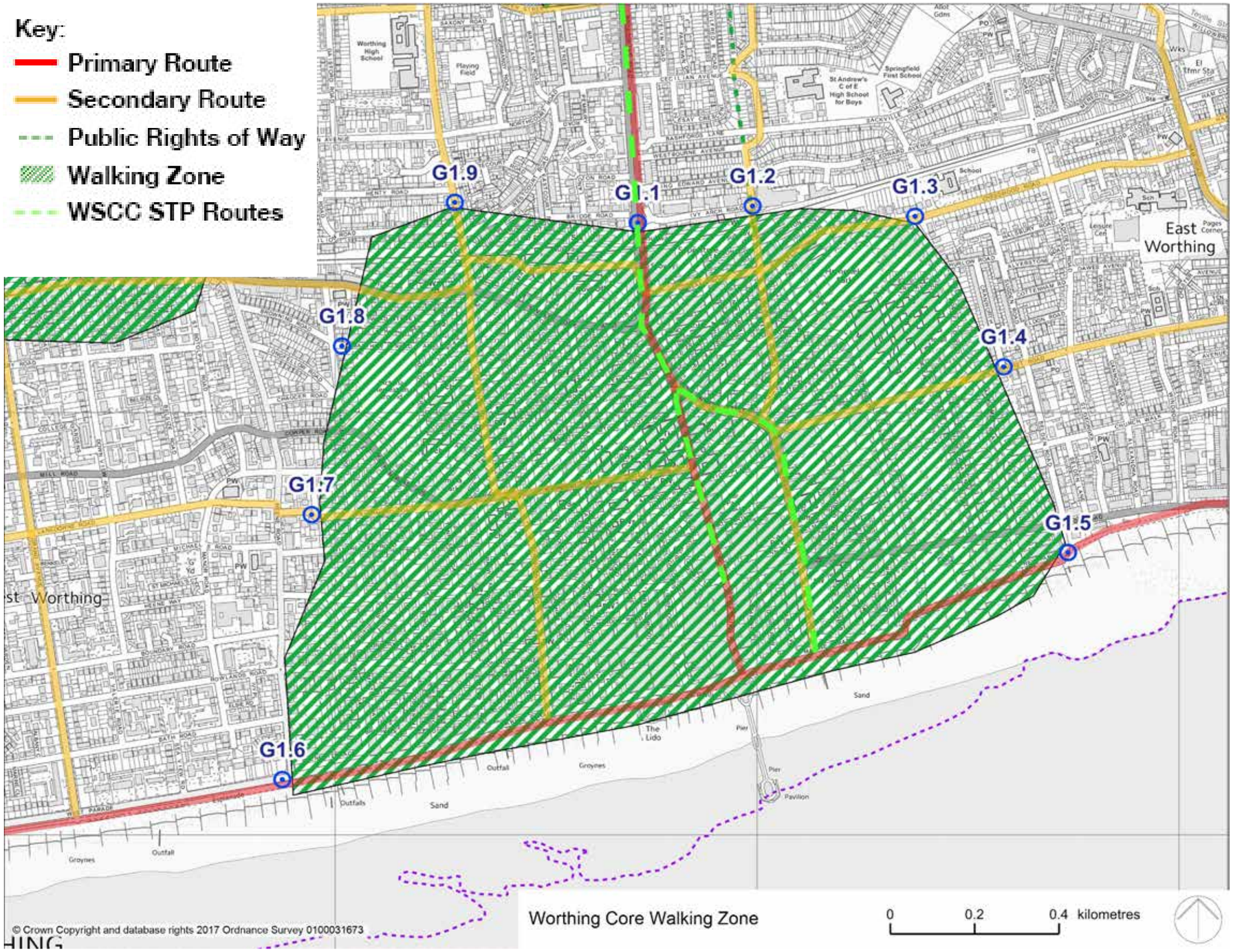
Key:
- Primary Route
- Secondary Route
- Public Rights of Way
- Walking Zone
- WSCC STP Routes



Worthing Core Walking Zone

Description

For the purposes of this report, Worthing Core Walking Zone has been defined as the built up core of the town centre, south of the railway line, incorporating the main trip generators for work and retail.

