

Final Report:

For: **Guildford Borough
Council**



Guildford Cycle Route Assessments



By: **Transport Initiatives LLP &**

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Final report:



Guildford Cycle Route Assessments

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Checking and sign off	
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1. Introduction

1.1 Summary of study

In early 2018 Urban Movement (UM) and Transport Initiatives (TI) were commissioned by Guildford Borough Council (Guildford BC) to carry out a detailed feasibility study of the introduction of bike share in Guildford. At the time, the University of Surrey was committed to establishing a bike share scheme in and around its campus and this scheme was launched in August 2018. The council scheme would extend the area covered by bike share to a larger area within the town of Guildford.

During the bike share study, Guildford BC officers recognised that the success of any bike share scheme (and more generally the promotion of cycling overall) would be assisted if other complementary work on routes and cycle infrastructure were undertaken to significantly improve accessibility for safe cycling.

TI and UM were therefore commissioned in July 2018 to carry out a series of studies into cycling in the town. These comprised a Feasibility Study into Cycle Route Assessments, plus an audit of cycle parking (and survey of usage) in Guildford town centre and a review of direction signing.

The study was carried out in two main stages.

A. Assessment of existing provision

- i. Assessment of highway network based on Bikeability skill level, with colour coded map to show the necessary skills required to cycle around the town (based on Red/Amber/Green classification).
- ii. Proposed 'Green' and 'Amber' routes between key destinations (where possible)
- iii. Audit of existing cycle parking plus survey of usage
- iv. Review of cycle direction signs & general wayfinding

B. Identification of interventions

- v. Proposals for cycle parking
- vi. Production of a list of prioritised interventions to improve key routes connecting destinations or zones
- vii. Any other policy or infrastructure which will increase levels of cycling in Guildford and/or make cycling safer

1.2 Outputs

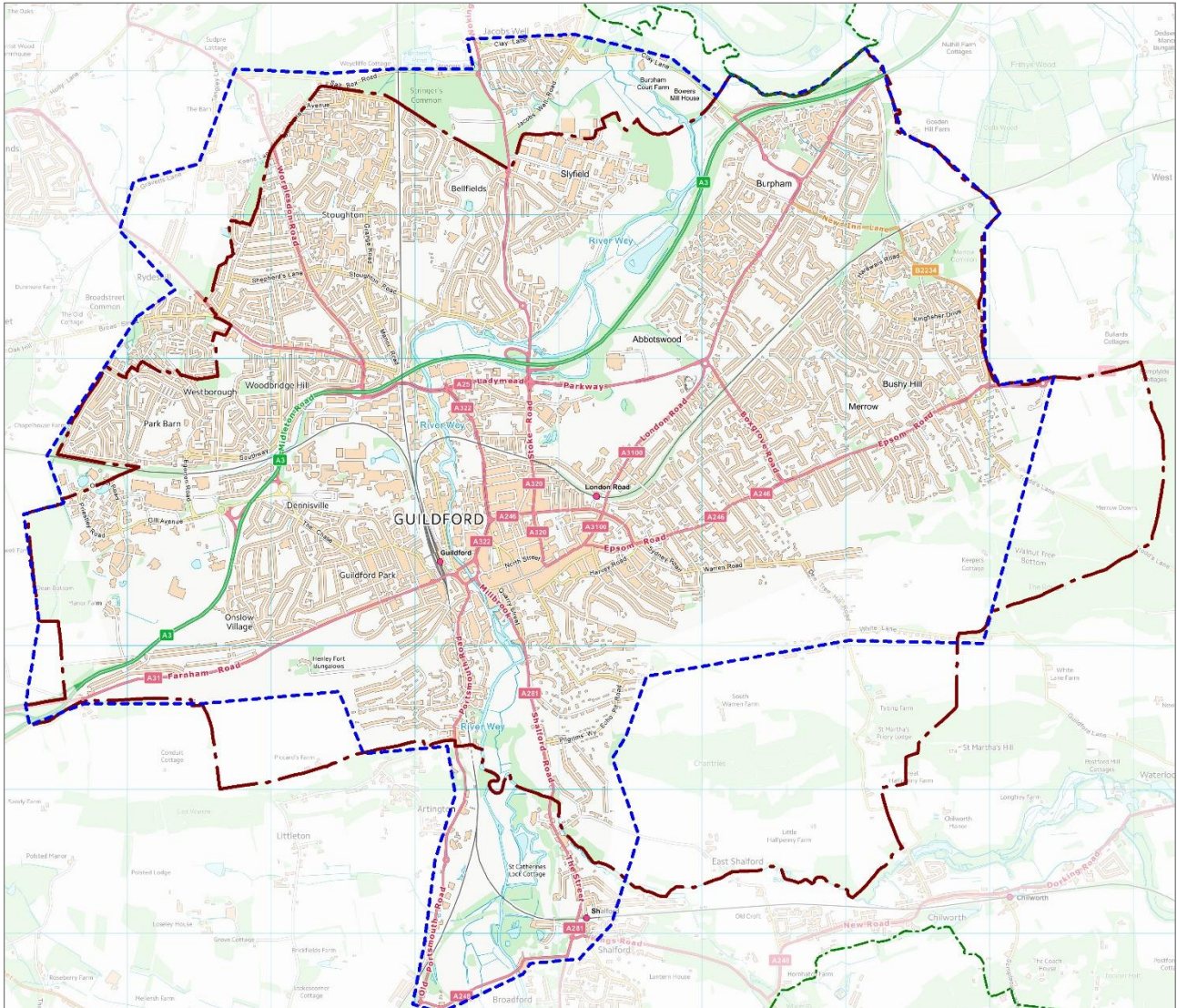
The outputs for the study are set out below:

- General findings of the study
- Details of Cycle Skills Network Audit (CSNA) roads, tracks and crossings plus analysis
- Cycle parking audit & usage survey with key issues
- Cycle direction signs & general wayfinding issues
- Recommendations for interventions, with costed & prioritised proposals for key interventions
- Any other key issues which are highlighted throughout the audit process.
- Stakeholder workshop and report of issues discussed
- Schedule of CSNA crossing data and existing / recommended cycle parking locations

In addition, stand-alone GIS layers (MapInfo .tab) were provided to Guildford BC with CSNA and all other geographical data.

1.3 Scope of feasibility study

The area covered by the feasibility study is shown in blue in Plan 1 below. It comprises the built-up areas of Guildford town itself (outlined in brown), plus small parts of the neighbouring parishes of Shalford to the south and Worplesdon to the north.



Plan 1. Study area (outlined in blue)



River Wey bridge, Shalford

2. Cycle network review

2.1 Cycle Skills Network Audit (CSNA)

The first step to improve cycle accessibility is to audit the current conditions for cycling and to map where particular barriers and opportunities exist. To ascertain this TI carried out a Cycle Skills Network Audit (CSNA) of Guildford town, covering its roads, paths and crossings. The survey area is shown in Plan 1 above.

The CSNA provides an assessment of the accessibility of an area for people cycling, on the basis of road safety and cycling skills. It classifies roads and off carriageway facilities usable by cyclists, by the Bikeability¹ standard that cyclists would need to have achieved to be able to ride on them in comparative safety. All formal pedestrian crossings on roads identified as having higher risk are also audited and classified.

The information provided by a CSNA can be used to:

- Identify barriers between areas, especially those that reduce cycling (and walking) accessibility – the audit includes assessment of crossings available to both cyclists and pedestrians
- Assess areas bounded by busy roads or physical barriers for their permeability for cycling (measured by the number of safe links which can be used by cycle)
- Identify roads where a more detailed study could be carried out, such as a Cycle Level of Service (CLOS) or Route Selection Tool (RST) audit
- Produce maps or guides for local cycle users enabling them to plan journeys based on their level of skill
- Target cycle training to schools where improved skills are most needed within their catchment areas. Content of training can be tailored to cover identified local hazards

2.2 Bikeability (National) Standard and Audit Levels

The CSNA process classifies each road, path/track and crossing using a system based on the three core levels of the National Standard for Cycle Training (Bikeability). This provides a clear view of routes suitable for use by people with varying attitudes to risk.

Level 1 – Beginner	<p><i>The cyclist has the skills and understanding to be able to make a trip and undertake activities safely in a motor traffic free environment and as a pre-requisite to a road trip.</i></p> <p><i>This will typically be a young child or adult who has only just learnt to cycle.</i></p>
Level 2 – Introduction to Riding on Road	<p><i>The cyclist has the skills and understanding to be able to make a trip safely to school, work or for leisure on quiet roads.</i></p> <p><i>This will typically be a child who has completed their Level 2 training in Year 5 or 6. It may also be an adult who is more risk averse, lacking confidence or experience.</i></p>
Level 3 – Advanced	<p><i>The cyclist has the skills & understanding to be able to make a trip safely to school, work or leisure on busy roads and using complex junctions & road features.</i></p> <p><i>This will typically be an experienced and more confident adult cyclist. It may also be a secondary age child who completed Level 2 training at primary school and has gained Level 3 skills either through further training or through continued experience gained by cycling in traffic.</i></p>

¹ UK National Standard for Cycle Training – <https://bikeability.org.uk/>

CSNA Levels – roads and paths

The three Bikeability Levels are used as the basis for eight CSNA road and path levels.

Level	Type of route	Suitability for cycle network
Potential Level 1	Motor traffic free off-carriageway routes where either: i. cycling is not permitted or ii. cycling is not possible due to physical restrictions (e.g. barriers) or lack of adequate surfacing	Potentially suitable for cycle route network
Level 1	Motor traffic free off-carriageway routes where cycling is permitted, plus a small number of “home-zone” type streets with low level of calmed traffic <i>NB not all cycle tracks alongside roads will be Level 1</i>	Suitable for cycle route network
Level 2	i. Roads on which a cyclist with Bikeability Level 2 skills (achieved through training or experience) can cycle comfortably and carry out all manoeuvres ii. Cycle tracks & other paths which require a degree of attention equivalent to that needed on a Level 2 road (e.g. <i>shared-use footways crossing frequent side roads or private accesses</i>)	Suitable for advisory and cycle route networks
Off-peak Level 2	Roads that during off-peak periods have Level 2 characteristics but during peak traffic periods have Level 3 characteristics <i>Peaks may be related to rush hour traffic or other specific reasons such as traffic to schools.</i>	May be suitable for advisory network Measures needed to become Level 2 to be suitable for cycle route network
Level 3	i. Roads on which a cyclist with Bikeability Level 3 skills can cycle and carry out all manoeuvres ii. Cycle tracks which require a degree of attention equivalent to that needed on a Level 3 road	Unsuitable for advisory network Measures needed to become Level 2 to be suitable for cycle route network
Beyond Level 3	Roads where level of risk is a barrier to even the most competent and experienced cyclists	Unsuitable for advisory or cycle route networks
Private	Private roads or lengths of a road with restricted access (usually equivalent to Level 2 if public roads)	Unsuitable for advisory or cycle route networks
Level 4	Roads where cycling is prohibited (e.g. motorways)	Outside scope of network

Table 1: CSNA road and path levels

All motor traffic free paths which can be legally used by cyclists or which would give advantage if used on foot or converted are identified and classified. Pedestrian and cycle crossings on roads which have been classified as needing above basic skill levels are also audited and classified, as these may provide less skilled cyclists with links to lower classified roads by means of a short detour on foot.

CSNA Levels – crossings

All pedestrian crossings on roads classified above Level 2 are classified using similar criteria. These comprise both crossings which cyclists can currently use while cycling (e.g. Toucan crossings) and those where they must dismount (e.g. Zebra crossings). The latter are designed for pedestrian use and hence are assessed from the perspective of a dismounted cyclist wheeling a bicycle.

Crossings rated as ‘Beyond Level 3’ are very rare. At these crossings the level of risk is so high that their use is not considered advisable.

There are eight levels of classification used for crossings.

Level	Type of crossing	Cycle network suitability
Potential Level 1	Motor traffic free (grade-separated) crossing where cycling is not possible due to physical restrictions (e.g. <i>steps</i>)	Potentially suitable for cycle route network
Potential Level 1 cycling	Motor traffic free (grade-separated) crossing where cycling is possible but not legal (e.g. <i>subway or footbridge with ramps but no cycling signs</i>)	Potentially suitable for cycle route network
Level 1	Motor traffic free (grade-separated) crossing where cycling is permitted (e.g. <i>subway, bridge</i>)	Suitable for advisory and cycle route networks
Level 2	Crossing suitable for a dismounted cyclist with Bikeability Level 2 skills (achieved through training or experience)	Suitable for advisory networks
Level 2 - cycling	Crossing suitable for a cyclist with Bikeability Level 2 skills, without dismounting	Suitable for advisory and cycle route networks
Level 3	Crossing only suitable for a dismounted cyclist with Bikeability Level 3 skills	Unsuitable for advisory network
Level 3 - cycling	Crossing only suitable for a cyclist with Bikeability Level 3 skills, without dismounting	Measures needed to become Level 2 to be suitable for cycle route network
Beyond Level 3	Crossing where the real or perceived level of risk is a barrier to even the most competent and experienced cyclists, whether dismounted or cycling	Unsuitable for advisory network Measures needed to become Level 2 to be suitable for cycle route network

Table 2: CSNA crossing levels



Dismounted cyclist using Level 2 crossing (Stoke Road / York Road junction)

2.3 Audit process

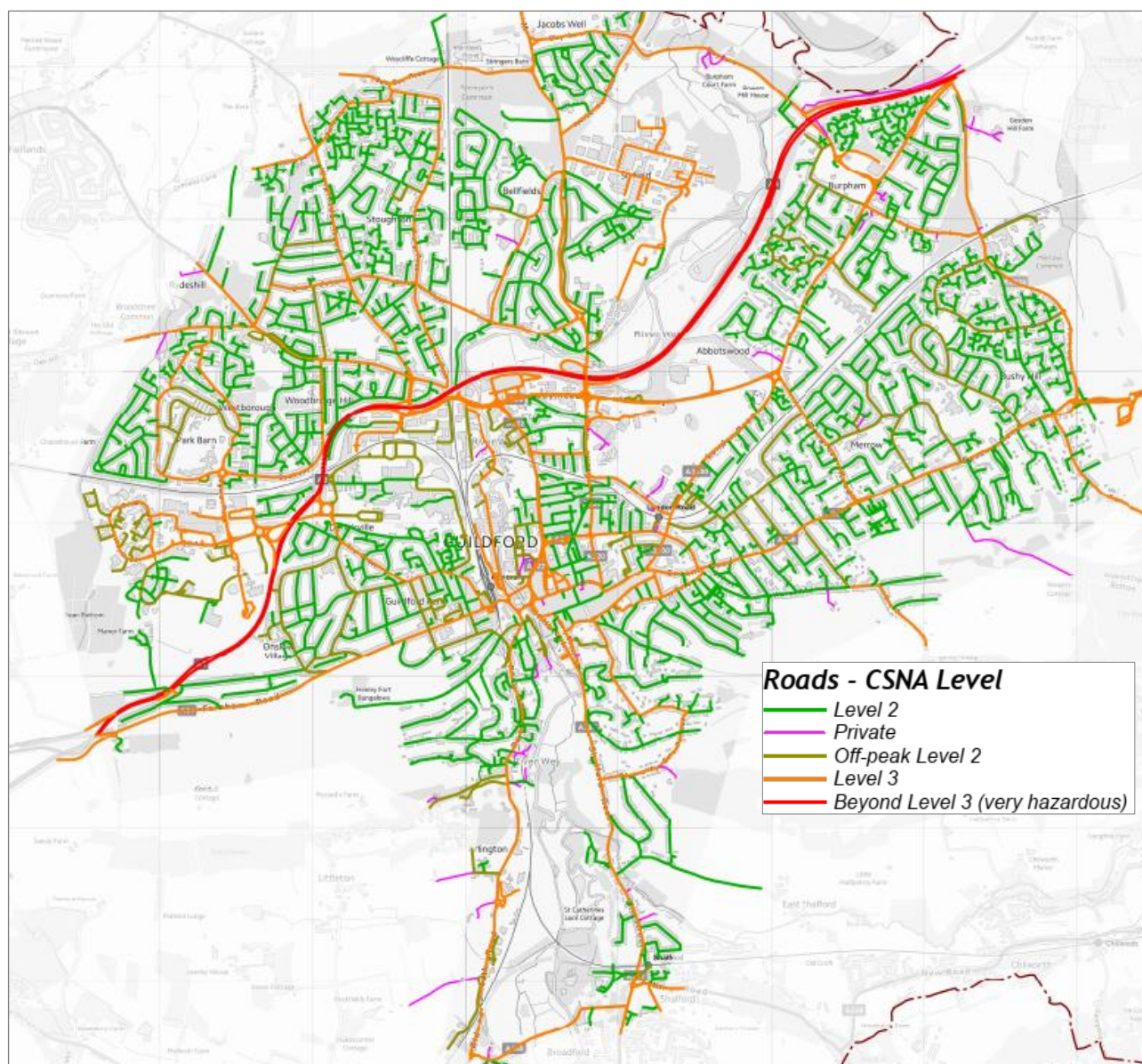
The CSNA was carried out entirely by cycle or on foot. Roads and tracks (paths) were audited and classified by audit level first. Once this was completed crossings on roads classified above Level 2 were then audited. This meant that the auditors covered the survey area at least two times, which allowed for a review of the first audit stage and more accurate findings overall.

Any major road defects or other hazards for both cyclists and other road users were noted and brought to the attention of the appropriate authority.

2.4 CSNA findings

Roads

Plan 2 below shows the CSNA findings for roads in the study area.



Plan 2. Guildford CSNA – roads

There are large areas which comprise Level 2 roads and so are widely accessible to all existing and potential cyclists. However, while this may make some journeys in residential areas possible, the barriers of more hazardous roads often prevents many journeys where adequate crossings are not in place. This is discussed in more detail in 2.5 below.

We found it possible to make longer cycle trips cycle round Guildford by using some ingenuity to cross the major arterial roads safely. However, routes were often disjointed, required detours of distance and time and would often thus prove a real deterrent to people who might be more risk averse (i.e. least confident) when cycling - the very target audience we wish to attract to cycling.

There are two major road barriers to cycling in Guildford (railways and the River Wey Navigation also prevent easy movement across the town by cycle). These are the A3 (and its junctions) and the town centre gyratory. While the least risk-averse cyclists may be willing to

brave the gyratory, at least in small sections, few if any will venture onto the A3. Both these sections of road therefore present a very significant psychological barriers to people who are less willing or able to take risks when cycling.

Although there are ways to cross the A3 and to negotiate the gyratory safely, these are poor quality and indirect. Improving cycling links across these barriers or bypassing them coherently will play a major role in delivering a cycle network that is attractive and well used.

Aside from the A3 and gyratory, conditions on Guildford's roads are typical of similar sized British towns, albeit with generally high levels of motor traffic. People with a good level of cycle training or experience will be generally be able to cycle around Guildford, but with some significant exceptions. Apart from the A3, most sections of A roads are mainly rideable with care. However, some narrow sections of Epsom Road, and the lack of space to improve the width, render it unsuitable for signing as a cycle route. Cycling along Shalford Road is uncomfortable, with a number of pinch points making it awkward for even confident cyclists.

