

# Braintree District Cycling Action Plan

Highways/ Transport Planning

January 2018



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## Executive Summary

Essex Highways was commissioned by Essex County Council to produce a Cycling Action Plan (CAP) for Braintree District, as part of a commitment in the Essex Cycling Strategy to create Cycling Action Plans for every Borough/ District.

The purpose of the Essex Cycling Strategy is to set out the key elements of a long term plan that will lead to a significant and sustained increase in cycling in Essex, establishing it in the public's mind as a 'normal or regular' mode of travel, especially for short A-to-B trips, and as a major participation activity and sport for all ages.

To help achieve this, Essex is committed to establishing a coherent, comprehensive and advantageous cycle network in every major urban area, utilising a combination of on-carriageway and off-carriageway cycle facilities. To enable this, each Borough/District in Essex will have a Cycling Action Plan, to be renewed every five years. These are seen as key elements of a long term plan that will lead to a significant and sustained increase in cycling in Braintree District and in Essex.

This Braintree CAP is targeted towards the specific needs of Braintree residents, which will assist Essex County Council (ECC) in tackling wider problems associated with poor health, pollution, traffic congestion and inequalities of opportunities for Braintree's youth population and people on low incomes.

The aims of this Action Plan are to:

- Identify how cycling levels can be increased in the District;
- Prioritise funding for new cycling schemes in Braintree;
- Create a usable, high-quality cycle network that connects residential areas with key employment locations, railway stations and town centres; and
- Create opportunities to increase recreational cycling in Braintree;

Understanding current levels and conditions for cycling has been important in developing this CAP, which has involved analysis and consideration of 2011 Census data, the Active People Survey (by Sport England), the Essex Cycle Monitor database, Department for Transport count data, collision data, cycle crime statistics and topography.

In order to create an environment where cycling is normal for the residents of Braintree, it will be necessary to remove existing barriers to cycling and a series

of cycle routes provided, with the aim of creating a connected cycle network over time. Cycling infrastructure should provide for both key utility journeys and encourage leisure cycling.

The key recommendations and schemes are listed in Sections 6, 7 and 8 of this CAP and are summarised in Section 11 and below.

### **Key Observations**

Braintree District for the most part is relatively flat, with variations in elevation of no more than 30 metres and all major town centres having a relatively shallow incline leading up to them.

Significant new housing development is planned with up to 950 homes to be built across the district per year which provides a number of opportunities to enhance and expand the cycle network. The Braintree Transport Strategy recognises the role cycling plays in delivering sustainable new developments within Braintree District and supports improvements to existing infrastructure as well as the implementation of new facilities where required.

Braintree has relatively low current levels of commuter cycling but has high levels of active leisure cycling. There is also a high propensity to cycle within the district. Census data indicates declining usage, potentially related to an ageing demographic profile. Despite this, there is a significant opportunity to increase cycle use due to the high number of short (less than 5km) local commuter journeys currently being made by car.

Collisions involving cyclists in Braintree are at relatively low levels compared with the rest of the County. Levels of cycle crime are also low for the county.

National Cycle Route 16 passes through the southern side of the District from west to north, connecting Great Dunmow with Braintree and Witham. The dis-used railway line known today as the Flich Way, on the south western side of Braintree town is used for leisure and commuter cycling and this Cycling Action Plan sets out a strategy to enhance its use.

Most of the towns in Braintree have fairly limited cycle provision, with Braintree town having the largest amount of off-road routes. However, many of these are disconnected and infrequent. Therefore, this strategy proposes connectivity to existing routes where potential demand is the highest

## Key Recommendations

In order to create an environment where cycling is accessible to all residents of Braintree District, existing barriers to cycling should be removed and a connected series of key cycle routes provided throughout the district, linking to green space, where possible. Cycling infrastructure should provide for both key utility journeys and encourage leisure cycling.

Route recommendations are generally based on targeting gaps in the existing network, and treating uncatered-for demand. MOSAIC analysis and Census journey-to-work information have been used to feed into this process.

Taking into account the current barriers to cycling in Braintree District, commuter flow analysis and locations of committed development, the following key recommendations can be made for cycle enhancements in the district:

- A review of existing route signage and lighting;
- Improve maintenance of existing routes;
- Prioritise North – South and East-West Flagship routes, providing improved access to the town centre and railway station;
- Develop Flagship Routes through Feasibility Studies to Detailed Design;
- Promote and market Flagship Routes with ‘Cycle Superhighway’ style branding and disseminating techniques;
- Provide connectivity through town centres, particularly in an east / west direction. Braintree and Witham are particularly in need of these routes as there is little existing provision and these routes could connect key employment areas, rail stations and town centres with large residential areas. In addition, these routes attract the highest flows of car commuter traffic in the district;
- Provide new and improved cycle parking, with a focus on satiating the considerable demand for commuter trips at railway stations;
- Fill obvious gaps in the existing cycle-route network (on alignments with cycle-friendly topography);
- Provide new infrastructure on key roads with cycle-friendly topography but no existing facilities;
- Update the existing cycle map every two years taking on board new innovation in cycle-map design, and promote it and disseminate it widely through a range of channels and outlets
- Improve cycling infrastructure for access to Panfield Industrial Estate in advance of the Northwest masterplan and connect with Panfield Lane to the east and to the town centre;



- Provide better access to Flicht Way in Braintree and connect Flicht way with the key industrial employment area to the west side of town and a better connection at London Road;
- Enhance the Pierrefitte Way / Rayne Road junction and / or the High Street / Pierrefitte Way junction, potentially with innovative cycle priority in the form of advanced stop lines, toucan crossings and cycle priority traffic signals;
- Provide better cycle access to both Witham and Braintree rail stations, which currently have poor cycle access. This is particularly important at Witham as it has high demand for rail use, particularly from the south; and
- Potential routes should improve connections with leisure cycling routes, in particular, Flicht Way in Braintree, Blackwater Trail in Witham and associated existing surrounding bridleways.

### **Next Steps**

This is a draft Action Plan and, although the options have been developed in discussion with Council representatives, further consultation is required before the overall Action Plan can be finalised.

The character of the existing highway network has been taken into account, when developing potential cycle routes and schemes – in particular existing traffic levels. Broad costs of schemes have been identified, as well as broadly prioritising schemes against deliverability, directness, extension of the existing network and proximity to key attractors. However, the potential routes and schemes have not been constrained to a set budget and the feasibility and the precise cost of the routes can only be established through further study.

# 1 Introduction

## 1.1 Preamble

As part of the county-wide Essex Cycling Strategy, Cycling Action Plans are being developed for individual Boroughs and Districts of Essex, including one for the District of Braintree. This document provides an opportunity to develop and promote cycling in Braintree, through improved infrastructure, together with the wider promotion of cycling by Active Essex, Essex County Council (ECC) and Braintree District Council (BDC), to establish it in the public's mind as a 'normal' mode of travel, especially for short a-to-b trips, and as a major participation activity and sport for all ages.

Two key commitments of the Essex Cycling Strategy are to:

- Establish a coherent, comprehensive and advantageous cycle network in every major urban area, utilising a combination of on-carriageway and off-carriageway cycle facilities; and
- Ensure each District has an up to date Cycling Action Plan (renewed every 5 years).

The Cycling Action Plans should help to identify high quality and well planned infrastructure which will be vital in encouraging cycling and improving safety. ECC will ensure that every urban area has a well-planned cycle network that:

- Connects key destinations;
- Supports a network of recreational routes; and
- Caters for all users and abilities.

Coherent cycle networks will ensure that:

- The physical barriers to cycling in many of Essex's urban areas are progressively broken down
- Cycling becomes a prioritised mode of transport in the mind of Essex residents.

In addition, Active Essex (County Sports Partnership) priority aims and how cycling helps achieve these aims are included in Table 1.1.

Table 1.1: Active Essex Priority Aims

Active Essex priority aims	How cycling helps achieve these aims
<b>Increase participation in sport and physical activity</b>	Cycling is one of the most popular sports in Essex and can be enjoyed by people of all ages
<b>Encourage healthy and active lifestyles</b>	Cycling provides a means of active transport that can help to reduce the number of short car journeys
<b>Develop sporting pathways</b>	Alex Dowsett, cycling world record breaker, is from Essex and benefited from Active Essex Sporting Ambassador funding and support when he was a talented young cyclist
<b>Encourage lifelong learning and skills development</b>	Bikeability courses help children and adults to acquire physical skills and road safety awareness

## 1.2 Background

Braintree is one of the fastest growing districts in Essex with plans to increase the rate of house building by up to 950 homes built across the district per year. With this growth comes the need for more sustainable travel options in the district to help prevent the negative impacts of traffic congestion and air pollution as a consequence of increased population. Figure 1.1 shows the extent of Braintree District; major towns include Braintree, Witham and Halstead. The population of Braintree District recorded in Census 2011 was 147,084 people (62,743 households), of which 92% were aged 74 years or less.

One of the main strategic roads within the Braintree District is the A120 trunk road, managed by Highways England, which forms an east-west corridor between the M11 near Stansted Airport and Harwich and Harwich International Port. The single carriageway section of the A120 situated within the Braintree District, between the Braintree Bypass via Broad Green and the Colchester Borough boundary to Junction 25 on the A12 at Marks Tey, is currently under specific consideration by Highways England and Essex County Council for major highways improvements by 2025.

At present, there is no cycling strategy for Braintree District. This is an issue when trying to develop and promote cycling and has been identified as a priority in the Braintree Transport Strategy. However, Braintree town and Witham do have

some basic, albeit fragmented, cycle infrastructure which can be enhanced through this strategy. The 2015 Braintree Transport Strategy highlights cycling as one of the key interventions which need to be addressed over the coming years, with the following key cycle interventions:

- Join up existing cycle routes within towns to create continuous cycle routes;
- Provide new cycle routes to connect with new development;
- Provide segregated on or off road cycle routes where possible, to provide safer routes for cyclists; and
- Provide cycle routes to connect with key employment, residential and leisure zones within towns.

Figure 1.1: Braintree District Map



### **1.3 Aims of the Cycling Action Plan**

Although Essex County Council (ECC) and Braintree District Council (BDC) have been promoting and facilitating cycling for many years, the lack of a planned and justifiable list of interventions aimed at widening the appeal of cycling within the District means that it has not always been prioritised.

The aims of the Cycling Action Plan are to:

- Identify how cycling levels can be increased in the Borough
- Prioritise funding for new cycling schemes in Braintree
- Create a usable, high-quality cycle network that connects residential areas with key employment locations, rail stations and town centres
- Create opportunities to increase recreational cycling in Braintree

This is a draft Action Plan and, although the proposals have been developed in discussion with Council representatives, further consultation is required before the overall Action Plan can be finalised.

### **1.4 Report Structure**

The remainder of this Action Plan is set out as follows:

- Section 2 – Policy Review
- Section 3 – Data Analysis;
- Section 4 – Existing Network Provision and Barriers;
- Section 5 – Braintree’s Cycling Potential;
- Section 6 – Potential Infrastructure Improvements;
- Section 7 – Prioritisation and Costings of Potential Schemes
- Section 8 – Flagship Routes
- Section 9 – Smarter Travel Measures;
- Section 10 – Delivery and Funding; and
- Section 11 – Key Recommendations.

## 2 Policy Review

### 2.1 Introduction

This section provides a summary of the relevant national, regional and local policies related to cycling, through consideration of the following documents: the UK Government's Cycling and Walking Investment Strategy (CWIS, 2017), the Essex Transport Strategy (2011) and the Braintree Draft Local Plan (2016).

These documents indicate that there is a great deal of support for cycling at all levels. At a national level, there is a long term vision for cycling to become the normal mode of choice for short journeys or as part of a longer journey. At a regional level, there is a particular emphasis on providing sustainable access and travel choice for Essex residents. It is recommended that cycling will be promoted as a way to reduce congestion within urban areas, to encourage healthier lifestyles, and as a valuable leisure and tourism opportunity that is important to the local economy. Braintree is specifically recognised in the Essex Transport Strategy as being set to accommodate significant housing and employment growth. It is noted that transport priorities for the Haven Gateway (within which Braintree is located) include "improving and promoting cycle networks". In addition, for local centres, such as Braintree, within the Haven Gateway, priorities of relevance to cycling include: providing for and promoting access by sustainable modes of transport to development areas; improving local cycle networks; improving access to stations; and promoting sustainable travel choices.

At a local level, cycling is supported throughout the Draft Local Plan, the Core Strategy (which the Draft Local Plan will replace) and the National Planning Policy Framework (NPPF). The new Local Plan must ensure that housing growth is supported by transport infrastructure. The National Planning Policy Framework (NPPF) requires that the transport system be balanced in favour of sustainable transport modes such as buses and cycling. The emerging Local Plan notes that fragmented cycle networks are available in mainly Witham and Braintree. Cycling is noted as a sustainable mode of transport, in particular for short journeys, although becoming increasingly popular for longer commutes in some areas. As well as the benefits in terms of reduced congestion and pollution, cycling provides health and wellbeing benefits for the participant and should be encouraged wherever possible. The provision of new cycle routes and infrastructure is highlighted for new developments within the Draft Local Plan.

## 2.2 National Policy Context

### 2.2.1 Cycling and Walking Investment Strategy (CWIS)

Under the Infrastructure Act 2015, the UK Government is required to set a Cycling and Walking Investment Strategy (CWIS) for England. A Draft First CWIS was published at the end of March 2016, which set out the UK Government's ambition for creating a walking and cycling nation, the targets and objectives they are working towards, the financial resources available to meet their objectives, the strategy for delivering the objectives, and the governance arrangements that will review this delivery. Following consultation, a final version of the Strategy was published in 2017.

The final Cycling and Walking Investment Strategy states that the Government “wants to make cycling and walking the natural choices for shorter journeys, or as part of a longer journey”. The aim is for more people to have access to safe, attractive routes for cycling and walking by 2040. By 2040, the ambition is to deliver:

#### **Better Safety (a safe and reliable way to travel for short journeys), through:**

- 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

#### **Better mobility (more people cycling and walking – easy, normal and enjoyable), through:**

- 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

**Better streets (places that have cycling and walking at their heart), by:**

- 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

The document recognises that great progress has been made on cycling in the past six years. Cycling rates have increased in areas where dedicated funding has been made available and spend on cycling has risen from around £2 per person in 2010 to £6 per person in England in 2016-17. The Government want to build on these successes and to help achieve this have made over £1 billion of Government funding available to local bodies that may be invested in walking and cycling over the next five years. The £1.2 billion is allocated as follows:

- £50 million to provide cycling proficiency training for further 1.3 million children;
- £101 million to improve cycling infrastructure and expand cycle routes between the city centres, local communities, and key employment and retail sites;
- £85 million to make improvements to 200 sections of roads for cyclists;
- £80 million for safety and awareness training for cyclists, extra secure cycle storage, bike repair, maintenance courses and road safety measures;
- £389.5 million for councils to invest in walking and cycling schemes;
- £476.4 million from local growth funding to support walking and cycling;

In addition, the government is investing an extra:

- £5 million on improving cycle facilities at railway stations
- £1 million on Living Streets' outreach programmes to encourage children to walk to school
- £1 million on [Cycling UK's 'Big Bike Revival' scheme](#) which provides free bike maintenance and cycling classes

By 2020, the objectives of the CWIS are to:

- increase cycling activity, where cycling activity is measured as the estimated total number of cycle stages made;



- • increase walking activity, where walking activity is measured as the total number of walking stages per person;
- • reduce the rate of cyclists killed or seriously injured on England's roads, measured as the number of fatalities and serious injuries per billion miles cycled; and
- • increase .the percentage of children aged 5 to 10 that usually walk to school

### **2.2.2 Cycling and Walking Infrastructure Plans (CWIP)**

A National CWIP is being developed to inform the CWIS. This will include the identification of nationally significant locations/infrastructure. Six outputs are currently being developed (three national and three local outputs):

- The national outputs focus on identifying criteria for national significance and developing a pipeline of potential schemes; and
- The local outputs are focused on developing a Level of Service tool, and guidance to Local Authorities on developing their own local CWIP.

Local Cycling and Walking Infrastructure Plans (LCWIPs), as set out in the Government's Cycling and Walking Investment Strategy, are a new, strategic approach to identifying cycling and walking improvements required at the local level. They enable a long-term approach to developing local cycling and walking networks, ideally over a 10 year period, and form a vital part of the Government's strategy to increase the number of trips made on foot or by cycle.

While only focusing on cycling, it is hoped that ECC's suite of Cycling Action Plans will contribute to the future development of an Essex CWIP by providing:

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

## **2.3 Regional Policy Context**

### **2.3.1 Essex Transport Policy**

The Essex Transport Strategy (2011) will seek to achieve the following five broad outcomes:

- Provide connectivity for Essex communities and international gateways to support sustainable economic growth and regeneration;
- Reduce carbon dioxide emissions and improve air quality through lifestyle changes, innovation and technology;
- Improve safety on the transport network and enhance and promote a safe travelling environment;
- Secure and maintain all transport assets to an appropriate standard and ensure that the network is available for use; and
- Provide sustainable access and travel choice for Essex residents to help create sustainable communities.

**‘Policy 14 – Cycling’** states that Essex County Council will encourage cycling by:

- Promoting the benefits of cycling;
- Developing existing cycling networks in towns where cycling offers an appropriate local solution;
- Working with schools and employers to improve facilities for cyclists;
- Improving access to local services by integrating the Public Rights of Way, walking and cycling networks to form continuous routes; and
- Providing training opportunities to school children and adults.

Cycling will be promoted as a way to reduce congestion within urban areas, to encourage healthier lifestyles, and as a valuable leisure and tourism opportunity that is important to the local economy.

Improving the safety of the cycling network is also a key concern within the *Essex Transport Strategy*. Policy 14 of the plan sets out Essex County Council’s approach to encouraging cycling, which includes developing cycle networks within towns across Essex and improving access to local services and schools for cyclists.

The *Essex Transport Strategy* seeks to promote sustainable travel, by providing the infrastructure for sustainable travel and promoting the use of travel plans. With regard to cycling, the *Essex Transport Strategy* considers actions to improve access for cyclists and pedestrians in particular, and identifies the following improvements as essential:

- Addressing gaps in existing networks;
- Better linkages for walking and cycling routes within the Public Rights of Way network;
- Improving signing;

- Improving crossing facilities; and
- Ensuring that pedestrian routes are accessible for everyone.

The *Infrastructure Act 2015* includes a new legal requirement for the Government to produce a cycling and walking investment strategy. The DfT's *Cycling Delivery Plan (2014)* refers to a new national cycling target, to double the number of cycling stages (trips) nationally over a 10 year period. This new target will be adopted by Essex County Council as part of the *Essex Cycle Strategy (2015)*.

Additionally, the Government has introduced a £6bn Local Growth Fund for cycling and walking. It has also set a target of achieving an annual cycling spend of £10 to £20 per head of the population. In the Borough this could see between £1.5m and £2.9m per year spent on improving cycling provision.

### **2.3.2 Essex Cycle Strategy (2016)**

In response to the legal requirement, and also the requirements of the *Essex Transport Strategy*, the *Essex Cycle Strategy* has been prepared with the aim of setting out a strategy for providing coherent cycle networks. The purpose of the strategy is to set out the key elements of a long term plan that will lead to a significant and sustained increase in cycling in Essex, establishing it in the public's mind as a 'normal' mode of travel, especially for short a-to-b trips, and as a major participation activity and sport for all ages. The strategy has been produced in conjunction with Essex County Council, the 12 Essex Districts/ Districts, the two Unitary Authorities (Southend-on-Sea and Thurrock) and other key stakeholders. It has taken account of current UK policy, data on cycling levels within Essex and best practice from around the world. Specifically, it commits to:

- I. Establishing a coherent, comprehensive and advantageous cycle network in every major urban area, utilising a combination of on-carriageway and off-carriageway cycle facilities;
- II. Ensuring each Borough or District has an up to date cycling action plan (renewed every 5 years);
- III. Providing well placed and high quality cycle parking at key public destinations such as town centres, leisure facilities and railway stations;
- IV. Ensuring that all new housing includes secure and easily accessible cycle storage and that new secure cycle storage is facilitated in existing housing developments;
- V. Ensuring that cycling is prioritised over motorised transport in all new developments – making it easier to carry out short trips by bicycle than by car. Cycle routes within commercial and residential developments will

- be more direct and convenient than car routes and will connect in to existing cycling infrastructure on leaving the site;
- VI. Prioritising more frequent and good maintenance of our cycle network;
- VII. Providing a clear and consistent standard of good quality, well placed cycle signage – to an appropriate density, with provision of journey times as well as distances (to cater for all audiences) where possible;
- VIII. Continuing to improve cycle safety at sites with actual and perceived safety problems; and
- IX. Developing an improved mechanism for the reporting of safety issues.

## 2.4 Local Policy Context

### 2.4.1 Braintree District Local Development Framework (Core Strategy)

The Core Strategy (adopted September 2011) has been prepared by Braintree District Council with the involvement of the Local Strategic Partnership in order to:

- Provide a vision of how Braintree District will change between now and 2026;
- Set out the aims and objectives of the Council and its partners;
- Identify how and where the District will meet its needs for housing, employment, retail development and community facilities up to 2026;
- Set out the core planning policies, which will underpin the strategy;
- Show how the environment will be protected, notwithstanding the demands and requirements for growth;
- Show how infrastructure will be provided to support the proposed development; and
- Show how the strategy will be monitored to ensure that it is achieving its objectives.

Chapter 2 of the Core Strategy sets out a spatial portrait of Braintree District; specifically Paragraph 2.13, which describes the network of cycle ways in Witham and Braintree as *'fragmented'*, including routes along former railway lines in Braintree, which need to be enhanced in order to provide a co-ordinated alternative to car transport.

Chapter 3 of the Core Strategy sets out the Vision, Aims and Objectives. It is noted that most of the growth to be provided within Braintree and Witham,

including a new mixed-use neighbourhood to the north-west of Braintree comprising housing, employment and community uses. This area has been identified as a Growth Location within Braintree.

The aims of the Core Strategy are:

- Promoting accessibility for all;
- Creating a clean and green environment and addressing climate change;
- Achieving a prosperous local economy; and
- Enabling everyone to enjoy a safe and healthy lifestyle.

The key transport objectives that have formed the basis for the transport policies set out in the Core Strategy are:

**“Accessibility** – To reduce the need to travel by locating development in sustainable locations where it will enable people to access employment, housing, retail provision, public transport and key services; such as education, healthcare, recreational facilities and open space”.

**“Transport** – To make it safer and easier for the community to travel to jobs and key services by improving sustainable forms of transport such as public transport, walking and cycling, and seeking to reduce carbon emissions”.

Therefore, formulating a Strategy and Action Plan with regards to improving cycling provision in Braintree District will help towards achieving these objectives.

In addition, in terms of infrastructure requirements required to support development up to 2026, ‘footpath cycleway and bridleway provision’ is required to support all growth in the District, for example at the Panfield Lane growth location.

#### **2.4.2 Braintree District Draft Local Plan (June 2016)**

The Council is currently developing the Local Plan, a new long-term strategy for the District. The new Local Plan will plan for the growth set out in the Government’s national planning policy (National Planning Policy Framework), which requires local authorities to significantly boost the supply of new homes, providing a presumption in favour of sustainable development, to be supported by infrastructure, jobs and community facilities.

At a local level, The Local Plan target for new homes in the District is based on an annual average of 862 homes for the New Local Plan period 2016-2033. The

new Local Plan (when it is complete, it will replace the Core Strategy) must ensure that housing growth is supported by transport infrastructure. The National Planning Policy Framework (NPPF) requires that the transport system be balanced in favour of sustainable transport modes such as buses and cycling. The emerging Local Plan notes that fragmented cycle networks are available in mainly Witham and Braintree. Cycling is noted as a sustainable mode of transport, in particular for short journeys, although becoming increasingly popular for longer commutes in some areas. As well as the benefits in terms of reduced congestion and pollution, cycling provides health and wellbeing benefits for the participant and should be encouraged wherever possible. In order to promote the most sustainable forms of transport, the spatial strategy in the emerging Local Plan proposes to allocate development in locations where it can be well served by existing public transport networks and where services may be in close proximity to facilitate walking and cycling.

The Draft Local Plan states that the internal design of new developments should prioritise walking and cycling, as well as public transport over private vehicle movements, to ensure that they encourage shorter internal journeys to take place by these modes. New developments will also be expected to connect safely and directly to the existing external footpath and cycle way routes in the local area, and contributions will be sought as appropriate to improve connections from new developments to the main commuter, community and retail centres or recreational links. Public rights of way which are impacted upon by new development may require protection or enhancement to accommodate new users.

The emerging Local Plan notes that “there are greater opportunities for short trips to be made by walking and cycling”, particularly where there is little opportunity to improve urban road networks and so, address congestion.

Policy SP5 Place Shaping Principles states that all new development should create well connected places that prioritise the needs of pedestrians, cyclists and public transport services above use of the private car. Cycle parking will also be expected to be provided at homes and also at destination points such as work places, train stations and the town centre

The Sustainable Access for All policy (LPP 36) indicates that sustainable modes of transport should be facilitated through new developments to promote accessibility and integration into the wider community and existing networks. Priority should be given to cycle and pedestrian movements and access to public transport.

The public consultation responses to the draft Local Plan are currently being considered. In early Autumn, it is probable that it will be submitted to the Planning Inspectorate for consideration with adoption of the Local Plan by the Council expected in Autumn 2018.