The town centre is split from north to south by the A24 and from east to west by the staggered A259. Traffic levels on these roads creates significant barriers to movement for pedestrians and cyclists, particularly along the A24 leading onto the A259 North Street, which is a four-lane through road.

We have identified nine "gateways" where the town centre can be accessed, either at traffic signals or at informal crossings on the proposed walking and cycling network. Each gateway is identified and recommendations given for improvements at each location. The level of resource available for this review has meant that it has not been possible to review all of the walking routes within this zone. This is intended to provide an initial set of recommendations for key gateway points into the town centre which could be expanded upon.

Background

Worthing Public Realm proposals are being considered for areas within this zone, including Portland Road and South Street, and from Worthing Railway station through to the town centre. The Worthing Seafront Investment Plan has also considered improvements for the Marine Parade area, while the Worthing Area Sustainable Transport Package (STP) is considering cycle route and related pedestrian proposals for the A24 Broadwater Road, Chapel Road and A259 North Street and High Street corridors.

Existing conditions & Recommendations

G1.1 This northern gateway splits into two, either carrying pedestrians over the railway beside the busy four-lane A24, or through an intimidating subway, under the A24 and through residential streets to Worthing station.

If the Worthing Area STP, reduces the carriageway width to provide a shared or segregated cycle path, this should improve provision for pedestrians over the flyover with traffic speeds expected to reduce if narrower traffic lanes are provided.

G1.2 This gateway provides an essential access point into the town under the railway line, connecting schools, shops and the hospital to neighbouring housing areas. The access is a narrow, well-used pedestrian tunnel with no cycling permitted.

There is space here to widen footways leading to both sides of this foot tunnel to form a good quality link between these neighbourhoods.

G1.3 Newland Road is a busy gateway into Worthing with limited crossing points along its length. Homefield Park provides a good traffic free route for pedestrians.

Consider installing a pedestrian crossing across Chesswood Road, for better access to Homefield Park. Consider formalising the uncontrolled crossing on Homefield Road by installing a wide raised crossing to create a continuous shared footway across the junctions.

G1.4 This eastern gateway into Worthing is on a long and straight road, with wide connecting junctions either side, including links to the hospital. There is good informal accessibility provision, but no signalled crossing points.

More strategically placed signal crossings, could improve north south access across Lyndhurst Road while raised crossing points at the adjoining larger junctions, including the hospital entrance, could improve accessibility.

G1.5 This traffic free eastern beach front gateway into town has good, wide, mixed use access. Where the path meets Brighton Road there is a lot of street clutter and conflict. There are some conflicts at the Brighton Road/Windsor Road crossing, where direct access onto the beach path is blocked. Also at this point the covered seating area is cut off by a cycle lane.

The Worthing Seafront Investment Plan highlights issues and solutions in this area. We recommend installing a wide shared use path on the beach side of the crossing, which could be upgraded to a toucan crossing. If the cycle lane followed this new route from the signal crossing, this would create better access to the seating area.

G1.6 This traffic free western beach front gateway into town, is well served in terms of crossings and accessibility from the promenade to the town. There are a lot of level changes that can restrict permeability from the town to the beach promenade.

The Worthing Seafront Investment Plan outlines these limitations and solutions regarding redevelopment of this whole seafront area.

G1.7 This gateway feeds into the town from a large mixed density housing area, with a tight grid network of minor roads. Richmond Road is typical of this with houses set back from the road, with parking areas and is well served with drop kerbs.

The quality of some of the pavements are poor, especially where private accesses cross them, making accessibility difficult.

G1.8 This gateway feeds into the town from south and north of the railway line and has some good traffic free links through Victoria and Amelia Parks. No recommendations needed.

G1.9 This second key gateway leading from communities north of the railway, past a parade of local shops and eateries into Worthing town centre across the level crossing. This area is currently tired looking, with deteriorating footways and worn road markings. Consideration could be given to whether it is possible to reduce some of the parking on the shop forecourts, upgrade paved areas and install raised crossings on Pavilion and Westcourt Roads, to improve pedestrian accessibility.