However, being usable by people who are confident when cycling is not what is required to increase cycling levels and tempt would-be cyclists to get on their bikes.

The limited on-road cycle infrastructure in Guildford is mostly very poor. It is typified by narrow carriageway cycle lanes, often less than a metre in width. These actually present more hazard to cyclists than would be the case if they were removed. Narrow lanes encourage drivers to drive up to the line and overtake too close to cyclists whereas they would overtake further out without a line to guide them. Best practice is that where cycle lanes are provided on the carriageway these should be very wide (2m) where these would particularly help cyclists, such as in uphill sections of road. It would be better still to offer light segregated cycle lanes, or fully protected tracks.



Typical narrow cycle lane on London Road (Level 3 road)

Paths and tracks

Plans 3 and 4 below show motor traffic-free paths and tracks on their own and added to the road layer. The tracks shown are potential Level 1 paths (dotted pink), Level 1 tracks (Blue) and a few Level 2 tracks (dotted green, mainly along the A25 in north Guildford).

Potential Level 1 paths are the most useful sections of existing paths that could be considered for conversion to shared use. In some cases, it may already be legal to use a potential Level 1 track, but the quality of the surface is too poor to give it full Level 1 status. An example is the National Cycle Network (NCN) link along Dagley Lane.

In other locations, we have classified some sections of track where cycling is legal (or probably legal) as potential Level 1 because no clear signing exists to advertise their status. This is also indicative of their lack of quality. An example of this can be found at the University of Surrey's Stag Hill campus. The existence of corduroy and tramline tactile paving

indicates that paths were intended for shared use, but there are no signs or markings making this clear to users.

Level 1 tracks can all be cycled legally. However, we have given the benefit of the doubt to some tracks that have poor or no signing, such as the towpath from the town centre to the A25 and then the section between the A25 and Woking Road. It is telling that our experienced auditors, who have audited cycling in many towns and cities, struggled to identify much of Guildford's network. It will be even more difficult for the general public, both those cycling and people on foot who may feel cycling is not allowed. The poor quality of cycle signing (both wayfinding and regulatory) on traffic free paths and roads is a major issue which is dealt with later in this report.

Even where Level 1 paths were present, there were a variety of maintenance problems with poor surfaces and a lack of vegetation management. Cycling infrastructure does not appear to be given the same level of management as other parts of the highway.



Overgrown vegetation obstructing shared use path, A25 Parkway

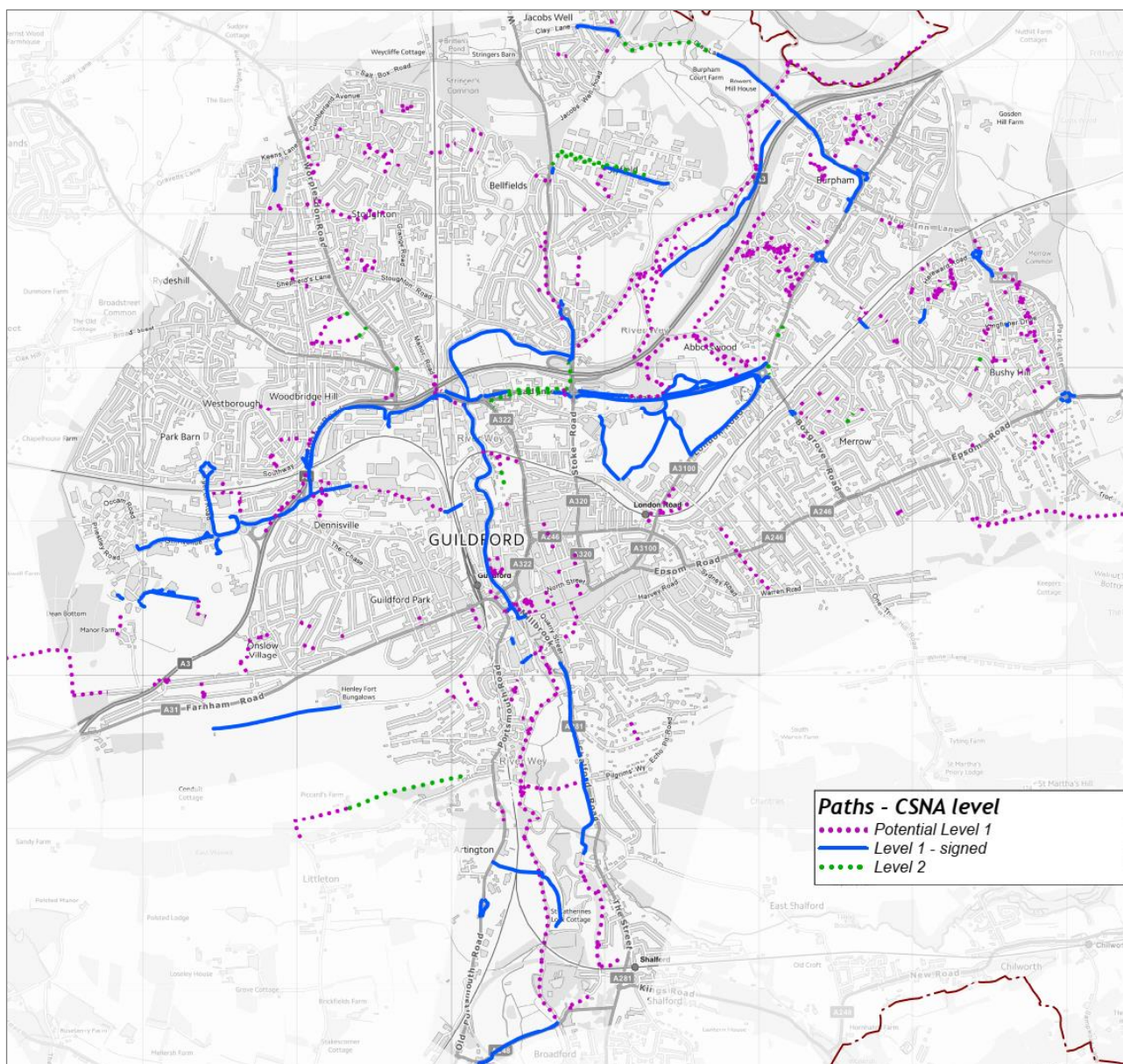
As mentioned above, a small number of tracks have been graded as Level 2. These are mostly alongside the A25 and Moorfield Road where the shared footways cross numerous business accesses and therefore users must be able to cope with crossing traffic. Similar issues are found on other paths across the town such as the shared path along Clay Lane.

Overall, the existing network of paths around the town which can be cycled is inconsistent, with some areas well served and others having no provision. Many cycle tracks suffer from inappropriate barriers, signing, width and inadequate crossings. Most of these issues are historical, sending a message that cycling is not taken seriously as a transport option.



Inappropriate signing, lining and diversion at Clay Lane / Burpham Lane junction (typical of cycle infrastructure in Guildford)

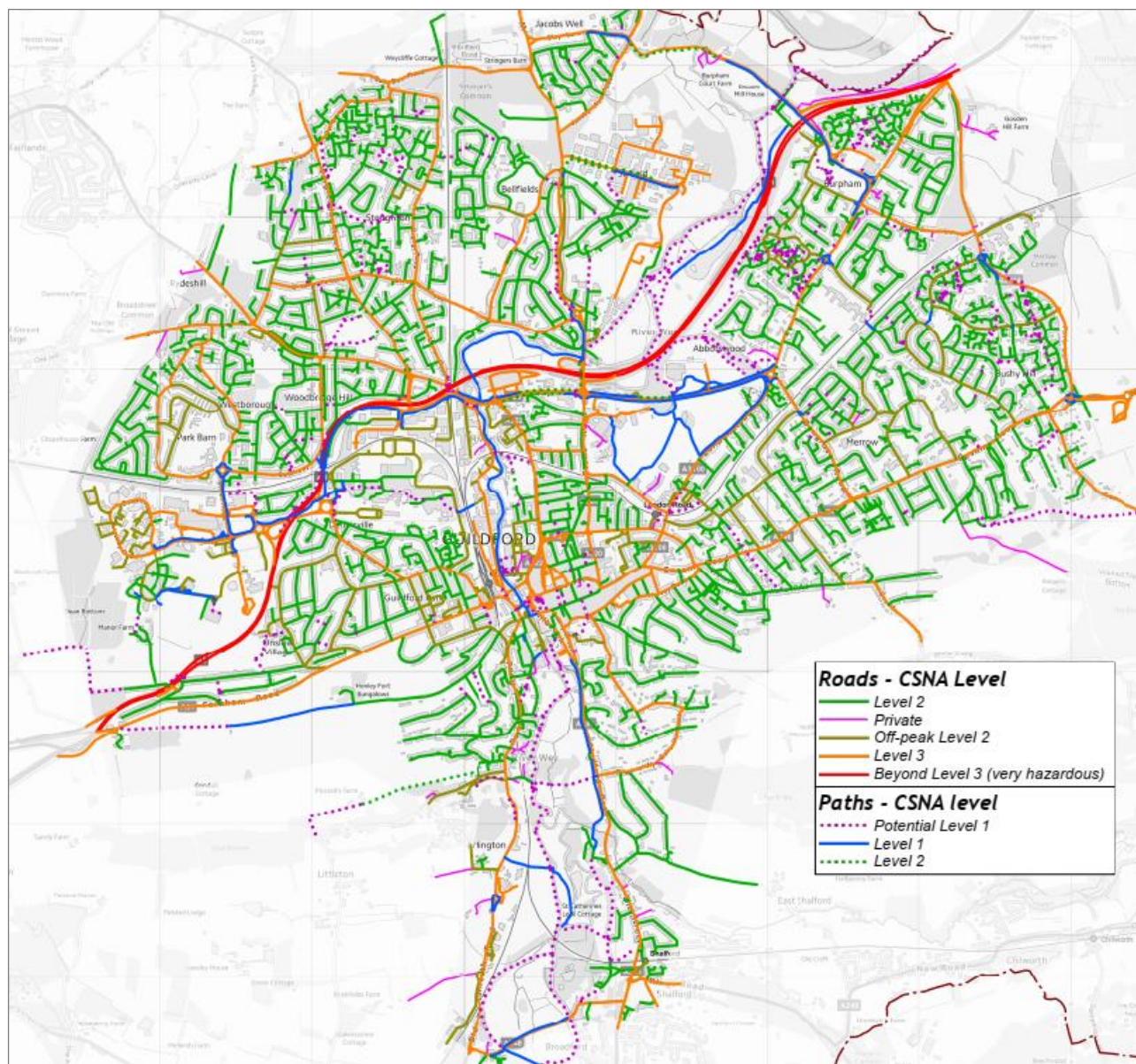
However, allowing cycling on suitable paths could provide some relatively inexpensive quick wins. This will require some localised minor interventions such as widening at pinch points, plus good signing. If this is combined with more significant interventions (discussed below) there is reasonable potential to develop a mostly traffic-free cycle network.



Plan 3. Guildford CSNA – paths/tracks



Inappropriate signing at cycle crossing on Woking Road (very common)



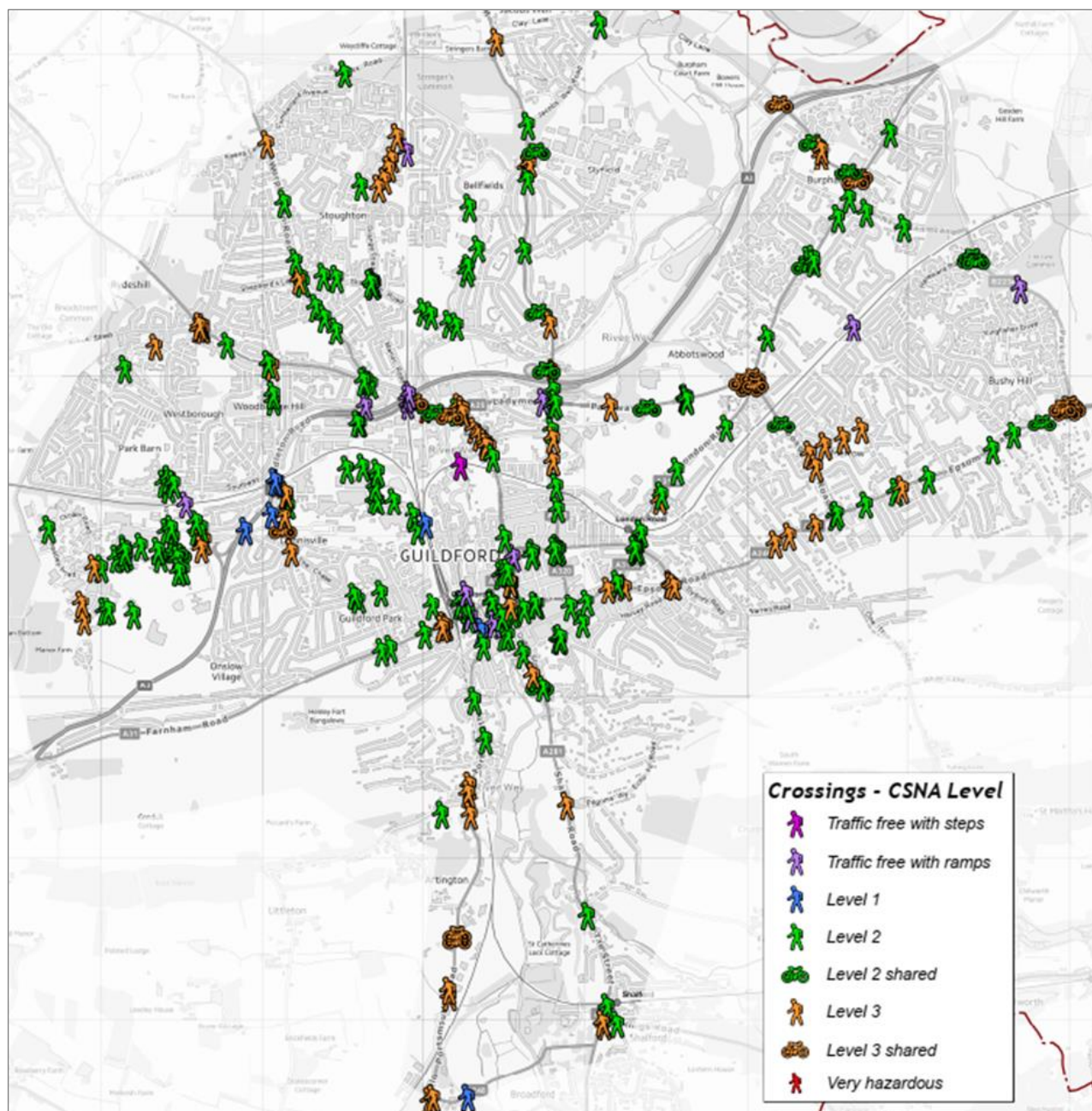
Plan 4. Guildford CSNA – combined plan with roads and paths/tracks



Inappropriate barriers on path alongside A3, not conforming to Equality Act (common)

Crossings

Plan 5 and 6 below show the location of the crossings found in the CSNA. Plan 6 shows the central area in more detail.

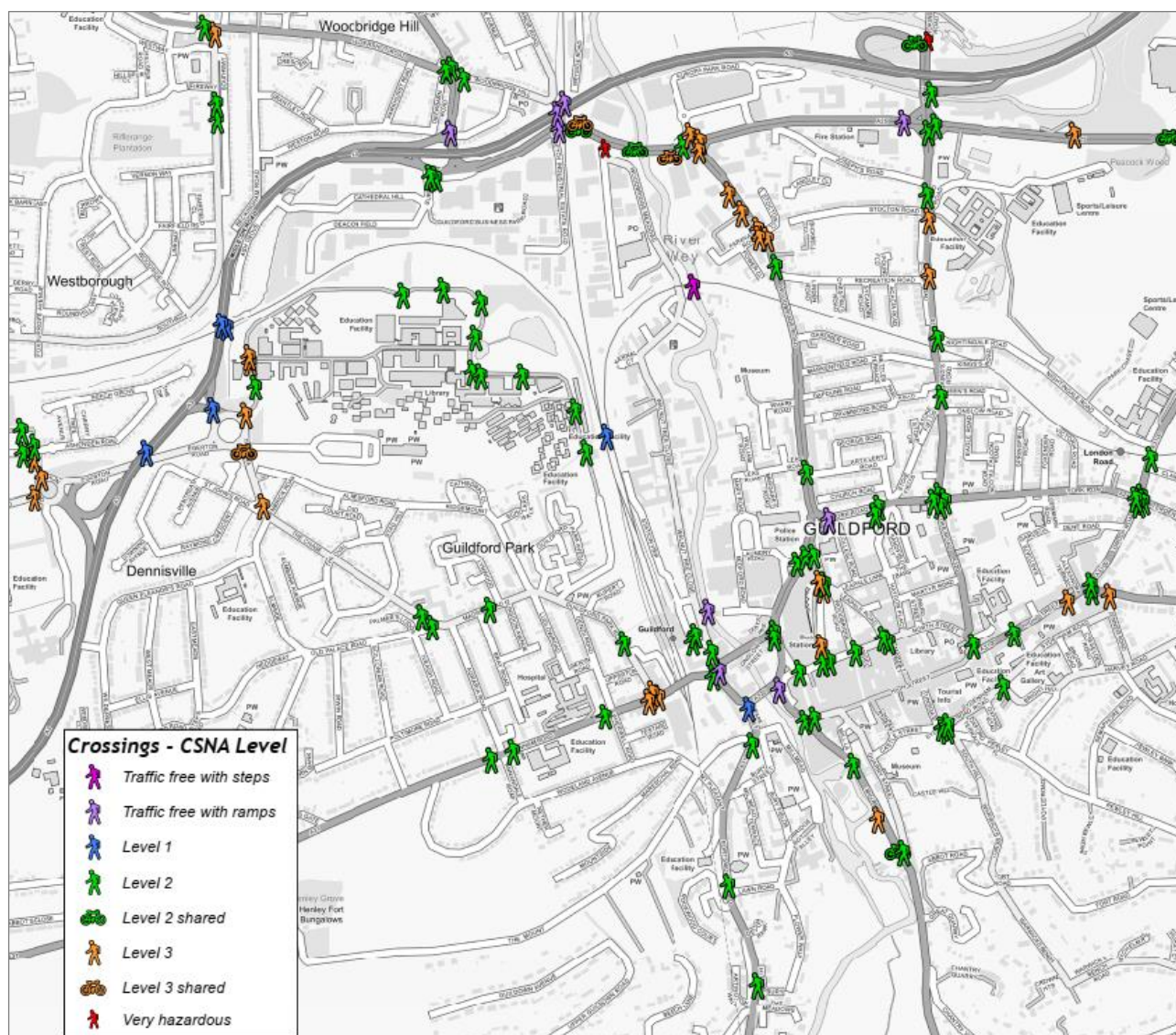


Plan 5. Crossings – all of Guildford

A total of 285 crossings on roads classified higher than Level 2 were assessed (see Table 3).