## 3 Data Analysis

### 3.1 Introduction

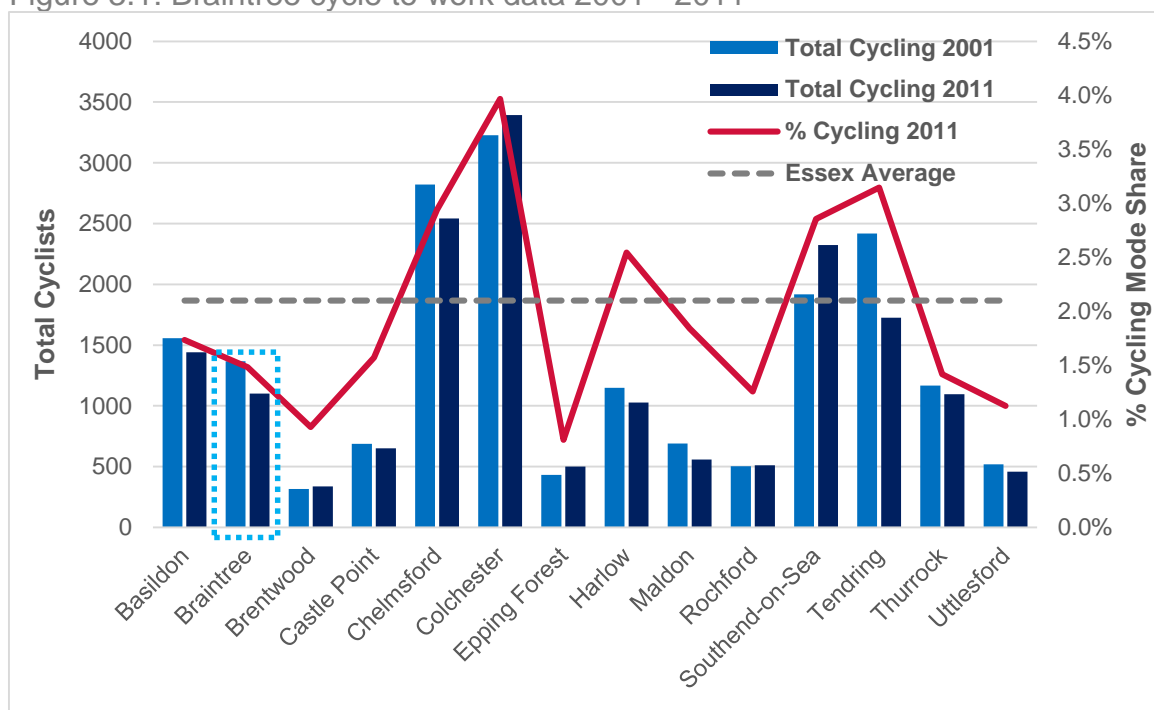
When planning for cycling infrastructure it is important to first understand current levels and conditions for cycling. This section includes analysis of:

- 2011 Census data;
- The Active People Survey (by Sport England);
- Department for Transport count data;
- The Essex Cycle Monitor database;
- Collision data;
- Cycle crime statistics; and
- Topography.

### 3.2 Census Data

As part of the 10 year national census, respondents are asked to state their main mode of travel to work by distance. The 2011 Census results for Essex are shown in Figure 3.1, below.

Figure 3.1: Braintree cycle to work data 2001 - 2011



As shown in Figure 3.1, based on the 2011 Census data, Braintree has relatively low to medium levels of people cycling to work when compared with other Essex

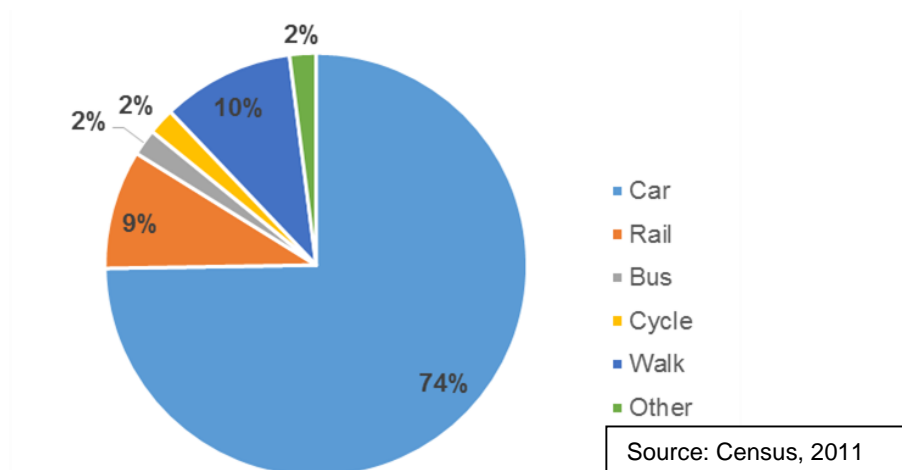


Districts, with 1101 people cycling to work every day in 2011. In terms of modal share, 1.5% of all journeys to work are made by bike; however this is lower than the Essex average of 2.1%.

Cycling to work levels have decreased marginally in the majority of Essex Districts/ Boroughs between the 2001 and 2011 Census. This slight decline has been widely observed across many shire counties in England and Wales, despite the number of people cycling to work growing by 90,000 between 2001 and 2011, the proportion remained the same at 2.8%. The decline in cycling to work in Essex and many other shire counties has been attributed to failures in local policy and a lack of infrastructure<sup>1</sup>. Whereas, in urban areas, cycling to work increased due to the implementation of improved infrastructure, thus balancing the decline experienced in rural areas.

Figure 3.2, below illustrates the mode of travel to work for usual residents of Braintree District (excluding those who work from home).

Figure 3.2: Main Mode of Travel to Work for usual residents of Braintree District.



The key points regarding how people travel to work are:

- In Braintree District 74% of journeys to work are by car;
- This is followed by walking (10%) and rail (9%), which depends largely on the level of access to a station; and

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<sup>1</sup> <http://www.sustrans.org.uk/press-releases/governments-must-get-times-cycling-work-levels-stagnate-over-10-years>

- In Braintree District (and in general across Essex), there is relatively low usage of bus (2%) and cycling (2%) as the main mode of travel to work.

It should also be noted that journeys to work by cycle within the District are also lower than that of the average for Essex. Figure 3.3 and Figure 3.4 show the percentage of people cycling to work by origin within Braintree town and in Witham, respectively.

Figure 3.3: Percentage of People Cycling to Work in Braintree

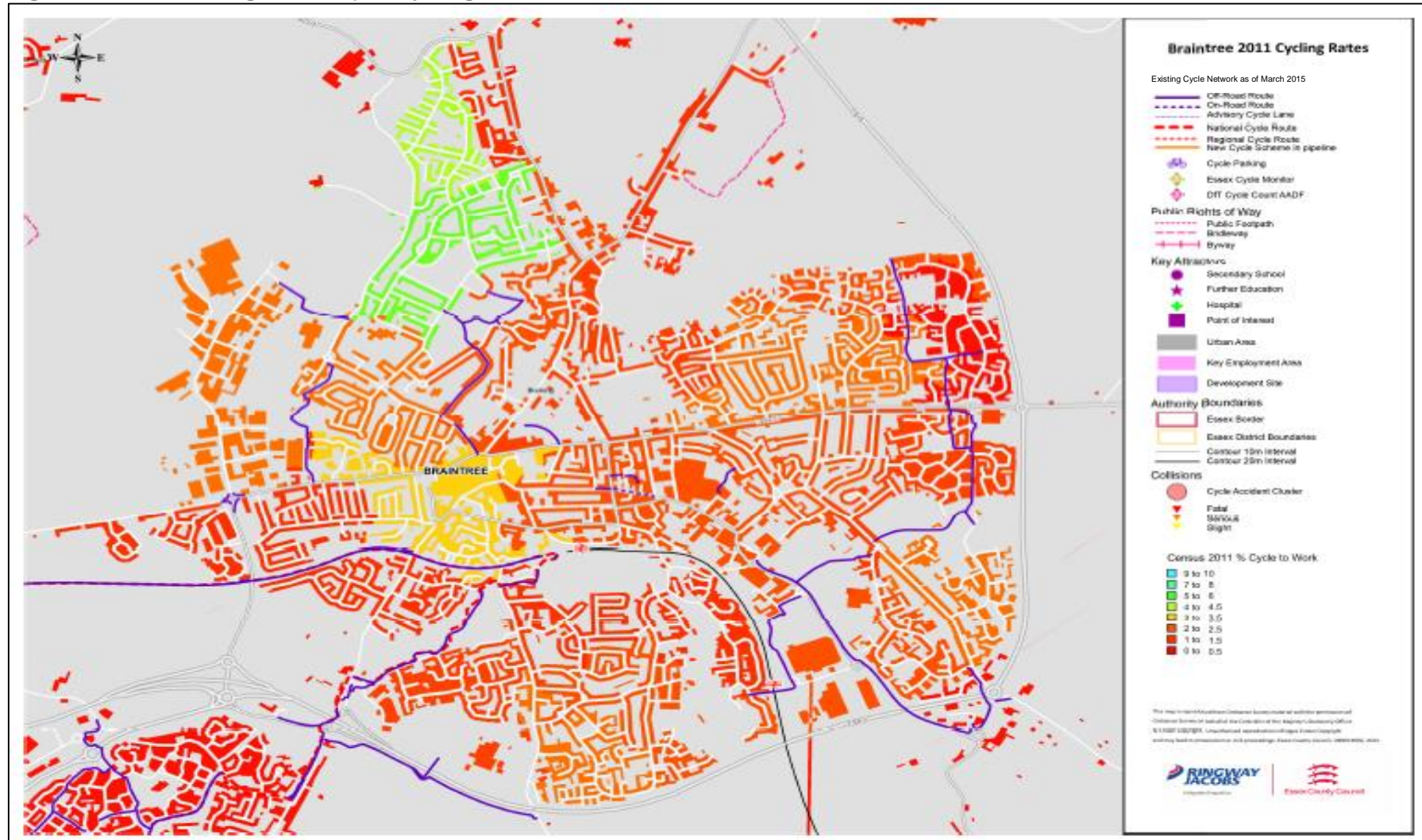
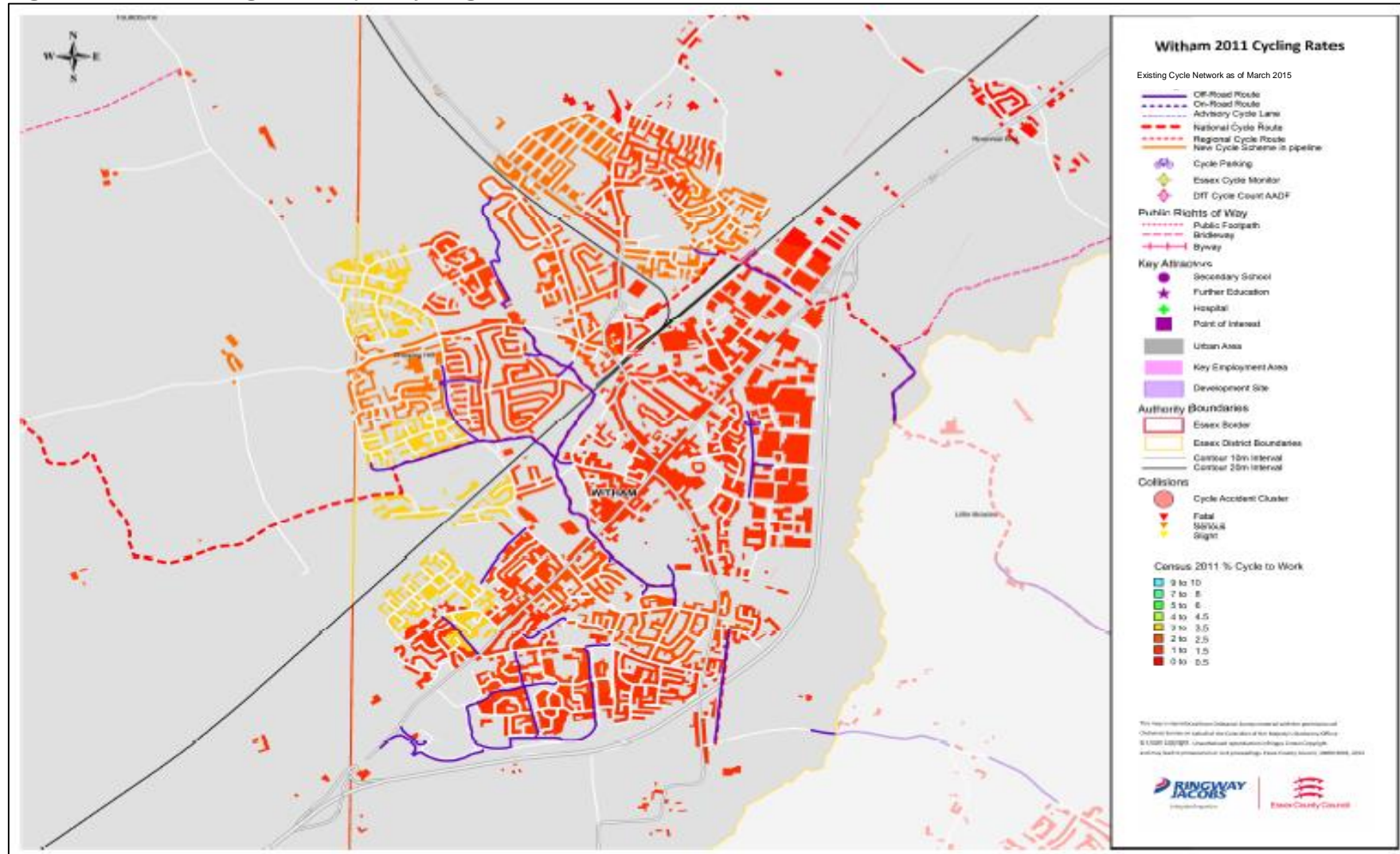


Figure 3.4: Percentage of People Cycling to Work in Witham

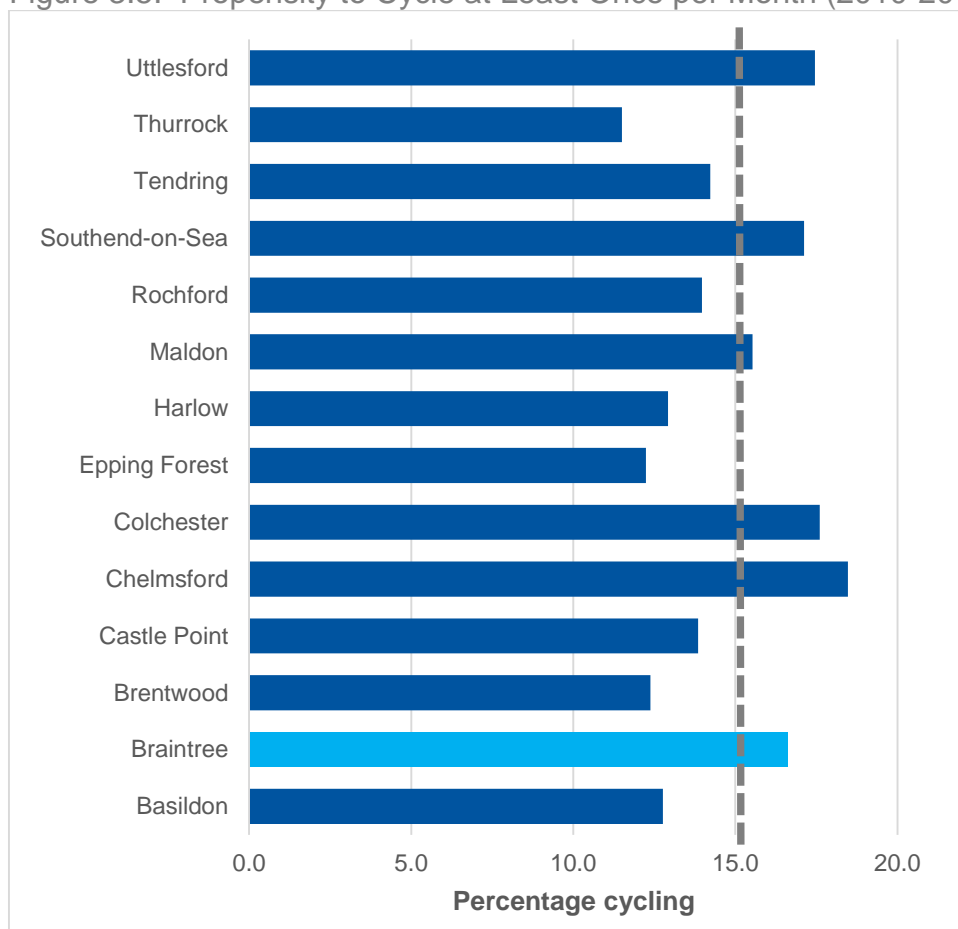


### 3.3 Sport England Active People Survey

Sport England carry out an Active People Survey annually, which involves interviewing 500 people from every District in England about their propensity to do physical activity. It is the largest survey of sport and active recreation in Europe.

Figure 3.5 shows 2010-2013 average propensity to cycle at least once per month for any purpose based on the Sport England data. The results show that across Essex, Braintree has relatively high levels of residents cycling at least once a month in the county.

Figure 3.5: Propensity to Cycle at Least Once per Month (2010-2013)



Source: Sport England

### 3.4 Essex Cycle Monitor

Essex County Council has an established network of over 50 cycle monitor counters located across the five urban areas of Basildon, Braintree, Chelmsford,

Colchester and Harlow. The count sites continuously record hourly total cycle flow data and have a baseline of 2007.

Cycle flow data for routes within Braintree town has been extracted from the Braintree Cycle Monitor Database. The locations of the monitoring sites in Braintree are shown in Figure 3.6. Figure 3.7 shows May to October total 7-day flows by urban area.

Figure 3.6: Locations of monitoring sites in Braintree

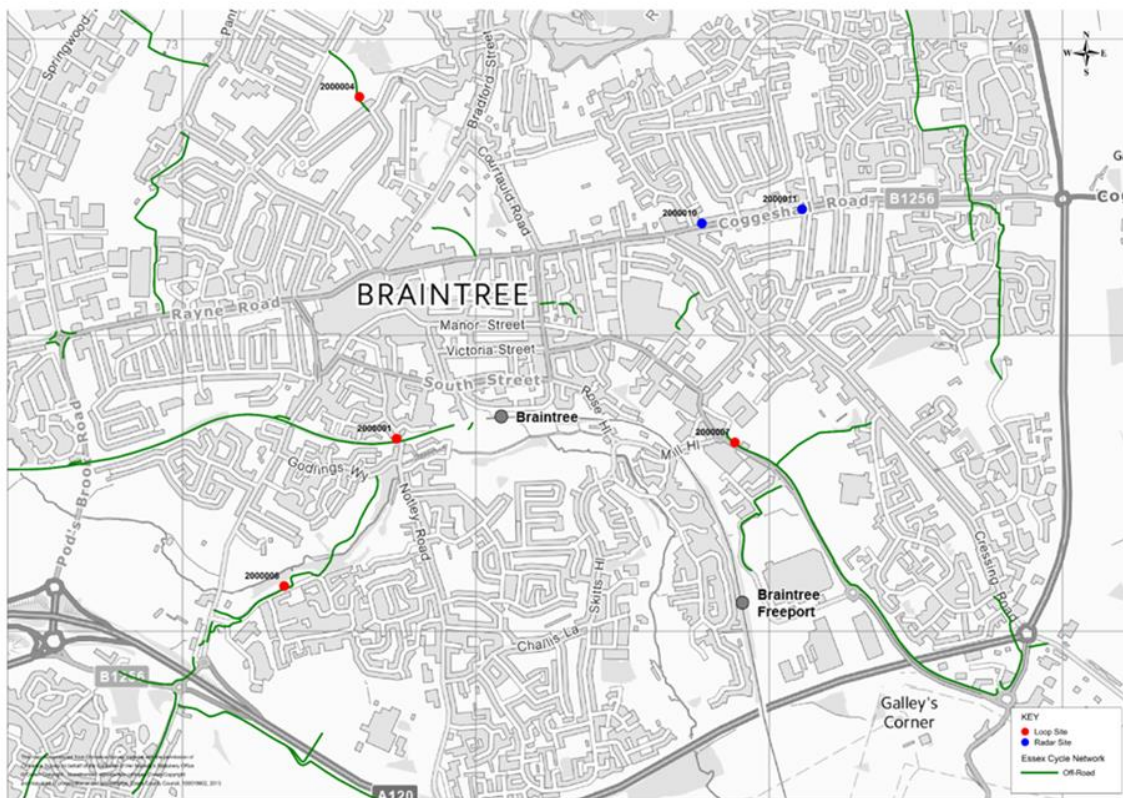
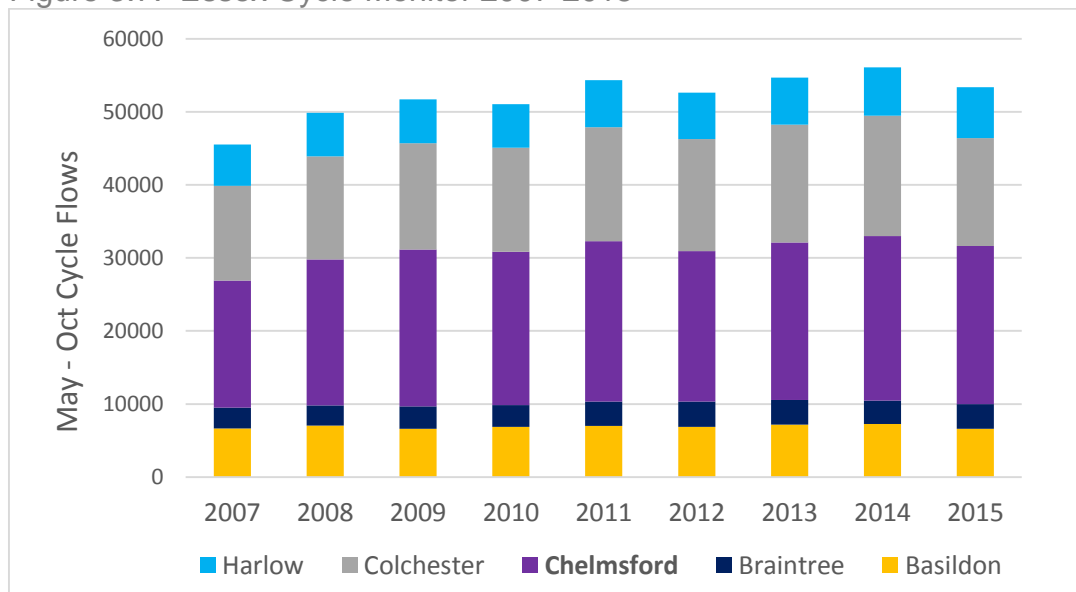


Figure 3.7: Essex Cycle Monitor 2007-2015



Together, the cycle monitor sites have observed a 17% increase between 2007 and 2015. Levels in Braintree significantly increased in the period 2012 to 2015, from 1,800 cycle per week to 3,400 cycles per week, but fell back to 1,900 cycles per week in 2016.

Table 3.1 below, provides a summary of average weekday two-way cycle flows per month per site for the years 2011 to 2015. The monitoring Sites 2000010 and 2000011 on B1256 Coggeshall Road have been combined to give two-way flows.

From Table 3.1, it can be seen that the busiest cycling corridor is Coggeshall Road. It is noted that there is no cycle lane provision along this road. The predominant cycle flow, (70%), was recorded to be westbound, e.g. towards Braintree Town Centre. In addition, cycle flows along Coggeshall Road are relatively consistent month by month, except in December where the 5-year average decreases by approximately 20% from the summer peak.

Table 3.1: Five Year Average Cycle Flows (Daily Average per Month, Per Site)

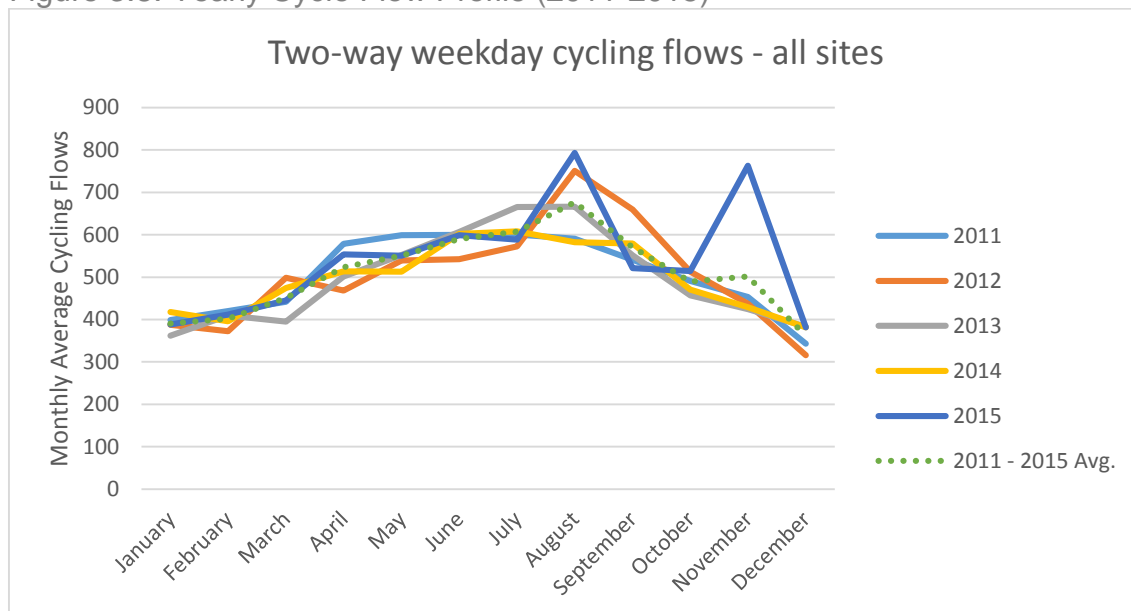
Month	5 Year Daily Average (2011-2015) Cycle Flows (Weekdays, Per Month Per Site)					
	Flich Way Site No: 02000001	Rosemary Avenue Site No: 02000004	Tortoiseshell Way Site No: 02000006	Millennium Way Site No: 02000007	Coggeshall Rd, Sites No: 02000010 & 02000011	TOTAL (5 year Average)
January	43	33	7	68	240	391
February	49	39	8	70	236	402
March	72	48	9	89	232	451
April	118	65	15	102	223	523
May	117	60	15	109	249	551
June	136	69	17	116	252	590
July	151	76	19	120	241	607
August	165	104	36	135	237	677
September	116	73	17	118	246	570
October	81	57	12	101	238	489
November	64	49	20	105	263	502
December	40	32	6	75	209	361
Total	1151	707	182	1209	2865	6114

By comparison, the other monitoring sites (all of which are off-road), show that cycle flows noticeably fluctuate month by month. This implies that Coggeshall Road is a relatively well-used cycling corridor, utilised by commuters who cycle to the town centre. The cycle flow profile for all the other sites was broadly similar with higher cycle flows recorded during the summer months, while the lower cycle flows were recorded during the winter months, particularly between December and February.