G1.5 Brighton Road/Windsor Road


G1.6 Marine Parade/Thorn Road


G1.7 Richmond Road/Heene Road


G1.9 South Farm Road/Pavilion Road

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Shoreham Core Walking Zone

Description

For the purposes of this report, Shoreham-Core Walking Zone has been defined as the built up core of the town centre, south of the railway line, incorporating the main trip generators for work and retail.

The town centre is clustered around the historical core and is squeezed into a relatively cramped area with barriers to movement being the River Adur to the west and south and railway line to the north. Traffic on the A259 creates an additional barrier to movement for people on foot and bike.

We have identified five “gateways” where the town centre can be accessed, either at traffic signals or at informal crossings. Each gateway is identified and recommendations given for improvements at each location.

Background

The Shoreham Town Centre Study (2014) has considered improvements to A259 Shoreham High Street and the A259/A283 Norfolk Bridge roundabout to reduce traffic congestion and address air quality problems within the Air Quality Management Area. The Shoreham Area STP feasibility study has considered cycle route improvements along the A259 east from Adur Ferry Bridge.

Existing conditions & Recommendations

G2.1 This key gateway leads from communities north of the railway, past an intermittent parade of local shops and eateries on both sides of Buckingham Road, into Shoreham town centre across the level crossing. The shops on the west side of the road have wide forecourts, used mostly as parking.

Consideration could be given to whether it is possible to reduce some of the parking on the shop forecourts, upgrade paved areas and widen the pedestrian areas next to the level crossing, to provide a strong gateway into the town.

G2.2 This gateway at Eastern Avenue is a busy junction over the railway line via a level crossing. The route leads from a large housing and employment area, with an industrial estate north of the railway and a retail park to the south.

Consider whether there is any more space around the level crossing in which to widen and make this gateway more pedestrian friendly.

G2.3 This gateway on Shoreham Beach brings the communities south of the River Adur into Shoreham town centre, via the traffic free Adur Ferry Bridge. Riverside Road has wide footways leading to both sides of the bridge. To the east these are used mainly for parking. The footways to the west have been upgraded, with higher kerbs and formal parking areas.

We recommend creating formal parking areas along the eastern arm of Riverside Road and upgrading the pavements to prevent illegal parking, in order to make access to the footbridge more pedestrian focused.

G2.4 This busy northern gateway into Shoreham carries communities along the busy A283 Old Shoreham Road from north of the railway, under the viaduct into the town centre. There is a lot of housing development either side of this gateway with opportunities to connect to the Downs Link path.

Access from the riverside path via the housing developments is the most attractive route through this area. However, opportunities to signalise the crossing point at Ropetackle at the A259/A283 junction are limited within the existing roundabout layout.

G2.5 This gateway at Southdown Road is a good link between the mixed density housing to the north of the railway line, into the heart of Shoreham’s civic centre, via an archway under the viaduct.

In order to widen the footway under the viaduct this would require creating one way traffic priority access, although there is a complex pattern of access streets north of the A259 High St so any proposals would need to be considered as part of a wider traffic management plan for this area. This footway is prone to serious flooding - sometimes to such an extent that it can be impassable. The junction to the north of the railway is sprawling and there is an opportunity to widen footways and reduce corner radii on Hebe Road to create a better connected public realm.


G2.2 Eastern Avenue/Gordon Road


G2.3 Riverside Road/Cheal Close


G2.4 Shoreham Road/Railway Viaduct


G2.1 Buckingham Road/Rosslyn Road


G2.5 Southdown Road/Hebe Road

A27 Worthing and Lancing improvements

Highways England manages the A27 as part of the Strategic Road Network and has identified the single carriageway section of the A27 through Worthing and Lancing as needing improvement.

The series of junctions on the A27 through Worthing and Lancing cannot handle the existing traffic flows during peak times which often results in long queues of traffic. On either side of Worthing and Lancing, the A27 is a dual carriageway so has better capacity to carry existing traffic and is more able to cope with future traffic growth.

