

Final report

Horsham Cycling Review

For: Horsham District Council



January 2009



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Glossary

ASL	Advanced Stop Line
CERS	Cycling Environment Review System
CID	.....	Cycle Infrastructure Design (DfT Local Transport Note 2/08)
CSNA	.....	Cycle Skills Network Audit
DfT	.....	Department for Transport
GIS	.....	Geographic Information System
HDC	.....	Horsham District Council
HDCP	.....	Horsham District Community Partnership
LAA	.....	Local Area Agreement
LTP	.....	Local Transport Plan
MfS	.....	Manual for Streets (DfT 2007)
PCT	.....	Primary Care Trust
TRO	.....	Traffic regulation order
WSCC	.....	West Sussex County Council

1. Introduction

1.1 Background

The historic market town of Horsham lies between the North and South Downs, about halfway between London and the south coast. It is the main town of Horsham District in West Sussex. The urban area has a population of approximately 45,000 and comprises Horsham itself as well as North Horsham and Broadbridge Heath parishes.

Horsham is generally flat, although the surrounding countryside is fairly hilly. The built up area is fairly compact with the large Horsham Park situated very close to the centre. The town centre itself is very attractive and has won many awards for its design and sympathetic use of materials following around 20 years of redevelopment. These recent redevelopments have included limited provision for cycling. However, the main routes through the centre are mostly pedestrian priority, or fully pedestrianised with restricted cycle access. Most of the routes in the town centre that are available to cyclists are one-way for all traffic, including cyclists. This, combined with the barrier formed by the A281 dual-carriageway around the north of the town centre, results in a poor level of accessibility by bicycle.



The Carfax, Horsham Town Centre

The district is economically healthy, and there are a number of major employers in the town including the head office of Royal & Sun Alliance Insurance. Further important employment areas are situated at Crawley and Gatwick Airport, a few miles to the north-east. While these are beyond everyday cycling distance they are easily reached by train. There is also a considerable amount of commuting to London and Horsham Station is one of the main cycling destinations. The town centre has a strong retail sector and is therefore a key destination for cyclists making shopping trips.

There are three large secondary schools: Forest (boys) and Millais (girls) are situated close to each other on the eastern side of Horsham, while Tanbridge House is adjacent to the A264 near to Broadbridge Heath. The College of Richard Collyer is a regional centre of further education, situated just west of Horsham station. All of these attract varying level of cycle trips, with Tanbridge House in particular well served by cycle tracks. There are also 12 primary schools in Horsham and one in Broadbridge Heath.

1.2 Cycling in Horsham

A number of cycle routes have been established within the town centre and the surrounding area, together with longer routes to outer residential areas. These comprise a variety of provision, including cycle lanes, cycle tracks, Toucan crossings

and signed routes. The longer distance Pedlars Way route links Horsham with the Downs Link (Regional Cycle Route 79) at Southwater.

Some of the cycle facilities that have been implemented more recently are of a good standard, such as the cycle lanes in North Street, the contraflow lane in East Street and the cycle tracks around the new Forum development in the town centre.



Wide cycle lane, North Street

However, most of the cycle provision which was implemented some time ago is generally poor. This generally comprises cycle lanes which cease at junctions and fail to meet current standards (e.g. many are narrower than 1m). There are few facilities giving advantage to cyclists such as Advanced Stop Lines and Toucan crossings. As noted above the combination of pedestrianised areas and one-way working significantly reduces accessibility to the town centre for cyclists. In addition the A281 and other busy roads further from the town centre (with many large roundabouts) act as major barriers to cycling and are therefore a deterrent to all but the most experienced cyclists.



Sub-standard cycle lanes, King's Road

The outerlying suburban areas were developed in the last 40 or so years and follow standard patterns of development from this period. While many distributor roads in the residential areas are suitable for cycling, the individual estates are isolated from each other with no formal cycle connections. There are a significant amount of cul-de-sacs with link paths between them, and although there are few explicit "No cycling" signs, there is little indication that cycling is encouraged on these paths either.