In terms of total cycling flows in Braintree, the five monitoring stations captured, on average, approximately 6060 cycling trips in 2011 and despite some decreases in between, this has grown by 7.5% to 6511 in 2015. Figure 3.8 shows total cycling flows (all sites, weekdays) between 2011 and 2015.

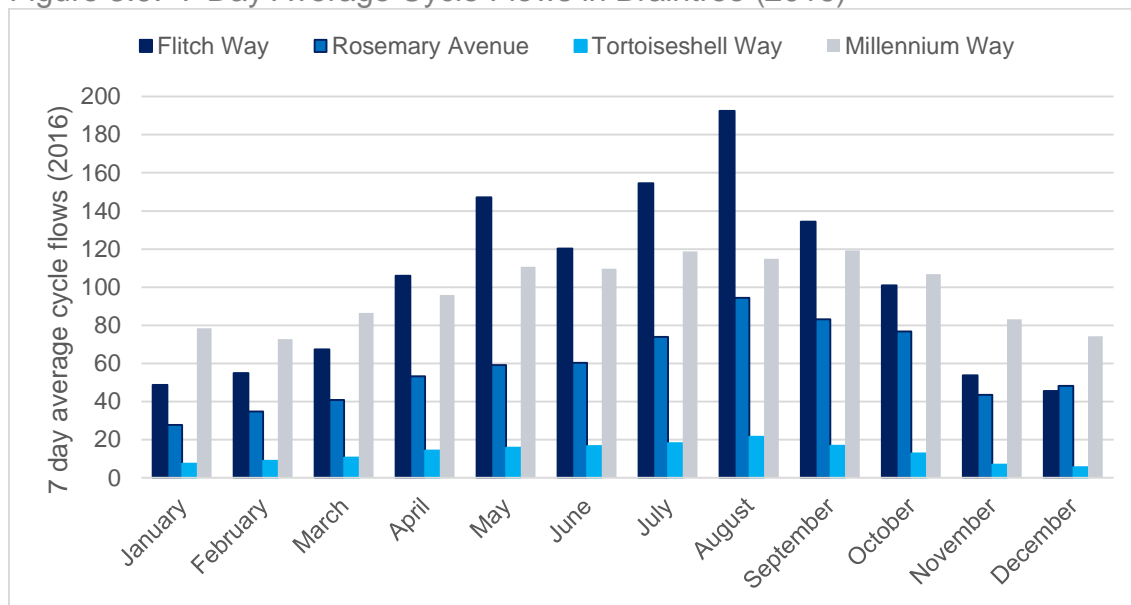
Figure 3.8: Yearly Cycle Flow Profile (2011-2015)



It can be seen that the yearly profiles roughly follow the same pattern, with the exception of the period of July – August in 2012 and 2015, when cycling flows increased more than other years. There is also a spike in November 2015. These spikes in cycling activity could perhaps be attributed to better than expected weather conditions.

2016 (7 day average) data for four sites in Braintree (Flich Way, Rosemary Avenue, Tortoiseshell Way and Millenium Way) indicate that levels of cycling along Flich Way are highest in the summer months. There is less variation along Millennium Way, Rosemary Avenue and Tortoiseshell Way, although the summer months do attract more cyclists in general, as would be expected (Figure 3.9).

Figure 3.9: 7 Day Average Cycle Flows in Braintree (2016)



### 3.5 DfT Count Data

The Department for Transport (DfT) collects vehicular flow data at various locations on the road network around the country. These counts record all vehicles using the carriageway, including cyclists.

Using DfT Annual Average Daily Flow (AADF) data, information pertaining to numerous locations within the district was taken. The data provides a snapshot overview of the cycle usage along particular routes within the district.

In Braintree the two largest counts are to the east and south-east of the town:

- Cressing Road, between Leywood Close and Warren Road, where an annual average daily flow of 175 cyclists was recorded; and
- Coggeshall Road between Dallwood Way and Cressing Road, where an annual average daily flow of 131 cyclists was recorded.

The high flows at these locations and Rayne Road (below) could be accommodated by a potential Flagship Route treatment. This is considered in Section 8 of this report.

In addition, relatively high cyclist counts were recorded at the following locations:

- Rayne Road between junctions with Hunnable Road and Peel Crescent: AADF of 108 cyclists;

- Coldnailhurst Avenue between junctions with Lancaster Way and Alexander Road: AADF of 92 cyclists (this high level of flow will be addressed by potential Scheme 37); and
- South Street at the junction with Fairfield Road and Station Approach: AADF of 89 cyclists. This is noted as a key barrier to cycle access to the railway station. It forms part of the potential Flagship Route.

In Witham, fewer counts were taken as a result of its size in comparison to Braintree. The three highest counts are as follows:

- Powers Hall End, between junctions with Saxon Drive and Church Street: AADF of 50 cyclists;
- Howbridge Road between junctions with Bridge Street and Tudor Close: AADF of 37 cyclists; and
- Armond Road between junctions with Stourton Road and Barnardiston Way: AADF of 25 cyclists. Potential Scheme 13 will address this demand.

The three largest AADF counts for Halstead are:

- Tidings Hill between Ronald Road and Rayners Way: AADF of 55 cyclists;
- A131 High Street at the junction with A1124 Hedingham Road and Parsonage Street: AADF of 41 cyclists; and
- A1124 Colchester Road at the junction with Nether Court: AADF of 34 cyclists.

Figure 3.10 and Figure 3.11 show the existing AADF count locations and cycle data for Braintree and Witham, respectively.

Figure 3.10: Braintree existing cycle infrastructure and collisions (PICs)

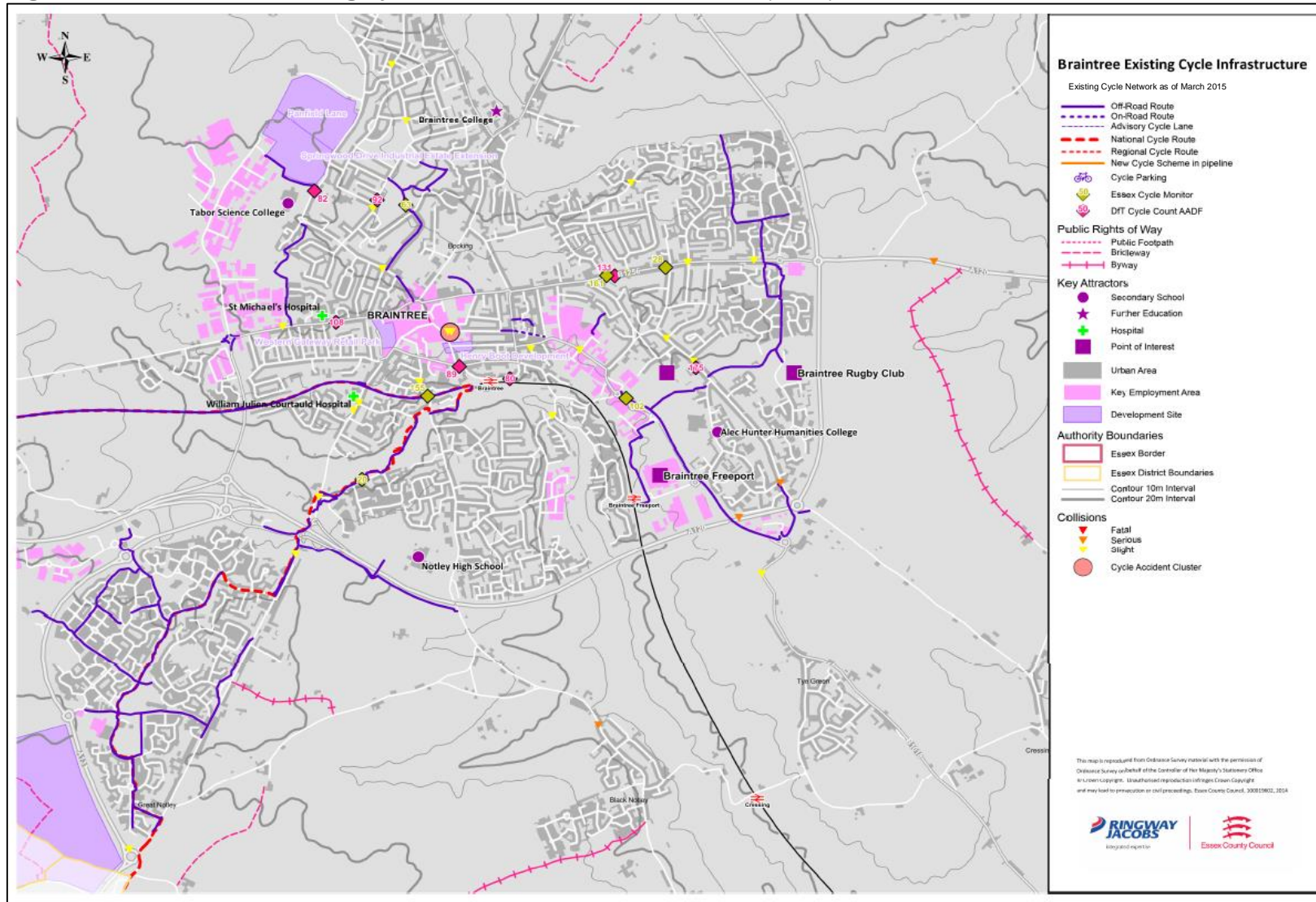
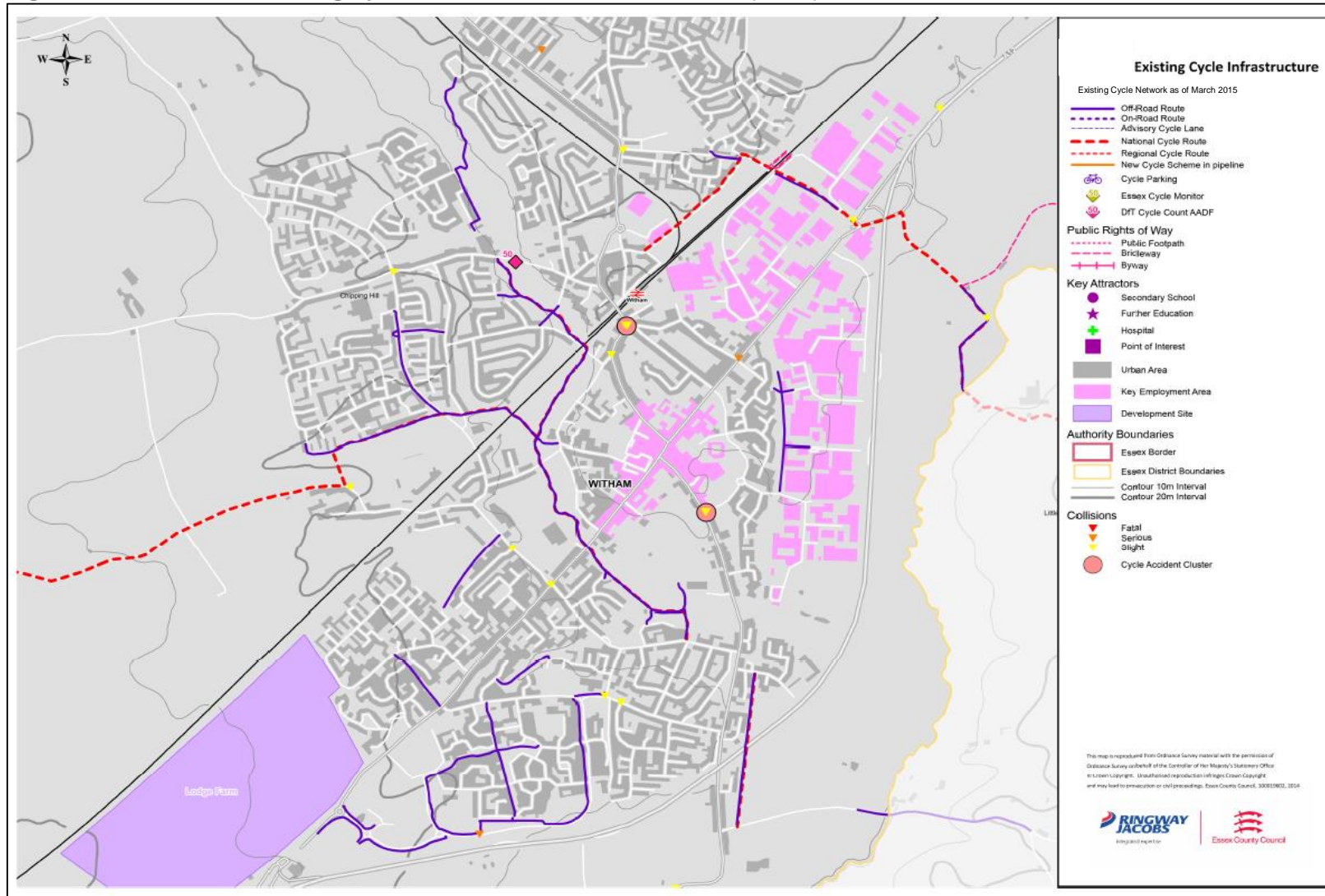


Figure 3.11: Witham existing cycle infrastructure and collisions (PICs)



### 3.6 Collision Data

Fear of personal injury is often cited as a barrier to cycling but whilst this is an important issue, it is useful to use statistics rather than just perception to direct improvements to highway infrastructure to improve the cycling environment. The location of cycling personal injury collisions also serves to identify where cyclists are travelling in higher numbers which can be useful when deciding where to prioritise new infrastructure.

Table 3.2 shows the number of recorded Personal Injury Collisions (PICs) involving cyclists by District for the 5 year period between August 2012 and July 2017. Note that the figures below for 'Essex' exclude the Unitary Authorities of Southend and Thurrock, figures for 'Greater Essex' include these areas.

Table 3.2: Personal Injury Collisions involving Cyclists Aug 2012 – July 2017

	Fatal	Serious	Slight	Grand Total	% of total cycle accidents in Greater Essex	Number cycling to work <sup>2</sup>	% of total cycling to work in Greater Essex
BASILDON	0	37	135	172	8%	1412	8%
<b>BRAINTREE</b>	<b>2</b>	<b>37</b>	<b>90</b>	<b>129</b>	<b>6%</b>	<b>1070</b>	<b>6%</b>
BRENTWOOD	0	16	41	57	3%	320	2%
CASTLE POINT	0	24	69	93	5%	631	4%
CHELMSFORD	2	56	194	252	12%	2486	14%
COLCHESTER	0	72	227	299	15%	3310	19%
EPPING FOREST	1	36	105	142	7%	482	3%
HARLOW	2	13	60	75	4%	1018	6%
MALDON	1	15	42	58	3%	548	3%
ROCHFORD	1	25	63	89	4%	498	3%
SOUTHEND	1	63	266	330	16%	2260	13%
TENDRING	3	28	117	148	7%	1683	10%
THURROCK	0	35	101	136	7%	1078	6%
UTTLESFORD	0	18	41	59	3%	433	3%
<b>ESSEX</b>	<b>12</b>	<b>412</b>	<b>1285</b>	<b>1709</b>		<b>13891</b>	
<b>GREATER ESSEX</b>	<b>13</b>	<b>475</b>	<b>1551</b>	<b>2039</b>	<b>100%</b>	<b>17229</b>	<b>100%</b>

Braintree experiences an average rate of cycle collisions when compared to the other Districts and Boroughs within Essex, with a total of 129 PICs recorded

<sup>2</sup> Source: ONS Cycling to Work Summary Table, taken from Census Table CT0015EW.

during the 5 year period. To provide context to these figures, a county-wide high of 299 PICs was seen in Colchester, and a low of 57 in Brentwood. Incidents in urban areas are more prominent than those occurring in rural areas. Incidents are also greater in areas with higher levels of cycling. The level of PICs involving cyclists accounts for 6% of the total in greater Essex, which is in line with the amount of cycling to work that occurs in Braintree District (6% of Greater Essex).

### 3.7 Collision Clusters

This section analyses clusters of incidents involving cyclists within Braintree District. (e.g. when two or more incidents have occurred in a particular location). Clusters identified for Braintree District and Braintree town for the 36 month period from November 2011 are included below in Table 3.3.

Table 3.3: Braintree cycle collision clusters

Junction name	No. recorded incidents	Severity	Incident correlation ? (Y/N)	Description of correlated incidents
<b>Braintree District</b>				
Collingwood Rd/ The Avenue	2	2 Slight	Y	Drivers fail to observe cyclists negotiating roundabout, resulting in a collision with cyclists and pulling out onto the junction
Maldon Rd/ The Grove	2	2 Slight	N	
A1124 Upper Holt St/ Collingwood Rd	3	1 Slight, 2 Serious	Y	Drivers fail to give way to cyclists which are turning right onto Coggeshall Road, approaching the junction from the west. Cars approach from east.
<b>Braintree Town</b>				
Market Place/ Fairfield Road	2	2 Slight	N	

Within the rural areas of Braintree District there were three clusters, totalling seven recorded collisions. A total of two of the three clusters in the rural areas display correlations in the descriptions of their respective incidents. The locations are as follows:

- Collingwood Road / The Avenue; and
- A1124 Upper Holt Street / Coggeshall Road.

Both clusters have formed through drivers failing to observe cyclists at the junction and subsequently colliding with them.

Braintree town sees one collision cluster forming within the 36 months. It comprises of two recorded collisions both of which were slight in severity. Unlike two of the clusters within the rural areas, there is no correlation between the two recorded incidents.

No collision clusters were identified within Witham.

### 3.8 Cycle collisions along routes

Table 3.4 displays the list of cycle collisions along routes in Braintree District, within the 36 month period from November 2011.

Table 3.4: Cycle collisions along routes

Section	Approx length of section	No. collisions	Severity	Existing cycle route ?
<b>Braintree Town</b>				
Cressign Rd: j/w Hay Lane South – Stubbs lane	0.48 km	2	2 Slight	No-but forms part of potential advisory cycle lane route (scheme 12)
Mountbatten Rd: j/w Orion Way – Coggeshall Rd	1.1 km	2	2 Slight	No-but forms part of potential quietway route (scheme 20)
London Rd: j/w Queenborough Lane – j/w Tortoiseshell Way	0.64 km	2	2 Slight	Yes-forms part of segregated off-road section of NCN Route 16
<b>Witham</b>				
Gershwin Boulevard- Maltings Lane: j/w Hawkes Rd- j/w Pondholton Drive	1.1 km	3	2 Slight, 1 Serious	Yes-existing off road route
Collingwood Road-j/w The Avenue and Guithavon Valley	100 m	2	2 Slight	No
Spinks Lane – j/w Epping Way and B1389	500 m	2	2 Slight	No

Table 3.4 shows that within Braintree town, there are three specific road stretches where there have been two or more recorded cycle collisions over the 36 month



period. Only one of these locations is marked as an existing cycle route. In particular, the stretch of London Road has seen two recorded cycle collisions over three years, despite the existence of an off-road cycle route.

Within Witham, there are three specific road stretches where there have been two or more recorded cycle collisions over the three year period. Only one of these locations is marked as an existing cycle route. In particular, the stretch of Gershwin Boulevard has seen three recorded cycle collisions over three years, despite the provision of an off-road cycle route.

Figure 3.10 and Figure 3.11 display the distribution of recorded cycle collisions in Braintree and Witham respectively.

### **3.9 Cycle Crime**

Cycle crime (mainly theft) is reported both to Essex Police and British Transport Police, though it should be noted that cycle thefts are generally considered to be under reported. Figures for both these constabularies are combined by District in Table 3.5 below.

Note that the figures below for 'Essex' exclude the Unitary Authorities of Southend and Thurrock, figures for 'Greater Essex' include these areas.

Table 3.5: Reported cycle crime by District

All Essex Reported Cycle Thefts	2013	2014*	Year ending June 2016	Year ending June 2017	% of all cycle thefts in Greater Essex (2017)	Annual number of cycle thefts per cycle commuter <sup>2</sup>
Basildon	221	208	173	203	8%	0.15
<b>Braintree</b>	<b>116</b>	<b>98</b>	<b>160</b>	<b>154</b>	<b>6%</b>	<b>0.15</b>
Brentwood	63	59	34	71	3%	0.23
Castle Point	45	73	63	81	3%	0.13
Chelmsford	292	274	334	450	17%	0.19
Colchester	355	373	247	390	15%	0.12
Epping Forest	37	53	69	53	2%	0.12
Harlow	127	108	166	244	9%	0.25
Maldon	26	28	14	21	1%	0.04
Rochford	43	50	51	23	1%	0.05
Southend-on-Sea	450	326	403	467	18%	0.22
Tendring	180	167	124	160	6%	0.10
Thurrock	217	205	251	235	9%	0.23
Uttlesford	41	30	23	27	1%	0.07
Essex	1546	1521	1458	1877		0.14
Greater Essex	2213	2052	2112	2579	100%	0.16

\*to Nov 20<sup>th</sup> only

2. Based on 2017 thefts and ONS Census 2011 Journey to work by cycle total for District/ Borough/ City (ONS Cycling to Work Summary Table, taken from Census Table CT0015EW)

When compared to Essex as a whole, cycle crime in Braintree is relatively low, accounting for 6% of the county's total. Overall, 154 crimes were recorded in 2017, a reduction of 6 compared to the previous year, which amounts to 0.15 annual cycle thefts per commuter. This figure is the 6<sup>th</sup> highest in the county. .

The number of thefts per cycle trip would be much lower if it were to be compared with all cycle trips, as this figure is based on 2011 Journey to Work data and does not include leisure trips, children cycling to school and people cycling part of their journey to work but not being recorded.

### 3.10 Topography

There are a number of factors which determine the popularity of cycling in any given area. Of the geographical factors, by far the most significant is topography, as identified in many research studies and policy statements. These include research carried out by Dr John Parkin who concluded; 'hilliness was found to be,

by far, the most significant determiner of the proportion that cycled to work in a District<sup>3</sup>.

Braintree, Witham, and Halstead all display similar characteristics in terms of their topography, with each experiencing an elevation change of approximately 30m throughout the town. These changes are likely to be due to the presence of rivers.

All three town centres are located on the areas of the highest elevation which may act to suppress cycling for some. However, the inclines involved are relatively shallow and the increase in height is small.

Figure 3.10 and Figure 3.11 show the topography of Braintree and Witham, respectively.

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<sup>3</sup> Parkin, J. Wardman, M and Matthew, P. (2008) *Estimation of the determinants of bicycle mode share for the journey to work using census data*. Transportation, 35 (1). pp. 93-109.

## 4 Existing Network Provision and Barriers

### 4.1 Introduction

This section provides an overview of the existing cycle infrastructure within Braintree District as well as identifying various barriers to cycling.

The District of Braintree is situated in the north of Essex. Covering approximately 612 square kilometres, Braintree District is the second largest Essex authority in terms of geographical area but only the fifth most populated of the 12 Essex local authorities. The District consists of the two large market towns of Braintree and Halstead, along with the 1970's urban 'expanded town' of Witham, interconnected with many smaller villages and urban areas. The District is served by five rail stations, located at Braintree, Braintree Freeport, Hatfield Peverel, Kelvedon and Witham.

### 4.2 Cycling in Braintree District

Some cycling infrastructure is currently provided within the District; however most of this is concentrated in the south of the District, specifically in and around the settlements of Braintree and Witham. National Route 16 (Stansted – Braintree – Witham & Southend-on-Sea - Shoeburyness), which is part of the National Cycle Network (NCN), links Braintree to Witham via rural roads and off-road cycle lanes. The route utilises The Flitch Way, a disused railway line between Braintree and Bishop's Stortford; The Flitch Way accommodates cycling and pedestrian traffic moving east / west and provides easy access to Braintree railway station.

Cycle Essex Route 2 forms a circuit from the south west of Braintree to Stansted airport in the west. The route within Braintree District is predominantly on-road, apart from the section utilising Flitch Way.

Cycle hire is available from Great Notley Country Park during school holidays between April and November through TrailNet.

Figure 4.1 and Figure 4.2 show the existing cycle routes in Braintree town and Witham, respectively.