There is an above average number of accidents on the A27. From 1 June 2010 to 31 May 2015, there were 224 collisions on the A27 between Hollyacres in the west and Grinstead Lane / Manor Road junction in the east.

The scope of the A27 Worthing and Lancing improvements scheme, as described in the Government's 2015-2020 Road Investment Strategy is stated below:

"Improvements to the capacity of the road and junctions along the stretch of single carriageway in Worthing and narrow lane dual carriageway in Lancing. The extent and scale of the improvements, including the option of full dualling, are to be agreed in consultation with West Sussex County Council and the public." The extent of the improvements scheme is approximately 6 miles long, from Forest Lane to Grinstead Lane / Manor Road junction. The junctions listed for improvement are given in the table below.

1	Durrington Hill / Salvington Hill
2	Offington Corner Junction roundabout – A2 Findon Road / Offington Lane
3	Grove Lodge Junction
4a	Lyons Farm Retail, Sompting Road
4b	Lyons Farm Retail, Lyons Way
5	Busticle Lane / Halewick Lane Junction
6	Grinstead Lane / Manor Road Junction

Public consultation in 2017 shows that of those who responded two-thirds use the A27 in Worthing and Lancing for trips of less than 10 miles. This suggests that there are a significant number of local trips that could convert to walking or cycling, if suitable facilities are provided.

The majority of respondents (more than two-thirds) feel that the proposed option of junction improvements will not meet the scheme objectives. The top five comments registered were:

1. Waste of time / pointless exercise - will not improve the A27
2. Need a bypass instead
3. Short sighted solution / tinkering with large problem
4. Waste of money
5. Congestion will worsen

Figure 2.1: Scope of the A27 Worthing and Lancing improvements scheme

The A27 is a trunk road, but has the character and function of a local road through Worthing and Lancing. We have identified the route as part of the local walking and cycling network between the Borough boundary at Durrington and Sompting (Routes 212, 310 & 210) and also from Grinstead Lane to Old Shoreham Road (Route 210). Improved facilities for active travel will convert some short trips from car to foot or bike. Consider reducing speed limits to a maximum of 30mph through the urban area to improve safety for all users. Reduced speed should also improve traffic flow as capacity is increased at lower speed.

Highways England have been consulted on the proposals for Routes 210 and 310, which run alongside the A27 on some sections. Their concerns are summarised below:

- With a signalised crossing there would be stacking at the stopline and associated queuing back on to the carriageway potentially blocking traffic or creating a safety hazard. Any such proposal would need to be supported by appropriate traffic modelling that HE would need to be satisfied with.
- With regard to a potential segregated cycle path along the A27, grass verges do not extend along both sides of the road. HE would be concerned if the hatched area is compromised as it is there to facilitate right turns and allow safe movement around parked vehicles. Carriageway width cannot be reduced below DMRB minimum widths. It is likely that there would need to be compromises for all modes should this be considered for further funding and implementation.
- With regard to a potential segregated cycle path and priority measures at existing signal controlled junctions, HE would be concerned if there were any impacts on the carriageway as this would affect capacity and safe turning movements.

Low traffic neighbourhoods

A low traffic neighbourhood is an area based approach to improving a typically, although not exclusively, residential area through the removal of non-local through traffic, alongside a range of highway safety measures and public realm/space enhancements. The ultimate aim is to reduce the dominance of motor vehicle traffic within the neighbourhood, improve safety, encourage and enable more active and sustainable travel, and increase the sense of place and community. This in turn can help improve air quality, public health, social inclusion and mobility, and a wide range of other social, environmental and economic factors.

Places where through motor vehicle traffic has been removed or reduced – so only residents and a few deliveries and services have access – are great for everyone. These are networks of quieter streets where children play out, neighbours catch up, air pollution is lower, and walking and cycling are the natural choice for everyday journeys. Experience has found that cutting through traffic on side streets does not add significantly to congestion on main roads, and schemes have not been expensive to deliver.

While these ideas are commonplace in mainland Europe, there has been limited development of area-wide low traffic neighbourhoods in the UK. A notable exception is the London Borough of Waltham Forest, where four residential areas are being transformed through Transport for London's Mini-Holland programme. The core objectives of the schemes were to:

- reduce the volume of traffic and noise outside people's homes
- improve road safety for all users
- make the area easier and safer for people who want to walk and cycle for local journeys
- generally make the area more attractive for residents and visitors.