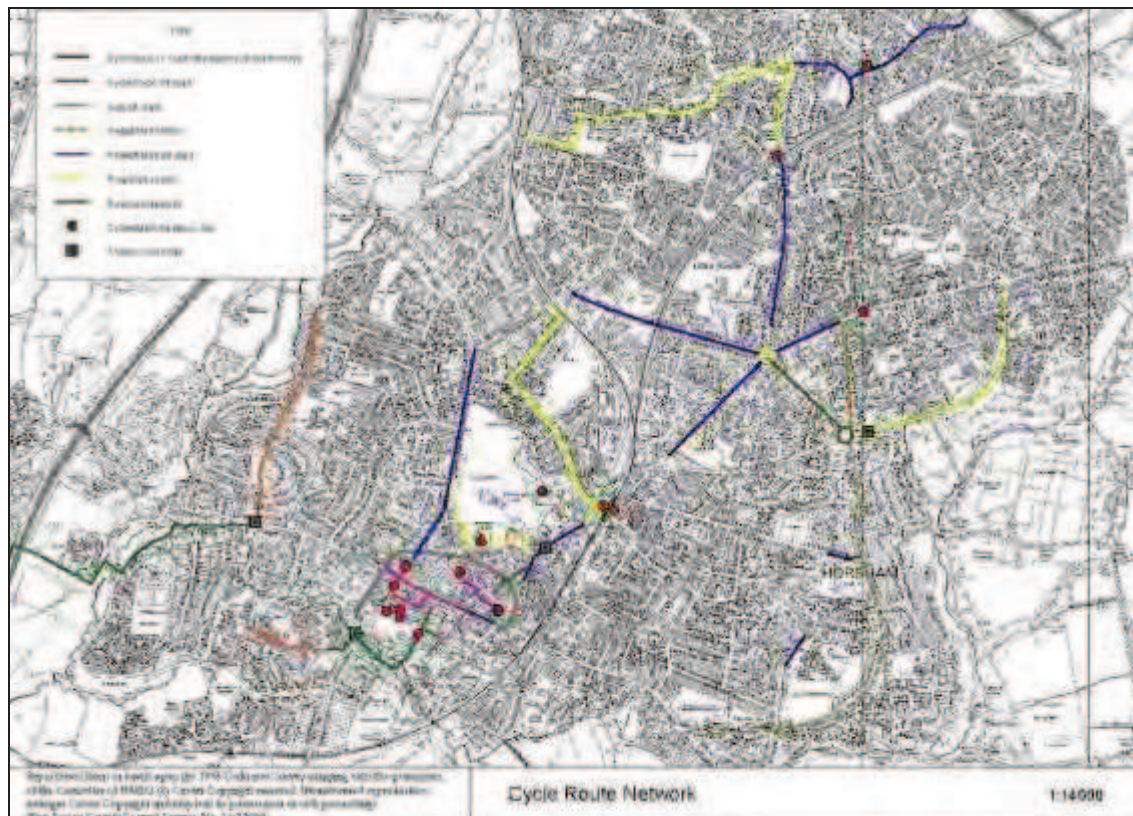
In general, Horsham is flat, compact and economically active, all of which would be expected to lead to a good level of cycling. However the cumulative effect of the various factors described above is to create a generally cycle-unfriendly environment. It

It is therefore not surprising that the level of cycling to work recorded in the 2001 census for Horsham District as a whole was 2% (with around 3% in the town centre). This compares to around 3% in Crawley and over 5% in Worthing. The wards with the highest levels of cycling were Denne and Trafalgar, both on the west side of the town. In general the lowest levels of cycling were in the wards in North Horsham parish.

Ward	% Journeys to work by bicycle (2001 census)
Denne	3.97
Trafalgar	3.40
Roffey North	3.31
Horsham Park	3.22
Forest	3.01
Broadbridge Heath	2.99
Holbrook West	2.53
Roffey South	2.42
Holbrook East	2.13

Levels of cycling to work, Horsham wards (in descending order)

A proposed cycle network has been drawn up by West Sussex County Council with a completion date of 2015. It is set out in the 2nd LTP (see plan below). Much of the proposed network is made up of existing facilities including some which are sub-standard. There are also many missing links e.g. north and east of Horsham station.



WSSC proposed cycle network, Horsham

Horsham District Council submitted the following supporting note to the LTP:

"The District Council supports the cycling strategy. The need to improve the attractiveness of cycling is well supported by the District Council and a modest programme of new cycle routes has been implemented. We would encourage the promotion of the role of cycling as an alternative to car based travel particularly for

short journeys and we feel that the completion of the Horsham Town cycling network is a crucial part of this approach. The District Council will continue to consider the needs of cyclists in all new developments and will particularly explore the opportunities to provide quality cycle links within the proposed Strategic Development Locations that are currently being progressed through the Local Development Framework process.”

A Cycle Route Map was produced by the County Council in 2004. However by the summer of 2008 this was out of print and no longer available.

1.3 Cyclist training

All Year 6 pupils (ages 10-11) at the 13 primary schools in the study area are offered cycle training by West Sussex County Council's Road Safety team. The number of children receiving training in the academic year 2007/08 was 546, almost all of the total number in Year 6. Training is also provided at schools in the neighbouring area, such as Southwater, whose pupils may go on to attend secondary schools in Horsham.

There is little, if any, cyclist training available for older children and adults although a pilot teenage cycle training project was run in 2003.

1.4 Travel Plans

All three secondary schools in Horsham have adopted travel plans although Forest School's was only endorsed by West Sussex in March 2008. The travel plans for both Millais and Forest Schools state that they require pupils cycling to school to wear helmets, which will have the effect of reducing cycling levels.



Cycle track to Forest School

The College of Richard Collyer has also had a travel plan in place for some time. In addition most of the primary schools in Horsham have adopted travel plans.

However the situation regarding other travel plans is less comprehensive. Only around six workplace sites in Horsham have adopted travel plans (including Horsham District Council) with a similar number in preparation. This is low compared to the level of economic activity.

1.5 Horsham District Community Partnership Transport Plan

The overall aims of the study follow the proposals for future work set out in the transport action plan in the 2007 Annual Report for Horsham District Community Partnership (HDCP). The four action points relating directly to improvements for cycling are shown below.