Level	Number		Proportion	
	Pedestrian only	Cycle / pedestrian	Pedestrian only	Cycle / pedestrian
Potential 1 (steps)	1		0.35%	
Potential 1 (ramps)	13		4.6	
1	7		2.5%	
2	156	17	54.8%	6.0%
3	73	16	25.6%	5.6%
Beyond Level 3	2		0.7%	

Table 3. Crossings by CSNA Level



Plan 6. Crossings - central Guildford (including University of Surrey Stag Hill campus)

Over two-thirds of crossings (194, 68%) were classified Level 2 or lower. As a proportion of the overall number of crossings this measures reasonably well compared to other CSNA audits carried out by Transport Initiatives. The highest and lowest levels we have found are both in London: Camden having over 80% and Croydon under 50%.

On the face of it this may be encouraging, but it is a fairly indiscriminate measure as it only assesses locations where there are actually crossings and does not measure their absence. The porosity analysis in this report more accurately measures the impact of missing crossings.

There are 33 cycle crossings where cyclists can cross legally without dismounting. However only half of these (17) are Level 2, with 16 crossings being Level 3. These are where shared paths cross at islands or refuges, mainly at busy wide roundabouts like the London Road and A25 junction. Such provision is inadequate to encourage cycling.

It is notable that crossing provision is not complete at many junctions. Often adequate crossings are not provided on all arms of junctions irrespective of need.

Stoke Crossroads (junction of Stoke Road / Woking Road / Parkway) was considered prior to the implementation of a scheme by Surrey CC in 2018-19. This junction was perhaps the most obvious example of the typical poor provision found across the town. Pedestrians wishing to cross the Woking Road arm of the junction were expected to cross three arms and

via numerous phases on two of these and rather long detour over the footbridge. This added a minimum of five minutes delay to their journey and encouraged some to make a hazardous crossing of the Woking Road arm where no provision was on offer.

Despite the scheme's aims including improvements for cycling, we understand that the redesigned junction has been criticised by Guildford Bike User Group (G-BUG) as having added additional delay for cyclists.

One of the junctions which we have identified as crucial within a proposed cycle network is that of Aldershot Road with Northway and Southway. At this junction only two of four arms have crossing provision other than dropped kerbs. On one arm (Southway) there is a narrow, hazardous refuge and on the Aldershot Road arm to the west of the junction a pelican crossing set well away from the pedestrian desire line. This type of provision is very poor for pedestrians, not to mention cyclists who may wish to cross on foot.

Another poor junction is the crossing of Woodbridge Meadows south of the A25. While this lies on a designated cycle route, with a shared use footway to the west, there is no provision whatsoever for people cycling (or indeed on foot) to cross safely. Many vehicles turning off the A25 do so at speed, and there is a high proportion of vans and HGVs. This crossing should be improved as a high priority.



Hazardous (Beyond Level 3) cycle crossing of Woodbridge Meadows at A25 (looking east)



Hazardous (Beyond Level 3) cycle crossing of Woodbridge Meadows at A25 (looking west)

Another issue that will deter cycling is the lack of automatic green phases on arms of multi-stage crossings at signal junctions. An example is at the junction of Egerton Road, Gill Avenue and Richard Meyjes Road. The eastern and northern arms of this signalled crossroads are both three stage toucan phases. However, none of these stages offers a green signal for pedestrians and cyclists unless it has been called (the crossing button has been pressed).

The phasing of the signals is such that users who have called for a green signal on the first stage of each crossing will always experience a red signal when they reach the central island, even though this it would be safe to continue across as crossing motor traffic at this point does not have a green signal either. Pedestrians and/or cyclists are thus expected to press the button when they reach the central island and thus wait a full signal cycle for the next green pedestrian/cycle phase adding an unnecessary delay of minutes to their journey. Similarly, if they do not arrive in time to press the button at the first stage they would also be expected to wait another full signal phase even though an un-signalled pedestrian phase is occurring while they are waiting. These are fixed phases and should always display a pedestrian/cyclist green phase when it occurs as should be the case at all similar crossings.

The failure to address this issue runs counter to encouraging sustainable transport. In fact, it is likely to be counter-productive as it will encourage pedestrians and cyclists to cross against red signals. It also sends out a very negative message about the place of cycling and walking in Guildford. There is an opportunity for both Surrey CC as the Highway Authority, supported by Guildford BC in its role as Local Planning Authority, to seek to give advantage people cycling and walking to facilitate their journeys.



Southway junction with Aldershot Road – pelican crossing well away from desire line at junction

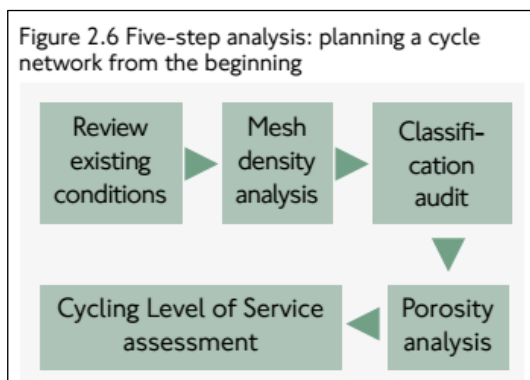


No protection (and confusing layout) at junction of Old Portsmouth Road and Artington Park & Ride site, with no warning signs for drivers

2.5. Cycle network analysis

Background

These stages follow the approach set out by TfL in the London Cycling Design Standards (LCDS) 2016. Chapter 2 “Tools and Techniques” covers TfL’s recommendations for network analysis, network planning and route development, showing how planning, design and delivery are related. LCDS section 2.3.1 provides guidance on “Developing a coherent cycle network”, setting out a five-step process for planning a cycle network (see LCDS Figure 2.6).



The work carried out for this study covers the first four stages of this analysis process. The CSNA (sections 2 and 3 above) forms part of the first stage with a review of the existing cycle being the remainder of this stage as set out in this section.

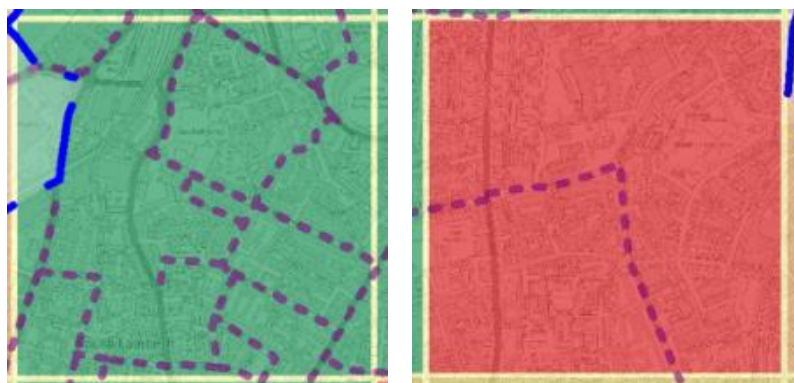
Mesh Density

In a well-connected cycle network, cyclists should not have to travel far to get to a parallel route of similar quality. The aim, as set out in LCDS, is that nobody should be more than 400m from a route of acceptable quality. This would ideally produce a grid of routes at 400m spacing. How far this aim is achieved can be determined by assessing the density of cycle routes – this is known as ‘Mesh Density’.

The Mesh Density is measured by calculating the total distance of cycle routes in each 1km² cell across the borough. If routes are spaced at 400m intervals then there will be a total of 4km of routes in each cell.

If Mesh Density is tight (high) this means that routes are close together, giving greater choice. On the other hand, if it is loose (low) then there is a greater distance between routes, and people cycling have fewer options for convenient routes.

Examples of high and low Mesh Density cells are shown below.

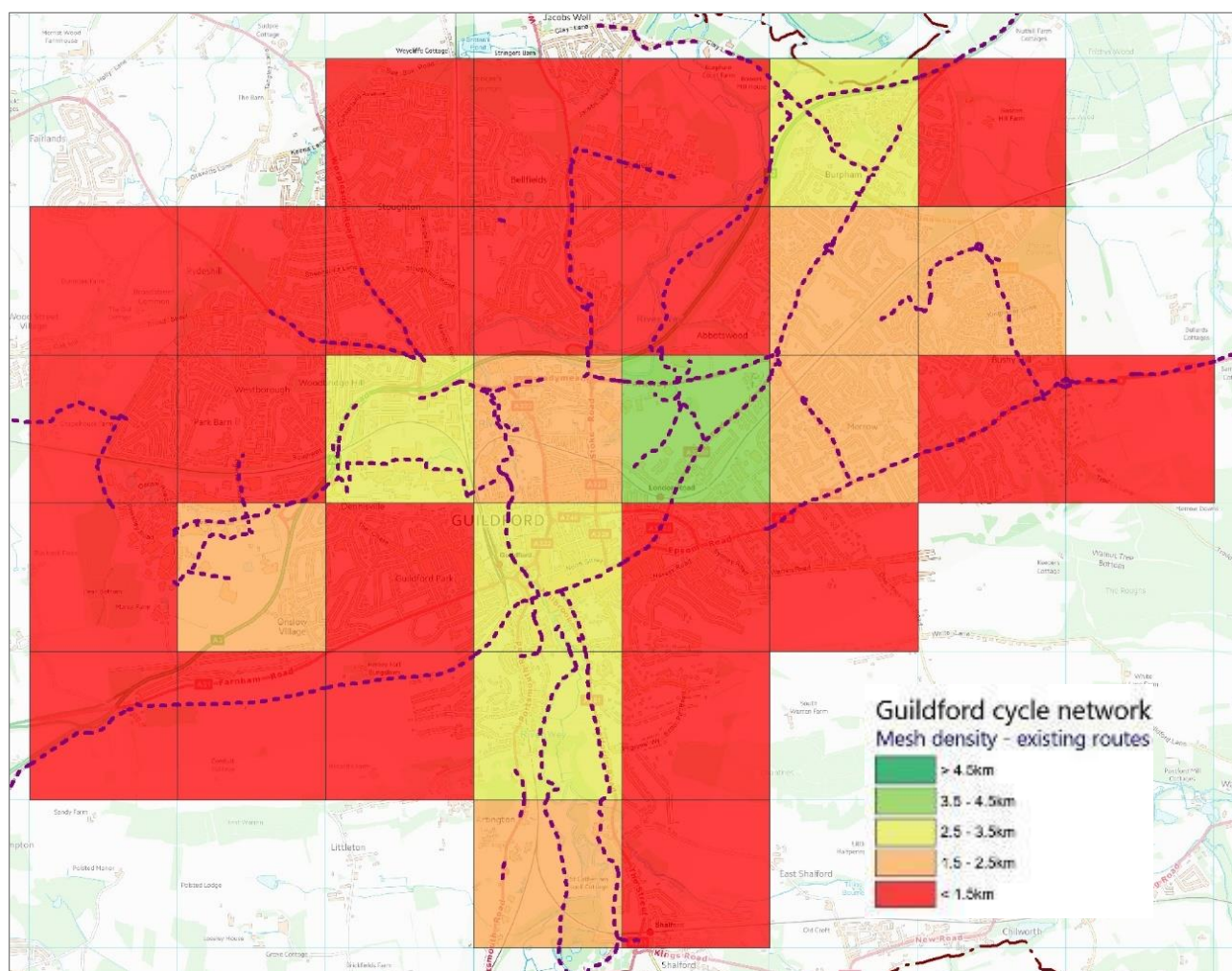


Cells with high Mesh Density (left) / low Mesh Density (right) showing routes (not in Guildford)

The assessment of Mesh Density of the existing network in Guildford shows how well routes serve people currently cycling. This allows the production of a ‘heat map’ representing the density of routes, shown in Plan 7 below.

Only minimal analysis has been carried out on the network used for assessment, and these routes have not been checked for quality. Where there are parallel forms of provision (e.g. cycle lanes on both sides of a road) these have been combined.

It is clear from the Mesh Density assessment that much of Guildford is very poorly served by even the rudimentary cycle provision that exists. Only in the Stoke Park area is the network reasonable, mainly due to the paths around and through the park itself. It is notable that while the NCN link to the south of the town increases the classification, this is only helpful for people cycling north-south and so does not really form a network. This issue is addressed more by the Area Porosity analysis below.



Plan 7. Mesh Density of existing Guildford cycle network

Area Porosity and Gateways

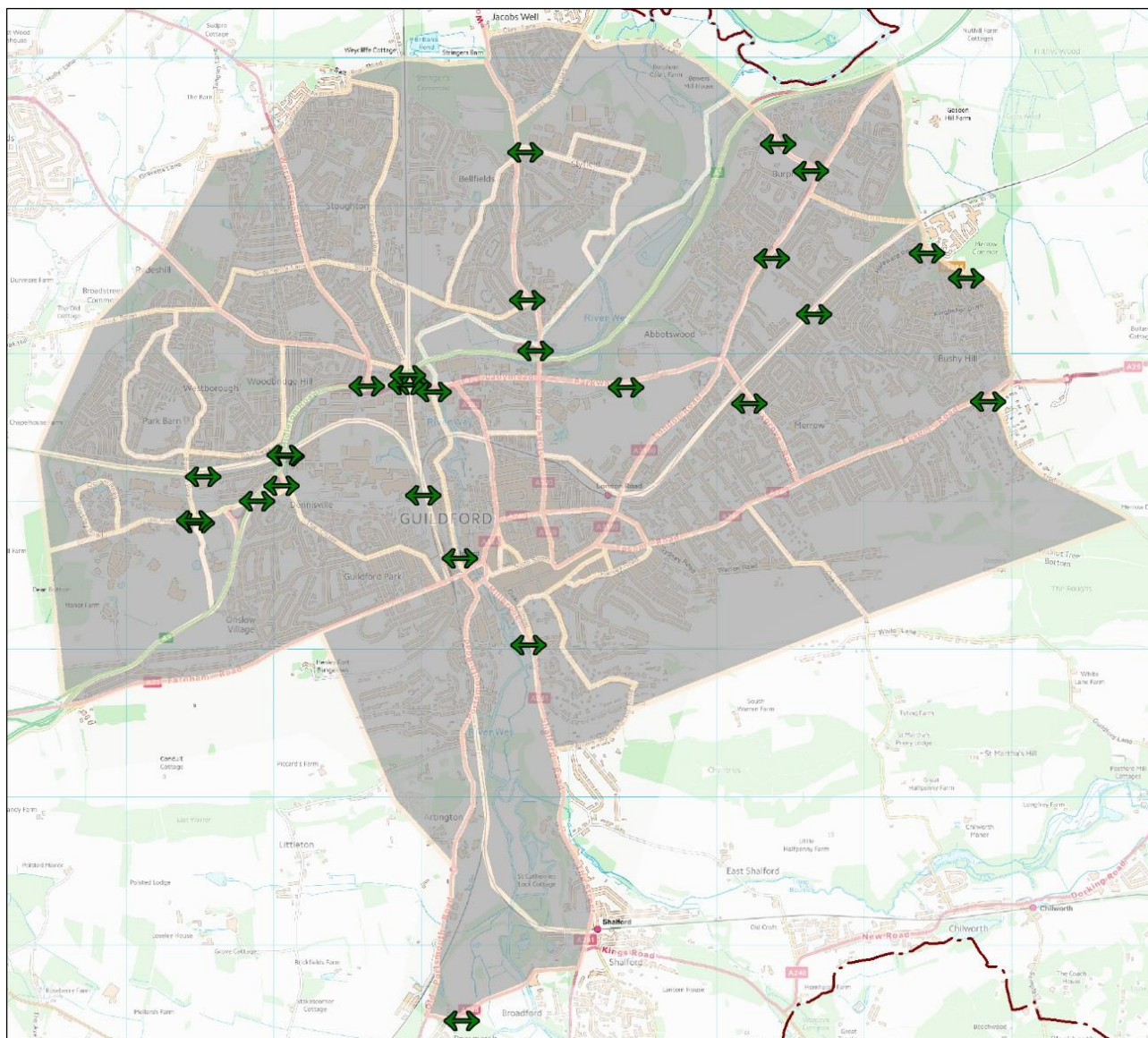
This stage comprises an analysis of the existing highway network showing how accessible it is for less experienced cyclists. It comprises two elements:

- **Gateways** – these are safe and comfortable ‘amber crossings’ which effectively open up areas to less confident cyclists. They can enable large areas with a range of route options to be accessed and can also serve as key navigational points between areas.
- **Area Porosity Analysis** – assessment of zones across the district bounded by primary roads with no cycle provision, or other barriers, based on their accessibility by cycle

The analysis is based on the appreciation that Level 3 (and above) roads, or other physical barriers such as railway lines, confine people who are less experienced cyclists to a limited area. They will not be prepared to enter or leave the area using roads or crossings where they feel unsafe or uncomfortable. These areas can range from large (with many useful destinations and services) to small (meaning that cycling trips do not serve a useful function).

There are three stages to this process:

- i. Define the zones bounded by roads of Level 3 or above and other barriers
- ii. Locate possible Gateways on CSNA crossings schedule, comprising key crossings of barriers such as main roads that can legally be cycled
- iii. Area Porosity Analysis – combine stages i. and ii. to produce a plan with zones classified by the number of Gateways



Plan 8. Cycle gateways

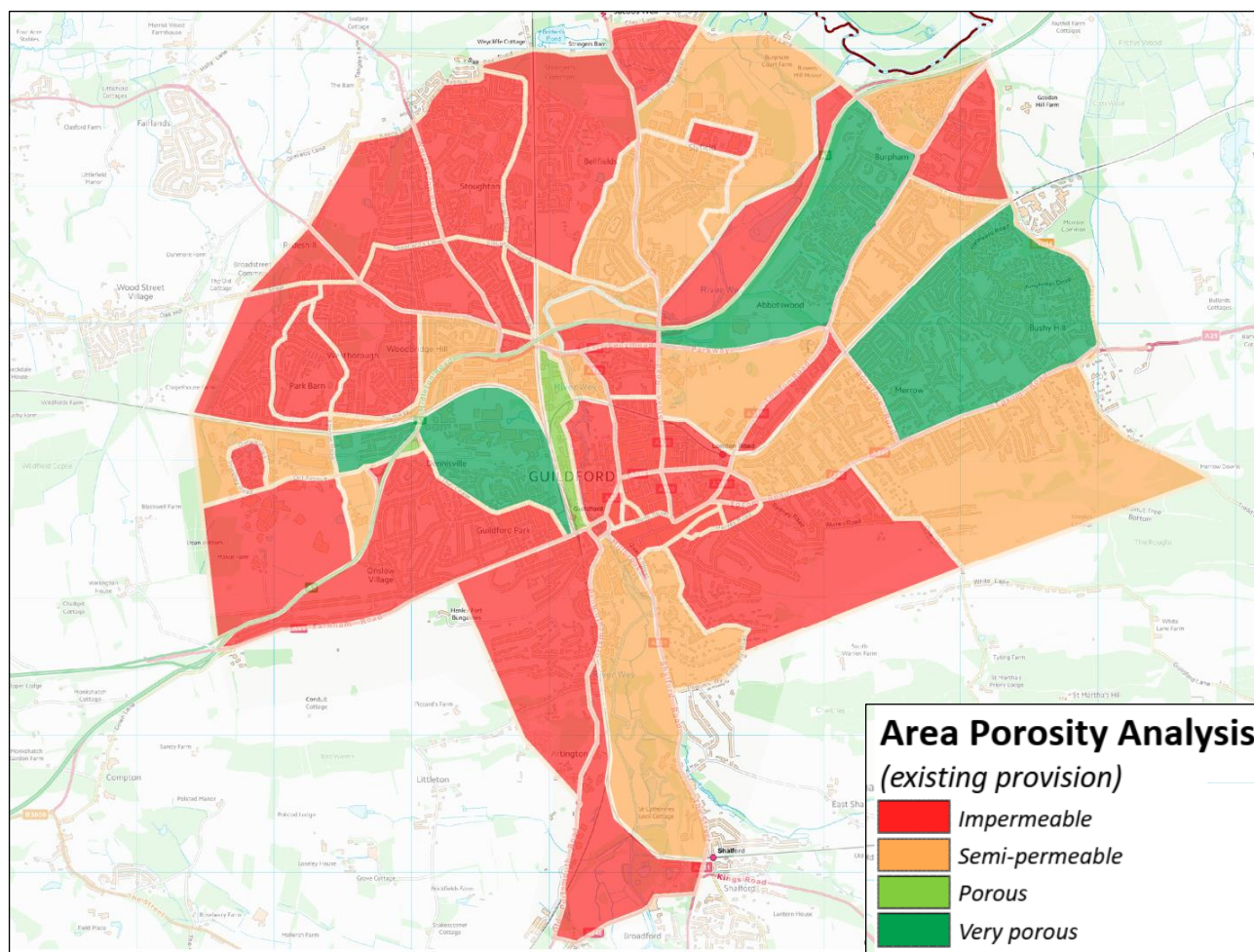
The following classifications are used to reflect permeability for cycling in each area.