Figure 4.1 Existing cycle infrastructure in Braintree Town

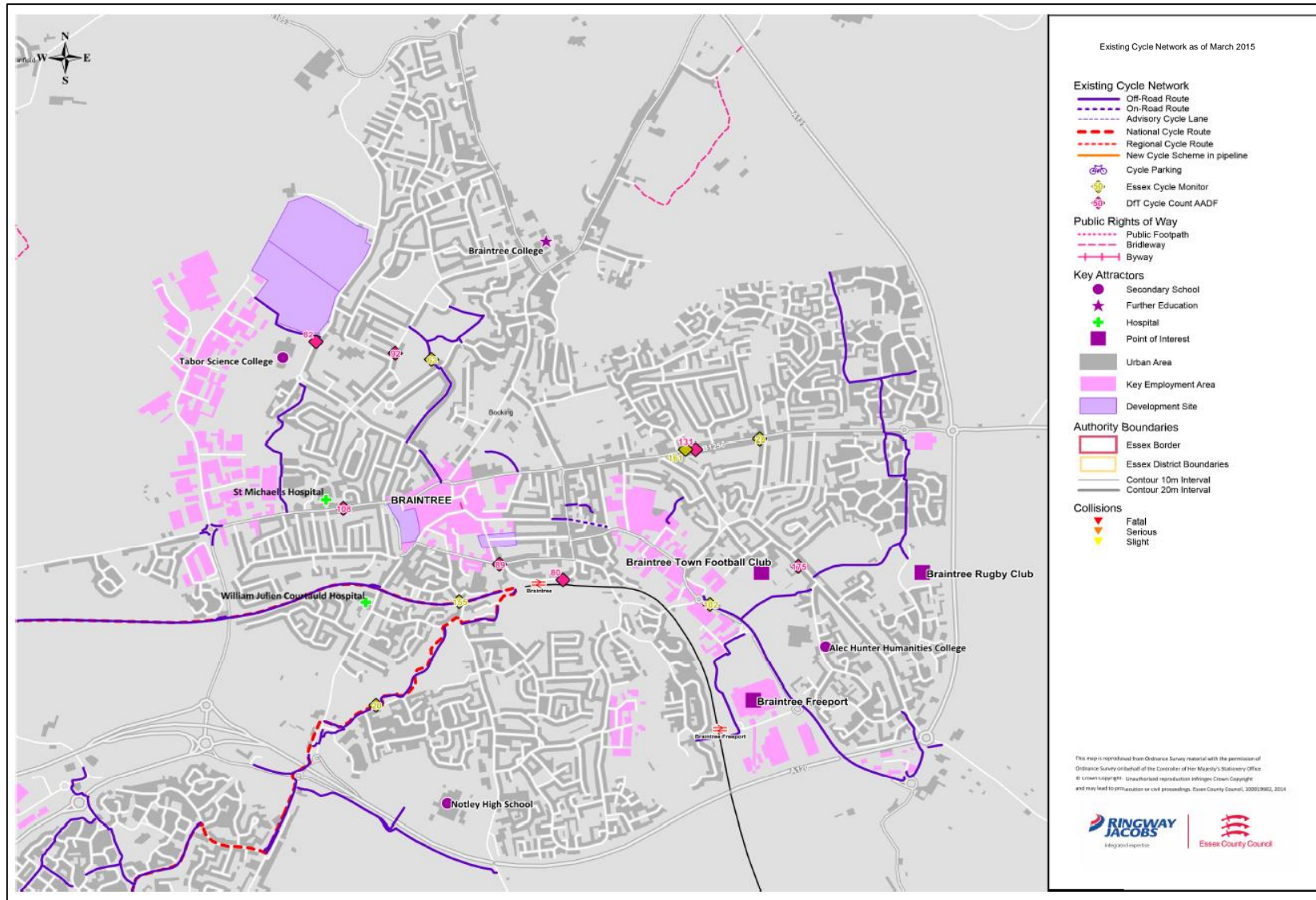
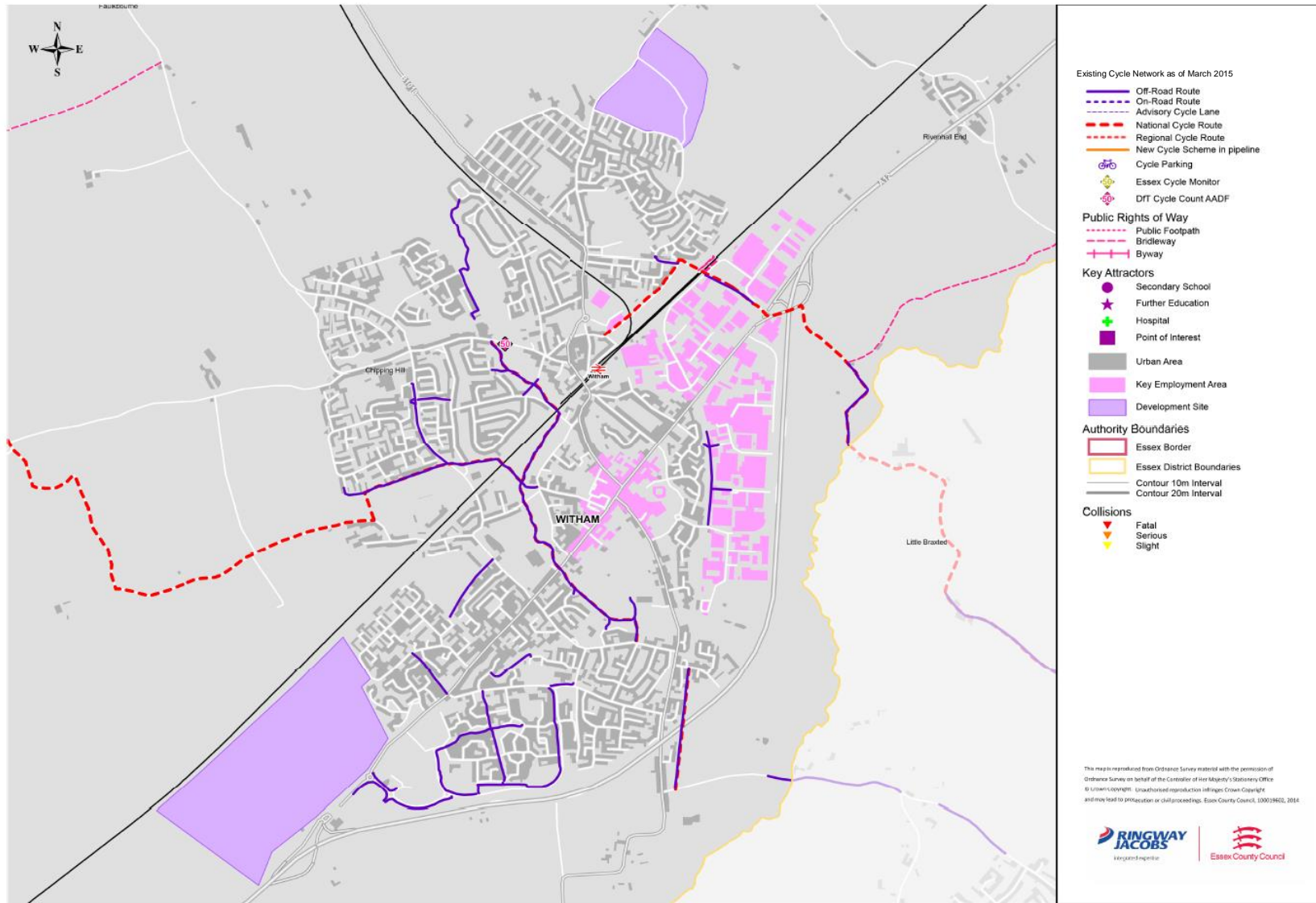


Figure 4.2: Existing cycle infrastructure in Witham Town



## 4.3 Key Barriers to Cycling in Braintree District

### 4.3.1 Road severance

The District is bisected by the A120 trunk road which is dual carriageway between the M11 and Marks Farm roundabout to the east of Braintree. From there to the junction with the A12, the A120 is single carriageway and is currently the subject of a study to identify a new route for an improved A120, which will involve major highway improvements, by 2025. Although off-road cycle infrastructure is in place to safely traverse the A120, these crossings are limited in number, thereby lengthening journey times and the distances required to travel. These off-road crossing points are restricted to the Flitch Way which forms part of NCN National Route 16.

Apart from Braintree, Halstead and Witham, the District itself is largely rural in character. This is reflected in the roads which comprise of low flow, yet National Speed Limit roads. The higher speed limits here may discourage cyclists, despite the lack of traffic relative to the urban areas.

### 4.3.2 Rail severance

The Great Eastern Mainline and the Braintree Branch Line are situated in the southern area of the District while the Gainsborough line is situated in the north eastern corner of the district. These railway lines create a degree of severance within the District. This is more relevant to the Braintree branch as the Great Eastern Mainline runs parallel to the southern boundary of the district. From Braintree Town to Witham the provision of crossing points is limited. Where crossings are provided, they are at-grade (level crossings) accessed via quiet, rural roads.

## 4.4 Braintree Town – existing cycle network

The cycle network within Braintree itself is largely fragmented with little evidence (e.g. signage) of continuous routes except for National Route 16 in the south-west of the town which operates along Flitch Way and along the River Brain.

Many routes begin and end abruptly meaning that connectivity is generally poor. Northern areas of the town in particular have a prominent lack of cycling facilities in place.

The photographs in Figure 4.3 and Figure 4.4 highlight the lack of connectivity for cycle traffic at Flitch Way / London Road and Flitch Way / Jersey Way and at King George Field / Crossing Road and Panfield Lane / Town centre.

Figure 4.3: Lack of cycle connectivity at Fritch Way (junctions with London Road & Jersey Way)



Figure 4.4: Lack of connectivity at King George Field / Crossing Rd and Panfield Ln / Town centre



## 4.5 Braintree Town – cycle accessibility

### 4.5.1 Access to public transport – Braintree Rail Station

Braintree Railway Station is located approximately 600m to the south of the town centre with off-road cycle access possible from the south and west through National Route 16. Facilities connecting the station and the town centre/additional areas of the town are relatively poor.



In terms of cycle parking facilities, the station currently has 32 Sheffield stand spaces and 20 rack spaces. All cycling parking is covered. During a site visit to Braintree it was observed that the Sheffield stands were at capacity but the racks were barely utilised with only two bicycles parked on the racks as shown in Figure 4.5.

Figure 4.5: Cycling parking at Braintree railway station



#### 4.5.2 Access to public transport – Braintree Freeport Rail Station

The second station in the town is Braintree Freeport, located 1.7 km from the town centre. A total of four Sheffield stands have been provided at the station with an additional 14 Sheffield stands provided near the station, adjacent to the pedestrian crossing leading into the Freeport shopping centre. These stands provide approximately 36 cycle parking spaces in total which are all covered, as shown in Figure 4.6.

Figure 4.6: Cycle parking provision at Braintree Freeport rail station



Cycle access to Braintree Freeport is relatively good and includes a step free bridge (shared with pedestrians) over the railway line which connects with off-road cycle routes and the Freeport Braintree shopping centre in the east.

## **4.6 Access to employment in Braintree**

There are three main centres of employment in Braintree, located in the north-western (Springwood Industrial Estate), central (Braintree town centre) and south-eastern (Braintree Freeport) areas of the town. Cycle connections to the three are poor, with isolated sections of off-road routes infrequently bordering them.

## **4.7 Access to educational institutions in Braintree**

Many of the schools and colleges within Braintree are poorly served by the cycle network. This is especially apparent with Braintree College which is located in the north of the town, an area which is lacking cycle infrastructure.

## **4.8 Access to future developments in Braintree**

A new Braintree District Local Plan is currently being developed, which will bring together all major planning policy for the District in one single document during the period 2017 - 2033. However, there is potential for significant already-committed development on the edges of Braintree town. All of these are separated from existing infrastructure. The largest committed development is on the north-western fringe of the town. Panfield Lane (600 homes) has an off-road cycle route on its southern boundary, yet this route is not connected to other cycling facilities.

## **4.9 Witham – existing cycle network**

The cycle network within Witham itself is largely fragmented with little evidence of cohesive and continuous routes except for NCN National Route 16 which traverses the town centre, east to west.

Generally, the main barriers to cycling in Witham are narrow roads in the town centre and narrow bridges crossing railway lines, particularly at the main station interchange.

Many routes begin and end abruptly or are self-contained within new housing developments which results in poor overall connectivity for the town; examples of which are included in Figure 4.7. Northern and eastern areas of the town in particular have a prominent lack of cycling facilities in place.

Figure 4.7: Lack of connectivity between existing routes in Witham: Highfields Road and Cypress Road.



## 4.10 Witham cycling accessibility

### 4.10.1 Access to public transport – Witham station

The town is served by Witham station which is located on the junction of the Great Eastern Mainline and the Braintree branch line. It is approximately 1km north of the town centre. Although the station is not directly connected to any cycling facilities, it is located 200m from NCN National Route 16. Cycle parking infrastructure is provided at the station and is comprised of 80 Sheffield Stand spaces.

It should be noted that the station can accommodate up to 400 cars suggesting that the station is predominantly used by commuters from the town and surrounding areas. The 2015 Braintree Transport Strategy identified that considerable numbers of London commuters from Braintree drive to Witham station to use the higher frequency service from Witham to London.

### 4.10.2 Access to employment in Witham

Located centrally and to the east of the town respectively, there are two prominent employment centres in Witham (town centre and various industrial and light industrial areas at Eastways, Coleman's bridge and Moss Road). Cycling infrastructure is sporadic for both with disconnected sections and few off-road routes. The town centre is surrounded by a number of cycle routes but these do not connect to the centre itself.

In contrast, the northern section of the main employment centre to the east of the town is situated on an off-road section of NCN National Route 16 which provides access to the rail station and western areas of Witham.

#### **4.10.3 Access to future developments in Witham**

There are 1100 dwellings proposed for the Witham area over the next 5 years; North East Witham (350 homes) to the north of the town, and Lodge Farm (750 homes) to the south-west. The former is to be isolated from the town's existing cycling infrastructure, necessitating on-road cycling to the main employment centres and the rail station. Lodge Farm lies adjacent to the existing off-road cycle network which serves the residential areas of the south of the town. Currently this network does not connect with any cycling infrastructure.

## 5 Braintree District's Cycling Potential

### 5.1 Introduction

This section provides a summary of the existing travel behaviours within Braintree District, as well as identifying the potential for cycling.

### 5.2 Commuter flow analysis

The 2011 Census records how residents choose to travel to work as well as the location of their workplace. The aim of analysing this information is to establish where the predominant local commuter movements exist that could feasibly be undertaken by bicycle. This data can then be used to assess the commuter cycle potential for an area.

The predominant commuter flows for Braintree District have been calculated based on travel between Middle Layer Super Output Areas (MSOAs). As journeys to work take place to and from all MSOAs within the district, only the top 10 most popular commuter journeys per mode have been highlighted.

It has been assumed that commuters would choose the same route and mode of travel to work (in the AM) as they do to return from work (in the PM).

The following sections include the results of this commuter flows analysis.

#### 5.2.1 Cycle trips

Although the numbers are relatively low, six of the ten most popular District-wide commuter journeys by bicycle were made within Braintree town, three were made in Witham and one in Coggeshall (27 cycle commuter journeys).

Figure 5.1 displays the predominant commuter flows for journeys to work by cycle within Braintree Town and Figure 5.2 displays the main commuter flows by cycle within Witham.

Within Braintree town, most commuter cycle journeys originate in the centre and North West parts of town. The main destinations for cycle commuting are the industrial areas to the west and the town centre.

Within Witham, the most prominent cycle commuter flows originate from northern, southern and western areas, indicating that demand is fairly evenly distributed throughout the town. These popular commuter journeys by bicycle are made to Witham town centre and industrial areas to the east.

Figure 5.1: Journey to Work by Cycle in Braintree (Census 2011)

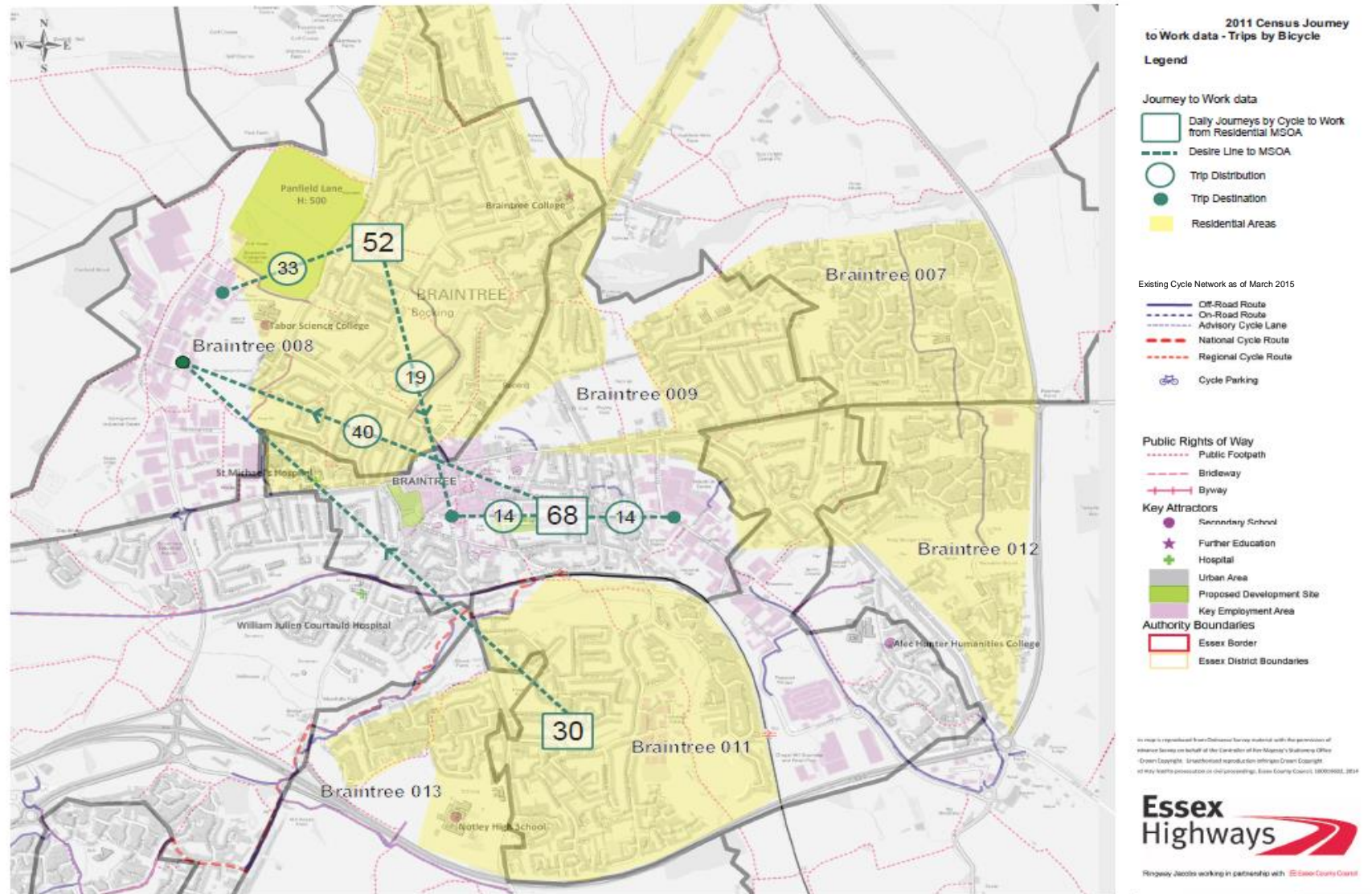
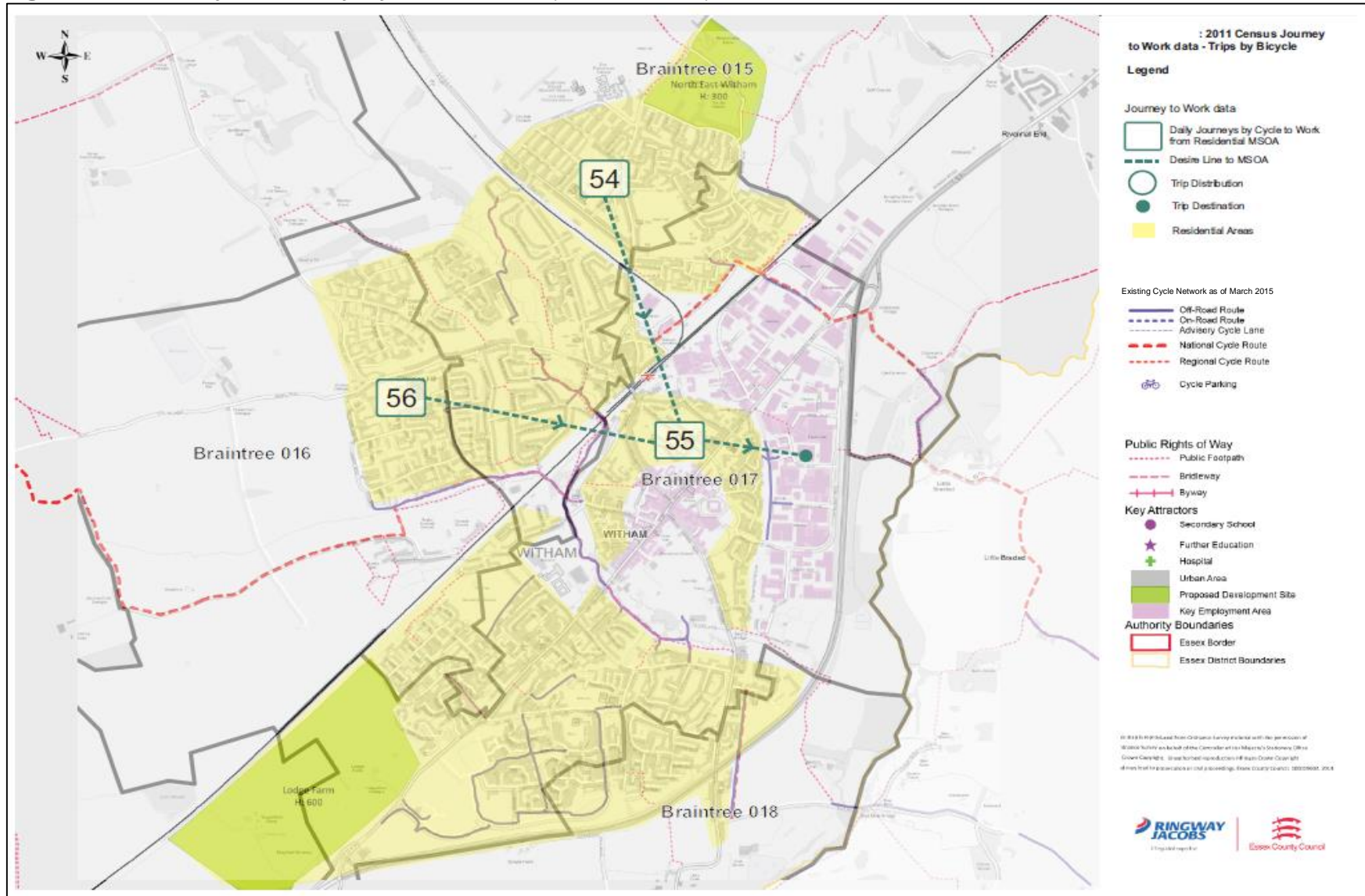


Figure 5.2: Journey to Work by Cycle in Witham (Census 2011)



### 5.2.2 Car Trips

A total of seven of the ten most popular District-wide commuter journeys by car were made within Braintree town, the remaining three were made in Witham.

Within Braintree town, the higher levels of car use originate from large residential areas where levels of cycling infrastructure are generally low, or are poorly connected to the local network. This is evident in the north-east of the town, where a combined 549 car commuter journeys were made to Springwood Industrial Estate, Manor Road industrial area and the town centre (combined).

Furthermore, there is reasonably high car commuting demand from the residential areas in the south west and south to Braintree town centre and Manor Road industrial area. Figure 5.3 displays the predominant commuter flows for journeys to work by car within Braintree Town.

Within Witham, the most prominent car commuter flows originate from northern, southern and western areas, indicating that commuting demand is fairly evenly distributed throughout the town. All these popular commuter journeys by car are made to Witham town centre and the industrial areas on the east of the town. Figure 5.4 displays the predominant commuter flows for journeys to work by car within Witham.

Importantly, it has to be noted that all the predominant commuter car flows within the District are short distance trips (5km or less) which could easily be undertaken by cycle.

Note that cross district boundary analysis for car drivers has been excluded, as the top 10 most popular origin / destination journeys to work by car all occurred within the district.