Ref	Community Strategy Aim	Actions to deliver this	Outcome in measurable terms	Who will lead on this	Time-frame and key milestones	LAA Outcome block that this contributes to	Additional resources required
8A	Promote improvements to the network of footpaths, cycle routes and rights of way in general	Review proposed network. Identify dangerous gaps in cycle routes and in all 'rights of ways' and lobby for improvements and completion.	Completion of Horsham town cycle network within 2 years. Major needs in District network addressed.	HDC & WSCC	End 2007 End 2007	11, 13, 18, 20,22	Allocation of funds and use of S. 106 money
8B		Improve provision of cycle storage	Increased provision in locations recommended by theme group	HDC	By end 2007		S. 106 money
8C		Improve access to existing green spaces by identifying, (protecting/establishing) and promoting multi-functional green corridors, linking green spaces so that they can be accessed without travelling by car	Publication of comprehensive guide to main corridors, spaces and rights of way linking them	HDC	By end 2007		
8D		Promote walking and cycling between green spaces	Greater publicity	HDC & PCT	By end 2007		

HDCP Transport Action Plan 2006 / 2007

Only points 8B and 8D have been addressed. A partnership of HDC, WSCC and Southern trains has improved cycle parking at Horsham station and around 20 cycle stands have been installed by WSCC in the town centre. In 2007 HDC Leisure produced a pack of guides for 44 leisure cycle routes around the District.



New cycle shelter, Horsham station east entrance

2. Approach to study

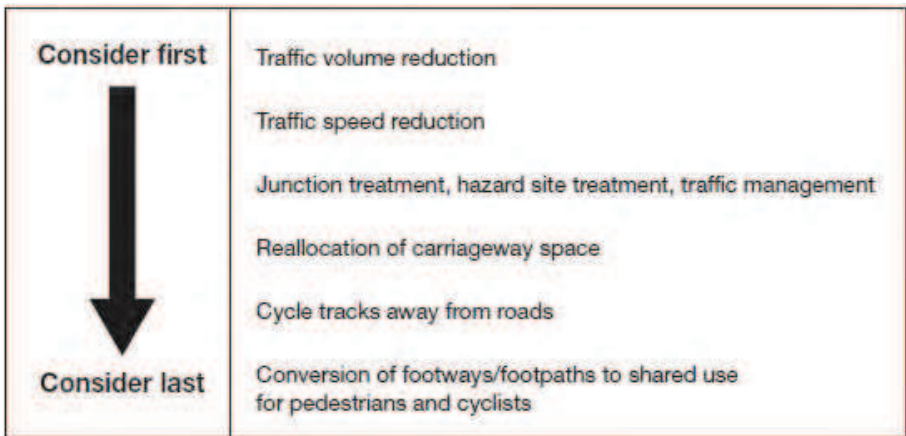
2.1 Background to approach

In general, the development of provision for cyclists in the built-up areas of Horsham has historically been infrastructure-led and based around the development of linear routes, comprising a combination of on- and off-road facilities. The focus in the urban fringe has been on leisure use. This has led to the implementation of a number of sub-standard facilities, such as the very narrow cycle lanes on King’s Road, which provide little or no benefit to cyclists and are unlikely to encourage new users.

In these situations it might now be beneficial to take a different approach which could lead to a more effective way of providing for existing cycle trips and encouraging new cyclists. This could be summed up as “routes for cyclists” as opposed to “cycle routes”.

The direction of national policy supports just this approach. In 2007 the Department of Transport published “*Manual for Streets*” (MfS) which established the principle that measures intended to benefit cycling (and walking) should first address the broader highway network. This should be designed with a clear focus on encouraging utility trips. MfS considers that segregated or traffic-free routes for cyclists should be developed **only if other highway-based options have been ruled out**. Development of off-road routes should be concentrated where they give an opportunity to offer a high level of service (based on directness, continuity, surface quality and attractiveness).

Local Transport Note 2/08 “*Cycle Infrastructure Design*” (LTN 2/08), published by DfT in October 2008, takes a similar approach:



Cycle Infrastructure Design – Table 1.2 Hierarchy of Provision

While MfS is aimed mainly at residential areas its principles are relevant to other areas, such as town centres. LTN 2/08 is relevant to provision for cyclists in all areas.

In urban areas, encouraging higher levels of cycling requires a focus on trips for utility purposes (trips to/for work, education and shopping). Consideration needs to be given to a broader range of measures in addition to the development of priority routes, since most cycling will continue to be take place on the wider road network. This broader range of work should include transport proposals with a wider remit (e.g. 20mph zones) as well as “Smart” transport proposals (e.g. Travel Plans).

In addition, the resources available to develop priority cycling routes are likely to remain relatively limited. Indeed the West Sussex LTP for 2006-2016 sets out the date for completion of the Horsham Cycle Network as being 2015, with any future major investment unlikely within the near future. This contrasts with the timescale of two years for completion of the network proposed in the Horsham District Community Partnership Transport Plan.

Experience from many areas in the UK has shown that only a small number of schemes can be progressed at any one time for practical reasons, in particular financial restrictions. Setting out a long “shopping list” of detailed proposals serves to raise expectations that are very unlikely to be fulfilled. Simpler, more cost-effective and deliverable on-road measures, based on an innovative approach to the use of shared carriageway space, have great potential to create useful and effective cycle networks over a shorter timescale.

2.2 Brief

The brief contained a number of tasks.