- **Impermeable** – areas with no gateways to neighbouring areas
- **Semi-permeable** – areas with one gateway (or two very close together)
- **Porous** – areas with two well-spaced gateways (excluding any close together)
- **Very porous** – areas with three or more gateways (excluding any close together)

While the first three are those set out in LCDS, we have added a fourth category to reflect our finding that even some 'Porous' areas have low accessibility in practice, for example where gateways are close to each other.

Note that not all barriers are used to define zones. Those that do not completely surround a zone are not used. In addition, where zones are very small (e.g. around Guildford Station car park) they have been combined with an adjacent zone.

Areas with good porosity will have safe cycle crossings (Level 2 or lower) to most or all adjacent areas and vice versa. Plan 9 below shows the porosity analysis for Guildford. The low level of porous and very porous areas for cycling makes it clear that accessibility for people cycling in Guildford is currently quite poor.



Plan 9. Cycle porosity

The porosity analysis gives a reasonable first overview of cycle accessibility around Guildford. However, it should be noted that this is just a first step. It may be possible to cross between areas, but the location of crossings may require long detours and disjointed, indirect routes that militate against realistic cycle journeys.

Also, it is important to note that porosity may be poor within an area, particularly if an area has a number of dead-end or otherwise non-adjoining roads.

2.6 Network review - conclusions

Generally, for people who are prepared to use and cross busy roads while cycling, travelling around Guildford is a bearable, if sometimes frustrating experience. There are still times and places where even these people experience challenges.

However, for most people who have a lower threshold for risk, cycling is currently not something that they would contemplate. Even the few people that do cycle have to resort to behaviours that many would not support, in order to ensure their safety.



Family not willing to risk children cycling on narrow cycle lanes on Epsom Road



Signal posts compromising cycle track along Shalford Road

The CSNA gives us a good picture of cycle accessibility in Guildford as it is now. It enables identification of the major barriers between areas.

The next step is to create a plan to remove those barriers and create a comprehensive network that will attract people that are currently deterred from cycling by concerns over risk. This will be essential to the successful development of cycling in Guildford and is considered in more detail later in this report.

In addition, there are many potential quick wins which could be achieved with minimal expense. These are also set out later.

3. Cycle parking audit & survey

3.1 Cycle parking

A key part of improving the cycling experience in any area is to ensure that those wishing to cycle can find somewhere safe, convenient and accessible to park close to the destinations they wish to cycle to.

Good cycle parking can, in itself, bring an increase in cycling. Ample, good quality, well placed parking provision will be used, and its use will send out a message that cycling is supported, delivering a strong pro cycling marketing message. The opposite is also true – poor quality cycle parking sends a message that cycling is not seen as a serious transport option.

Confidence or lack of it that your bicycle will still be there when you return to it is also a significant factor in determining whether or not people will continue to cycle. In London, 25% of people who had a cycle stolen stopped cycling.

Having an adequate amount of good cycle parking will also be a major factor in the success of a future bike share scheme. Although the start and finish of a trip using a bike share cycle will be at a docking station, users may also want to park for a short time near destinations during their hire. In addition, in some bike share schemes users are allowed to park and hire cycles at standard cycle parking.

3.2 Study

TI were commissioned by Guildford BC to undertake a cycle parking audit plus two usage surveys. These took place in late 2018 and comprised:

- An audit of existing public cycle parking in place around the borough (excluding University of Surrey campuses)
- A survey of fly parking in and around the town centre (fly parking is defined as cycles locked to street furniture or other items which are not intended as cycle parking)
- Surveys of cycle parking usage at town centre sites

Based on the audit and surveys, we developed recommendations for new cycle parking provision around the town (again excluding University of Surrey).



Well used parking outside Odeon cinema

The data collected in the audit is shown in Table 4. All sites were also photographed.

Field	Detail of data recorded
Ref	Unique reference for each site GCP001 etc
Location	Fairly detailed description of location e.g. 40 Epsom Road
Type	Type of stand. "Sheffield" stands (Π shaped) or variants
Number of stands	The number of stands at the site
Number of spaces	The number of parking spaces. Normally 2 cycles can be parked per Sheffield stand but stands too close together or to obstructions can reduce the available number of spaces
Number of cycles parked	The number of cycles parked at site when the audit was undertaken
Covered	Is the parking covered? Yes / No
Signing	Is there signing to identify the parking? Yes / No
Position	Is the position of the parking right for the destinations it serves? Good / Moderate / Poor
Accessibility	How easy is access to the parking? Good / Moderate / Poor
Condition	Good: new or nearly new in appearance, Adequate: showing a little wear or slight damage but still perfectly usable Poor: Damaged or in need of repair, ideally should be replaced Unusable: Requiring immediate removal/replacement
Security	How good is the security of the site e.g. is it clearly visible to those passing by and/or in a busy location? High / Medium / Low
CCTV	Is there CCTV that could directly cover the parking?
Potential to expand	High: Space to at least double capacity Medium: Space to increase capacity up to twice current provision Low: No space to expand, or would not be cost-effective
Comments	More detailed site information and recommendations for improvement
Date	Date of site visit
Time	Time of site visit
Surveyor	Surveyor's initials

Table 4. Existing Cycle Parking data fields

As well as numeric details, this data has information on the usability of cycle parking. Good cycle parking should be close to the destinations it serves. It should also be easy to access the parking which should be well overlooked to provide more security. The stands should be of good quality and not too close together.

For Sheffield stands a gap of 1m between stands and 0.5m to obstructions such as walls or kerbs is the recommended minimum (set out in guidance documents such as LCDS), with 1.2m being preferred where possible. When stands are too close together the actual parking provision is reduced which is a false economy.

3.3 Audit findings

The full findings are shown in detail in Appendix B. This includes plans and relevant details of each site recorded.

Table 5 shows details of the 104 public cycle parking sites recorded in the audit.

Sites	Stands	Spaces	Total cycles parked	Sites in use
104	840	1,189	407 (34%)	52 (50%)

Table 5. Cycle parking details

The usability of the cycle parking provision at the 104 sites was classified according to their accessibility, condition and position. Details are shown in Tables 6 and 7.

While the condition of cycle parking was mostly good with only 4 sites in poor condition, this may reflect in part the overall lack of use.

	Accessibility	Condition
Good	91	81
Moderate/Adequate	6	19
Poor	7	4

Table 6. Detailed audit of cycle parking usability

It is notable that at the time of the initial audit exactly half of the sites had no usage. Table 7 shows how usage varies with the position of the parking.

	Position	Sites in use
Good	53	29 (55%)
Moderate	28	15 (54%)
Poor	23	8 (35%)

Table 7. Usage of cycle parking based on position

We would expect that the position of the sites would have some effect on their usage, and this is reflected to a degree in the proportion of sites used compared to the position rating they were given in the survey. In a town with a stronger cycling culture we might expect more parking at sites with good or even moderate positions. Most tellingly only 8 of the 23 sites with poor position had bikes parked at them. The relatively low usage in Guildford reflects the scope to increase cycling in the town.



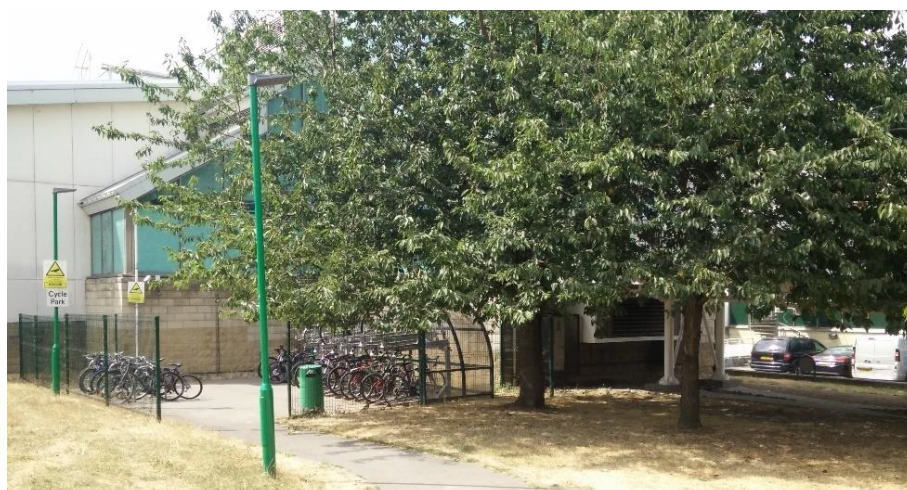
Well used parking at Guildford Library, in a good position near entrance

Security of the sites is based on a combination of observation by passers-by ('passive surveillance') and CCTV. Details are shown in Table 8 which shows a worse coverage by CCTV at the sites with medium or low security ratings. While the obvious presence of CCTV can improve security, the most effective measure is the position of the parking and activity at the site. The security rating is a balance of these factors.

	Security	Sites with CCTV?
High	50	20 (40%)
Medium	41	10 (24%)
Low	13	1 (8%)

Table 8. Security of sites and CCTV coverage

An example of how the security rating is applied is the cycle parking at the Spectrum Leisure Centre. While the parking is in a reasonable quality compound at the side, it is hidden away from the view of people using the centre. Although the presence of CCTV is well advertised, this will be less of a deterrent to determined thieves who know they will have time to steal bikes and are unlikely to be recognised if they cover their faces. This site was given a medium security and moderate position rating.



Cycle parking at Spectrum Leisure Centre (entrance via ramp hidden behind trees)

Potential to expand cycle parking provision was high at 65 sites, medium at 20 and low at 19. While it is possible to expand parking at most sites this is only advisable at those where there is likely to be demand. Appendix A has plans and schedules of all the existing parking sites and also highlights (in yellow) those where expansion is recommended.

3.4 Conclusions of audit

The survey tells us where current parking is located, its condition and use. The best rule for good parking provision is little and often, but in Guildford it is often clustered in one place rather than well distributed.

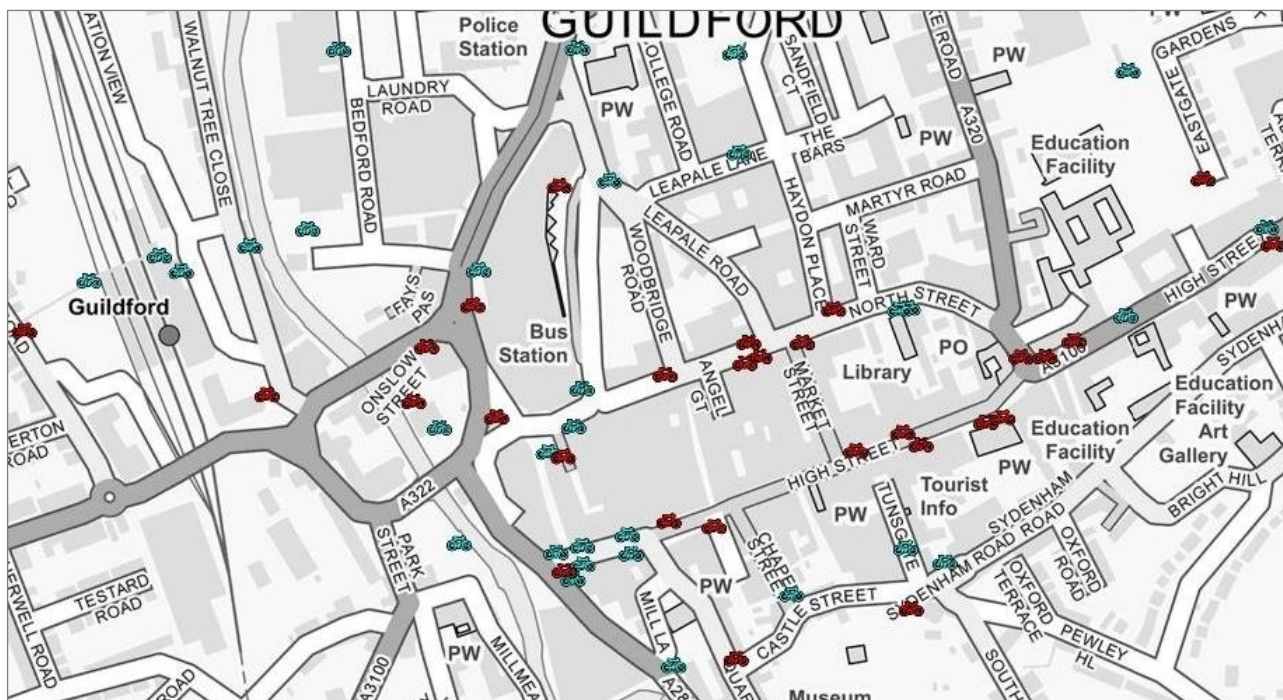
People making shopping trips by cycle will want to park near to a destination, with evidence showing a distance of more than 25m is a deterrent. For people staying longer (e.g. at a café or restaurant), parking within view is also preferred for security and personal reassurance. However, in most cases in central Guildford they are given no alternative to a longer walk especially for people visiting the High Street.

The town centre fly parking survey (see 3.5 below) gives us a good idea of where parking is missing and therefore where it is desired.

3.5 Fly parking survey

The location of fly parking in the town centre was gathered in two ways (as noted above, fly parking is defined as cycles locked to street furniture or other items which are not intended as cycle parking). Initially, we carried out on a focused survey on a single afternoon which formed a base for the data on fly parking.

However, as such parking tends to be intermittent we then augmented the data on an informal basis when auditors saw fly parking while undertaking other surveying work in the town centre (see Plan 10). Often bikes were only fly parked for a matter of minutes, reflecting very much the nature of visits that people cycling wish to make.



Plan 10. Fly parking locations (red bicycles) and fixed parking sites (blue bicycles)

Fly parking was clearly concentrated in areas with no formal cycle parking, especially North Street and High Street. These were typically single cycles that were locked for only a few minutes to street furniture such as lamp and posts. As we only spent a relatively short time in the area this reflects only the tip of the iceberg for cycle parking demand.

The specific fly parking survey was largely undertaken after the survey to find new sites for cycle parking. It served to reinforce the recommendations of that work which are discussed in the next section.



Fly parking at Guildford Station (Walnut Tree Close)

3.6 Cycle parking usage survey - methodology

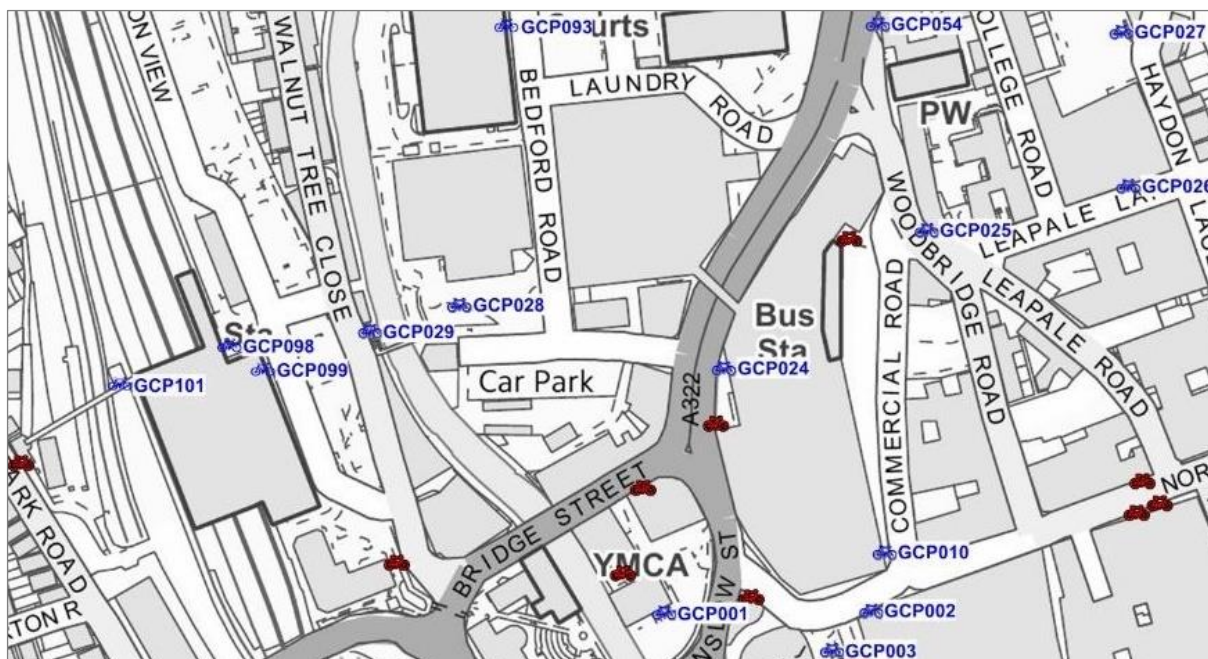
Once the location of parking in the town centre was established a series of usage counts were undertaken to see when sites were used, and by how many people.

The survey was undertaken on three different days, Thursday 20 September 2018, Tuesday 9 October 2018 and Saturday 13 October 2018 (the weather was fine on all three days). The first two surveys were intended to capture the maximum week-day usage, based on evidence that cycle use for commuting drops on Mondays and Fridays. The final survey was intended to capture weekend use which is likely to be more leisure and shopping based.