Figure 5.3: Journey to Work by Car in Braintree (Census 2011)

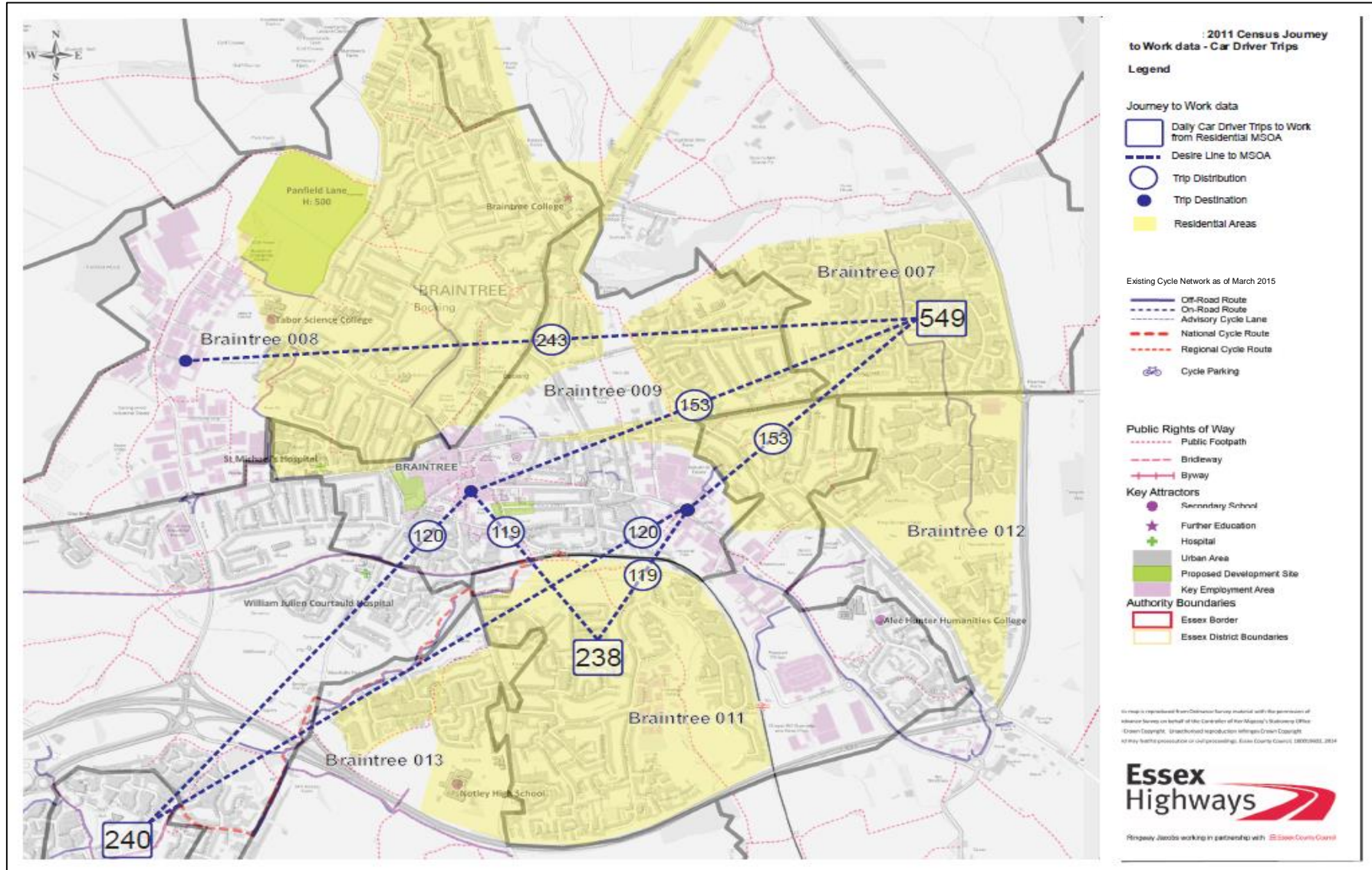
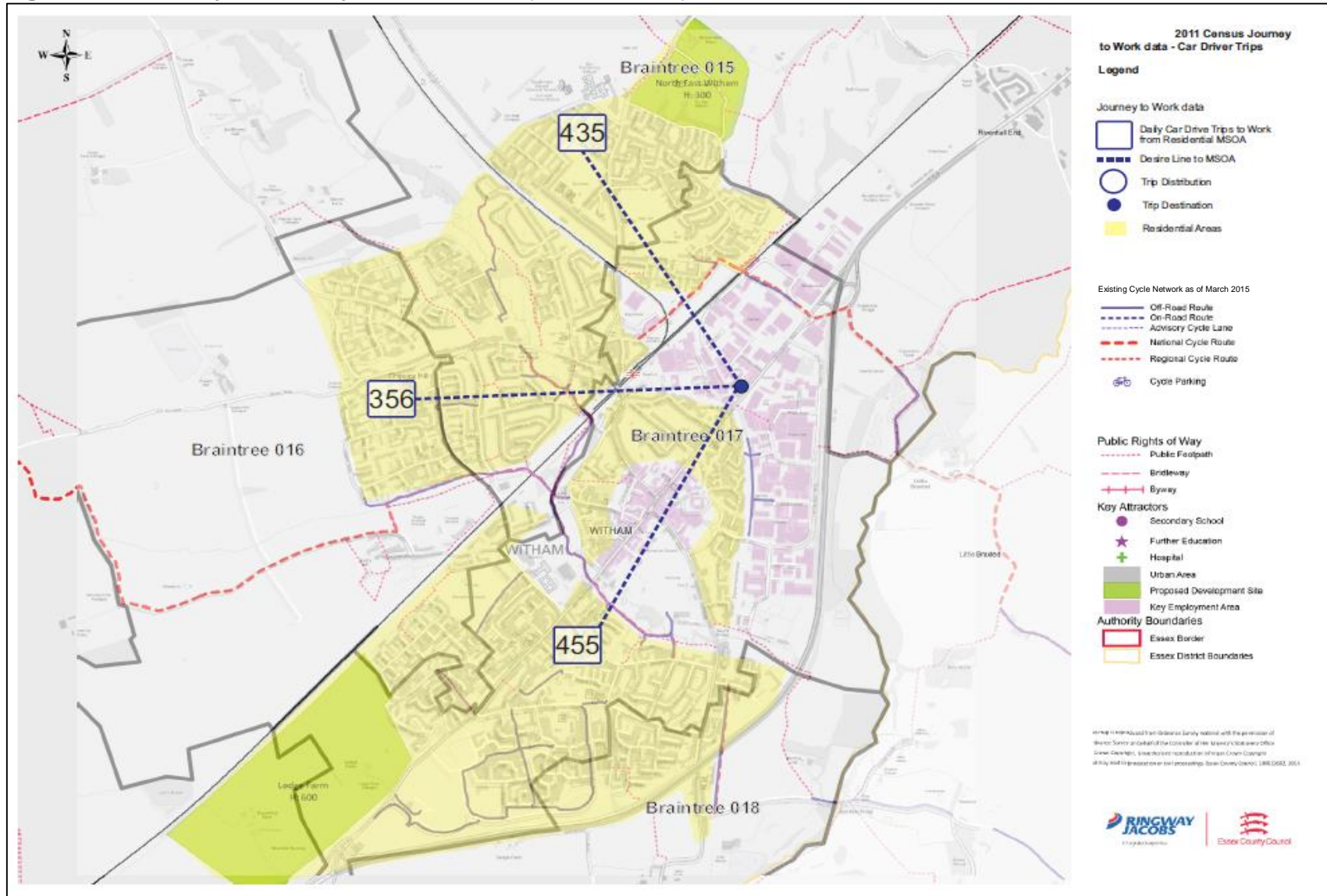


Figure 5.4: Journey to Work by Car in Witham (Census 2011)



### 5.2.3 Rail trips

In many cases, cycling can form a key part of commuter rail journeys. The 2011 Census only records main mode by distance, therefore assumptions must be made when analysing journeys that would be multi-modal. Where commuters have stated their main mode of travel to work to be by rail, it has been assumed that rail commuters would predominantly choose the closest station to them, unless a main line station is located within a similar proximity. In such a case, it is assumed the preference would be the main line station.

An additional assessment has been made which excludes a percentage of rail commuters living within 1km of the rail station, as it is expected the majority of those people would walk to the rail station.

Rail station commuter station choice within Braintree town is difficult to establish, considering an unknown percentage of rail commuters from Braintree drive to Witham to access the more frequent rail services to / from London.

As well as Braintree and Witham, high rail commuter flows were recorded in Hatfield Peverel, where the cycle potential is perceived to be low due to the majority of the town being within 1km of the rail station. In addition, Coggeshall featured highly and since Coggeshall has no dedicated rail station it is assumed residents would drive to Witham or Kelvedon to access rail stations.

However, it is assumed that rail commuters who reside in Witham do travel to Witham rail station to access the train services. For that reason, rail commuting destinations have not been taken into consideration for Braintree town. However, the census did reveal the highest single MSOA rail commuting total in Braintree town to be 296 people.

Figure 5.5 displays the origin of prominent commuter flow origins for journeys to work by rail within Braintree town, discounting their station choice destinations.

Within Witham, the largest flow originates from the southern section of the town where a total of 871 commuters originate. In addition, 410 commuters originate from the residential areas in the north and 266 from the west. The high number of rail commuters from the south is the highest single MSOA rail commuter total within the district.

All the predominant commuter rail flows within Witham are short distance trips (5km or less). Figure 5.6 displays the predominant commuter flows for journeys to work by train for residents who live in Witham.

Figure 5.5: Journey to Work by Rail in Braintree

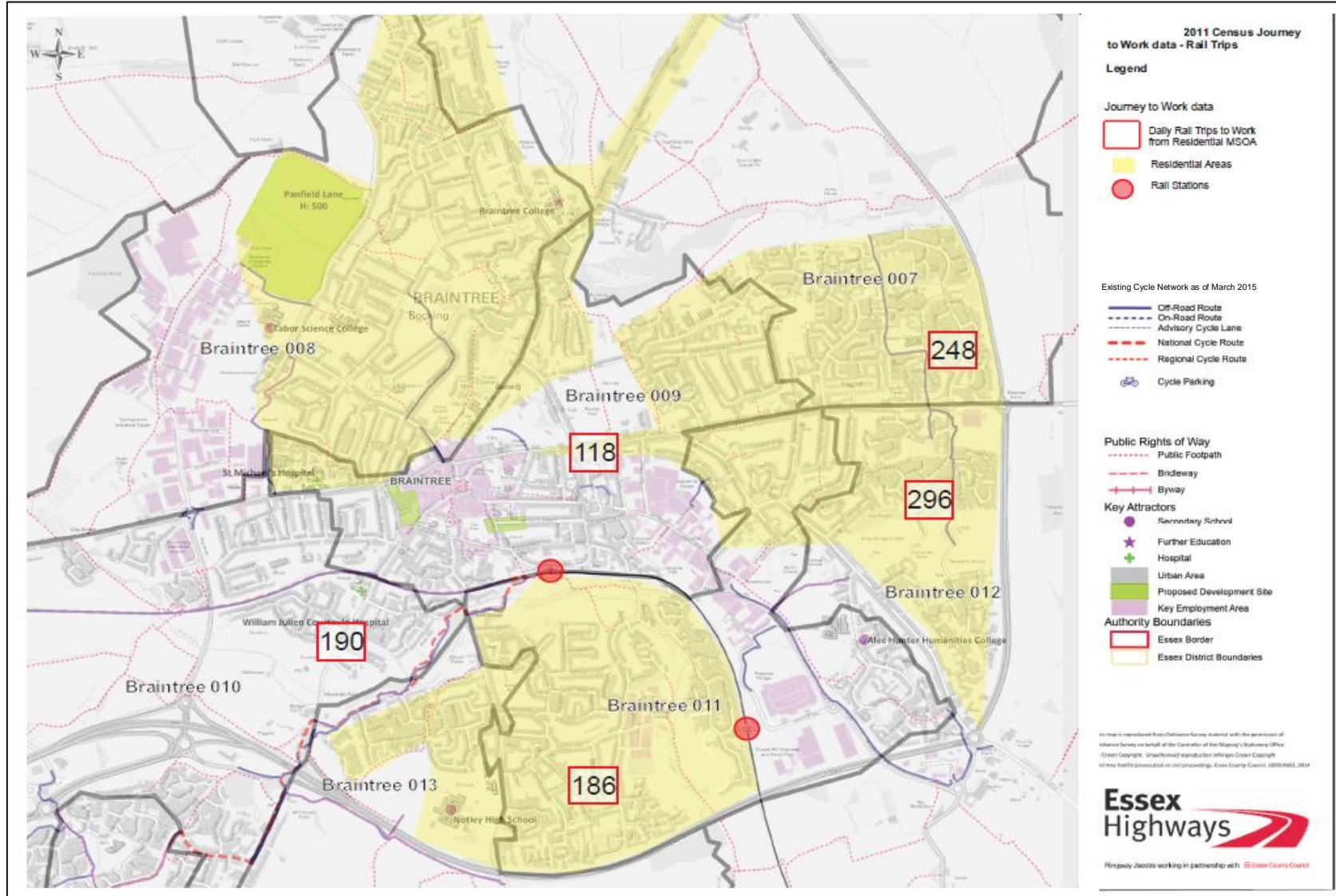
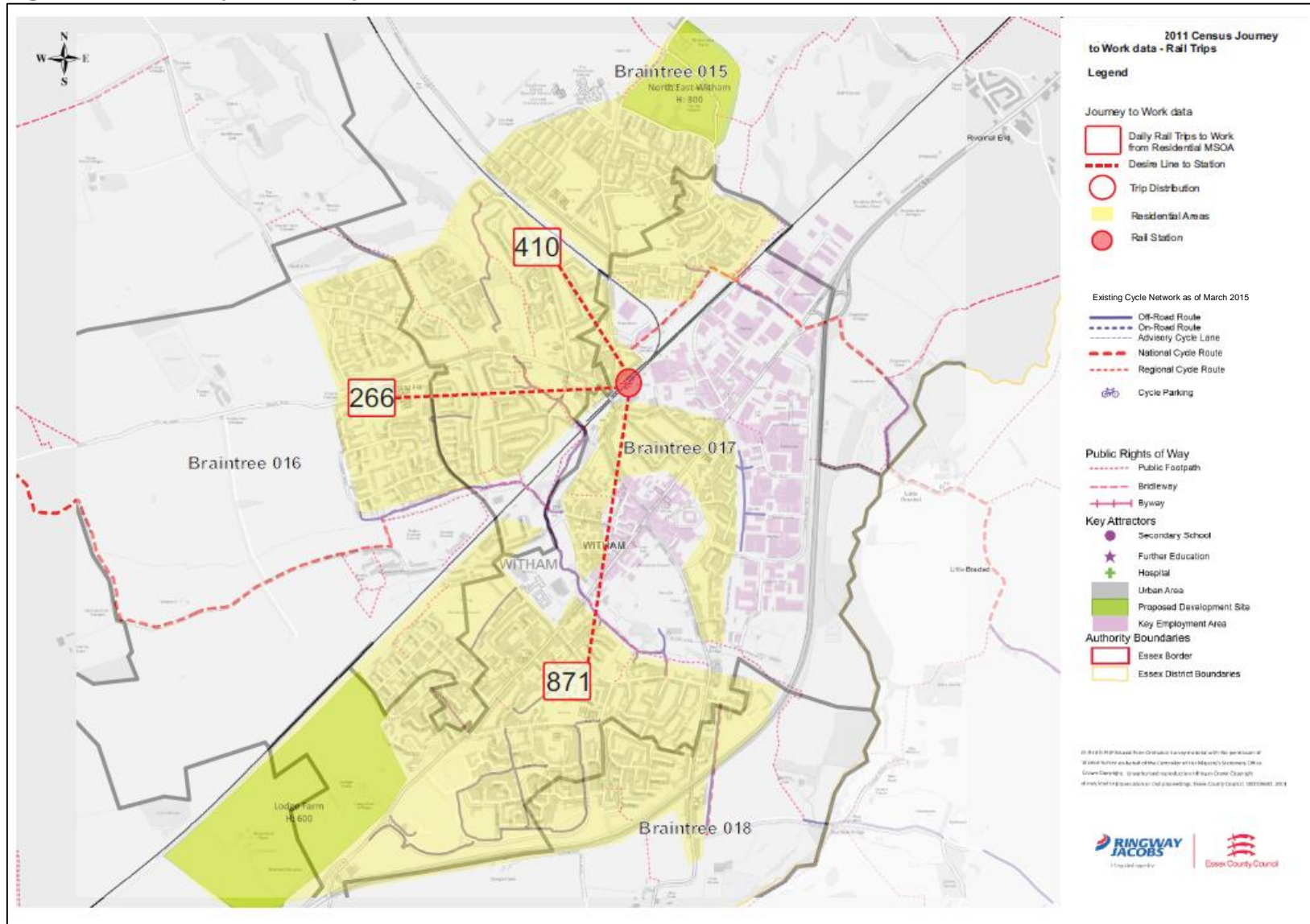


Figure 5.6: Journey to Work by Rail in Witham



#### **5.2.4 Halstead Commuter Flows**

Halstead has not been included in this analysis, as it features outside the top 10 commuter flow areas within the district. However, analysis of the data shows that the highest commuter demands are from car drivers living and working within the town. All car driver journeys within Halstead are less than 4km.

### **5.3 MOSAIC Propensity to Cycle – Braintree Town**

Market segmentation is concerned with grouping together a diverse range of people to understand their current behaviour and the likelihood and triggers for maintaining or changing how they act in the future.

The MOSAIC Cycling Segmentation was developed for TfL by Steer Davies Gleave as an aid to cycling policy development, planning, implementation and evaluation. This was required to help target opportunity areas to best increase mode share and assist in increasing trips.

The MOSAIC Cycling Segmentation classifies the population into seven segments, each with a different propensity to cycle e.g. those in the ‘Urban Living’ segment are 4.6 times more likely to be a cyclist than those in the ‘Comfortable Maturity’ segment. This can then be applied to postcodes and displayed on mapping as shown in Figure 5.7 and Figure 5.8.

The MOSAIC data for Braintree shows that propensity to cycle is high in Braintree town, most notably in central areas, in the vicinity of Railway Street and Trinovantian Way. There are also isolated pockets of high propensity in the north-east, and southern areas. South-western and sporadic eastern locales experience low propensity.

Figure 5.7: MOSAIC Analysis – Propensity to Cycle in Braintree

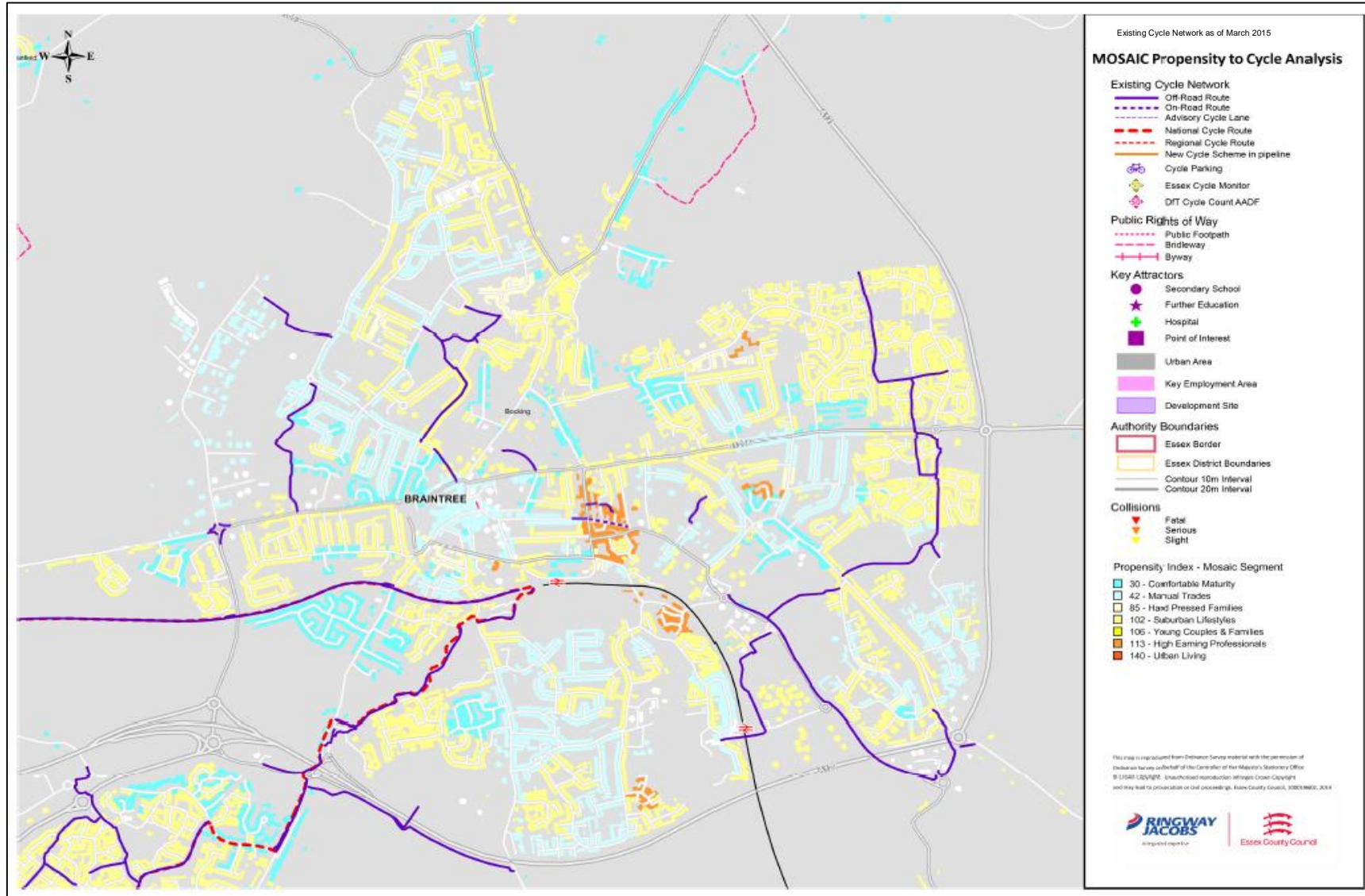
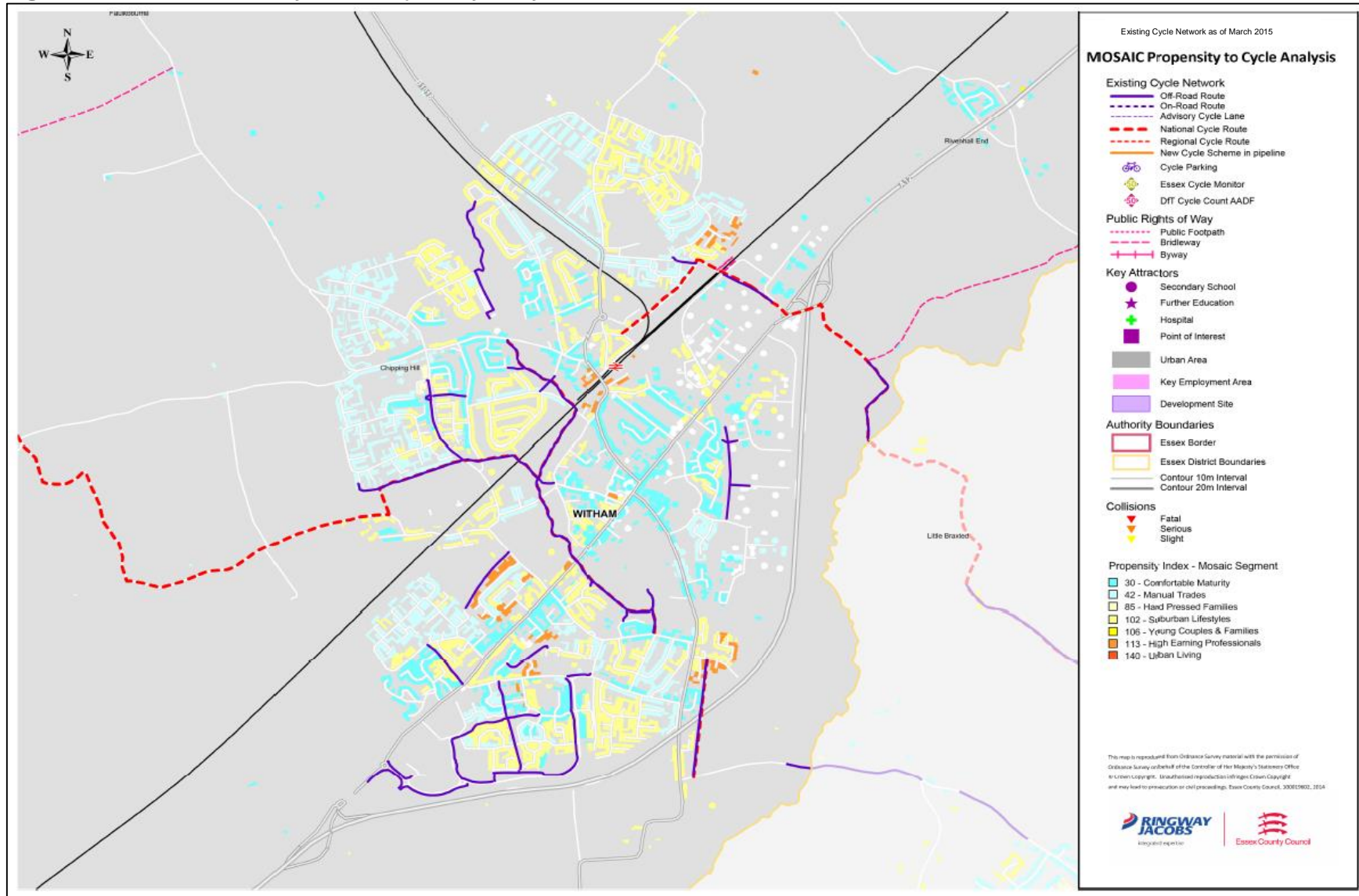


Figure 5.8: MOSAIC Analysis – Propensity to cycle in Witham





## 5.4 Summary of potential

### 5.4.1 Braintree Town

As identified above, there are a significant number of people driving short distances (5km or less) to access work within Braintree town. The majority of these trips occur from the north east and southern sides of Braintree town and are focused on the town centre and industrial areas to the west and could be undertaken by non-motorised modes (cycling or walking). Figure 5.9 shows the cycle desire lines for Braintree town.

Therefore, providing improved cycle routes and marketing targeted towards car drivers residing in those locations could provide the biggest gains in terms of mode shift towards cycling in Braintree town.

### 5.4.2 Witham

A significant number of people drive short distances (5km or less) to access work within Witham. These trips originate from the north, west and southern sides of the town and are focused on the town centre and industrial areas to the east. In addition, the major rail demand is coming from the same areas, in particular the south of the town. Figure 5.10 shows the cycle desire lines for Witham.

Therefore, providing improved cycle routes and marketing targeted towards car drivers and rail commuters residing in those locations could provide the biggest gains in terms of mode shift towards cycling in Witham.