Task	Description
1. Initial assessment	Desk study of area using 1:10,000 maps and aerial photographs, to identify: <ul style="list-style-type: none"> • Areas of similar types of residential streets • Traffic-calmed areas • Road closures and cul-de-sacs with no link paths • Lengths of one-way street • Locations of pedestrian and cycle crossings • Lengths of road with wide verges/footways allowing links to crossings • Sections of main road with central hatching • Paths in parks and other desire lines over open ground
2. Initial site visit	Allocation of a cycling skill level to each road in the town, aligned with the cycle skills in the “Bikeability” National Cycle Training Standard. This process should identify all the streets that it is safe to cycle on without any alterations. Some of these “quiet” roads will form extensive networks but mostly they will be isolated. All crossings and sections of road where crossings could be located will be visited and the actual and potential crossing assessed. Barriers to movement within the networks of quiet roads such as one-way sections and road closures will be visited and the possibility of altering them assessed.
3. CSNA (Cycle Skills Network Audit) analysis	The findings of the safety assessment will be mapped using GIS to produce a CSNA plan. The “quiet” network will be assessed to see if there are any useful routes can be developed based on quiet roads and links via actual or potential crossings. This analysis will indicate which of the more busy roads are necessary for a route network and in general terms the degree to which changes are necessary.
4. Second site visit	These site visits will consider main routes in more detail. To allow comparison the potential routes will be audited using CERS2 (Cycling Environment Review System 2). At the same time any potential improvements will be identified
5. CERS2 analysis	This will be presented as a GIS layer. Potential changes to the routes will be itemised and assessed by re-auditing the routes assuming the changes are in place.
6a. Recommendations	Development of proposals for priority routes and other measures (infrastructure and “smart” initiatives).
6b. Options for further investigation	E.g. Detailed analysis for individual schools.

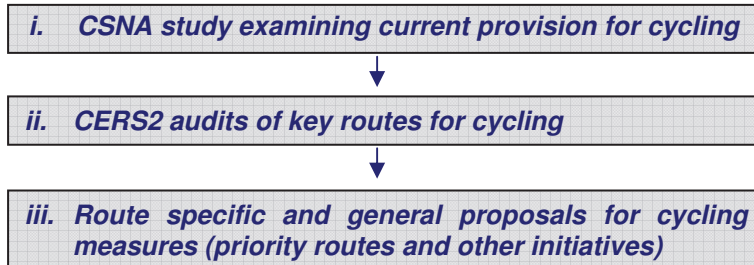
Summary of brief

The brief set out the following deliverables which should result from the project. These are set out in the remainder of the report (note that all plans in this report are GIS based and can also be supplied electronically).

- Scoping reports for cycling with Level of Service plans
- CERS2 assessments of main cycling routes
- Overall report with detailed recommendations for cycling priority routes as well as other infrastructure and smart measures

2.3 Methodology

As set out in the brief a sequential approach was used in the study:



The approach taken in the scoping study with regard to cycling was built on the work carried out by TI to carry out CSNA studies for a number of local authorities, particularly the London Borough of Ealing (with support from Transport for London). The CSNA assesses the suitability of the entire highway network (i.e. roads plus all off-road facilities which cyclists can use) in terms of the recently adopted Bikeability standards for cycle training.

Level 1	<i>Motor traffic-free off-carriageway routes where cycling is permitted, plus streets with extremely low levels of calmed traffic</i>
Level 2	<i>Roads or lengths of a road that cyclists who have achieved Bikeability Level 2 can cycle on and carry out all manoeuvres</i> <i>Cycle tracks which require a degree of attention equivalent to a Level 2 road</i>
Level 2.5	<i>Roads or lengths of a road that cyclists who have achieved Bikeability Level 2 can cycle along and carry out all manoeuvres except turning across traffic</i>
Level 3	<i>Roads or lengths of a road that cyclists who have achieved Bikeability Level 3 can cycle on and carry out all manoeuvres</i> <i>Cycle tracks which require a degree of attention equivalent to a Level 3 road</i>
Level 3.5	<i>Roads or lengths of a road where the level of risk is so high that it is a barrier to even the most experienced cyclists</i>

Bikeability-based CSNA levels

The CSNA comprises a colour-coded “Level of Service” plan of the network showing clearly which areas are currently the most conducive to cycling and where the main barriers are to cycling. Following this an assessment can be carried out in more detail of the main routes for cycling, using the CERS2 process.

Transport Initiatives has developed CERS2 (Cycling Environment Review System 2), in partnership with TRL (Transport Research Laboratory). CERS2 is a systematic process which quantifies routes by scoring a number of elements falling into the five key criteria for good practice in cycle provision. These are most recently set out in Local Transport Note 2/08 “Cycle Infrastructure Design”. They are generally used as the guidelines for developing provision that encourages cycling.

- **Convenient**
- **Accessible**
- **Safe**
- **Comfortable**

- **Attractive**

The CERS2 process allows the assessment and comparison of cycling conditions on routes or sections of routes. It can take into account both existing conditions and the situation following the introduction of measures to encourage cycling. CERS2 is based on TRL's established process for assessing walking conditions, PERS (Pedestrian Environment Review System). Note that the original CERS process considers a small section of route in great detail and is therefore not suitable for an area-wide study.

CERS2 has already been used in West Sussex to assess possible cycle routes between Gatwick and Three Bridges. The results of this study will allow West Sussex County Council to determine which route option would give the best returns on investment in terms of the improved cycling conditions.

Finally the study examined the routes shown by the CERS2 assessments to be the highest priority for the development of cycling. This stage also considered general infrastructure measures e.g. introduction of Advanced Stop Lines (ASLs) and continental style roundabouts, as well the impact of other "Invisible Infrastructure" measures on cycling, such as traffic calming and maintenance.

The output from the study would contribute towards the achievement of Action Point 8A from the HDCP Transport Action Plan.

2.4 Other issues

In addition to proposals for infrastructure-based measures, the study includes a brief outline of how "Smarter Choice" techniques might be used to encourage the development of cycling, using measures such as travel plans, increased cycle parking and enhanced "Bikeability" cycle training. It also considers the impact of other transport policies e.g. traffic calming, maintenance.