Introduction of the original low traffic neighbourhood in Walthamstow Village saw motor traffic levels fall by over half inside the area and by 16% including the main roads. Motor traffic levels went down by over 5% on the nearest main road when the second scheme was complete.

"Low traffic neighbourhoods" are groups of residential streets, bordered by main or "distributor" roads, where "through" motor vehicle traffic is discouraged or removed. There's lots of ways you can make a low traffic neighbourhood, but the main principle is that every resident can drive onto their street, get deliveries etc., but it's harder or impossible to drive straight through from one main road to the next.

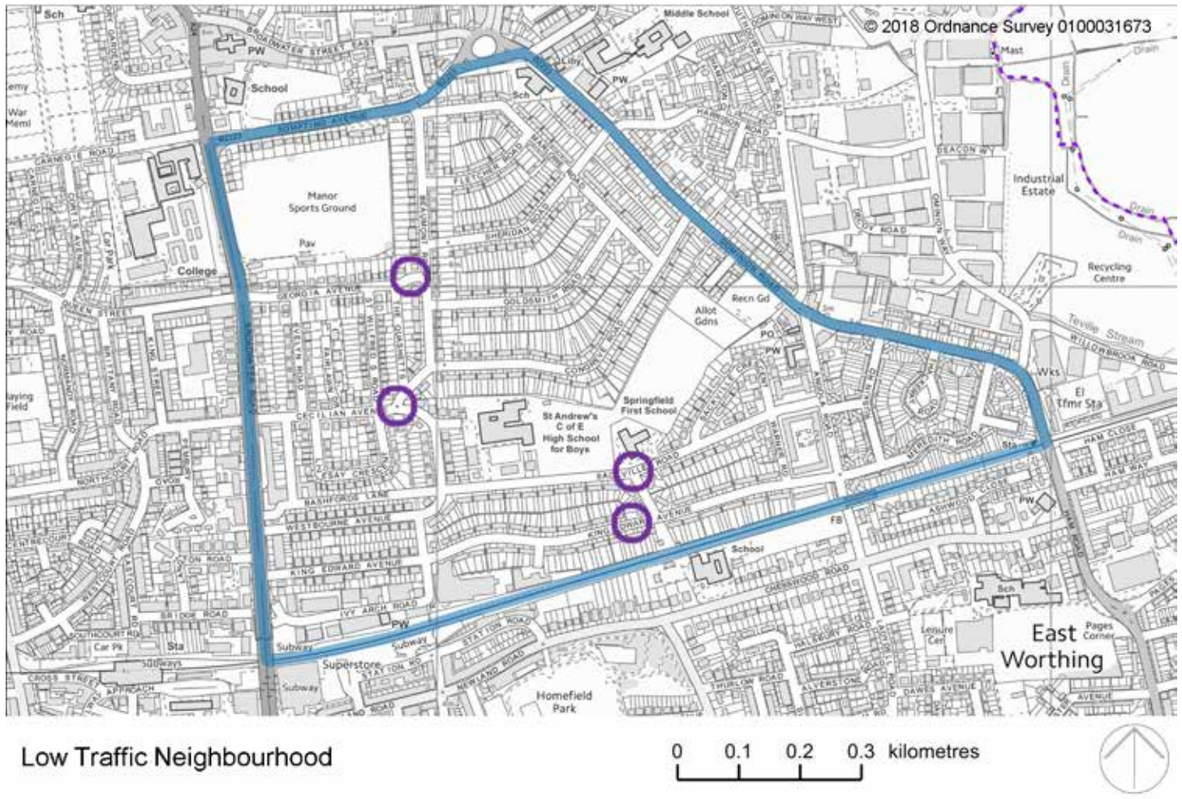
We have identified one area in Worthing where a low traffic neighbourhood could be introduced, bounded by the A24 Broadwater Road, B2223 Sompting Avenue and Dominion Road and the railway line. Modal filters would be needed at four locations to prevent through traffic, as shown on the map below.