As identified above, low cycle commuting levels were recorded across the town. Therefore, cycle access to the town centre and employment should be assessed to promote more cycle journeys

Figure 5.9: Cycling Desire Lines in Braintree

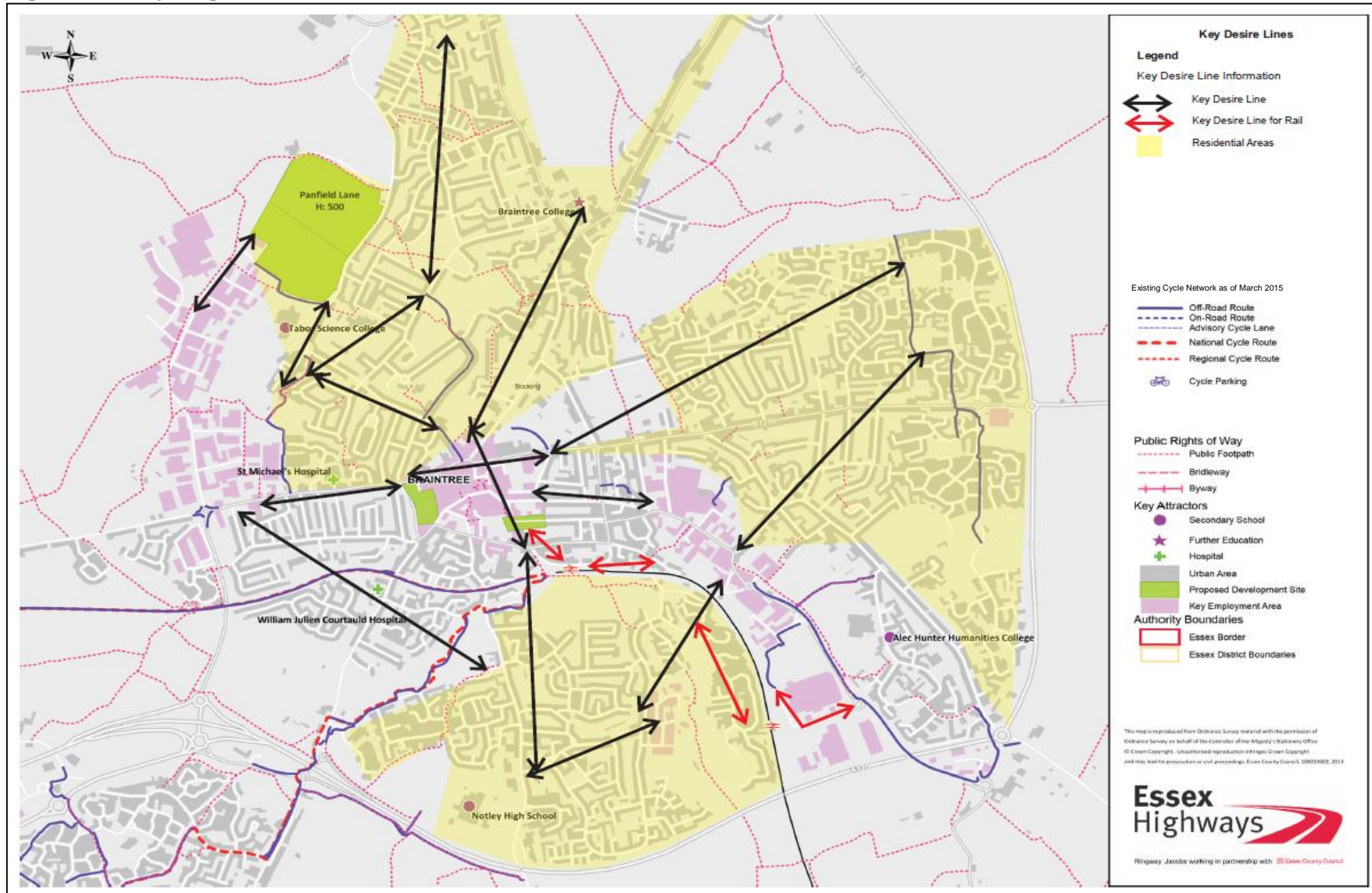
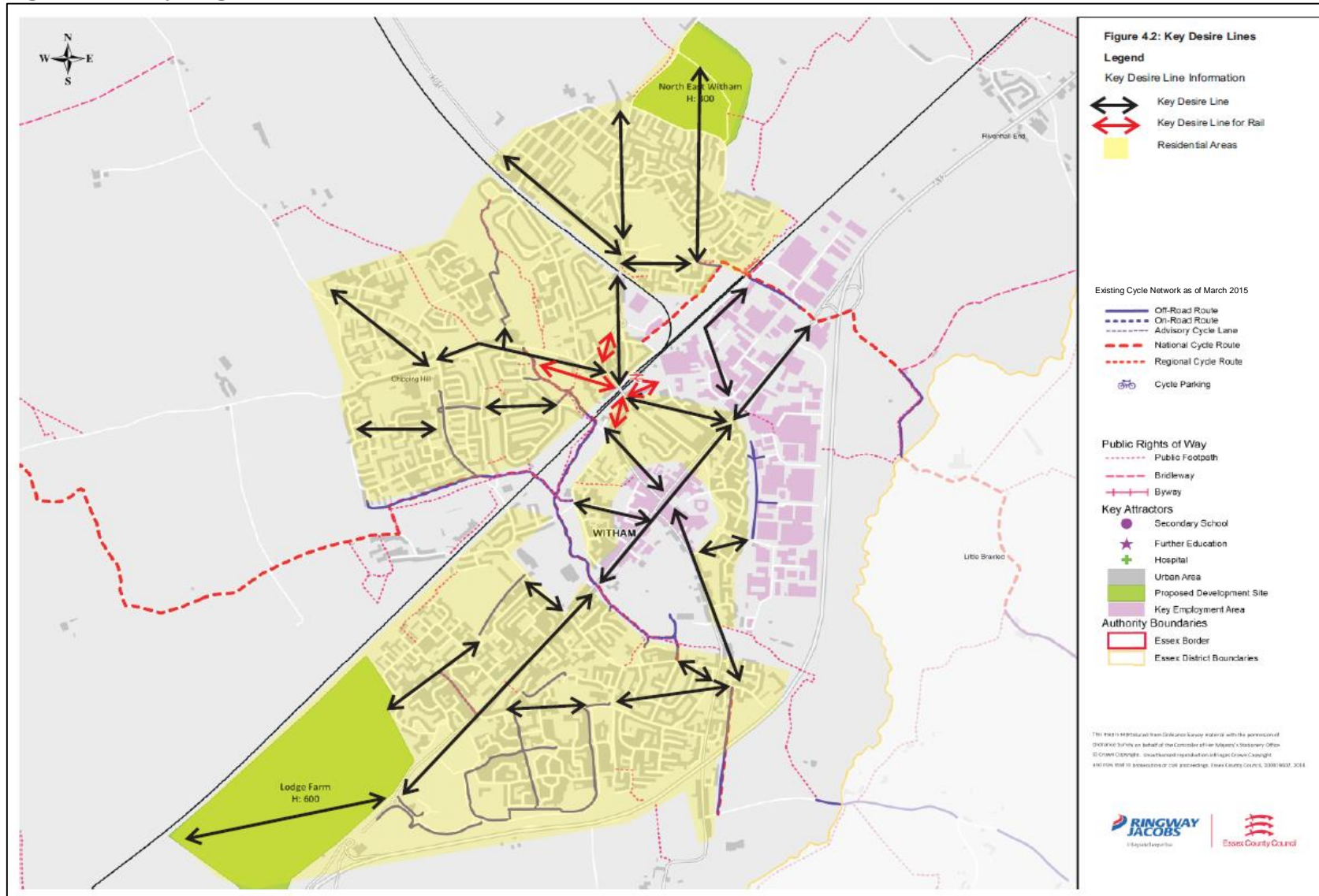


Figure 5.10 Cycling Desire Lines in Witham



## 6 Potential Infrastructure Improvements

### 6.1 Background

In order to remove barriers to cycling and provide suitable infrastructure, it is essential that all new developments in the District have good quality, cycle-friendly routes to key services, railway stations and areas of employment. To this end, all potential developments associated with the Braintree New Local Plan 2017-2033 should contribute towards creating a wider network of cycle friendly routes with provision along key corridors and desire lines.

A coordinated approach should be taken, whereby development planning and highway scheme delivery in Braintree District is linked with infrastructure provision, complemented by soft measures that promote cycling as part of a range of alternatives to single-occupancy car travel.

This CAP is proposing a network of strategic cycle routes, as well as identifying, within this, specific Flagship Routes. These Flagship Routes for the District of Braintree are described later in this report, in Section 8.

### 6.2 Potential cycle routes

Proposals for new cycle routes have been made to help create a step-change in cycling conditions across the District. These might include signed routes (with journey times and surface markings), networks of interconnected cycle routes on quiet residential streets, filtered permeability (e.g. convenient cut-throughs and contraflows) and, where appropriate, 2<sup>nd</sup> generation cycling infrastructure, such as Dutch, Danish or light segregation. Infrastructure improvements have been considered for the urban areas of Braintree, Witham and Halstead.

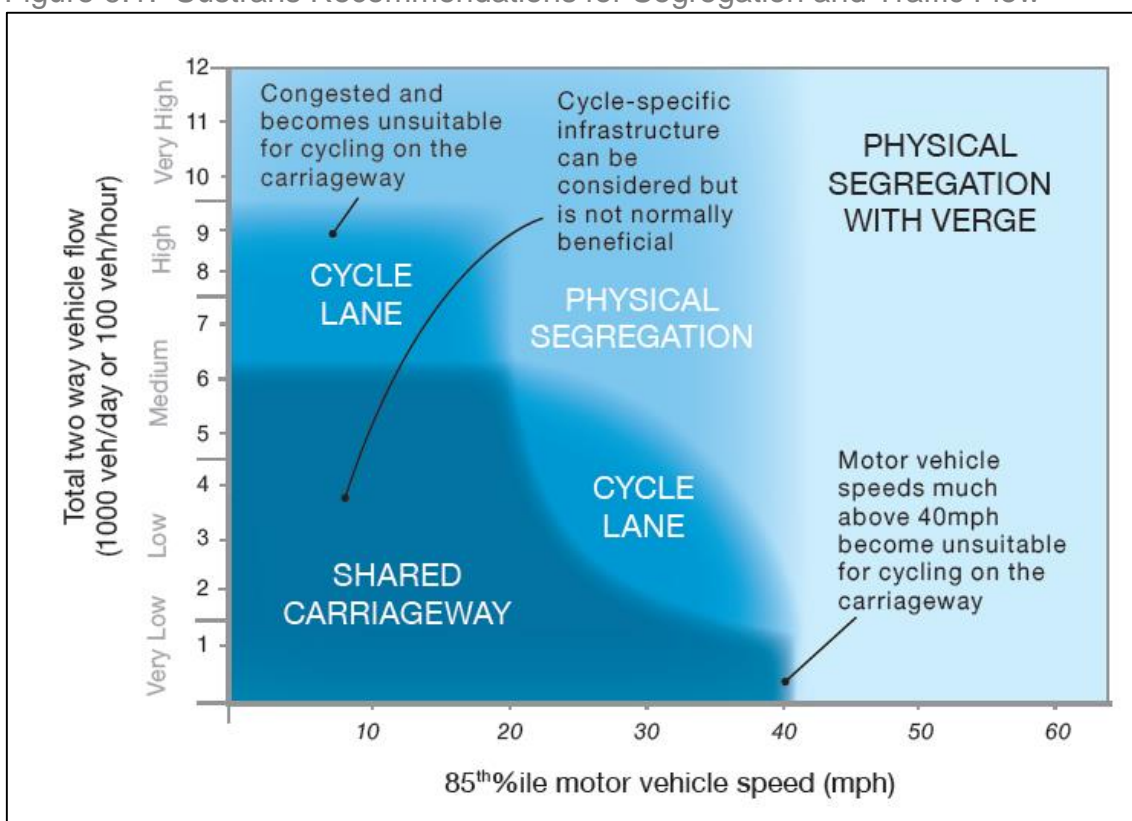
### 6.3 Methodology Statement

The potential routes have not, at this stage, been subject to detailed scheme design or feasibility, they are the result of an initial scoping study which is recommending a strategic network. In some instances, the Sustrans Design Manual has been used to inform provision, particularly with regard to the acceptable provision related to traffic speed and volume conditions in specific locations.

Where traffic volume and speed data is available, the potential schemes have been subjected to Sustrans design principles, which recommend the type of scheme that should be considered under those conditions (Figure 6.1). Traffic volume and speed may influence the decision on the need to segregate cyclists

from other traffic. For example, where low speeds and traffic volumes are evident, there is no need to segregate cycle and other traffic and a shared carriageway is acceptable. As traffic speeds and volumes increase, cycle lanes are found to be more desirable, until the threshold is reached whereby physical segregation is required. Beyond this point, where 85 percentile traffic speeds exceed 40mph, and/ or volumes exceed 9500 vehicles/ day (or 950 vehicles/ hour), conditions become unsuitable for cycling on the carriageway and physical segregation with a verge is necessary. Where traffic volume and speed data are not currently available, it may be necessary to undertake a traffic survey to determine the provision that is required.

Figure 6.1: Sustrans Recommendations for Segregation and Traffic Flow<sup>4</sup>



In some locations, it has been noted that cycle-friendly crossings will be required. In most instances, further work and traffic surveys will be required to enable the exact type of crossing provision to be determined.

\*There are some examples where footway/ footpath conversions to shared use have been identified. The conversion of footpaths and footways to permit bicycle

<sup>44</sup> Sustrans Design Manual. Handbook for cycle-friendly design, Sustrans, April 2014

use is not regarded as a general or area-wide remedy, but has been confined to specific links and locations. It is recommended that where footpaths conversion and/ or footway conversion to shared use is considered then further studies are undertaken to demonstrate that alternative options have been discounted and that clear benefits can be derived. In such situations, it is vital that the benefits to the cyclist are balanced against the increased risk and inconvenience to pedestrians.

ECC aims to limit the use of footway conversion/ shared use paths and Engineers and Designers should first consider alternative options.

A full list of recommended schemes can be found in Table 7.1, Table 7.2 and Table 7.3. The locations of these routes are shown in Figure 6.2, Figure 6.3 and Figure 6.4.

## **6.4 Construction Design and Management (CDM)**

The potential new cycle routes identified in this CAP all require further feasibility assessment before they can be finalised or confirmed. In some cases, the alignment of the routes may need to be amended to ensure that the safest scheme design, in terms of operation, construction design and management, is identified. In some cases, a route might need to be deleted entirely, if it is determined that CDM risks cannot be reasonably mitigated through early design stages.

Some of the potential routes are alongside or cross features such as high speed roads, water courses or railway lines and may either require a new structure or widening of an existing structure in order to be implemented. It is recognised that these features raise the potential for significant risk (and indeed cost) during construction and operational management and they will need to be given particular consideration during the feasibility assessment.

Figure 6.2: Existing and Potential Cycle Routes in Braintree

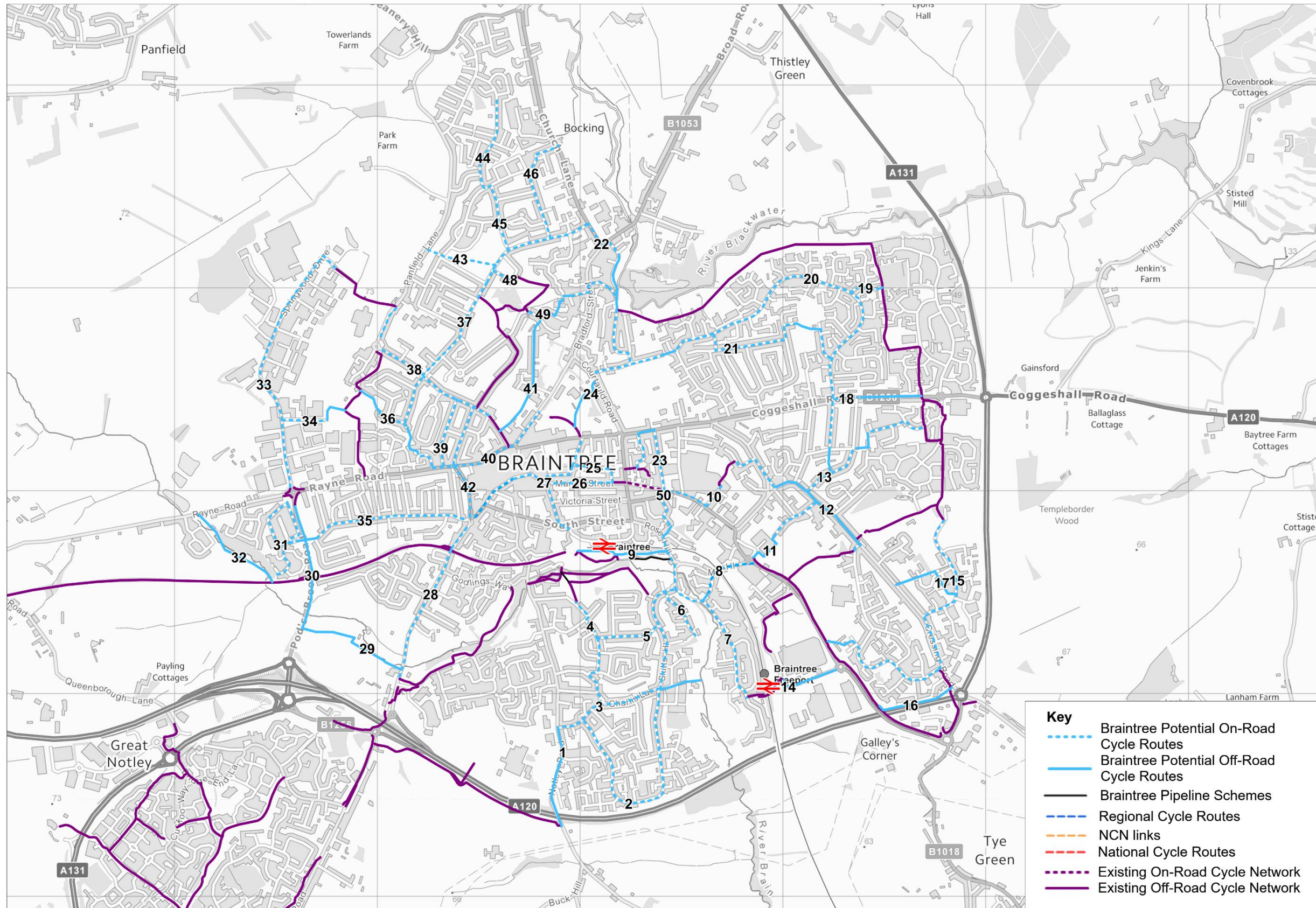


Figure 6.3: Existing and Potential Cycle Routes in Witham

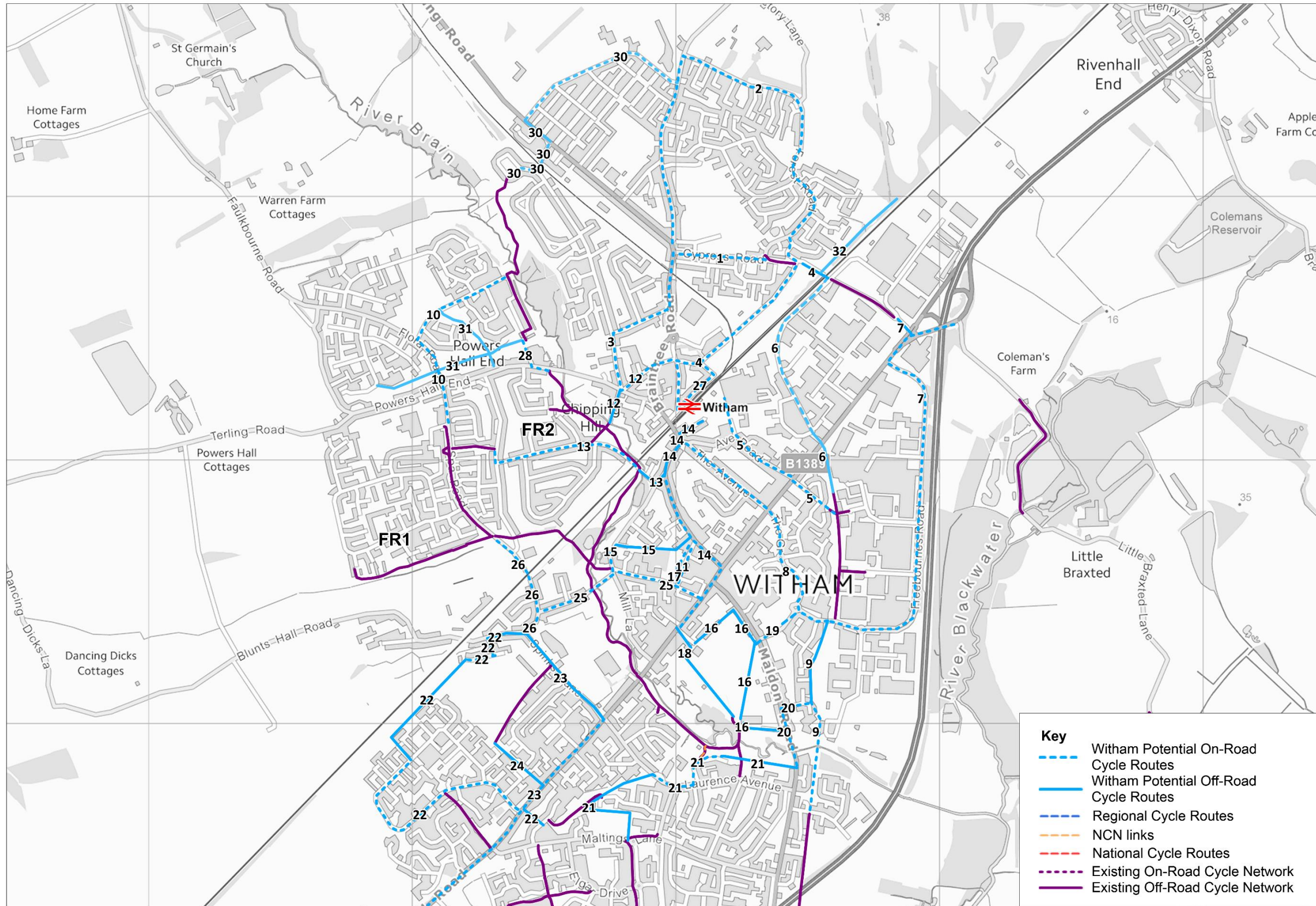
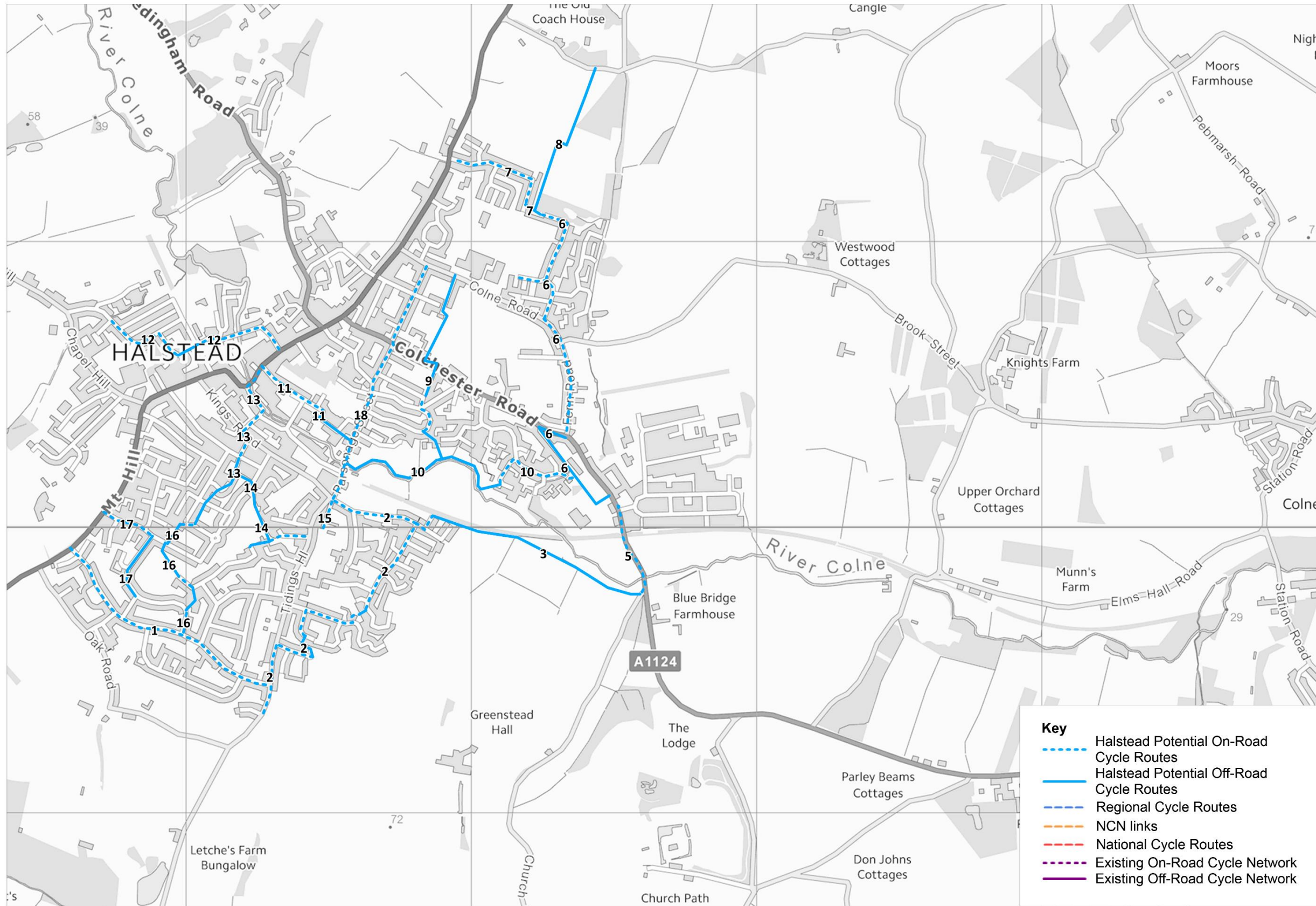




Figure 6.4: Existing and Potential Cycle Routes in Halstead



## 7 Prioritisation and Costings of Potential Schemes

### 7.1 Prioritising Schemes

The potential schemes have been prioritised according to four criteria of their design:

- Deliverability;
- Directness;
- Extension of existing network; and
- Key attractors.

A score of high, medium or low has been given for each potential scheme against each of the prioritisation elements. It was then possible to determine the overall prioritisation score for each scheme (again, scoring each potential scheme as high, medium or low).