This would contribute towards the achievement of Action Point 8A from the HDCP Transport Action Plan, and improvements to cycle parking will contribute to Action Point 8B.

3. Cycle Skills Network Audit

3.1 Background

As described above (and in more detail in Appendix A), the Cycle Skills Network Audit (CSNA) is a detailed survey of an area's roads and motor traffic free cycle paths to assess the skill level needed to cycle on them in relative safety. These are classified using a system based on the three core levels of the National Standard for Cycle Training (Bikeability):

Level 1 Beginner

Level 2 Introduction to Riding on the Road

Level 3 Advanced

For the CSNA these levels have been redefined into 5 levels of classification:

Level 1 Motor traffic-free off carriageway routes where cycling is permitted and some streets with minimal, calmed traffic (see definition below)

Level 2 Roads or lengths of a road that a cyclist who has achieved Bikeability level 2 can cycle on and carry out all manoeuvres

Level 2.5 Roads or lengths of a road that a cyclist who has achieved Bikeability level 2 can cycle on and carry out all manoeuvres except turning right

Level 3 Roads or lengths of a road that a cyclist who has achieved Bikeability level 3 can cycle on and carry out all manoeuvres

Level 3.5 Roads or lengths of a road where the level of risk is currently a barrier to even the most competent cyclist

In addition some traffic-free links which are not currently available to cyclists (either by legal or physical restrictions) are classified as **Potential Level 1**.

All pedestrian crossings on roads classified higher than Level 2 are also classified using the same criteria. These comprise both crossings which cyclists can currently use while cycling and those where they must dismount. The latter are designed for pedestrian use and hence are assessed from the perspective of a dismounted cyclist wheeling a bicycle.

It should be noted that for crossings there is no Level 2.5 since they will either be at Level 2 or Level 3. Occasionally there may be some Level 3.5 crossings, where the level of risk is so high that their use is not considered advisable.

3.2 Cycle Skills Network Audit – Horsham

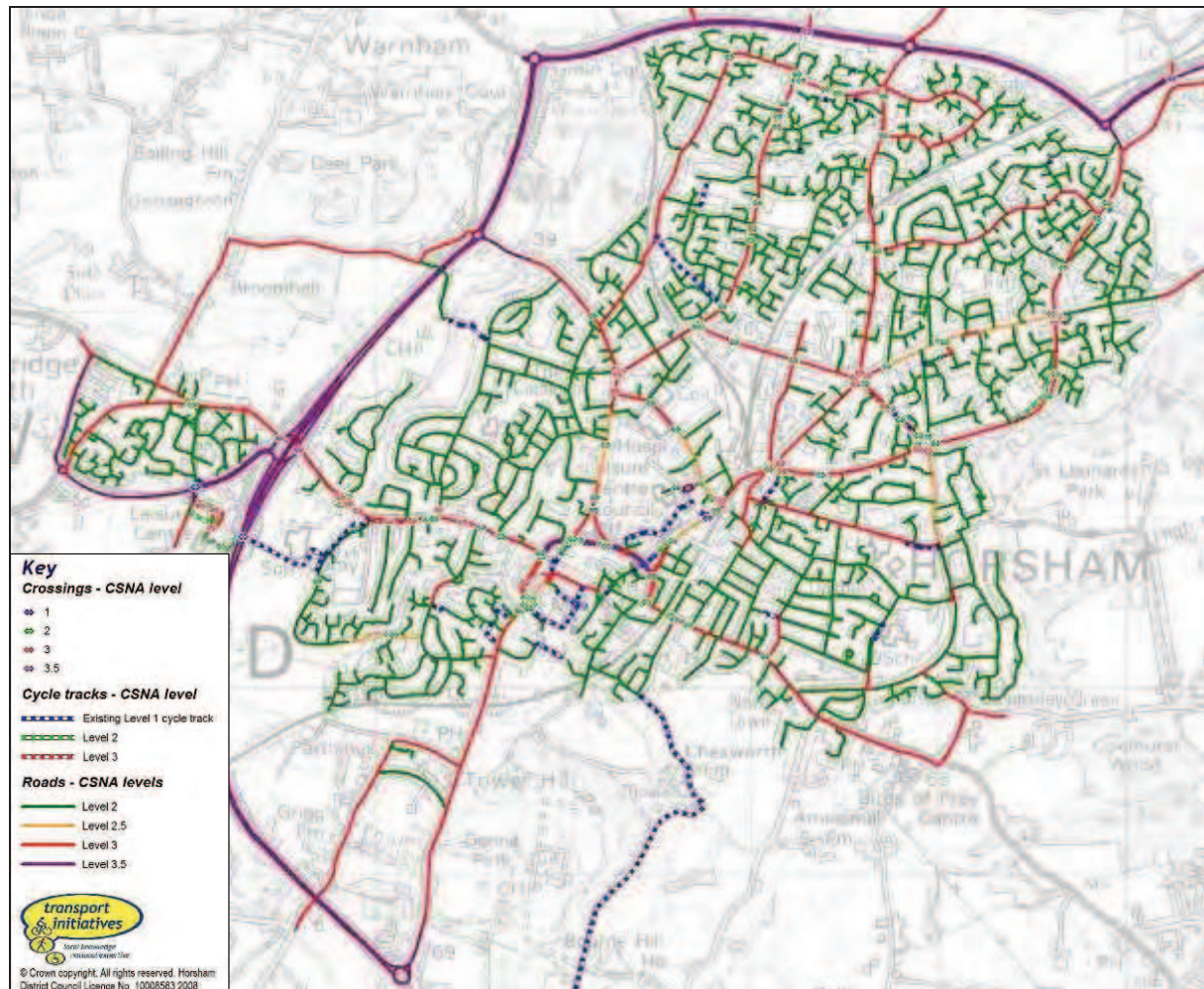
The plan below shows the results of the CSNA for the whole of Horsham. Individual areas are shown at a larger scale in Appendix B.