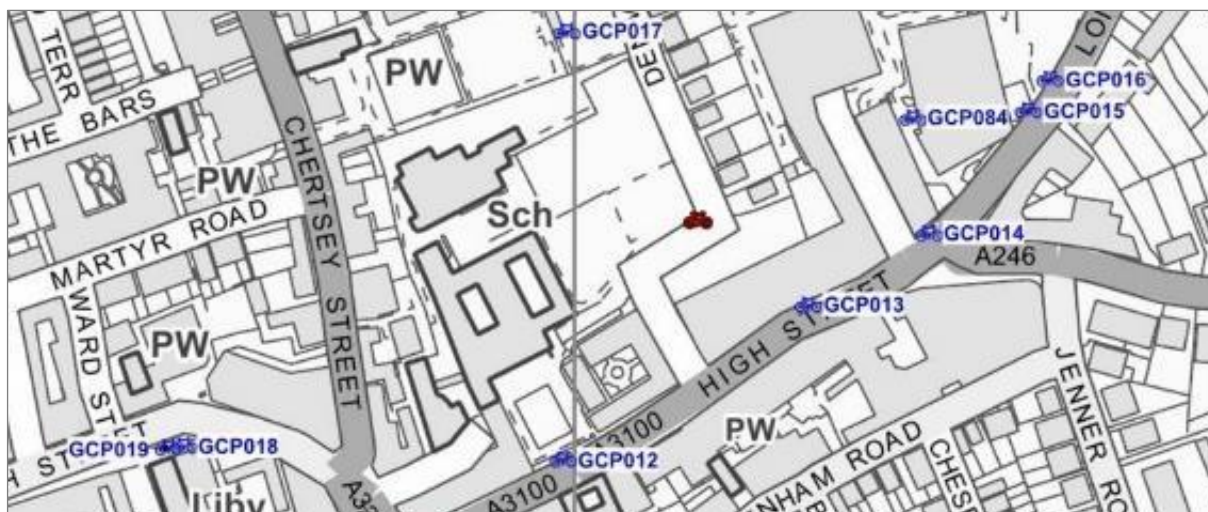
On each of these days four counts were undertaken at each site.

1. Mid-morning 10.00 - 11.00
2. Lunchtime 12.30 - 13.30
3. Mid-afternoon 15.00 - 16.00
4. Evening 20.00 - 21.00

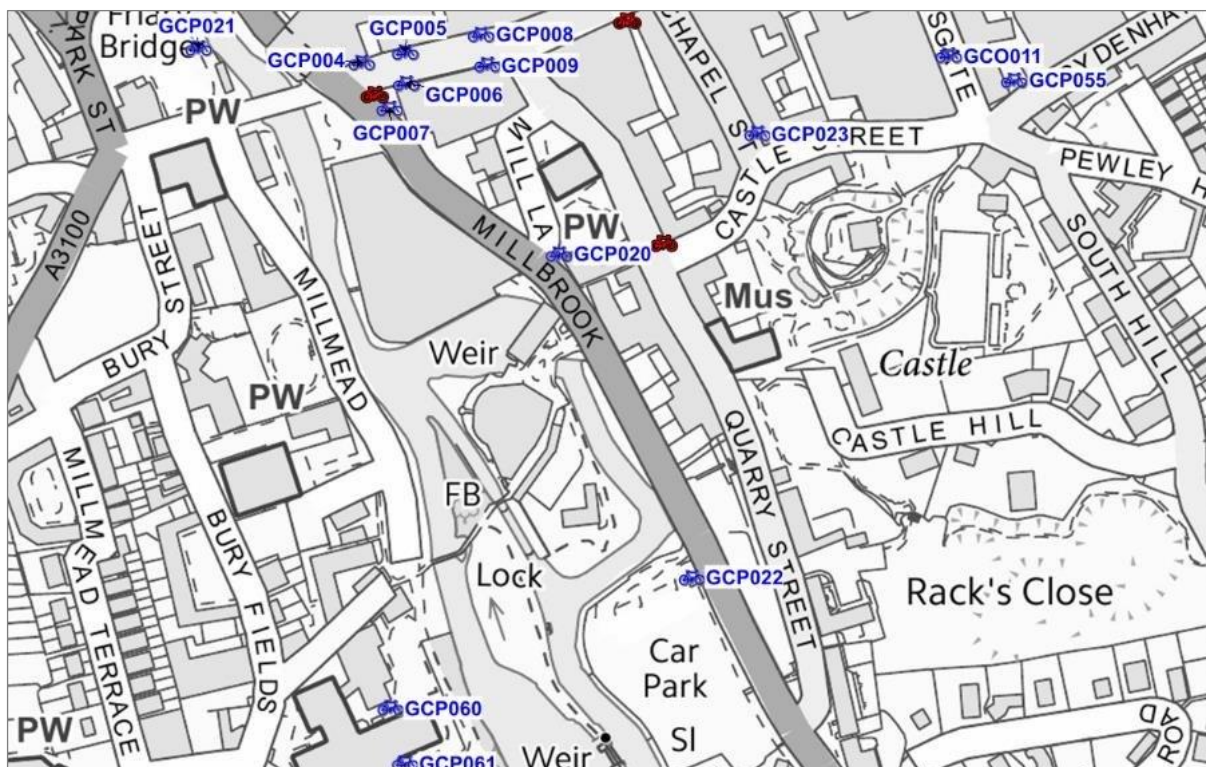
The centre was split into three distinct areas as shown in Plans 11,12 and 13 below.



Plan 11. Town centre parking survey – North West area



Plan 12. Town centre parking survey – North East area



Plan 13. Town centre parking survey – South area

3.7 Cycle parking usage survey - results

The audit of cycle parking found 38 cycle parking sites in and around the town centre providing a total of 677 parking spaces. Of these, 390 of these are at Guildford Station with the remaining 287 available in the main commercial centre of the town.

The survey results separate out the levels of occupation of parking in these two clusters. The detailed survey counts for each site and survey day are included in Appendix B.

Guildford Station

The parking at the station will mostly be used by people commuting from Guildford who cycle to the station in the morning. Indeed, this is borne out by the fact that the number of bikes parked at the station peaks during the day at between 267 (20/9) and 287 (9/10) and then more than halves in the evening (131 & 126 respectively).

For the Saturday count, parking at the station peaked in the afternoon at 125 bikes and only slightly reduced to 114 in the evening. This would suggest that a lot of bicycles are left for longer periods at the station parking. The secure parking on the east side of the station which has 52 spaces had maximum usage of only 23 of these. The remainder of the parking on the east side is in three distinct banks of two-tier racks. In the busiest periods the nearest two of these (to the station entrance) were at capacity, indeed some were over capacity with bikes locked to the ends rather than the racks.

We understand that when Guildford Station is rebuilt the parking provision will be expanded. Published plans for the development state that there will be 536 spaces, an increase of around 37% (plus 456 spaces for the associated residential development). It is crucial that this is well located near to the main entrance and with high levels of active and passive security.

In addition, best practice guidance by the Rail Development Group advises that the aspiration should be for 5% of rail passengers to cycle to/from stations. At Guildford this would require around 1,500 spaces, three times the proposed increased provision.

Remainder of town centre

Table 9 below shows the counts of total cycle parking in the town centre, excluding parking at Guildford Station.

Survey date	Count time			
	10.00-11.00	12.30-13.30	15.00-16.00	20.00-21.00
Thursday 20/9/18	96	116	110	54
Tuesday 9/10/18	106	127	132	58
Saturday 13/10/18	69	92	111	48

Table 9. Town centre cycle parking count totals (excluding station parking)

This shows a consistent pattern in the cycle parking in the centre. The number of parked cycles is at its highest from lunch to mid-afternoon on all days and then more than halves in the evening. On Saturday figures are significantly lower overall but the mid-afternoon peak is higher than the Thursday count. The Saturday evening count holds up quite well compared to those on the two weekdays, however, this may reflect the base level of bikes that are simply left overnight or for longer periods.

3.8 Abandoned cycles

We observed several abandoned cycles around Guildford, notably on the railings by the subway south of Guildford Station on Walnut Tree Close. These are unsightly, can be a hazard and send out a negative message about cycling. Clearly abandoned cycles (missing parts, damaged or very rusty) were not included in any of our counts or surveys.



Abandoned cycles, Guildford station (Walnut Tree Close)

Abandoned cycles should be dealt with in a systematic way. Other councils do this by attaching warning notices stating that the cycle will be removed after a notice period (usually two or three weeks). Guildford BC should introduce a similar process.



Abandoned cycle notices: Croydon / Brighton & Hove councils & South Western Railway (Guildford)

3.9 Proposed new cycle parking

As discussed above, good cycle parking is generally best provided on a 'little and often' basis. There should be enough provision to satisfy potential demand, located very close to destinations and usually positioned so that users can easily view their parked bicycle while they are at their destination.

TI uses the approach in Table 10 below to decide where and in what numbers to introduce new cycle parking provision. Note this applies to retro-fitting parking at existing destinations. At new developments, a higher level should be sought.

Location Type	Minimum no of stands
Corner shop, food takeaway, other destinations visited for short periods	1
Restaurant, pub, small supermarkets, retail outlet, other destinations expecting visitors to stay longer	2
Larger supermarkets, sport centres, colleges, stations, other similar destinations with mass usage	4+

Table 10. Approach for providing new cycle parking

Using this approach TI sought out locations in Guildford where it could be applied. At each location chosen we created a GIS record for which we collected the data in Table 11 below. All the proposed cycle parking sites were photographed.

Field	Detail of data recorded
Ref	Unique reference for each site GPCP001 etc.
Location	Fairly detailed description of location e.g. parallel to kerb at 40 Epsom Road
Type	Type of cycle parking to be installed
Number of stands	Minimum number of stands that should be introduced
Consultation required?	This applies mainly to two types of site: i. On public land (including footway) near to private premises where it would be good practice to consult with the owner/manager/operator ii. Private land (e.g. car park) where the council has no power to install parking but may be able to encourage (and fund) a landowner to do so Consultation should be positive, selling the benefits to business owners and getting their buy-in to promote cycling
Comments	More detailed information to help with effective implementation
Date	Date of site visit
Surveyor	Initials of the surveyor

Table 11. Data fields in proposed cycle parking table

In total we have recommended new cycle parking at **151** sites, with a minimum of **489** new stands offering a minimum of **978** extra parking spaces. All stands are recommended to be of the standard Sheffield stand design.

Appendix B sets out the full schedule of recommendations, including plans showing where new parking is proposed and other comments

4. Cycle wayfinding review

4.1 Background

Generally, comprehensive cycle networks include a mixture of:

- On-road cycle infrastructure (e.g. protected cycle tracks, cycle lanes)
- Off-road paths (e.g. cycle tracks through parks)
- Quieter roads
- Junctions and crossings

On all these route elements, cycle direction signing is important so that people cycling can find their way, moving easily between formal routes and unsigned streets.

In particular, for those new to an area (or new to cycling), good signed routes will help them in gaining confidence and finding their way around. If routes are badly or incompletely signed the opposite will be true. Someone who loses their way on a route because of missing or twisted signs will also lose trust in following signed routes and may consequently be less inclined to make cycle journeys. This applies especially to people used to driving round an area who may be unaware that cycle routes are not the same as the main motor vehicle routes.

In Guildford, it was considered that the bike share scheme would be particularly attractive to this group of potential users, so it is important to ensure that any existing and new routes are well signed to build the confidence of those who use them. This survey was therefore undertaken to find out the existing level and quality of cycle direction signing.

High quality cycle direction signing is also important as part of overall promotion of cycling. While people using other forms of transport may not need the direction signing itself, the presence of frequent and well-maintained signs will reinforce the message that cycling is taken seriously. This will help to encourage people to consider cycling.

4.2 Cycle direction sign guidance

While there are many sources of guidance for cycle direction signing, the clearest can be found in TfL's London Cycling Design Standards (LCDS) 2016. Chapter 6 covers both regulatory and direction signing.

TSRGD (Traffic Signs Regulations & General Directions), published by DfT in 2016, sets out statutory requirements for all forms of signing including for cycling.

4.3 Review methodology

The review of cycle wayfinding was carried out after the Cycle Skills Network Audit (CSNA) and cycle parking audits of Guildford were completed. However, while these were being undertaken the auditors took notes of locations where they saw cycle direction signs so these could be revisited as part of the sign audit.

Once the audit was begun the auditors used the printed Surrey Cycle Guide map No 4, produced by Surrey County Council, to locate where 'Routes signed for cyclists' (as defined in the map) were advertised as being in place. These were all visited and any direction signs maintained by the council were identified and recorded in a digital mapping layer. All signs were also photographed.



Key – Surrey Cycle Guide no. 4, with key

The data collected for each sign is set out in Table 12 below:

Field	Detail of data recorded
Ref	Unique reference for each sign e.g. CDS01 (CDS = Cycle Direction Sign)
Location	Fairly detailed description of location e.g. 115 Bushy Hill Drive
Diagram No	As in TSRGD 2016
Double sided	Is the sign double sided? (i.e. same information on both sides): Yes / No
Attached to	What sign is attached to (in the case of Guildford this was either a sign post or a lamp column)
Lamp column no.	Where a sign is attached to a lamp column this will usually have a number reference for street lighting maintenance. Recording the number is an added guide to the sign's location.
Legend	Information given on sign, e.g. "Marrow 1"
Legend appropriate	Is legend appropriate for sign in this location? Yes / No
Should point/ face	Compass direction a sign with an arrow should point or compass direction a sign without an arrow should face e.g. "North-west"
Alignment correct	Is sign pointing/facing in the correct direction? Yes / No
Comments	More detailed site information and recommendations for improvement
Date	Date of site visit
Surveyor	Initials of the surveyor

Table 12. Cycle direction signs data fields

The audit did not record stickers on lamp columns and sign posts that are used to show National Cycle Network (NCN) routes. While there some of these on the NCN where it passes through Guildford, these are not maintained by Surrey County Council or Guildford Borough Council, but rather placed and maintained by Sustrans' volunteer rangers. These signs are frequently in poor condition and do not conform to TSRGD standards.

Some formal signs that are maintained by the councils do have the numbers of NCN routes on them and these were recorded.

The audit also does not record Rights of Way wayfinding on the Downslink, provided by Surrey County Council's countryside team. While the blue arrow does denote a bridleway, this does not explicitly indicate that cycling is permitted to users who are not familiar with Rights of Way symbols. In addition, the wayfinding does not display NCN route numbers.



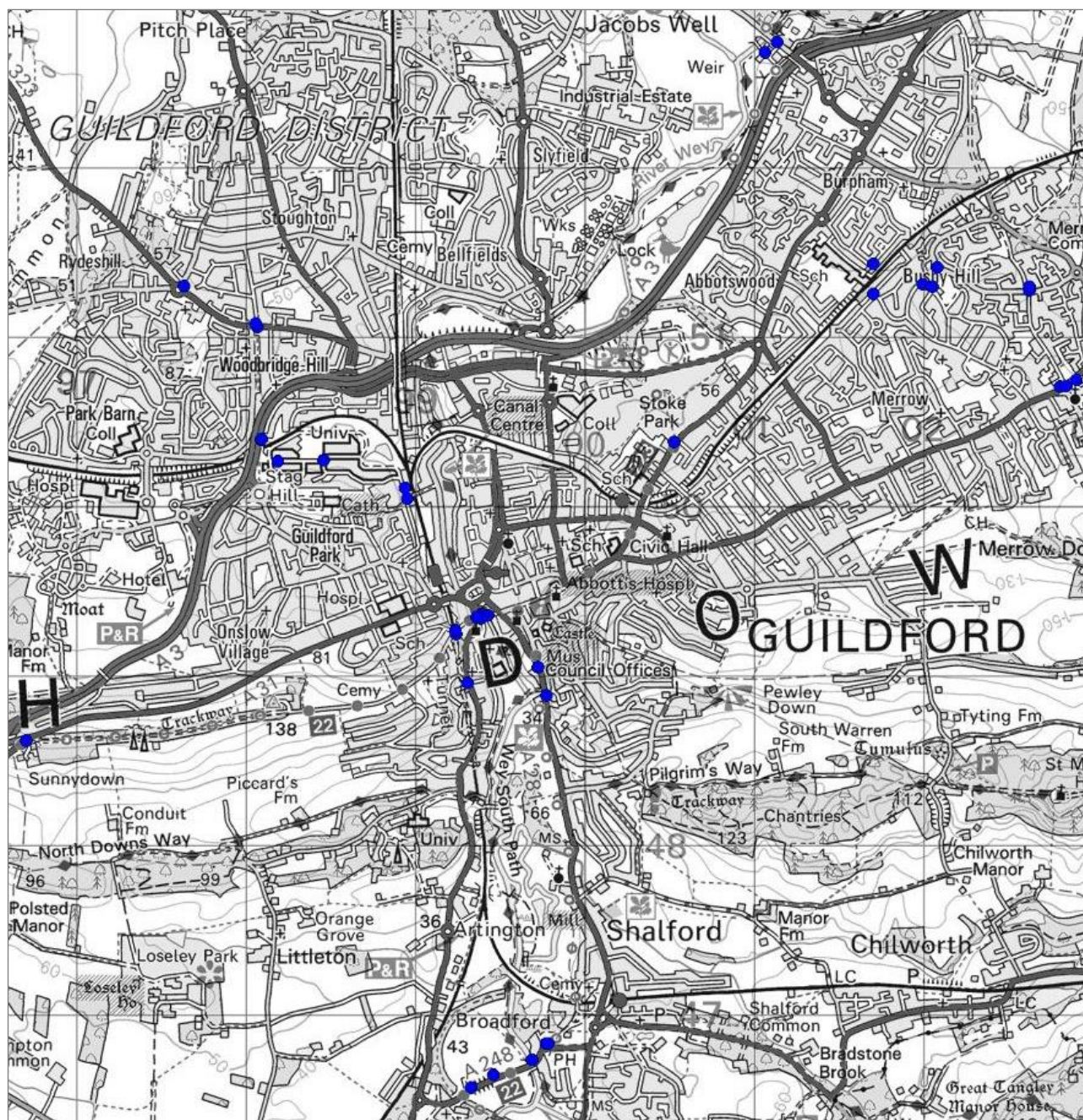
Sustrans NCN stickers, Spectrum Leisure Centre & High St (showing maintenance problems)



Downslink rights of way signing

4.4 Findings of sign audit

Plan 14 below shows the location of the 47 cycle directions signs found in Guildford.



Plan 14. Location of cycle direction signs in Guildford

The full findings are shown in detail in Appendix C, including plans and relevant details of each site recorded.

Table 13 shows the different types of signs found, and their frequency.

TSRGD Diagram number & description	Example	Number of signs
2601.1 Direction for a numbered NCN route		8
2601.2 Route for pedal cycles at junction ahead		3
2602.1 Directions to destinations (distance is optional)		29
2602.2 Route number sign for NCN		7
Total number of signs		47

Table 13. Type and number of signs

Most signs used dedicated sign posts (31), with the remainder (16) on lamp columns.

There were problems with almost half (23) of the 47 signs. These are set out in Table 14 below (note some signs had more than one problem):

Problem	No signs affected
Incorrect alignment	15
Bent pole or damage to sign	7
Sign set too low on post or lamp column	2
Wrong position for sign	3
Wrong type of sign	1
Sign needs cleaning	2

Table 14. Sign problems

While these problems can generally be corrected, a more concerning issue is the general inconsistency and lack of coherence in route signing.