### 7.2 Deliverability

The deliverability of a scheme has been assessed according to land ownership issues, which will determine how easy the scheme will be to deliver:

- H: High being a scheme that lies wholly within the highway boundary, straightforward to deliver, with no land ownership issues.
- M: Medium being any route that requires conversion of Public Rights of Way (PROW); and
- L: Low being any scheme which is likely to encounter private land ownership issues, or requires a singular large expense, such as a bridge.

### 7.3 Directness

The directness of the route is considered in terms of where it is proposed to provide access to, for instance a town centre or a railway station:

- H: High being a scheme that provides direct access, using as short a distance as reasonably possible, or could provide a real improvement on the corresponding car journey time;
- M: Medium being a link route, providing access to the main radial cycle route(s);
- L: Low being indirect routes, which are routed along relatively longer distances.

## 7.4 Extension of existing network

The extent to which a potential route extends the existing network is considered against this criteria:

- H: High being a route which extends, or fills a gap in, the existing network;
- L: Low being a route which is isolated and/ or unlinked to the existing network.

It should be noted that in some urban areas, for example Halstead, there is little or no existing network to connect to, so most of the potential schemes will achieve a low score in this case.

## 7.5 Key attractors

Under this criteria, the number of key attractors that a route connects is considered. Key attractors include town centres, other urban areas, railway stations, secondary schools/ education facilities, employment (including hospitals), and leisure destinations (parks, sports centres, etc.). The scoring is undertaken as follows:

- H: High being a route which connects to three attractors;
- M: Medium being a route which connects to two of these attractors; and
- L: Low being a route which connects to none (or just a leisure destination) of these attractors.

Within this criteria, town centres and railway stations are considered to be the most important attractors, so if a route connects to both it is likely to score high rather than medium. On the converse, leisure destinations are considered to be less important, so may attract a lower score.

## 7.6 Overall prioritisation

Once a score has been obtained for each of the four criteria (Deliverability, Directness, Extension of Existing Network and Key Attractors), its overall prioritisation can be determined, giving an overall score of low (L), medium (M) or high (H). As a general rule, the most frequent score obtained across the four criteria will be the resulting overall score. Where there are an equal number of different scores, there may be some element of subjective judgement used to decide the overall result.

The resulting prioritisation for each of the potential schemes is shown in Table 7.1.

## 7.7 Estimated costs of potential schemes

As with the prioritisation, the costs of the potential schemes are rated on a low (L), medium (M), high (H) and exceptionally High (H+) scale. The 2017 cost estimates relate to the following broad ranges:

- L: Low being less than £100,000;
- M: Medium being within the range £100,000 to £500,000;
- H: High being within the range £500,000 to £1,000,000; and
- H+: Exceptionally High being more than £1,000,000.

The outline costs are indicative of a feasibility proposal stage costing, prior to detailed surveys being undertaken for design and construction. Costs exclude the following:

- VAT (costs are exclusive of VAT);
- Land costs, legal fees, Highways consultation;
- Construction on contaminated land;
- Diversion of services;
- Landscaping; and
- Access roads for construction.

Realistic unit costs have been derived for each of the elements that are identified in the potential schemes and they have been applied to a length of route where appropriate and as a series of elements to enable the overall cost of each scheme to be built up. The resulting estimated cost for each scheme is included in Table 7.1, Table 7.2 and Table 7.3.

Table 7.1 Costs and Prioritisation of Potential Braintree Cycle Schemes

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
<b>Braintree</b>					
1	Notley Road, between south of the A120 to Masefield Road	Create link from south to centre and provide better residential access to cycle network, with connection between Flich Way and areas to the south of Braintree town centre, as well as connecting to existing off road network south of A120.	Footway conversion* to shared use on northbound footway, from existing off-road cycle lane south of A120 to Masefield Road. Suitable cycle crossing to be provided of Notley Road (Sustrans recommends zebra crossing shared with cyclists), south of Masefield Road junction. Parapet height to be raised above 1.4m on bridge. Route connects existing off road network to town centre and station by connecting to potential routes 3 and 4, providing a link also to the Flich Way. Route also provides improved cycle access to Notley High School & Braintree Sixth Form and John Ray Infant School.	H	L
2	Milton Avenue/ Goldingham Drive/ Park Drive	On road route through quiet residential area. Lightly trafficked routes provide a good opportunity to develop a safe on road cycle network	Signed quietway along Milton Avenue, Goldingham Drive and Park Drive.	L	L
3	Challis Lane and Masefield Road	On road through quiet residential area. Lightly trafficked routes provide a good opportunity to develop a safe on road cycle network	Signed quietway along Masefield Rd and Challis Lane. Signed footpath conversion* to shared use east of Challis Lane/Skitts Hill/Park Drive junction	L	M
4	Rifle Hill, Hillside Gardens, Stephenson Road, Buckwoods Road, Orchards Drive	On road through quiet residential area. Lightly trafficked routes provide a good opportunity to develop a safe on road cycle network	Signed quietway from Rifle Hill, Stephenson Rd and Buckwoods Rd.	L	L
5	Orchard Drive	On road through quiet residential area. Lightly trafficked routes provide a good opportunity to develop a safe on road cycle network	Signed quietway along Orchard Drive	L	L
6	Duggers Lane/ Skitts Road	On road through quiet residential area. Lightly trafficked routes provide a good opportunity to develop a safe on road cycle network	Signed on road provision along Skitts Rd from junction with Challis to roundabout with Mill Park Drive. Signed quietway along Duggers Lane.	L	L
7	Mill Park Drive to Braintree Freeport rail station	Connection between residential areas (and potential on road quietway network), with Braintree Freeport and station.	Signed on road advisory cycle lane along Mill Park Drive from Skitts Hill to connect to the existing network over the railbridge to Braintree Freeport Station.	M	L
8	Mill Hill between B1018 and Megs Way	Connection between residential areas across railway track, with links to existing off road cycle network	Footpath* link to allow cyclists from Mill Park Drive to Megs Way. Signed quietway along Megs Way to Mill Hill/B1018 roundabout.	H	L
9	Braintree Station/Rose Hill/Skitts Hill		Signed footpath conversion* to shared use on PROW 68_80 and 68_81 from Braintree Station along River Brain eastwards to Rose Hill. Widen small bridge over the Brain to southeast rear of station- potential width issues. Signed and marked advisory route on Rose Hill and Skitts Hill to the roundabout. Enhance Rose Hill/Skitts Hill roundabout for cyclists. Scheme will connect with Station Approach.	H	M
10	Manor Street/Benfield Way		Sign and mark on-road advisory cycle lane on Manor Street between B1256 and Benfield Way. Enhance Benfield Way/Manor St junction for cyclists. Potential to add toucan crossing on Manor St to gain access to Rose Hill via the existing public walkway (convert steps to ramp). Signed quietway on Benfield Way to join to existing cycleway from Benfield Way to Trotters Field.	H	L
11	Clockhouse Way (NE/SW)		Signed footpath conversion* to shared use from Anglia Way to Clockhouse Way via PROW 68_87 and 68_104. Potential width issue. Route continues along signed quietway on Clockhouse Way to Cressing Rd.	M	M
12	Cressing Road		Signed and marked advisory cycle lane on Trotters Field and along Cressing Rd between Trotters Field and Bishops Avenue Slip road. Potential footway conversion* to shared use on the southbound side of Cressing Road between Bishops Avenue Slip road and Stubbs Lane. Route includes	H	M

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
			short on-road section on Stubbs lane to join existing cycle path on Millenium Way.		
13	Bartram Avenue South/ Gulls Croft/Twelve Acres		Signed quietway along Bartram Avenue South to potential footway conversion* to shared use, and signed quietway on Gulls Croft and Twelve Acres to existing shared cycleway. Potential land ownership issues as the remote footway requires widening.	M	L
14	Charter Way		Signed footway conversion* to shared use on Charter Way providing link between existing cycle routes, passing Braintree Freeport Station	H	M
15	Chelmer Rd/Cressing Rd/ Beckers Green Rd		Signed footpath conversion* to shared use along PROW 68_136 north of the B1018 Millenium Way/Charter Way roundabout to Mersea Fleetway. Potential Highway Boundary issues. Signed quietway along Mersea Fleetway and Chelmer Rd to Cressing Rd. Enhancement of Chelmer Rd/Cressing Rd. Signed and marked advisory cycle lane along Cressing Rd to Beckers Green Rd. Signed quietway along Beckers Green Rd to join existing cycle network.	M	L
16	A120 between Cressing Road and B1018 Millenium Way		Signed footway conversion* to shared use along the A120 from Cressing Rd to Millenium Way. Potential land ownership issues if footway requires widening.	M	M
17	Beckers Green Road to Cressing Road		Signed footway conversion* to shared use from Beckers Green Rd to Cressing Rd. Potential land ownership issues if requires widening.	L	M
18	Coggeshall Road between Bridport Way Junction and Bartram Ave North		Signed and marked on-road advisory cycle lane on Coggeshall Rd from Wheatley Avenue to Bartram Avenue North. Signed footway conversion* to shared use on the westbound side of Coggeshall Rd from Bartram Avenue North to existing cycle path west of Bridport roundabout. Advance stop lines at key junctions (Wheatley Avenue, Cressing Rd, Marlborough Rd). For the remainder of Coggeshall Road traffic calming and speed reduction measures required to ensure this high demand cycling corridor is fit for purpose.	M	M
19	Vernon Way and Rayleigh Close		Signed quietway along Vernon Way (Mountbatten junction) and Rayleigh Close to the existing remote footway (convert to shared use) that joins to the existing cycle route.	L	L
20	Mountbatten Rd		Signed quietway along Julien Court Road to potential footpath conversion to shared use along PROW 68_147. Potential width issues. Signed quietway along Marlborough Rd from Beaufort Gardens to Vanguard Way, Mountbatten Rd to Coggeshall Rd (traffic calming measures in place-speed bumps). Enhance Mountbatten/Coggeshall Rd junction for cyclists. Signed quietway on Wheatley Avenue, to the footpath conversion* to shared use from Cunnington Road to Bartram Avenue South via PROW 68_113. Potential width issue.	M	L
21	Essex Rd, Connaught Gardens, Edinburgh Gardens, Beatty Gardens		Signed quietway to green space at Wellington Close from Marlborough Rd via Essex Rd, Connaught Gardens, Edinburgh Gardens. Potential signed remote footway conversion* to shared use across the green space to Mountbatten Rd via signed quietway at Beatty Gardens. Potential land ownership issue if footpath requires widening.	L	L
22	B1053/River Mead Rd, Blackwater Way, Julien Court Rd, Courtauld Rd		Signed and marked quietway from Julien Court Rd via Valley Rd and Blackwater Way. Signed remote footway conversion* to shared use north to River Mead. Potential signed footway conversion* to shared use on northbound side of River Mead Rd to Convent Hill.	M	M
23	Albert Rd /Coggeshall Rd /Keeble Way		Signed quietway connecting Manor St to existing cycle route across Keeble Way, via Albert Rd. Potential signed footway conversion* to shared use on Coggeshall Rd from Albert Rd to Keeble Way, and signed quietway along Keeble Way. Potential width issues on Coggeshall footway.	M	L

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
24	Coggeshall Rd to Courtauld Rd		Signed remote footway conversion* through the Park past Bocking Place from Courtauld Rd to existing cycle route to Coggeshall Rd.	H	M
25	The Avenue, School Walk, Woodfield Rd, Mount Rd		Signed quietway along The Avenue and School Walk. Possibility to add tiger crossing of Coggeshall Rd to allow cyclists to reach existing cycle path north of The Avenue. Enable cycling along existing pedestrian link between School Walk and Market Place. School Walk is currently one way westbound for vehicular movements. Enable two-directional on-road cycling along this link after reviewing highway constraints. Route also extends on-road from Woodfield Rd to Mount Rd (south). Allow cyclists to cross Woodfield Rd to Mount Rd (south).	H	L
26	Manor St		Signed quietway on Manor St from Market Place to Mount Road to join the existing contraflow route on Manor St from Mount Road to the B1256.	H	L
27	High Street		Signed and marked on-road advisory cycle lane from South St to Peirrefitte Way junction via Fairfield Rd, Market Place, Great Square and High St. Potential contraflow cycle route on western side of High St. Advance stop lines on western side at junction.	H	L
28	London Road, between Tortoiseshell Way and Clare Rd (via Flich Way)		Signed on-road advisory cycle lane on London Rd between Clare Rd and Tortoiseshell Way. Traffic calming measures will be required to reduce speed on London Rd to align recommendation with Sustrans guidance. Potentially remove on-street car parking and improve junction at Flich Way end to enable cyclists to access Flich Way directly from London Rd.	H	L
29	Footpath between London Rd and Pod's Brook Road		Signed footway conversion* to shared use running parallel to A120 from London Rd to Pods Brook Rd. Potential land ownership issues.	L	M
30	Pods Brook Road south of roundabout with Rayne Rd		Removal of grass verge to create new off-road cycle track along Pod's Brook Rd from end of footpath (Scheme 30) northwards to Raynes Rd roundabout.	M	M
31	Guernsey Way and around Barens Packaging.		Signed quietway along Guernsey Way and around Barens Packaging.	M	L
32	Flich Way to Rayne Road		Signed footpath conversion* to shared use along PROW 68_108 parallel to River Brain from existing cycle route on Flich Way northwest to Rayne Rd.	M	M
33	Springwood Drive, between Raynes Rd and Xpect Health & Fitness (to connect with existing off-rd cycle route)		Signed on road advisory cycle lanes along Springwood Drive from Rayne Rd to the Club House.	M	L
34	Swinbourne Drive		Signed quietway on Swinbourne Drive from Springwood Drive. Potential land ownership issues as Swinbourne Drive is private. Signed footpath conversion* to shared use on PROW 68_62 and 68_62 to join existing cycle network from Swinbourne Drive.	M	L
35	Clare Rd (between B1256 and Pods Brook Road) and footbridge		Enhance and sign footbridge conversion to shared use over Pods Brook Rd (PROW 68_108). Advisory on-road provision from the footbridge along Clare Rd to the Pierrefitte Way. Remove kerbing where necessary. Enhance junction for cyclists, including advanced stop lines.	M	H+
36	Peel Crescent/footpath/Tabor Avenue/Porters field		Signed footway conversion* to shared use through the green space from Porters Field to Tabor Avenue. Private land therefore possible land ownership issues. Signed quietway on Tabor Avenue, and signed footpath conversion to shared use (PROW 68_122). Potential width issues, and prohibition of cycling should be removed. Route continues on signed quietway along Peel Crescent to Rayne Rd.	H	M
37	Tabor Avenue and Coldnailhurst Avenue		Signed and marked on-road route along Tabor Avenue (quietway), and enhance Tabor Avenue/Panfield Lane roundabout for cyclists. Signed and marked advisory cycle	H	M

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
			lane on Coldnailhurst Avenue to Meadowside. Consider cycle track creation from Meadowside to B1053 Church Lane.		
38	Panfield Lane		Consider traffic calming measures and re-allocation of road space along Panfield Lane and create space for people who cycle for example advisory cycle lanes.	M	M
39	Sunnyside and Aetheric Rd		Signed quietway on Sunnyside and Aetheric Road from Rayne Rd to Panfield Lane	M	L
40	B1256 Rayne Rd/Bocking End		Sign and mark advisory cycle route along B1256 Rayne Rd between Peel Crescent and Bocking End. Pierrefitte Way/B1256 junction enhancement required for cyclists (advance stop lines). Remove parking on eastbound side of B1256 Rayne Rd between Peel Crescent and Aetheric Rd. Raise carriageway level to create a new public realm in which the 'car is guest' along the one way Street of Bocking End from Rayne Road. Alternatively install bollards and close route to vehicles. Advisory route on two-way Bocking End to continue until St Peter's Road.	H	L
41	Panfield Lane to Rana Drive via off road paths		Signed footpath conversion* to shared use from Panfield Lane to Rana Drive (PROW 68_135 and PROW 68_66). Private road and therefore possible land ownership issues. PROW 68_66 may be subject to potential width issues and removal required of Prohibition of Cycling. Route continues on-road along Rana Drive westwards to join existing cycle network.	M	M
42	Pierrefitte Way		Signed advisory cycle route along Pierrefitte Way from Rayne Road to London Road junction. Junctions at London Road and/ or Rayne Road to be enhanced with innovative cycle priority. Traffic calming measures will be required to reduce speed on Pierrefitte Way to align recommendation with Sustrans guidance	H	L
43	Coldnailhurst Avenue to Panfield Rd (month)		Signed footpath conversion* to shared use (PROW 68_47) from Panfield Lane to Bailey Bridge Road route continues as Quietway along Meadowside to Coldnailhurst Avenue. Potential Highway Boundary issue- further study required.	M	M
44	Glebe Ave		Signed quietway on Glebe Avenue from Oakley Rd to Baily Bridge Rd, and along Bailey Bridge Rd to Queens Rd.	M	L
45	Queens Road		Quietway on Queens Rd from Bailey Bridge Rd to Coldnailhurst Avenue.	M	L
46	Boleyns Avenue		Quietway on Boleyns Avenue from Coldnailhurst Avenue to Church Lane.	M	L
48	Wentworth Crescent		Signed and marked quietway connecting to existing network towards the town centre.	M	L
49	Bradford Street and PRow		Signed quietway along Rana Drive to the potential footpath conversion* to shared use along PROW 68_44, then onto quietway on Williams Drive, and along potential footpath conversion* to shared use along PROW 68_45 and Friars Lane. Route continues on-road along Bradford Street and Phillips Chase -to potential- footpath conversion to shared use along PROW 68_53 to join Scheme 22.	M	L
50	Trinovantian Way/Wickham Crescent/Rose Hill		Continued potential advisory route along Trinovantian Way from Scheme 10, onto a signed quietway along Wickham Crescent to potential footpath* conversion to shared use along PROW 68_92, to potential advisory cycle lane on Rose Hill to join Scheme 9. Further feasibility study is required for this route.	M	L



Table 7.2: Costs and Prioritisation of Potential Witham Cycle Schemes

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
<b>Witham</b>					
1	Cypress Road		Signed Quietway on Cypress Rd from Braintree Rd to Forest Rd. Enhance Cypress Rd/Braintree Rd roundabout for people that cycle.	M	L
2	Forest Rd and Rickstones Rd		Signed and marked advisory on-road cycle lane on Rickstones Rd and Forest Rd to Mulberry Gardens and allow cyclists on Motts Lane to connect to national cycling route.	M	L
3	Braintree Rd, Chalks Rd, Church St		Signed on-road provision (shared carriageway) on Braintree Rd from Cypress Rd roundabout to Chalks Rd, Chalks Rd and Church St to Chipping Hill.	M	L
4	Braintree Rd, Albert Rd, Cut Throat lane, Motts Lane		Signed on-road provision on Braintree Rd from Albert Rd to Cut Throat Lane (quietway). On road cycle route continues along Cut Throat Lane following alignment of NCN 16, although it is noted that this road is narrow, so exact provision will need to be determined through further investigation	H	L
5	Station Road, Avenue Rd (between station Road and B1389)		On road provision along Chess lane from existing cycle path. Chess Lane is narrow and exact provision will need to be determined. Add a suitable crossing of B1389 to enable safe access to Avenue Rd (tiger?). Signed on-road quietway provision along Avenue Rd and Station Rd leading to the rear of Witham Station.	H	M
6	Blackwater Rail Trail / Eastways		Extension of current off-road cycle network from Blackwater Rail Trail, under B1389 Colchester Rd to Eastways. Signed quietway along Eastways to existing cycle track on Motts Lane.	M	M
7	Freebournes Road to B1389, B1389 between Freebournes Road and Eastways		On road advisory cycle lanes along Pastures Road and Freebournes Rd. Carriageway is wide, so reallocation of road space to favour people who cycle would be beneficial. Vehicle speeds to be determined and measures may be required to reduce vehicle speeds to improve conditions for cyclists. Enhancement of B1389/Freebournes Rd junction to improve for cyclists, and addition of junction crossings on B1389 for cyclists to connect with NCN16. Existing on street parking may be problematic.	M	L
8	The Avenue, the Grove, Pastures Rd		On road advisory cycle lane along The Avenue, in combination with traffic calming/ speed reduction measures. Potential to utilise grass verge to provide a segregated facility if speeds can't be reduced as required. Enhance The Avenue/B1389 Colchester Rd junction. On road advisory cycle lane continues along The Grove Route connects to potential on-road advisory cycle lanes on Pastures Lane (scheme 7) and onwards to the Blackwater Rail Trail.	H	L
9	Green route via Pastures Way and Blackman Way and Constance Close		Signed remote footway conversion* to shared use from Pastures Rd south to Blackman Way through green space. Widen and surface path through green space crossing Blackwater Lane to Constance Close and convert to shared use. Path crosses Blackwater Lane running south to Constance Close. Enhancement and widening of bridge over River Brain may be required.	M	H
10	Spa Road, Flora Road, Bramble Road section		Extension of the existing signed and marked off-road cycle path along Spa Rd, from vicinity of Brain Road to Powers Hall End. There is potential to provide hybrid on-road cycle routes through reallocation of carriageway and utilisation of wide grass verges to a continental standard). Enhance the Powers Hall End/ Spa Road junction by making crossings of Powers Hall End suitable for cyclists (tiger?). Route continues along Floral Road, where introduction of traffic calming measures to reduce vehicle speeds would enable on road cycle lanes to be provided as per Sustrans guidance. Without a reduction in vehicle speeds, a segregated cycle lane should be provided, which would require reallocation of grass verges. Route continues along Brambles Road, where an on road advisory cycle lane could be provided to connect with existing cycle path.	M	H

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
11	Newlands Drive one way gyratory		Signed advisory cycle lane on Newlands Drive (one way gyratory)	M	L
12	Moat Farm Chase and White Horse Lane		Signed footpath conversion* to shared use from River Brain to Chipping Hill via Moat Farm Chase (PROW 121_88). Suitable crossing of Chipping hill required for cyclists (tiger) further study required. Signed quietway along White Horse Lane crossing B1018 Braintree Rd. Toucan crossing on B1018 to provide continuous route along White Hart Lane.	M	M
13	Armond Road section		Signed and marked advisory cycle lane on Armond Rd from Guithavon Valley to Highfields to connect to existing cycle path off Highfields Rd. Enhancement of junction at Armond Rd and Highfields Rd for cyclists.	M	M
14	Easton Road, Collingwood Rd, B1389 Newland St		Signed quietway on Easton Rd from B1018 Braintree Rd to Witham Station access. Footway conversion* to shared use from Easton Rd to The Avenue/B1018 roundabout and tiger crossing of The Avenue to continue route along B1018 Collingwood Rd. Potential signed footway* conversion to shared use of B1018 Collingwood Rd from The Avenue roundabout to Guithavon Valley Rd. Signed and marked advisory cycle lane along B1018 Collingwood Rd to Newland St, and Newland St from B1018 Collingwood Rd to Kings Chase. Provide advanced stop lines along Newland St and at key junctions (B1018 Collingwood Rd/B1389 Newlands Drive and Maldon Rd/B1389).	H	L
15	Guithavon Valley section between its junction with Guithoven St and Cockram Lane and Cockram Lane.		Signed on-road provision on Guithavon Valley between Guithaven St/junction and Lockram Lane. Suitable enhancements required to enable cyclists to safely cross/turn right from Guithavon Valley to Lockram Lane. Signed E-W footpath conversion* to shared use from Lockram Lane to B1018 Collingwood Road (PROW 121_89). Potential width issue, therefore further study required.	M	M
16	Recreation Ground		Signed footway conversion* to shared use around perimeter of the recreation ground from Kings Chase to Maldon Rd.	M	M
17	Newlands Drive one way gyratory		Signed advisory cycle lane on Newlands Drive (one way gyratory)	M	L
18	Recreation Ground		Signed footway conversion* to shared use through the recreation round from north west entrance south eastwards to existing cycle route leading to Laurence Avenue.	H	M
19	The Grove		Suitable crossing required on B1018 Maldon Rd near entrance to recreation ground (tiger). Signed advisory cycle lane along Grove Rd from Maldon Rd roundabout to Pasture Rd roundabout.	M	L
20	River View and B1389 between Blackman Way and River View		Signed quietway along Blackman Way from Scheme 9 to advisory cycle lane on Maldon Rd to the footpath south of River Brain.	M	L
21	Pattison Close, Lawrence Ave, link via Dengie Close		Signed footpath conversion* to shared use from Maldon Rd to Pattinson Close via PROW 121_90. Signed quietway along Pattison Close and advisory cycle route along Laurence Avenue to Howbridge Rd south of Pinkham Drive. Footway conversion* to shared use from Howbridge Rd westwards north of Dengie Close and around the nursery, around the football pitches and south to Maltings Lane. Resurfacing and widening of path may be required to improve conditions for cyclists- likely to need land from BDC to widen footpath.	M	M
22	Allectus Way. Blunts Hall Road , Stevens Road to Highfields Road		Signed footway conversion* to shared use from Town End Field to B1389 Hatfield Rd via PROW 121_91. Suitable crossing for cyclists across B1389 Hatfield Rd (tiger) should be considered- further study required (PV^2). Quietway along Allectus Way from B1389 Hatfield Rd to Deford Rd. Signed footpath conversion* to shared use via PROW 121_117 to Stevens Rd. Potential width issue and therefore required further study. Replace steps at Stevens Rd to PROW 121_117 with ramp. Signed quietway on Stevens Rd. Signed and widened footway conversion* to shared use on the westbound side of Blunt Halls Rd to Spinks Lane.	M	H