From the overall CSNA plan it can be seen that there are a number of areas within Horsham where cyclists with skill levels equivalent to Bikeability Level 2 can move about comfortably. In particular the residential areas in the west of Horsham have a good network of Level 2 roads, as does Broadbridge Heath. While the areas in the north of Horsham have many areas of Level 2 roads, these are often isolated from each other with no link paths that are formally or legally available for cycling.

However in the main these "islands" are separated from each other by Level 2.5 and 3 roads – and even some cycle tracks – which require Level 3 skills.

In particular there are no convenient radial routes which can be used safely by cyclists who are not trained to Level 3. For example, the main north-south corridor, North Parade/Springfield Road/Worthing Road either Level 2.5 or Level 3 for its entire length apart from a short section in the town centre. The same is generally true for the other

major routes. Although some destinations on these routes can be reached on Level 2 roads, this means that only experienced cyclists will feel comfortable cycling across Horsham to the town centre, railway station and the main employment areas.



Cycle Skills Network Audit – Horsham (existing routes only)

There are also very few existing routes where beginner cyclists (i.e. those with Level 1 skills only) can cycle safely and develop improved skills. Only two areas, the town centre and the south west of the town, have some traffic-free routes allowing this (although as noted many areas do have numerous paths where the status of cycling is not clear). Section 3.3 below discusses these areas in more detail.

3.3 Potential Level 1 routes

Existing traffic-free links which are not currently available to cyclists (either by legal or physical restrictions) are classified as Potential Level 1. These are shown on the plan below along with existing cycle tracks and other paths open to cyclists.

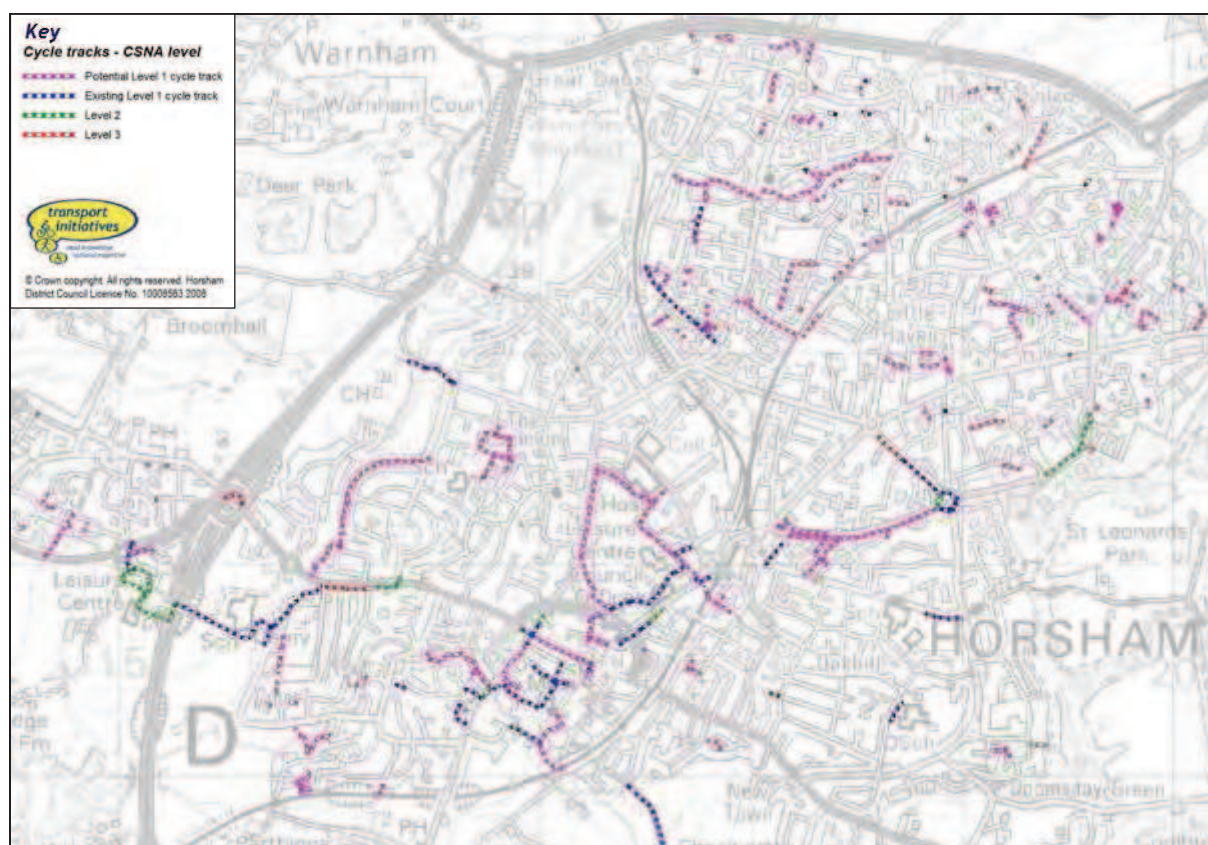
This category includes paths where cycling is prohibited but the physical layout (e.g. width) is suitable for shared use. Such a path might include a link between two cul-de-sacs which is wide enough to be shared by pedestrians and cyclists but has a “No cycling” sign. There are a large number of such links in the newer residential areas of Horsham, especially in Littlehaven and Roffey.