One advantage is that speed limits would not need to be reduced. This would also benefit walking and cycling on Route 311, which is proposed to run through this area.

Modal filters could be located at:

- Georgia Avenue, j/w Beaumont Road
- Cecilian Avenue, j/w Congreve Road
- Sackville Road, outside Springfield First School
- King Edward Avenue

Images of the low traffic neighbourhoods in Waltham Forest are reproduced opposite. They were installed to a very high standard, with public realm improvements associated with the main function as a modal filter.




Modal filter


Modal filter at railway bridge


Cycle parking at modal filter


Orford Road

Sustrans design principles

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 cyclists 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 have been included in the brief main text descriptions for each location and some of these are summarised in this section.

Traffic calming

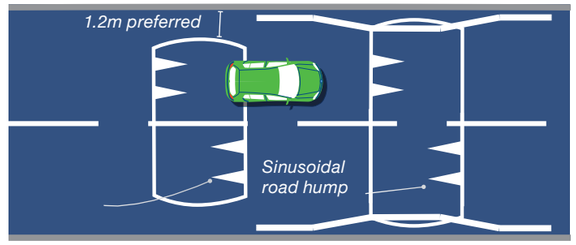
Physical measures to reduce traffic speed can be useful in locations where the speed limit is regularly exceeded or there is a record of accidents. There may be objections from local residents, emergency services and bus operators. Extensive traffic calming is unlikely to be supported on major roads,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

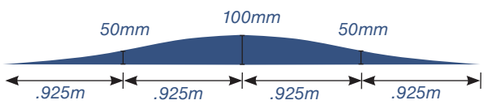
Informal road crossings

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.

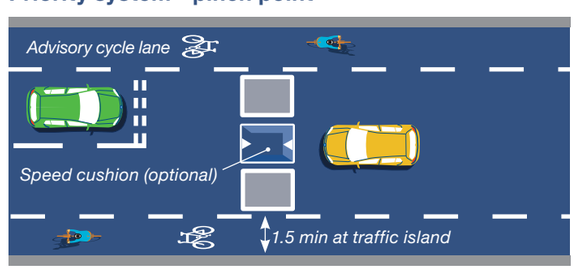
Road humps





Sinusoidal road hump cross section
(preferred geometry for vertical dimension)

Priority system - pinch point



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 widely used in the UK. Some local authorities have experimented with “Parallel Crossings” where extra space is provided for cyclists adjacent to a Zebra crossing. 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 reduce at 20mph compared with 30mph.

As of 2019, there are 60 local authorities on the list of places who have implemented or who are 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.

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.

In September 2013, the Worthing County Local Committee (CLC) agreed to progress a town-wide consultation on a proposed Worthing 20 mph speed limit. The proposal excluded A and B class roads and some local distributor roads and in addition minimised the inclusion of residential streets not conforming to relevant design guidance.

The consultation was conducted between April and July 2014 using a paper-based voting form distributed to all 50,365 residential and business addresses within the consultation area. In response to the consultation question:

“Do you support the 20mph proposal for residential roads in Worthing?”

- 18,911 individual respondents voted
- 5796 (30.6%) individual respondents voted Yes
- 13,115 (69.4%) individual respondents voted No

On the basis of this majority response the CLC decided not to progress the proposed introduction of a town wide 20 mph speed limit in Worthing.

It is unusual for a 20mph speed limit on residential streets to be defeated in a local consultation. Chichester’s 20 mph consultation result in 2012 was 77% in favour, and this is typical of other consultations up and down the country. A YouGov survey of Great Britain in 2014 found a clear majority of support for 20mph speed limits in residential streets (65% support or strongly support) and busy shopping areas and busy streets (72%). When asked for reasons to support 20mph limits, road safety and children's safety are where the public's collective priority lies.

Point closures

Point closures (modal filters) are a simple, cheap, effective and reversible way to remove through 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 West Sussex due to the legal processes around road closure and concerns of emergency services. They have been used extensively in London to create “traffic cells” so that through traffic is eliminated from residential neighbourhoods.