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
23	Hatfield Road section between Howbridge Road and Maltings Lane. Spinks Lane		Signed footway conversion* to shared use on southbound side of Spinks Lane from Blunt Halls Road to B1389 Hatfield Road. Provide suitable crossing (tiger) of Spinks Lane to connect with potential Scheme 22 on Blunt Halls Rd. Convert pelican crossing at Hatfield Rd to toucan crossing.  Route continues along Hatfield Road, where a reduction of centre line hatching on Hatfield Rd between Howbridge Rd and Maltings Lane would create space for potential mandatory cycle lanes. Future potential to extend the route into the town centre.	H	M
24	Footpath from B1389		Footway conversion* to shared use from B1389 Hatfield Rd to Bramston Sports Ground to connect to existing cycle route. Convert zebra crossing to a tiger crossing for cyclists on Hatfield Rd.	M	M
25	Guithavon Road, Guithavon St to Newland Street.		Signed quietway on Guithavon Rd from Blunts Hall Rd to Guithavon St. Junction enhancement required to ensure safe for cyclists cycling to Guithavon St. Advisory on-road cycle lane along Guithavon St to Newland St.	H	L
26	Highfields Road		Introduce traffic calming measures to reduce vehicle speeds along Highfields Road. This would enable on-road advisory cycle lanes to be utilised along Highfields, between Spinks Lane and Spa Road where route connects with existing shared use footway conversion along Spa Road.	H	L
27	Albert Road and Braintree Road section (between both Albert Road junctions)		Consider 'Cycle Street' on the one-way Albert Rd from Cut Throat Lane to Braintree Rd. Rail station needs signage to indicate northbound cyclists to go via Braintree Road and southbound cyclists to go via Easton Road or Station Road to avoid busy junction at the station.	M	L
28	Powers Hall End section between existing off road routes opposite Saxton Drive and River Brain		Signed quietway from existing cycle route to Powershall End, along Powershall End to existing route on the southside of Powershall End. Suitable crossing should be considered for safe crossing of Powershall End (toucan?)	H	L
29	Hatfield Road between Gershwin Boulevard roundabout to Maltings Lane		Continuation of mandatory cycle lane 23. Reducing central hatching would create required width. To be provided from Hatfield Road/Gershwin Boulevard to Maltings Lane.	M	L
30	Ebenezer Close/Cressing Road/Conrad Road		Signed quietway along Ebenezer Close to existing bridge over the railway line. Ensure this bridge is suitable for shared use by pedestrians and cyclists-enhancements may be required. Route then joins Cressing Road, which is currently an overgrown track and so may require improvements to provide a comfortable cycle track. At B1018 Cressing Road, vehicle speeds dictate that physical segregation is necessary, so convert existing zebra (southeast of Cressing Road/Cressing Road (main)) junction to a toucan and relocate further north west. Create a new footway conversion* to shared use on southeastbound side of Cressing Road by reallocating grass verge, as far as Conrad Road. Along Conrad Road, route continues as signed Quietway, providing a connection to potential scheme 2.	M	H
31	Footpath from Rosebay Close and PROW 121_66		Footway conversion* to shared use from Rosebay Close to Scheme 28, joined by subway to be converted to shared use, with ramp implemented for cyclists, and potential footpath conversion to shared use of PROW 121_66 from Bramble Road to Powers Hall Road. Enhancements and resurfacing of path required. Potential width issues.	M	H+
32	West of the Railway Line		New pedestrian/cyclist shared path through green field from Motts Lane north eastwards parallel to the railway line to new development (east of Yew Close). Potential land ownership issues.	M	M

Table 7.3: Costs and Prioritisation of Potential Halstead Cycle Schemes

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
<b>Halstead</b>					
1	White Horse Avenue from A131 Mount Hill to Tidings Hill		Signed and marked footway conversion* to shared use along White Horse Avenue from A131 Mount Hill to Tidings Hill. Crossing of side roads along the off road route should be cyclist-friendly.	M	M
2	Link from Grange Close to Firwood's Road along Tidings Hill. Highfields/ Stanstead Road/ Ravens Avenue		Signed Quietway along Tidings Hill from Grange Close to north of White Horse Avenue. Signed quietway route continues via Firwood's Rd to South Close, utilising a new footpath conversion* to shared use along PROW 88_23. Enhancement of intersection of Firwoods and the footway conversion will be required. Potential width issues that will require further study. Signed quietway route via Schools Close, Highfields, and remote footway conversion to shared use, linking to Stanstead Rd. Signed quietway along Stanstead Rd, Ravens Avenue and River Close to reach Scheme 3 (PROW 89_1)	M	L
3	Ravens Avenue to A1124 Colchester Road		Signed and resurfaced footpath conversion* to shared use from River Close to the A1124 via PROW 89_1, 88_26. Potential width issues that will require further study.	M	M
5	A1124 Colchester Road: J/W Church Road to J/W First Avenue		Signed on-road advisory route for cyclists along A1124 Colchester Rd from junction with Church Rd to junction with First Avenue. Traffic calming measures should be considered.	M	L
6	Fenn Road, Colchester Road J/W Fenn Road to existing PROW		Signed footpath conversion* to shared use from Central Park Warehouse development to A1124 Colchester Rd via PROW 89_26. Signed footway conversion to shared use on eastbound side of Colchester Rd from PROW to Fenn Rd. Suitable crossing for cyclists should be considered across A1124 Colchester Rd to connect potential cycling routes (tiger). Suitable crossing (tiger) of Fenn Rd. Route continues on-road as potential advisory route along Fenn Rd and Colne Rd to Coggeshall Way and Hawthorn Close (west). Signed quietway provision on Hawthorn Close to the footpath PROW 89_19.	M	H
7	Churchill Avenue/ Winston Way/ Hawthorne Close/ Coggeshall Way		Signed footpath conversion* to shared use from Hawthorn Close to Winston Way via PROW 89_19. Potential width issue which will require further study. Signed quietway on Winston Way, Churchill Avenue to the A131.	L	L
8	PROW from Hawthorn Close to Star Stile		Signed footpath conversion to shared use from Hawthorn Close northwards along PROW 89_19 to Star Stile as a leisure route. Potential width issue, and the route is through a nature reserve, which will require further consideration.	L	M
9	Kestrel Rise to Colne Road		N-S link from Colne Rd to River Colne route (Scheme 10) via predominantly off-road route utilising existing footpaths and PROWs. Signed footpath conversion* to shared use from Colne Rd to A1124 Colchester Rd via PROW 89_24. Potential width issue which will required further study. Suitable crossing for cyclists across Colchester Rd (tiger). Signed footway conversion* from A1124 Colchester Rd to Harvey St via Harvey St footpath. Harvey St footpath appears to be private and therefore potential land ownership issues. Signed quietway along Harvey St, Gardeners Rd connecting to River Colne via footway conversion* to shared use from Gardeners Rd past Kestrel Rise.	M	M
10	Parsons Bridge to Colchester Road		Signed footway conversion* to shared use along northern boundary of River Colne from Parsonage St to Nether Court. Signed quietway along Nether Court and Chaffinch Way to meet PROW 89_26 (Scheme 6).	M	M
11	Factory Lane East		Link from A131 High St to Parsonage Lane via signed quietway on Factory Lane East, and along remote footway conversion to shared use from Factory Lane East to Parsonage St.	H	L
12	Bridge Road/ Colne Valley Close/ Chapel Street		Route from A131 to Beridge Rd via signed quietway on Chapel St, signed footway conversion* to shared use over River Colne on Chapel St, signed footway conversion* to shared use from Butler Rd to Colne Valley Close, signed quietway on Colne Valley Close, and Beridge Rd to The Pippins.	M	L

Route ID	Route Name	Opportunity	Potential Solution – subject to Feasibility Study	Overall Prioritisation	Est. cost
13	Martin's Road/ Kings Road/ Factory Road West/ The Causeway		Signed quietway route from A131 High St along The Causeway, (a contra-flow for cyclists will be required in eastbound/ southbound direction) Factory Lane West, Kings Rd and Martins Rd. Route continues on a remote footway conversion from Martin's Road/ Neale Road to Mitchell Avenue.	M	L
14	Rayner Way to Mitchell Avenue		Signed quietway on Mitchell Avenue to join signed footpath conversion to shared use from Park Drive to Tidings Hill (PROW 89_4). Signed footpath conversion* to shared use also joins to Holmes Rd.	M	M
15	Parsonage St		On-road provision along Fairfield Way from Pasonage St (PROW 89_3)	L	L
16	Abels Road to Ramsey Road. Existing footpaths linking Ramsey Road to Neale Road		Signed footpath* conversion to shared use from Cutting Drive to Ramsey Rd via PROW 89_5. Signed footpath conversion to shared use from Ramsey Rd through green space to Juniper Close/Holmes Rd. Signed quietway on Juniper Close to footpath conversion to shared use to quietway on Abels Rd to White Horse Avenue	M	M
17	Abels Road and Ramsey Road		Signed quietway route from A131 Mount Hill to Abel Rd/Link Rd via Ramsey Rd, and signed and widened footway conversion to shared use along Abel Rd from Ramsey Rd to Link Rd.	L	M
18	Parsonage St/ Mallows Field/Pretoria Road		Signed on-road provision on Parsonage St, Mallows Field and Pretoria Road to Colne Road. Traffic calming measures should be considered to reduce speeds and make it safe for cyclists. Suitable crossing of Colchester Road should be considered.	M	L

## 8 Flagship Routes

### 8.1 Introduction

A Flagship Cycle Route is a key corridor providing safer, faster and more direct access to one or more key attractors (town centres, employment sites, education establishments, transport hubs, visitor attractions and existing/proposed developments). The routes will be on high demand corridors, be able to meet demand (both existing and potential), encourage a focus on innovation/design best practice and will include continental standard facilities, where appropriate.

It is hoped that a county-wide suite of Flagship Routes will be a focus for future funding, high quality infrastructure, design best practice and innovation.

### 8.2 Potential Flagship Routes in Braintree District

It is proposed that two Flagship routes for Braintree District are created: an East/West Flagship Route and a North/South Flagship Route. The routes meet at Braintree railway station and provide key links to the town centre and Braintree Freeport. The potential Flagship Routes are shown in Figure 8.1.

### 8.3 East/West Flagship Route

An East/West Flagship route can be created by upgrading the existing cycling network that runs along the Flich Way from Rayne in the West to Freeport (Millennium Way) in the East. Particular focus will be required linking Mill Park Drive to the traffic-free provision off Rose Hill.

This key spine route could benefit from upgraded provision and can be supplemented by improved connections to the north and south of town, the town centre, the station and various residential areas.

### 8.4 North/South Flagship Route

A North/South Flagship route can be created utilising some of the isolated existing provision within the town. Particular focus will be required linking the station to the town and where the route crosses Coggeshall Road. This flagship route would benefit from proposed contraflow arrangements around Braintree railway station.

This key spine route could be supplemented by improved connections to residential and employment opportunities in the north of the town, 'The College at Braintree', the station and the town centre.

## 8.5 Potential alternative Flagship Routes

The precise routings of the potential Flagship Routes is not yet fixed as they will be subject to further investigation before this can be finalised. It is noted in Section 3 of this report that some of the highest existing cycle flows in the District occur in the following locations: Cressing Road, Coggeshall Road; and Rayne Road, in Braintree.

To capitalise on, safely accommodate and encourage further, the existing high levels of cycle flow, these locations could be considered for an additional Flagship Route(s). This should be investigated when the exact route alignment is designed

## 8.6 Prioritisation of Flagship Routes

Both Flagship Routes have been considered against the four prioritisation criteria, as per the other potential schemes:

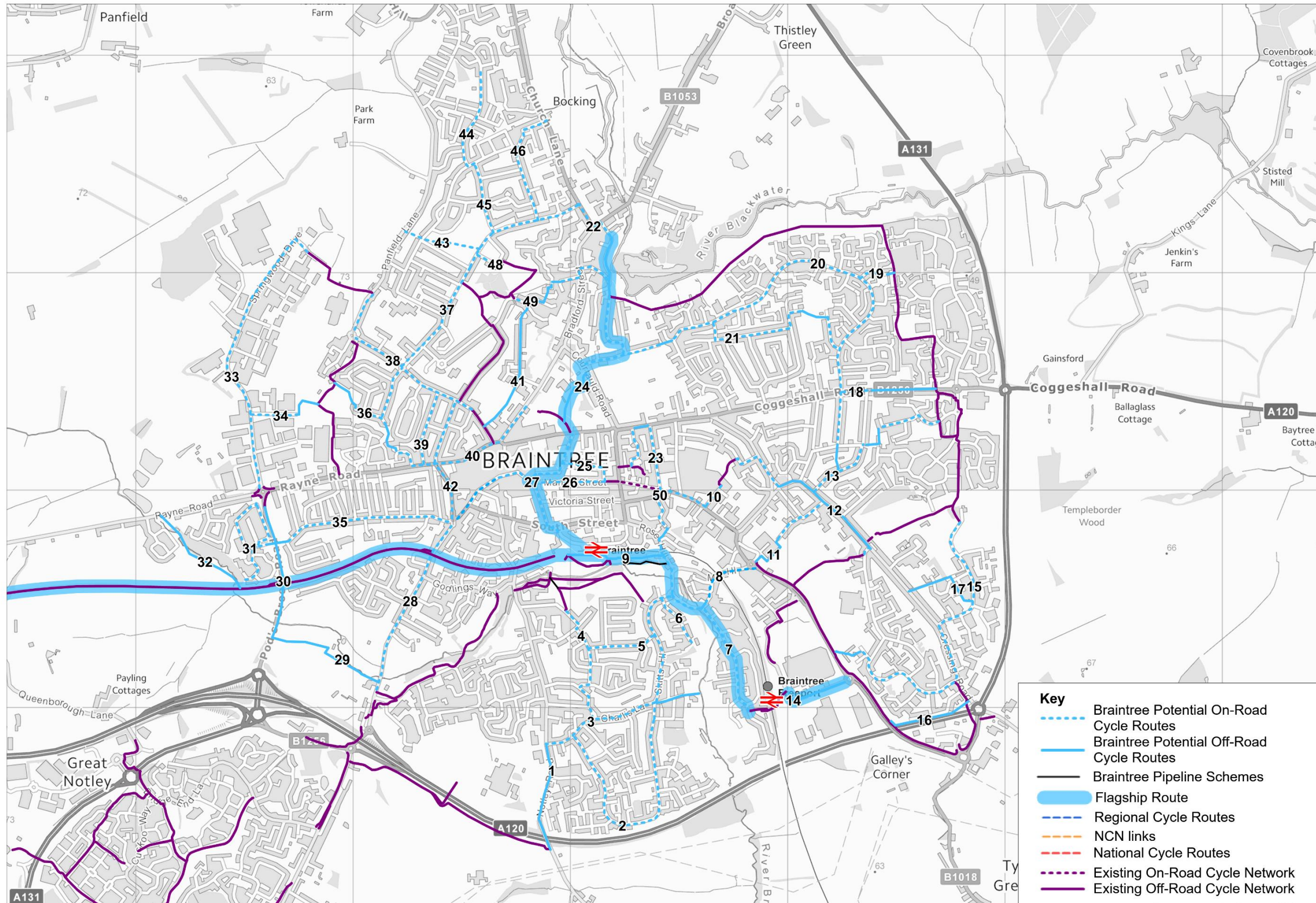
- Deliverability;
- Directness;
- Extension of existing network; and
- Key attractors.

For the East/ West Flagship Route, this assessment found that the route would be relatively easy to achieve, although there may be some Public Rights of Way issues to negotiate between Braintree station and Braintree Freeport station. The route is considered to be very direct but there are few connections to the existing network as it is sparse in that area of Braintree. It provides a direct link between the leisure opportunities afforded by the Flitch Way, Braintree station and Braintree Freeport. As such, this route would overall achieve a high prioritisation.

The North/ South Flagship Route similarly connects a number of key destinations (employment in the north, the town centre and Braintree station), by linking disparate parts of the existing cycle network, so providing a much more useful route. It is direct, relatively straightforward to deliver and connects to the existing network in a number of locations, so would also achieve a high priority.

The inference from the prioritisation exercise is that it supports the basis for identifying the Flagship Routes in the first instance, in that they are key corridors, providing important benefits for cycling in Braintree and should therefore be considered a high priority going forward.

Figure 8.1: Potential Flagship Routes for Braintree District





## 9 Smarter Travel Measures

### 9.1 Introduction

To ensure the potential for cycling is fully realised, new infrastructure must be accompanied by targeted promotion and events.

Local promotion of cycling should be increased to convince residents that cycling is a normal and accessible activity for all as well as highlighting the health benefits of cycling.

In addition, cycling has the potential to alleviate congestion by persuading people to replace a local car journey by cycling. This could include workplace travel planning in the town centres within the District.

### 9.2 Marketing and promotion

The Essex Cycling Strategy sets out a number of overarching themes for marketing and promoting cycling which are as follows:

#### 9.2.1 Cycle Essex

ECC are committed to running high profile campaigns under the “Cycle Essex” umbrella which aim to change the image of cycling in Essex, break down perceptual barriers, communicate a safety message and tie in with existing organisations such as Active Essex.

#### 9.2.2 High profile events

Essex has been successful in attracting high profile cycling events to the County that have been well attended by the public, such as hosting Stage 3 of the 2014 Tour de France. ECC would like people to continue to support these events but also give cycling a try through further mass event, car free days in town centres and bike festivals.

#### 9.2.3 Support for local initiatives

ECC recognise that Local initiatives are particularly effective at engaging with people on a personal level. Therefore they aim to empower Boroughs / Districts to promote cycling locally, support community providers / charities, support cycling clubs and ensuring that secondary schools, large employers, large council offices and major hospitals have up to date travel plans.

#### 9.2.4 Cycling Maps

Cycling maps (digital and on paper) aid in navigation and are an effective marketing tool for raising the profile of cycling. If the maps are legible, well

designed and effectively disseminated, they can be the nudge that is needed to motivate the 'near market' to start making some trips by bike.

In addition, in order to maximise the benefits of cycling maps, future cycling maps for Braintree should be designed with the following principles in mind:

- The maps should be prepared under the same design guidelines as the promotion of 'Cycle Essex'. This will help to raise their profile and visibility;
- Information included in the maps should correspond with the signage by the roadside;
- Include more information about local points of interest. This might encourage leisure cycling, local tourism and increase patronage to local attractions; and
- Widely distribute the maps (if more than one) in a bundle and on as many online and physical outlets as possible.

Furthermore, official and unofficial routes are also available through mobile phone apps, social media and specialised websites such as *mapmyride.com* and *strava.com*, which allows people to track their routes whilst cycling and share them on various platforms.

For example, there is some interest in cycling at a community level in the District, as demonstrated by the website *mapmyride.com* displaying over 1,700 routes in Braintree, more than 700 routes in Witham and more than 300 routes in Halstead, recommended by its users.

## 9.3 Potential Local Considerations

### Braintree

Cycling in Braintree is well established and many employment and leisure activities are based in the town. The profile and awareness of cycling has undoubtedly been enhanced by the district and outskirts of the town itself being included as part of Stage 3 of the Tour de France 2014. The town was also the start point of Stage 2 of the 2015 Women's Tour of Britain.

As well as the existing National Cycle Network, further recommended leisure routes have also been introduced by Essex County Council as part of the Cycle Essex scheme and connect Braintree to neighbouring villages and attractions.

Many more localised activities and clubs are also present in the town, including Braintree Velo, which are a competitive cycling club based in Braintree. The club enters numerous events and competitions within the local area. Additional clubs include the Forty Plus Cycling Club and the Essex Roads Cycling Club. The

national cycling charity CTC also has a strong presence within the town and offers weekly sessions and communal rides, all with an aim to improve cycle safety and numbers.

With a high number of local journey to work trips being made, a programme of targeted workplace travel planning should be implemented with a focus on cycling where network has been provided.

### **Witham**

Cycling in Witham is less established than in Braintree, although there are a number of schemes in place. For example, Witham Town Council has recommended a number of routes which utilise the existing signed network within the town, and Braintree District Council, in conjunction with the cycle charity, CTC is running events to encouraging cycling for leisure.

Witham is also home to Witham Cycling, a cycle club affiliated with the CTC, however the regularity of meetings and events is unknown.

### **Halstead**

Awareness of cycling in Halstead has been raised by the presence of high profile events within the vicinity of the town, including Stage 2 of the 2015 Women's Tour of Britain, and by Braintree District Council which has run events in conjunction with the CTC to encourage cycle use.

Although not part of the National Cycle Network, Essex County Council has included Halstead in its Cycle Essex scheme, with numerous recommended routes connecting it to neighbouring villages and sites of interest.

## 10 Delivery and Funding

### 10.1 Delivery

The recent Infrastructure Act (February 2015) places a commitment on the Government to produce a Cycling and Walking Investment Strategy. The strategy would specify the objectives to be achieved and the financial resources available. This new bill shows a change in the government's thinking and a clear commitment to providing for cycling as well as accepting responsibility for targets and funding.

The Department for Transport's Cycling Delivery Plan (October 2014) refers to a new national cycling target, to double the number of cycling stages (trips) nationally over a 10 year period. This new target will be adopted by Essex as part of this strategy.

The Government has also set a target of achieving an annual cycling spend of £10 to £20 per head of the population. In Essex this would equate to approximately £17million to £34million per year spent on cycling.

A step change in the provision of cycling infrastructure and promotion will require an increase in funding over and above the current level of funding for cycling in Essex. Essex County has committed to:

- Ensuring a consistent level of revenue and capital funding to support the delivery of this strategy;
- Increasing the level of funding in Essex from its current level of £2 - £3 per head of population to £10 per head of population by 2025;
- Increasing the utilisation and prioritisation of other funding sources such as developer contributions and central Government grants/allocations; and
- Developing a clear and cohesive methodology for the allocation of cycle funding across Essex Districts.

This will ensure that new proposals are not frustrated by a lack of funding and designers and promoters are set free to develop measures that will lead to a consistent growth in cycling numbers, frequency and safety.

## 10.2 Funding Options

There are a range of funding sources available for the potential schemes identified in the Cycling Action Plans which are as follows:

- Local Highways Panels (LHPs)
- South East Local Enterprise Partnership (SELEP) funding
- DfT Access Fund
- Local Growth Funds (LGFs)
- Section 106 (S106) monies

## 10.3 Funding for Braintree

The delivery of the potential schemes, soft measures and smarter travel measures will require additional funding and so for this cycling strategy to be successful, it is imperative that funding is provided and sustained over a number of years.

ECC Local Highway Panels are a source of capital funding for local highway schemes, and are an appropriate way for new cycle infrastructure to be funded.

Planning contributions from new developments are an important source of finance and can either provide funding towards new or improved cycle infrastructure in Braintree or if in the vicinity actually construct schemes as part of the development.

Current UK Government spending is £2.50 per person per year; the aim is to increase this to at least £10 per person per year by 2020/2021. Essex will also aim to spend £10 per person per year, with an initial increase to £5 by 2017.

The Government has a £6 billion Local Growth Fund for cycling and walking and wishes to reduce the administrative budget Local Authorities have to use in bidding for funding.

Other sources of funding also become available from time to time such as from the DfT. Therefore it is important that there are schemes readily available to be put forward for funding, should such opportunities arise.

In addition to the above, other possible funding options include:

- As part of road safety schemes;
- As part of health and safety schemes;
- Sustrans;
- Local growth funds;
- Network Rail and/or rail operating companies;
- Active Essex / Essex Health;
- SELEP Local Growth Funds for local sustainable transport programme;
- European Union funding (e.g. European Regional Development Fund and Rural Development Programme); and
- Acquire and investigate corporate sponsorship opportunities for any high profile public schemes/events.

## 11 Key Recommendations

In order to create an environment where cycling is normal for the residents of Braintree, existing barriers to cycling should be removed and a series of cycle routes provided with the aim of creating a connected cycle network over time. Cycling infrastructure should provide for both key utility journeys and encourage leisure cycling.

Analysis was undertaken to assess existing travel patterns, not only for cyclists but rail and car commuters as well. Alongside this, the propensity to cycle was also analysed to assess whether there were similarities between those that commute by other methods of travel and the areas where there is a high propensity to cycle.

The existing cycle networks in Braintree, Witham and Halstead should be developed and the following key recommendations can be made for cycle enhancements in Braintree District:

- A review of existing route signage and lighting;
- Maintenance of existing routes;
- Prioritise North – South and East-West Flagship routes, providing improved access to the town centre and railway station;
- Develop Flagship Routes through Feasibility Studies to Detailed Design;
- Promote and market Flagship Routes with ‘Cycle Superhighway’ style branding and disseminating techniques;
- Provide connectivity through town centres, particularly in an east / west direction. Braintree and Witham are particularly in need of these routes as there is little existing provision and these routes could connect key employment areas, rail stations and town centres with large residential areas. In addition, these routes attract the highest flows of car commuter traffic in the district;
- Provide new and improved cycle parking, with a focus on satiating the considerable demand for commuter trips at railway stations;
- Fill obvious gaps in the existing cycle-route network (on alignments with cycle-friendly topography);
- Provide new infrastructure on key roads with cycle-friendly topography but no existing facilities;
- Update the existing cycle map every two years taking on board new innovation in cycle-map design, and promote it and disseminate it widely through a range of channels and outlets

- Improve cycling infrastructure for access to Panfield Industrial Estate in advance of the Northwest masterplan and connect with Panfield Lane to the east and to the town centre;
- Provide better access to Flitch Way in Braintree and connect Flitch way with the key industrial employment area to the west side of town and a better connection at London Road;
- Enhance the Pierrefitte Way / Rayne Road junction and / or the High Street / Pierrefitte Way junction, potentially with innovative cycle priority in the form of advanced stop lines, toucan crossings and cycle priority traffic signals.
- Provide better cycle access to both Witham and Braintree rail stations, which currently have poor cycle access. This is particularly important at Witham as it has the high demand for rail use, particularly from the south; and
- Potential routes should improve connections with leisure cycling routes, in particular, Flitch Way in Braintree, Blackwater Trail in Witham and associated existing surrounding bridleways.

To ensure the potential for cycling is fully realised, new infrastructure must be accompanied by high profile and targeted promotion of cycling to ensure the full cycling potential is realised in Braintree District, particularly in urban areas. This should include the promotion of leisure cycling to take advantage of the green space within the District.

With a high number of local journey to work trips being made, a programme of targeted workplace travel planning should be implemented with a focus on cycling where network has been provided.