The category also includes routes which are legally available to cyclists but where it is difficult to cycle due to physical problems such as a poor surface. This includes many bridleways in the area.



Potential Level 1 cycle track (Harwood Road)

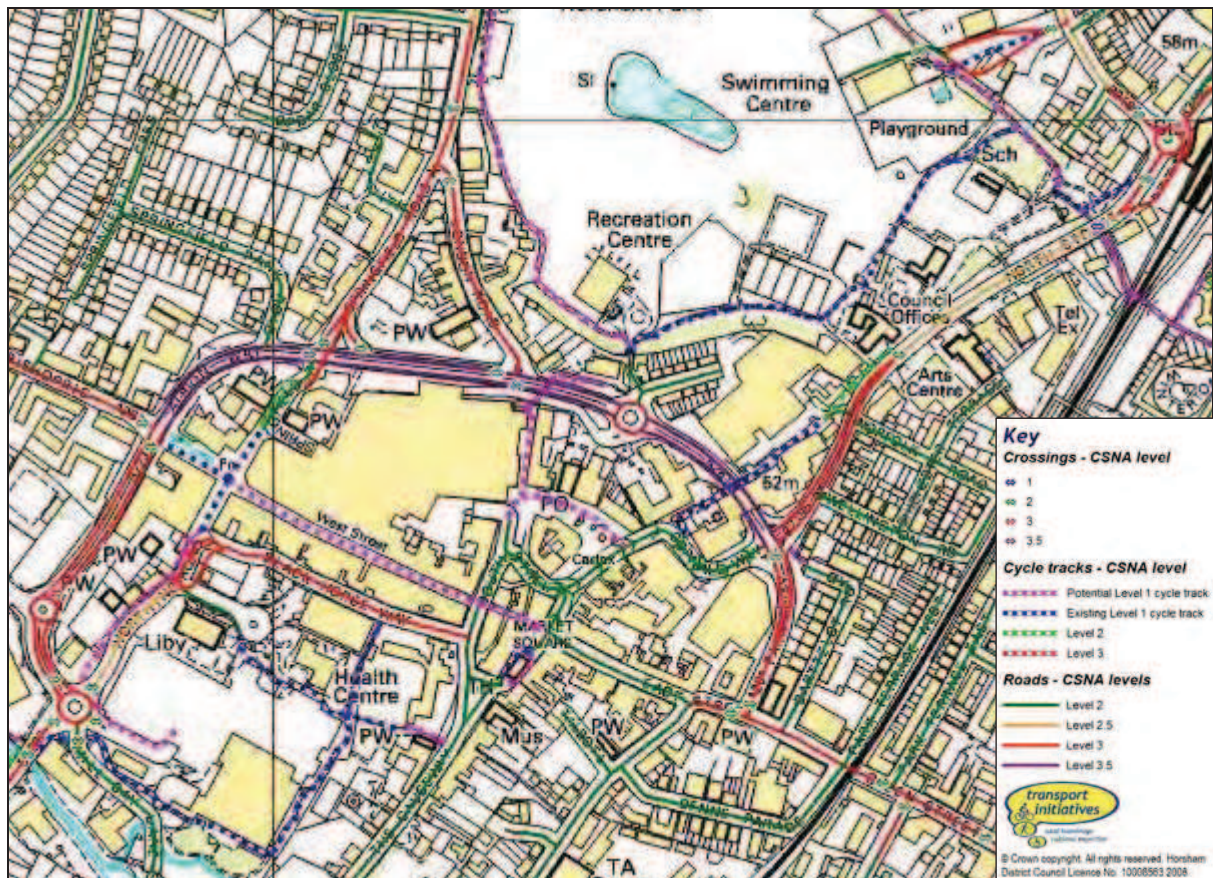
It is not expected that all routes classified as Potential Level 1 would ultimately be made available for cycling. There may be good reasons why cycling might continue to be restricted e.g. the cost or environmental concerns associated with surfacing a bridleway might outweigh the benefits.



Cycle Skills Network Audit – existing and potential traffic-free routes, Horsham

3.4 Cycle Skills Network Audit – Horsham town centre

The plan below shows the situation in Horsham town centre in greater detail.



Cycle Skills Network Audit – Horsham town centre

The main distributor roads providing links to the town centre are almost all Level 2.5 or Level 3, although there are some stretches where it is possible to bypass these on Level 2 roads. In addition the relief road is either Level 3 or even Level 3.5.

Access to the heart of the town centre (the area around The Carfax) is particularly difficult for cyclists. The main routes are mostly pedestrian priority, or fully pedestrianised with limited or no access for cyclists. The majority of the remaining access routes that are open to cyclists are one-way for all traffic, including cyclists. This leaves the town centre with a very low level of accessibility by bicycle.

The two exceptions are the Chart Way bridge (which has unsegregated shared use for pedestrians and cyclists) and the contraflow cycle lane along East Street and. These are notable examples of good quality provision providing advantage for cyclists and are significant contributions to increased cycling accessibility. However even these can only be legally accessed from one direction.

East Street can only be approached from the south by cyclists as South Street and Market Square are one-way northbound and cycling is prohibited on Middle Street. Similarly southbound cyclists on Chart Way cannot continue along Copnall Way as this is also one-way northbound.