4.5 Route signing issues

As stated above, the cycle route map was used as a guide to finding signs on what are shown to be 'routes signed for cyclists'. However, from our site visits it was clear that this definition is used in its loosest term. Some of the 'routes' had no signing at all while others had regulatory signing only.

Good route signing has the attributes set out in Table 15 below:

Cycle route attribute	Delivery
Beginning / end	The start and end of a signed route should be clear (in both directions), both to those using it and other road users
Signing of destinations	Destinations along a route should be signed in order with the nearest at the top and furthest away at the bottom
Distances (and times)	Distances should be consistent and measured to the nearest quarter mile. Times are optional but can help encourage new cyclists.
Junctions	Direction signs should be located at all major nodes/junctions where the route is not immediately apparent and/or it is possible for people to lose the route
Reminder and reassurance	Appropriate regulatory signs should be used along the route to give reassurance to those using it, and to remind others that this is a cycle route. These can be a mixture of plates, e.g. Diagram 956 and carriageway markings (Diagram 1067) which may also have arrows. Where carriageway markings are used they should be placed where they will not be obscured by parked vehicles

Table 15. Attributes of signed cycle routes

Sadly, few of these attributes are present on cycle routes in Guildford. Indeed, there is not a single route in the town that is adequately signed from end to end, or merits the description of a 'signed cycle route'. This includes the sections of the National Cycle Network that pass through the town, which has significant gaps in clear signing, particularly through the town centre. Without a map, the NCN through Guildford could not be followed using just the signing in place.

Away from the NCN, signing has also been introduced in a very piecemeal fashion without consistency and with major junctions missed.

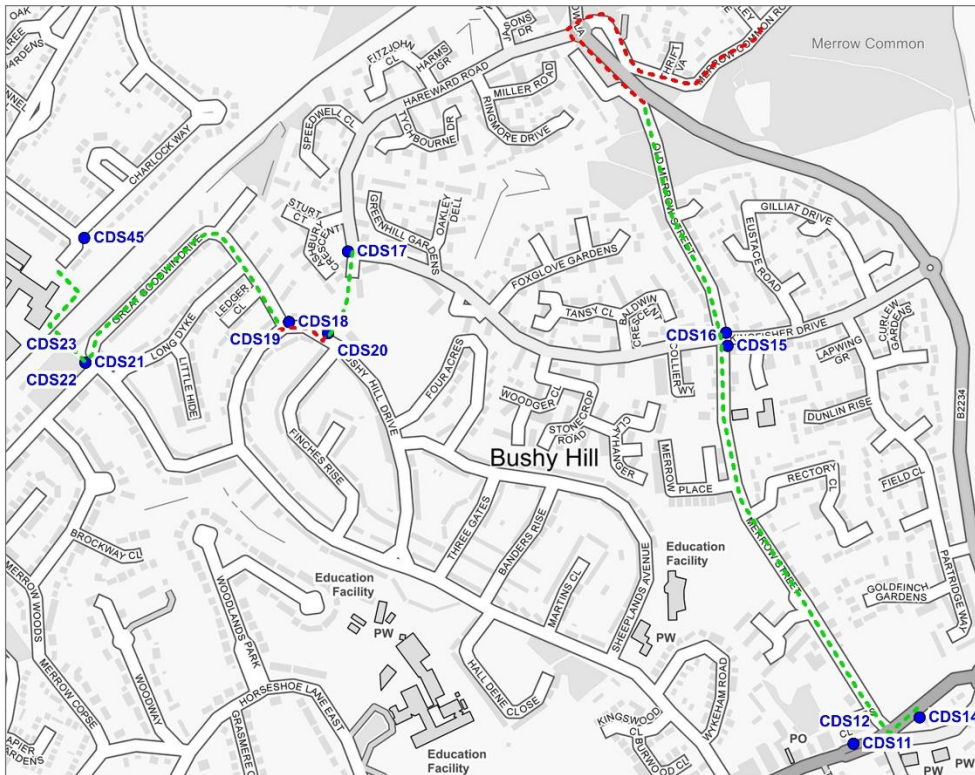
Examples of the problems with cycle signing in the town are found in the east with routes signed to Merrow, Merrow Common, George Abbot School and Burpham. Plan 15 below illustrates these routes and the problems with their signing. The extent of the routes is shown by the dotted lines. Sections which are covered by direction signing have a green line and those where signing is missing are coloured red.



First sign on route to George Abbot School & Burpham (CDS17)



Final sign (CDS23)



Plan 15. 'Signed routes' in Bushy Hill area

For people wishing to cycle to George Abbot School or Burpham, signing of a route begins at sign CDS17 on the Plan, with the final sign at CDS23. Before this there is a gap in signing at CDS20 where there is a sign to Merrow in the opposite direction but none advising you to turn right at this point to continue towards the school and Burpham. Signs CDS18 and CDS19 may be visible in the distance but are not readable.

In the opposite direction the route fails at CDS17, where there is no sign directing users towards CDS16 despite this being needed.

The route to Merrow Common shown on Plan 15 begins at CDS14 and signs users across the junction at CDS15, but no further. If you cycle down Old Merrow Street you reach the point where it runs parallel to the B2234 and you find a path where people cycling are instructed to dismount, although there is no dropped kerb to enable them to access the path. Having reached this point, cyclists are abandoned. Unless you already know that Merrow Common is on the far side of the B2234 there is nothing to tell you to continue south on the path and cross at the less than satisfactory crossings at the roundabout.



'CYCLISTS DISMOUNT' sign on path between Old Merrow Street & B2234

4.6 Wayfinding conclusions and recommendations

The audit shows that cycle direction signing has been introduced in a haphazard and piecemeal manner.

The cycle network recommendations later in this study would lead to a significant step up in the network of formal cycle routes around Guildford. Good signing of the network will play a key role in its success. However, there is currently no cycle signing strategy and its absence should be addressed as part of implementation of the route network. This strategy should cover:

A. **Clear policy on route identity**

Surrey County Council should decide on whether to give routes on its route a network identity or not. Other areas have chosen to number or name routes, identify them by colours (e.g. Aylesbury's gem stones routes), or simply use the destinations they access. Whichever format of identity is chosen, it must be applied consistently and coherently.

B. **Choice of destinations**

There should also be a clear policy on choice of which destinations along a route will be signed and for what distance. The end destination should always be signed and an agreed maximum number of intermediate destinations should appear on each sign.

C. **Distances and/or times**

We recommend that signs should show distances to destinations measured to the nearest quarter mile. However, it is becoming more common that some signs will show time to a destination. This may be appropriate in some locations or for key destinations such as rail stations. Whatever the policy agreed in a strategy, it should be applied consistently and clearly.

D. **Where to put signs**

All nodes should have signs, but it is also advisable to put signs in advance of junctions. A clear policy on when and where these are introduced should be decided.

E. **Regulatory signing**

Repeated regulatory signs maintain confidence that cyclists are still on a route and inform other road and path users that this is a cycle route. The frequency and location of such signs should be determined clearly within the signing strategy.



Northern end of Downslink – much clearer wayfinding needed (plus bollard to stop use by cars)

5. Stakeholder engagement

5.1 Workshop - 11 October 2018

A stakeholder workshop was held on 11 October 2018. Transport Initiatives and Urban Movement gave feedback on their work to that point and invited stakeholders to respond with comments both verbally and by drawing on plans showing a suggested network. Pictures of the feedback drawn on the plans are included in Appendix D.

Apart from officers of Guildford Borough Council and Surrey County Council, the following groups were represented at the workshop. Some had more than one participant.

- Cycling UK
- Electric Bikes Guildford
- Experience Guildford
- Guildford Bike User Group (G-BUG)
- Guildford Access & Disability Group
- Guildford Environmental Forum
- Guildford Institute
- Guildford Residents Association
- Guildford Society
- Guildford Vision Group (GVG)
- National Trust
- Network Rail
- Nextbike UK Ltd
- Royal Surrey County Hospital
- Surrey Chambers of Commerce
- Surrey Police
- Sustrans
- University of Surrey

5.2 G-BUG open meeting - 12 June 2019

G-BUG held an open meeting on 12 June 2019. At this Transport Initiatives and Urban Movement provided detailed feedback on the outcome of the audits and network planning ideas, building on the information gathered at the October 2018 workshop.

Appendix D contains the presentation from the meeting.

6. Proposed interventions

6.1 Approach

Following the stakeholder workshop in June 2019, UM developed a series of proposed routes and interventions.

These were refined during 2019, with a pause while work to support the consideration of the bike share scheme was prioritised.

6.2 Proposed routes

Table 16 below sets out the schedule of proposed routes which are shown in Plans 16 and 17.

The type of housing development and street networks in Guildford, and various barriers to movement (such as the A3 and other main roads, railways and River Wey Navigation) severs pedestrian and cycle links between and within neighbourhoods. This makes walking and cycling less convenient and places difficult to get around, isolating communities from each other and creating a greater need to rely on private car use.

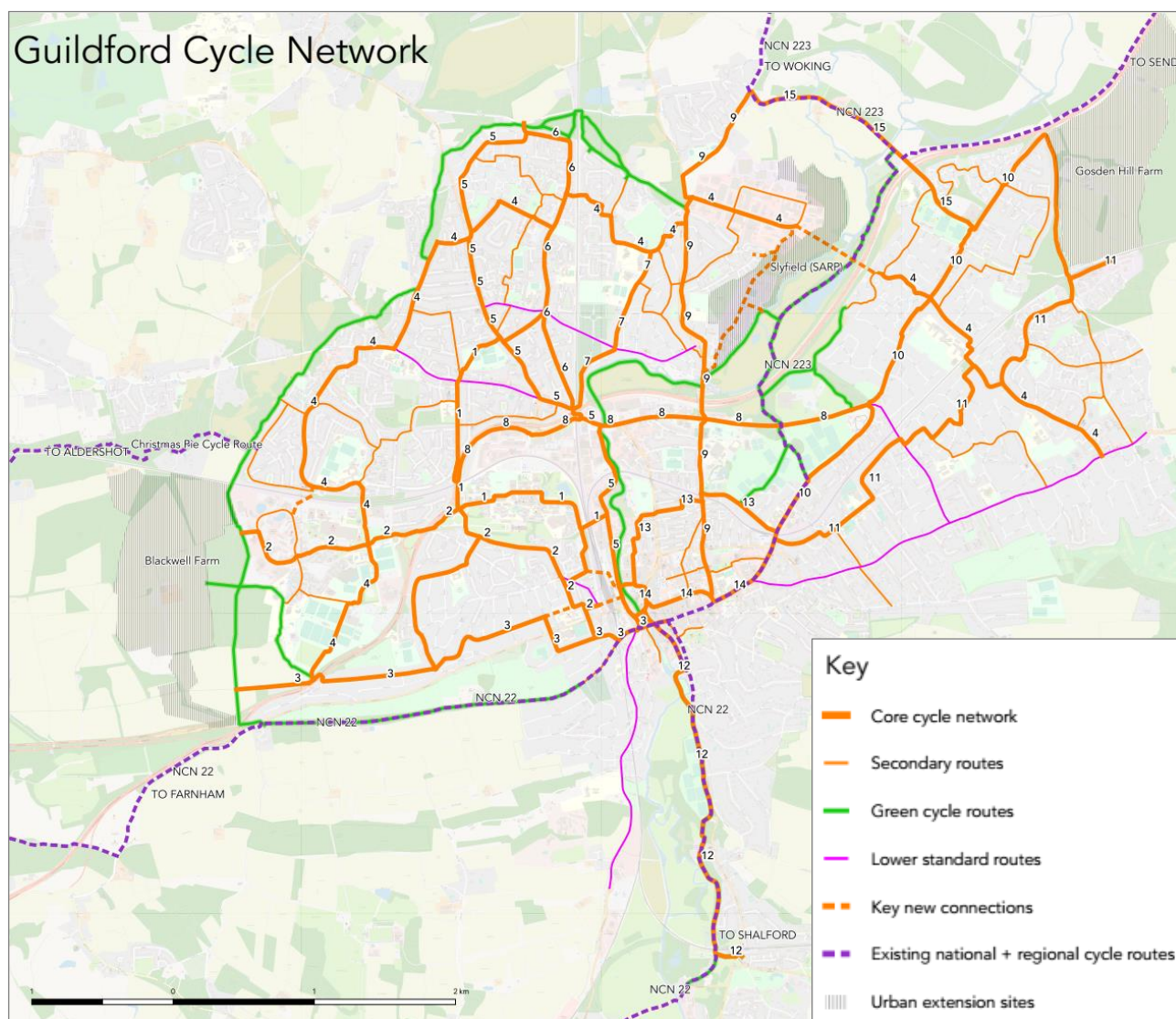
Overcoming these barriers and forging new links through currently impermeable and illegible neighbourhoods would vastly improve connectivity. Some of these links involve the removal of a fence or obstacle, while others involve negotiation or redevelopment of private land, such as building new bridges across railway lines, or providing a connection between two streets through a school playing field or private property.

A number of new connections are suggested on Plan 16. These are not intended to be precise locations, but instead they demonstrate that a new connection would be useful to enable walking and cycling.

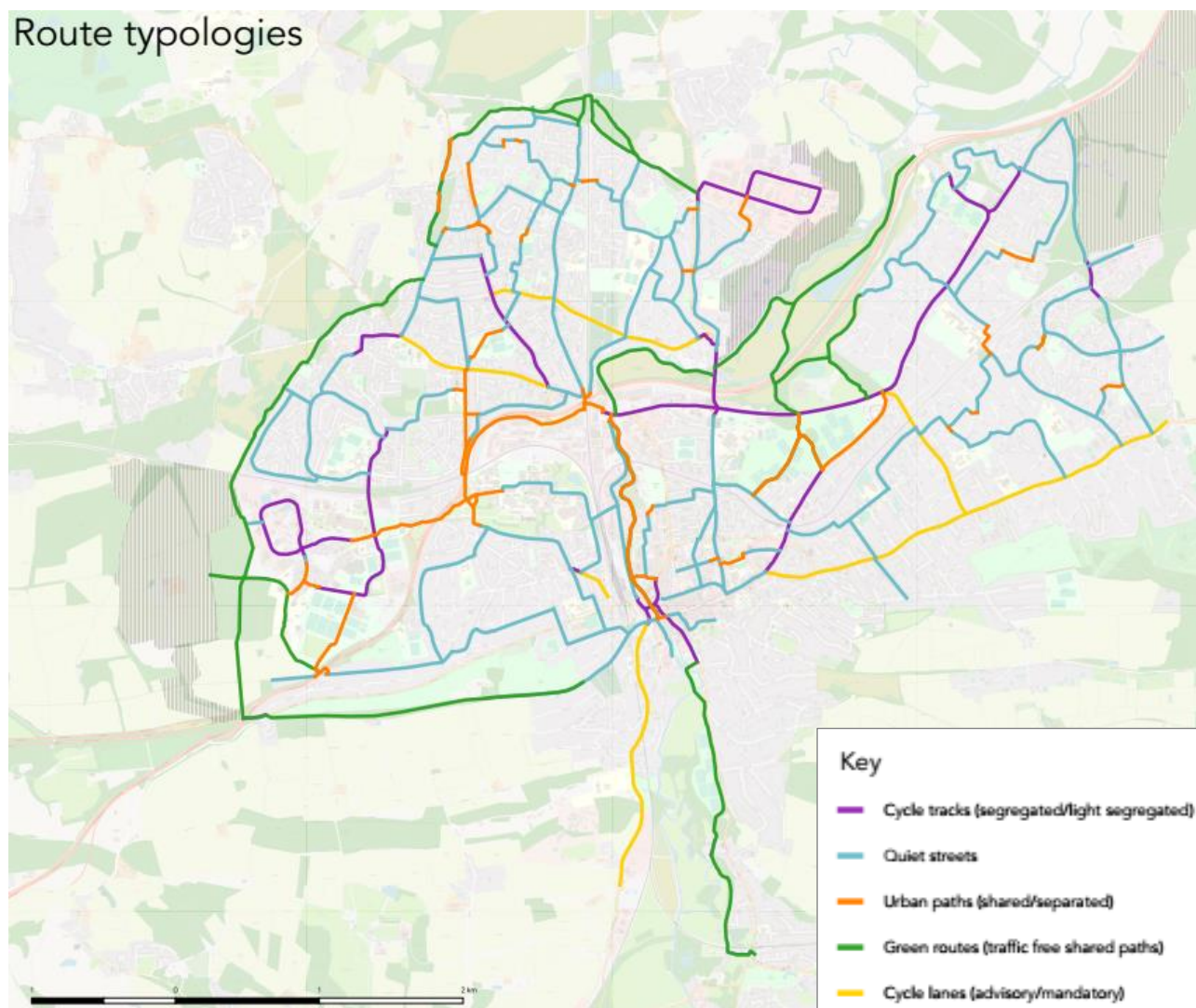
It is important to note that some proposed new key connections are only likely to be realised as part of the development of a site or as a major project. A new key connection between Slyfield Industrial Estate and Burpham would be an example of the latter, which in this case would need to be undertaken by Highways England as a major improvement project or under its Designated Funds Programme for Cycling, Safety & Integration.

Route no.	Description
1	Walnut Tree Close to Grange Road/Stoughton Road junction
2	Guildford station to Surrey Research Park
3	Town Centre to Blackwell Farm
4	Orbital route
5	Guildford station to Stoughton North (Salt Box Road)
6	Manor Road to Stoughton North
7	Woodbridge Hill to Bellfields
8	Ash Grove to Boxgrove Road
9	Town Centre to Slyfield Industrial Estate and Jacob's Well
10	London Road (Town Centre to Burpham)
11	London Road station to Merrow Business Park
12	Town Centre to Shalford
13	London Road Station to Guildford station
14	Town Centre area measures
15	Burpham to Jacob's Well

Table 16. Schedule of proposed network routes



Plan 16. Proposed cycle network by route designation



Plan 17. Proposed cycle network by type of provision (NB does not include key new connections)

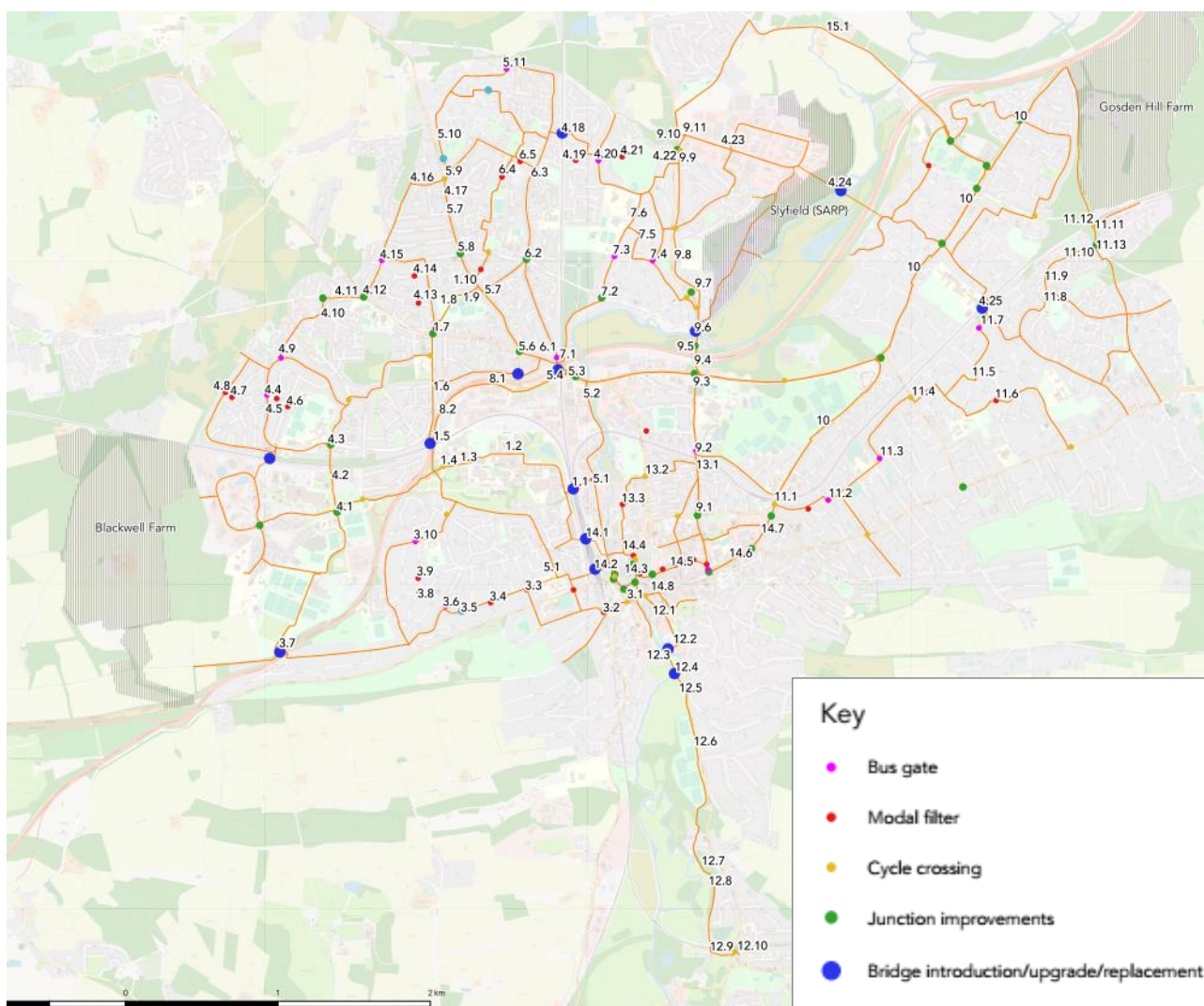
6.3 Suggested interventions

Plan 18 below shows the locations of specific interventions on the routes listed in Table 16, excluding Route 2 where the design and implementation process is under way. These include proposals using various measures, classified as:

- Bus gate
- Modal filter
- Cycle crossing
- Junction improvement
- Bridge (new/upgrade/replacement)

Details of the interventions are provided in Tables 17-30, with a description of issues, proposed measures and indicative costings.

An introduction to the types of interventions and their potential application in the Guildford context is provided in Appendix E.



Plan 18 Suggested interventions

ROUTE 1- WALNUT TREE CLOSE TO GRANGE RD/STOUGHTON RD JUNCTION

Map reference	Location	Issue	Proposal	Cost estimate
1.1	Yorkies Bridge and Jewsons access road	Poor transition (surface quality and level change) and uncontrolled car parking on highway.	Introduce parking controls and enforcement; and improve road surface to provide smooth transition onto Yorkies Bridge.	£4,000
1.2	Spine Road	Lack of active frontage, poor quality public realm.	Remove existing automatic barrier, or ensure it remains open between 6am-9pm. Introduce single-surface public realm treatment to give pedestrian and cycle priority. Address any lighting issues and consider possible improvements to building frontages.	£636,000
1.3	Path between BBC Surrey and Ivy Arts Centre/Perimeter Road	Cycling not permitted. Poor transition across vehicle access road.	Permit cycling and widen path to a minimum of 4m. Provide raised continuous footway transition across access road.	£66,000
1.4	Pedestrian crossing at Perimeter Road	Cycling not permitted at pedestrian crossing	Upgrade to toucan crossing.	£20,000
1.5	Bridge over A3 and railway line to Southway	Narrow bridge with sharp turns and obstacles.	Remove existing railings and introduce bollards away from bridge on wider sections of shared path avoiding further restricting narrowest pinch points.	£3,000
1.6	Approx 725m path from A3/ railway bridge alongside Southway to Aldershot Road.	Narrow shared path width with areas of poor surface quality and poor transitions and	Widen and resurface path to 4m and introduce 3 raised blended crossings over carriageway (giving priority to pedestrians and cycles).	£261,000
1.7	Aldershot Road junction with Northway and Southway (double roundabout)	Rat-running traffic between Northway and Southway. Mini-roundabouts with high traffic volumes provide low level of service for cyclists (critical issue). Key pedestrian and cycle crossing desire line not catered for between Southway and Northway junctions- urgent road safety issue.	Introduce modal filter on Northway at Aldershot Road junction. Southway junction to become priority T-junction. Introduce toucan crossing for cyclists and pedestrians on Aldershot Road between Southway and Northway junctions. Potential for public realm improvements outside shops on Aldershot Road, and at Northway modal filter, which could become a pocket park.	£200,000
1.8	Approx 368m length path through Stoughton Recreation Ground.	Narrow path width and lack of lighting in places.	Widen path to 4m and adjust alignment between Worplesdon Road and Fentum Road entrances to improve directness. Upgrade lighting.	£132,000
1.9	Worplesdon Road (entrance to Stoughton Recreation Ground and Barrack Road junction)	Need to connect to proposed cycle track on Worplesdon Road limited by one-way, left turn only junction. Lack of cycle crossing between Stoughton Recreation Ground and Barrack Road.	Preferred option to reconfigure vehicle access to Stoughton Recreation Ground (SRG) car park (making existing access point pedestrian and cycle only, and providing vehicle access via the Stratton Court residential car park immediately north). This would tie in to the proposed bi-directional cycle track on Worplesdon Road as part of Route 5. This enables a crossing directly at SRG entrance. However, in short term, cycle signage to show transition between SRG and New Cross Road would suffice. Traffic calming (e.g. raised table) could be considered to reduce vehicle speeds.	£20,000
				£1,342,000

Table 17. Route 1

ROUTE 3 - TOWN CENTRE TO BLACKWELL FARM

Map reference	Location	Issue	Proposal	Cost estimate
3.1	Portsmouth Road between High Street and The Mount junction.	Lack of cycle crossing facilities, wide carriageway width.	Reduce carriageway width and corner radii on both junctions, widen and introduce shared footways and introduce new toucan crossing between High Street and The Mount.	£100,000
3.2	Woodland Avenue	Rat-running traffic during peak times.	Introduce modal filter at junction with The Mount.	£5,000
3.3	Agraria Road	Rat-running traffic during peak times.	Introduce modal filter on Agraria Road at Politmore Road junction.	£5,000
3.4	Scillonian Road	Rat-running traffic during peak times.	Introduce modal filter on Scillonian Road at Politmore Road junction.	£5,000
3.5	Between Politmore Road and Thorn Bank	Poor transition, unsuitable for cycle access.	Remove vegetation and create ramp between Politmore Road and Thorn Bank to provide pedestrian and cycle access.	£50,000
3.6	Curling Vale	Potential rat-running traffic.	Introduce bus gate on Curling Vale north of Thorn Bank junction.	£50,000
3.7	Existing bridge between Manor Way and Beechcroft Drive (over A3)	Narrow bridge, cyclists required to dismount.	Short term, permit cycling. Long term, upgrade bridge and widen deck. The Blackwell Farm neighbourhood provides an opportunity to deliver this.	£2,000
3.8	Bannister's Road	Rat-running traffic during peak times.	Introduce modal filter south of the junction with Hedgeway.	£5,000
3.9	Ellis Avenue	Rat-running traffic during peak times.	Introduce modal filter west of junction with Hedgeway.	£5,000
3.10	Queen Eleanor's Road	Rat-running traffic.	Introduce bus gate.	£50,000
				£277,000

Table 18. Route 3

ROUTE 4 - ORBITAL ROUTE

Map reference	Location	Issue	Proposal	Cost estimate
4.1	Gill Avenue/Egerton Road junction	Poor cycle crossing facilities, unclear route.	Improved transition onto shared footway, widening of shared footway and junction islands.	£100,000
4.2	Egerton Road	Narrow shared use path.	Narrow carriageway and widen shared path.	£110,000
4.3	Roundabout at Park Barn/ Egerton Road/Southway	Narrow shared path and lack of formal crossing facilities or sufficient islands.	Narrow carriageway on roundabout and widen islands and shared footways.	£50,000
4.4	Cabell Road	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a bus gate.	£50,000
4.5	Stoney Brook	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a modal filter	£5,000
4.6	Pond Meadow	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a modal filter	£5,000
4.7	Dunmore	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a modal filter	£5,000
4.8	Applegarth Avenue	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a modal filter	£5,000
4.9	Barnwood Road	Large vehicle cell and poor bikeability level street. Potential for through-traffic.	Introduce a bus gate.	£50,000
4.10	Wood Rise+ Broadacres	Higher traffic volumes with vehicles using Park Barn Drive.	Narrow carriageway, widen footway and introduce shared working.	£42,000
4.11	Broad Street	High traffic volumes, narrow footways.	Narrow carriageway and widen shared footway. Provide zebra crossing facility from Broadacres.	£72,000
4.12	Broad Street/Aldershot Road/ Ryde's Hill Road junction	Narrow footways and splitter islands unsuitable for cycling. High traffic volumes using roundabout.	Widen shared footway and splitter islands.	£68,000
4.13	Canterbury Road	Potential rat-running traffic if other measures are introduced.	Introduce modal filter east of Gloucester Road	£5,000
4.14	Lincoln Road	Potential rat-running traffic if other measures are introduced.	Introduce modal filter east of Gloucester Road	£5,000
4.15	Ryde's Hill Road	High traffic volumes and through-traffic between Stoughton Road and Aldershot Road.	Introduce a bus gate.	£50,000
4.16	Path between Ryde's Hill Road and Bryanstone Avenue	Path poor quality and overgrown.	Cut back vegetation, widen and resurface path.	£50,000
4.17	Worplesdon Road	Cycling not permitted at existing crossing.	Upgrade crossing to toucan	£20,000

4.18	Bridge between Robin Way and Yew Tree Drive	Narrow bridge width	Provide cycle transition onto bridge (dropped kerb). Long term, a new pedestrian/cycle bridge connection. This would ideally be located further south, providing a more direct connection between Railton Road and Lime Grove.	£2,000
4.19	Lime Grove south of Willow Way	Potential for rat-running traffic if other modal filter measures are introduced.	Introduce modal filter south of Willow Way	£5,000
4.20	Hazel Avenue, south of Willow Way		Introduce bus gate to create smaller traffic cells and calm and reduce vehicle numbers and speeds.	£50,000
4.21	Oak Tree Drive		Introduce modal filter- potential to create continuous green space across the street.	£5,000
4.22	Woking Road	No cycle crossing provided	Upgrade existing signalised pedestrian crossing to a toucan.	£20,000
4.23	Moorfield Road	Shared path	Long term measures could include upgrading shared path to segregated cycle track, removing on-street parking where needed. Introduce continuous footway treatments to give cyclists and pedestrians priority across vehicle accesses.	
4.24	Connection between Slyfield Industrial Estate and Burpham	Lack of walking and cycling connection- large diversion for anyone travelling between Slyfield Industrial Estate and Burpham, Abbotswood, Boxgrove and Merrow likely to encourage higher levels of vehicle use.	Long term measures should include providing a lit cycle and pedestrian path, and provide bridge crossings where needed.	
4.25	Existing pedestrian and cycle bridge between Woodruff Avenue and Great Goodwin Drive.	Narrow bridge, congested at school opening and closing times.	Long term measures could include widening and upgrading the bridge to improve provision for pedestrians and cyclists.	
				£774,000

Table 19. Route 4

ROUTE 5 - GUILDFORD TRAIN STATION TO STOUGHTON NORTH (SALT BOX ROAD)

Map reference	Location	Issue	Proposal	Cost estimate
5.1	Walnut Tree Close	High traffic volumes	Modal filter on Walnut Tree Close (south of Jewsons access)	£5,000
5.2	Woodbridge Meadows		Transition onto shared path, and widening and resurfacing of path (30m)	£60,000
5.3	Woodbridge Meadows/ Woodbridge Road (A25) junction	High traffic volumes, low quality cycle crossing facilities.	Junction upgrades to provide improved cycle and pedestrian crossing facilities, and removal of 1 eastbound traffic lane to provide widened shared path on north side, to connect with bridge.	£150,000
5.4	Existing bridge between Manor Road and Woodbridge Road (A25)	Cycling not permitted currently. Very narrow bridge, confusing layout.	Bridge replacement	£1,000,000
5.5	Woodbridge Hill/Manor Road	Rat-running traffic	Introduce a camera enforced bus gate. This could coincide with a public realm scheme on Woodbridge Hill.	£50,000
5.6	Woodbridge Hill/Aldershot Road/Worplesdon Road	High traffic volumes, some segregated provision though incomplete.	Junction upgrades to enable signalised cycle movements between Aldershot Road, Woodbridge Hill and Worplesdon Road (northern arm).	£100,000
5.7	Worplesdon Road from Woodbridge Hill to Johnston Walk	High traffic volumes and lack of segregated cycle provision.	Introduction of bi-directional stepped cycle track on eastern side (1.3km)	£1,700,000
5.8	Worplesdon Road/Stoughton Road junction	High traffic volumes and lack of protected cycle provision.	Upgrade existing signalised junction to provide signalised cycle facilities.	£100,000
5.9	Johnston Walk/Worplesdon Road		Improve transition between Worplesdon Road cycle track and Johnston Walk.	
5.10	Existing path between Johnston Walk and Cumberland Avenue	Existing gate inhibits cycle access and surface quality poor.	Replace gate with lockable bollards, resurface shared path.	£140,000
5.11	Cumberland Avenue	Rat-running traffic	Introduction of camera enforced bus gate on Cumberland Avenue.	£50,000
				£3,355,000

Table 20. Route 5

ROUTE 6 - MANOR ROAD TO STOUGHTON NORTH

Map reference	Location	Issue	Proposal	Cost estimate
6.1	Manor Road	Rat-running traffic	See 5.5.	£50,000
6.2	Stoughton Road/Manor Road/ Grange Road junction	Lack of cycle crossing facilities at junction.	Introduction of cycle advanced stop lines and early release cycle traffic signals. Introduce facility to enable cyclists coming from New Cross Road to cross safely- an access point into the New Cross Road ASL for example.	£50,000
6.3	Grange Road	Rat-running traffic	Introduce bus gate on Grange Road south of Railton Road.	£50,000
6.4	Railton Road	Rat-running traffic	Introduce modal filter. Consider public realm improvements.	£5,000
6.5	Railton Road	Rat-running traffic	Introduce modal filter. Consider public realm improvements.	£5,000
				£160,000

Table 21. Route 6

ROUTE 7 - WOODBRIDGE HILL TO BELLFIELDS

Map reference	Location	Issue	Proposal	Cost estimate
7.1	Existing path between Woodbridge Hill and Weyside Road.	Poor quality transition and narrow width, guard railing and no dropped kerb. Cycling not permitted.	Permit cycling and replace barriers with bollards in the short term. Provide dropped kerb transition and widen access point onto bridge structure. Investigate widening path as part of long term bridge upgrades, as part of proposal 5.4.	£10,000
7.2	Existing roundabout on Stoughton Road at Larch Road and Weyside Road junctions	Mini-roundabout provides poor quality crossing for cycling.	Replace mini-roundabout with priority t-junctions, narrow carriageway width and corner radii on Larch Avenue, Stoughton Road and Weyside, introduce wider shared footways and toucan crossing.	£100,000
7.3	Larch Avenue	Rat-running traffic on Larch Avenue and school pick-up/drop-off.	Introduce bus gate on Larch Avenue south of Christ's Guildford College.	£50,000
7.4	Fir Tree Road	Rat-running traffic through Bellfields area. Need to avoid displacing traffic onto Fir Tree Road from Larch Avenue from proposal 7.3	Introduce bus gate on Fir Tree Road at junction with Cedar Way.	£50,000
7.5	Cypress Road	Rat-running traffic through Bellfields area. Need to avoid displacing traffic onto Cypress Road from Larch Avenue from proposal 7.4	Introduce bus gate on Cypress Road at junction with Laburnham Close.	£50,000
7.6	Larch Avenue (around school entrances)	Several schools located on Larch Avenue.	Potential option to introduce a School Street to restrict traffic at school start and finish times. Potential to introduce public realm improvements (widen footways, introduce trees and planting etc.)	£200,000
				£460,000

Table 22. Route 7

ROUTE 8 - ASH GROVE TO BOXGROVE ROAD

Map reference	Location	Issue	Proposal	Cost estimate
8.1	A3 slip road	Wide carriageway, high vehicle speeds, narrow shared path.	Investigate lane narrowing (likely to require Highways England involvement) to enable widening of shared path. Buffer space (such as planted verge) recommended to increase protection from hostile road.	£180,000
8.2	Existing path alongside A3 and Ash Grove	Narrow shared path.	Widen shared path alongside Ash Grove where possible.	£200,000
				£380,000

Table 23. Route 8

ROUTE 9 - TOWN CENTRE TO SLYFIELD INDUSTRIAL ESTATE + JACOB'S WELL

Map reference	Location	Issue	Proposal	Cost estimate
9.1	Chertsey Road/York Road/Stoke Road crossing	High traffic volumes and lack of dedicated cycling facilities at junction.	Retain ASLs and introduce cycle signals (early release) at junction. Reduce York Road approach to single lane and introduce mandatory cycle lane on approach.	£40,000
9.2	Stoke Road/Nightingale Road junction	High traffic volumes and lack of space for cycling. Proximity to Guildford College means high potential for young people cycling in area.	Introduce bus gate north of Nightingale Road junction to prevent through-traffic. Potential for this to form part of sustainable travel corridor, providing direct bus access to town centre. Additionally, public realm improvements around The Stoke Pub and The King's Head Pub area recommended.	£50,000
9.3	Stoke Road/Woking Road/A25 Parkway junction	Major signalised crossroads junction	Provision of pedestrian and cycle crossings (Surrey CC scheme)	
9.4	Woking Road between Stoke Road and mini roundabout south of River Wey.	Narrow shared footway with high cycle flows.	Remove one vehicle lane on eastern side, and create 3m wide bi-directional stepped cycle track. Upgrade pedestrian crossing on A3 slip road to toucan crossing.	£200,000
9.5	Informal crossing north of roundabout with Woking Road and A3 slip road.	Narrow roundabout splitter island/pedestrian refuge unsafe for level of use. High cycle flows crossing from towpath onto Woking Road.	Upgrade informal crossing on roundabout (by River Wey Navigation) widening refuge island to 2.5m minimum.	£20,000
9.6	Bridge over River Wey and River Wey Navigation	Narrow shared footways on existing bridges	Restricted width on bridge. Remove bus lane on east side in order to continue 2.5-3m wide bi-directional cycle track, leading in to the old Woking Road (by Stoke Mill Close junction). Some parking removal/re-design on old Woking Road required. Introduce formal ped/cycle crossing over Woking Road south of roundabout to enable access to shared footway on west side of Woking Road. Measures such as introducing bus lanes on the Parkway junction approach, and introducing a bus street on old Woking Road would help to protect or improve bus journey times. To retain bus lane on River Wey bridge, it is recommended to widen the bridge in the long term.	£250,000

9.7	Old Woking Road junction with Bellfields Road	Vast carriageway width and multiple vehicle junctions including roundabout exit create a high risk of collisions.	Redesign junction to significantly reduce carriageway width and excess space, and create a more legible street environment and safe, formal pedestrian crossing points.	£200,000
9.8	Old Woking Road	Wide carriageway with low levels of traffic- potential for high vehicles speeds. Potential bus corridor scheme being introduced, increasing risk of collisions.	Introduce traffic calming and potential bus gate as part of Bus Corridor Scheme to create a 'bus and cycle' street. Vehicle access to properties retained.	
9.9	Roundabout at Woking Road/ Woodlands Road	Lack of cycle crossing facility across Woodlands Road.	Address transition between old Woking Road and roundabout. Removal of part of raised planter recommended to make the route more obvious and legible. Narrow carriageway on roundabout and widen existing splitter island on Woodlands Fold to 2m to enable cycle use.	£150,000
9.10	Between Woodlands Fold roundabout and Moorefield Road junction.	Shared path insufficient width.	Widen existing shared path to 4m.	£45,000
9.11	Woking Road junction with Moorefield Road (for Slyfield Industrial Estate)	Lack of cycle crossing.	Upgrade existing signalised pedestrian crossing to toucan crossing.	£20,000
				£975,000

Table 24. Route 9

ROUTE 10 - LONDON ROAD (TOWN CENTRE TO BURPHAM)

Map reference	Location	Issue	Proposal	Cost estimate
10	London Road between York Road and Great Oaks Park	Key movement corridor with high levels of traffic and lack of segregated cycle provision. Includes 5 major unsignalised roundabouts, 1 mini-roundabout and 1 signalised crossroads.	Introduction of 2-way segregated cycle track on west side. Widening and lighting existing cycle track through Stoke Park (alongside London Road) and improved segregated cycle provision and crossings at all key junctions.	£3,900,000

Table 25. Route 10

ROUTE 11 - LONDON ROAD STATION TO MERROW BUSINESS PARK

Map reference	Location	Issue	Proposal	Cost estimate
11.1	London Road/Clandon Road junction	Narrow access path from London Road station and lack of cycle crossing (current pedestrian crossing is located away from cycle desire line)	Widen Station access path to min 3m. Move existing pedestrian crossing towards Clandon Road junction and upgrade to toucan, introducing shared footways where needed. Integrate with London Road segregated cycle route.	£100,000
11.2	Cross Lanes corner with Cranley Road.	Poor visibility due to right-angled bend in road. Current vehicle rat-run. Tormead School and Lanesborough Preparatory School in the area.	Bus gate on corner of Cross Lanes and Cranley Road	£50,000
11.3	Tormead Road/Cranley Road junction	Current vehicle rat-run. Tormead School and Lanesborough Preparatory School in the area.	Bus gate on Tormead Road (at the Cranley Road junction)	£50,000
11.4	Boxgrove Road (between Tormead Road and Duncan Drive)	Connection between Tormead Road and Duncan Drive. Lack of cycle crossing (currently signalised pedestrian crossing) and narrow shared footways on Boxgrove Road.	Narrow carriageway through removal of right-turn pockets and widen shared footways on both sides of Boxgrove Road. Upgrade existing pedestrian crossing to toucan crossing.	£50,000
11.5	Path between Collingwood Crescent and Merrow Copse (approx. 45m)	Narrow path	Widen and surface existing path and provide dropped kerb transitions at Collingwood Crescent and Merrow Copse.	£16,000
11.6	Boxgrove Lane/Merrow Copse junction	Large vehicle cell with potential for rat-running.	Introduce modal filter across Boxgrove Lane at Merrow Copse junction.	£5,000
11.7	Merrow Woods	Large vehicle cell with potential for rat-running.	Introduce bus gate across northern section of Merrow Woods south of Great Goodwin Drive.	£50,000
11.8	Shared path between Bushy Hill Drive and Hareward Road	Narrow path. Bus cage blocking dropped kerb on Bushy Hill Drive.	Widen shared path to 3m. Move bus cage away from dropped kerb access.	£18,000
11.9	Hareward Road and Kingfisher Drive	Vehicle speeds	Reduce speed limit to 20mph and introduce cycle-friendly traffic calming measures.	£21,000
11.10	Hareward Road junction with Park Lane and Merrow Lane (roundabout).	Narrow shared paths and wide junction.	Narrow Harvard Road and provide improved transition onto shared footway.	£10,000
11.11	Merrow Lane (between Harvard Road and Merrow Lane Business Park).	Narrow shared footway and lack of crossing point to access Merrow Lane Business Park.	Widen existing shared footway.	£36,000
11.12	Merrow Lane between Harewood Road and Merrow Lane business park access.	Traffic speed limit, lack of formal crossing facilities.	Introduce signalised toucan crossing into current traffic signal cycle at roundabout/ railway arch.	£80,000
11.13	Park Lane	Vehicle speeds	Reduce speed limit from 50mph to 30mph or less (ideally introduce 20mph speed limit across Guildford urban area)	
				£486,000

Table 26. Route 11

ROUTE 12 - TOWN CENTRE TO SHALFORD

Map reference	Location	Issue	Proposal	Cost estimate
12.1	Millbrook between gyratory and Millbrook car park	Lack of protected cycling facilities on key vehicle corridor.	Reduce Millbrook to one lane in each direction, and introduce 2-way stepped cycle track along western side.	£650,000
12.2	Millbrook car park across River Wey	Lack of connection across River Wey	Introduce 4m wide pedestrian and cycle bridge from car park across River Wey	£500,000
12.3	Paths through green space	Narrow width of path and surface quality	Widen path to 3-4m, surface with resin bound aggregate or similar. Introduce lighting.	£65,000
12.4	Crossing over River Wey	Lack of bridge crossing in this location.	Introduce 4m wide pedestrian and cycle bridge	£500,000
12.5	Connection between proposed bridge and existing Dagley Lane path	No existing path in this location	Introduce approx. 100m length 3-4m wide shared path along connecting between proposed bridge and Dagley Lane. Surfaced using resin bound aggregate or similar.	£44,000
12.6	Dagley Lane between Guildford Rowing Club and Shalford Thames Water car park	1000m unlit shared path of varying quality, narrow width.	Widen path to 3-4m and surface using resin bound aggregate or similar. Potential to use Starpath product, which glows in the dark, avoiding installing formal lighting in environmentally sensitive area.	£426,000
12.7	Shalford Thames Water car park to railway bridge at Shalford	Approx. 700m unsurfaced woodland path, no lighting and narrow in places.	Provide formal to 3-4m shared path and surface using resin bound aggregate or similar. Potential to use Starpath product, which glows in the dark, avoiding installing formal lighting in environmentally sensitive area.	£330,000
12.8	Dagley Lane (rear of The Seahorse PH)	Steep slope (currently stepped) unsuitable for cycling.	Provide 3-4m wide bridge with 1:20 gradient, suitable for cycling. This may wind around the woodland, or follow the existing path to provide a less severe gradient.	£500,000
12.9	Horsham Road, footway from Dagley Lane junction to existing signalised pedestrian crossing at railway bridge.	Narrow footway, cycling not permitted. Cycling crossing not provided at Horsham Road.	Widen footway and introduce shared working. Upgrade existing signalised crossing to toucan.	£29,000
12.11	Path from Horsham Road crossing to Station approach	Current path stepped and narrow.	Widen path to 3m, introduce shared working and regrade topography to provide slope. Provide dropped kerb transition at Station Approach.	£14,000
				£3,058,000

Table 27. Route 12

ROUTE 13 - LONDON ROAD STATION TO GUILDFORD TRAIN STATION

Map reference	Location	Issue	Proposal	Cost estimate
13.1	Nightingale Road/Stoke Road junction	High traffic levels on Nightingale Road and Stoke Road	See 9.2	£50,000
13.2	Woodbridge Road at Dapdune Road/Wharf Road junction	High traffic levels on Woodbridge Road and lack of cycle or pedestrian crossing facilities.	Introduce new cycle and pedestrian crossing	£80,000
13.3	Corner of Leas Road and Mary Road	Traffic accessing the Mary Road car park.	Introduce modal filter on Mary Road.	£5,000
				£135,000

Table 28. Route 13

ROUTE 14 - TOWN CENTRE AREA MEASURES

Map reference	Location	Issue	Proposal
14.1	Between Perimeter Road and Station View	Lack of cycle connectivity across railway line, poor connectivity with town centre.	Option A for new public pedestrian and cycle bridge.
14.2	Between Guildford Park Road and Walnut Tree Close	Lack of cycle connectivity across railway line, poor connectivity with town centre.	Option B for new public pedestrian and cycle bridge.
14.3	Gyratory	Hostile environment for people walking and cycling. Lack of sufficient footway width and lack of cycle facilities.	Broader work on addressing gyratory and the severance caused. Consider reducing number of vehicle lanes and capacity on gyratory and replacing with wider footways and cycle tracks, improved crossing points, and new crossings introduced on desire lines such as between the Electric Theatre and North Street.
14.4	Bedford Road	Poor quality public realm environment on key town centre site and route between station and town centre.	Improve public realm and activity, and provide clear and direct pedestrian route between Walnut Tree Close bridge and Onslow Street.
14.5	North Street	Vehicle dominated street in the heart of the town centre. Lack of alternative cycle routes.	Major public realm and traffic management scheme to prevent through traffic using the town centre. North Street to become a bus, cycle and pedestrian only space, and modal filtering or bus gates introduced at side roads. Chertsey Road to be filtered to prevent traffic from moving between High Street and Chertsey Road.
14.6	High Street	Overly wide carriageways and on-street parking prioritises vehicles over people walking and cycling.	Public realm scheme to create a more pedestrian focussed environment. Consider pedestrianisation (timed/ untimed), creating a shared surface High Street and introducing seating and planting.
14.7	London Road/Epsom Road	Narrow footways on key access points into town centre	Narrow carriageway where possible and widen footways. Provide cycle traffic signals at York Road junction to enable cyclists to safely access the London Road cycle track.

Table 29. Route 14

ROUTE 15 - BURPHAM TO JACOB'S WELL

Map reference	Location	Issue	Proposal	Cost estimate
15.1	Clay Lane	High traffic levels and speeds. Narrow existing shared path.	Narrow carriageway and widen existing shared path, aiming for 3m (2km stretch). Improve side road entry treatments reducing corner radii and narrowing.	£900,000

Table 30. Route 15

6.5 Low Traffic Neighbourhoods

In addition to specific route and junction interventions, we suggest a number of areas that should be the focus of the development of Low Traffic Neighbourhoods. These are set out in Table 31 and shown in Plan 19.

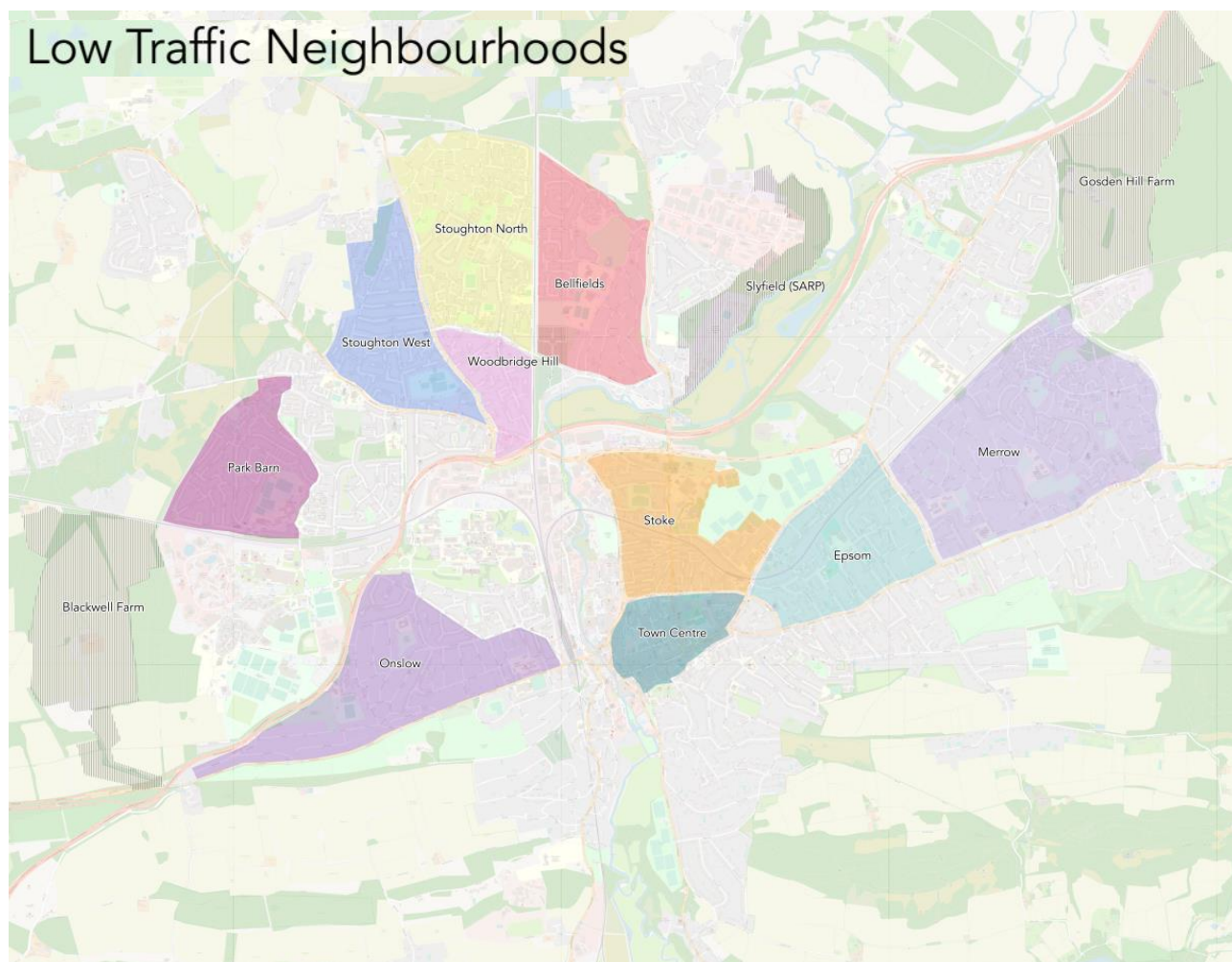
Low Traffic Neighbourhoods are area based schemes which involve making a range of improvements within a defined area, usually at a neighbourhood scale. The neighbourhood boundary can be defined as the area bounded by main or 'distributor' roads or other barriers.

These improvements are targeted at improving walking and cycling conditions on local streets and improving the public realm. Addressing and restricting through motor traffic on residential streets is key to achieving this, ensuring that this traffic is kept on the network of main or 'distributor' roads. These schemes would usually address residential neighbourhood streets, and therefore not usually involve segregated cycle provision.

Area based schemes could involve a variety of measures to improve the walking and cycling environment, enhance neighbourhood open spaces, and reduce car dominance and through motor traffic. This could include introducing modal filters or bus gates (discussed later), improving or creating new walking and cycling paths, removing physical barriers such as fences to improve walking and cycling connectivity and improving or creating new pocket parks, green spaces and neighbourhood centres.

Area	Status
Town Centre	Existing business/residential area
Park Barn	Existing mostly residential area
Stoughton West	Existing mostly residential area
Stoughton North	Existing mostly residential area
Woodbridge Hill	Existing mostly residential area
Bellfields	Existing mostly residential area
Onslow	Existing mostly residential area
Stoke	Existing mostly residential area
Epsom Road	Existing mostly residential area
Merrow	Existing mostly residential area
Slyfield	Urban extension/development site
Gosden Hill Farm	Urban extension/development site
Blackwell Farm	Urban extension/development site

Table 31. Suggested Low Traffic Neighbourhoods



Plan 19 Suggested Low Traffic Neighbourhoods



Cycle parking at Southway shops, in potential Park Barn Low Traffic Neighbourhood

7. Conclusions

7.1 General

Guildford is a town with considerable potential to increase cycling but there are some serious barriers that must be overcome to achieve this. While there are sections of existing cycling infrastructure that are acceptable, these do not form a coherent network. Even these do not form consistent routes, and the current level of quality is not suitable for less confident cyclists, let alone encouraging people who do not currently cycle to start.

The proposed network set out in this assessment would form the basis of a coherent network which could deliver a step change for cycling in the Borough.

A successful cycle network is much more than a collection of routes. People using cycles must be easily able to find their way around those routes and have somewhere secure to park their cycles at their destinations.

We did not find a single route that is currently adequately signed for cycling from end to end. As the network is implemented wayfinding should be introduced that fully supports its use, not as an afterthought but fully planned and concurrent with the completion of each route section. There should be a consistent approach, with a simple set of destinations and clear signing at all decision points.

While existing cycle parking may appear to provide for current levels of cycling, cycle owners will be deterred from riding to locations where no parking is provided. The surveys of locations where parking is required have shown that current provision should be doubled to provide a good level of service.

7.2 Priority interventions

Guildford's topography could be seen in parts as a major barrier, but as the use of e-bikes becomes more widespread (including in a future bike share scheme) this is likely to be less of an issue.

However, the greatest barrier to increased cycling (and indeed walking) is the high level of traffic in general across the centre of the town. The Bridge Street / Onslow Street gyratory is in our view the most significant barrier, preventing safe cycling to key destinations including the station and High Street. Negotiating the gyratory safely by cycle is only possible using disjointed and indirect paths where cycling is illegal. It is also inconvenient for people on foot but an almost impossible obstacle for disabled people, especially wheelchair users.

The current (at the time of writing) COVID-19 emergency has given an unwelcome but real opportunity to tackle the gyratory with emergency measures while traffic levels are suppressed. Such measures have been required by statutory Government guidance issued in May 2020 on network management in response to COVID-19.

Removing a traffic lane to facilitate wider pavements and segregated cycle lanes could be achieved on an experimental basis. Once shown to be successful, it is foreseeable that such measures could be made permanent, as could similar measures in other key locations.

A modal filter or bus gate on Stoke Road at the railway bridge is also an opportunity that should be pursued now. Traffic levels are unlikely to return to previous levels soon if ever. Measures even bolder than the network we have recommended are thus possible, leading to a positive future for cycling in Guildford.