Two-way for cyclists (East Street) giving good accessibility to town centre



One-way for cyclists (South Street and Copnall Way)

Access from the north-west of the town centre is also difficult. Even where crossings of Albion Way have been provided for cyclists, such as Springfield Road, attention has not been paid to detail, so creating unnecessary problems.

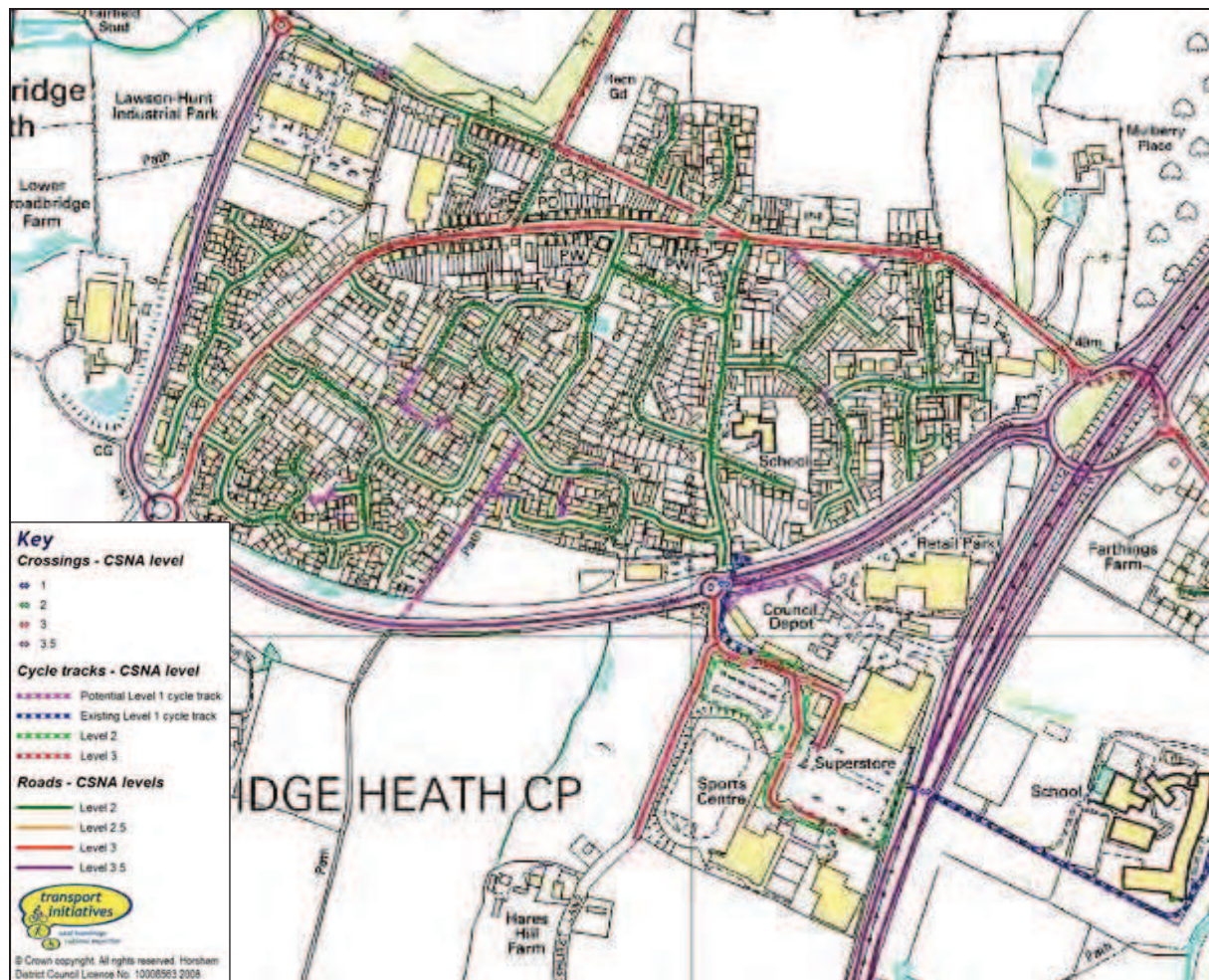


Springfield Road – note (left) cycle lane leading onto Albion Way

In addition, it is not possible to cycle to Horsham Station from either direction on anything other than Level 3 roads (the roundabout in front of the main entrance is particularly difficult). Hence only the most experienced cyclists will make this trip despite the short distance from most residential areas.

3.5 Cycle Skills Network Audit – Broadbridge Heath

The plan below shows the situation in Broadbridge Heath in greater detail.



Cycle Skills Network Audit – Broadbridge Heath

While most of the village is Level 2, the main distributor roads are Level 3 or even 3.5.

At the Tesco's / sports centre site some of the sections of cycle track have been assessed as Level 2 or even Level 3. This route is the main link between the village, Tanbridge Park School, and Horsham town centre. These ratings are due to poor design which requires a fair degree of cycling skills, especially at the frequent crossings of accesses to the various car parks as well as the petrol station and sports centre.



Narrow shared-use track between Wickhurst Lane and Tesco's



Cycle track crossing of Sports Centre access

This situation is of particular concern given the major redevelopment of the site in early 2008. It is somewhat surprising that the planning permission did not appear to have required high quality provision for pedestrians and cyclists, rather the tortuous and ill-defined route along narrow paths that has been implemented. A much better route could have been introduced as part of the redevelopment for little if any extra cost.

The cycle track on the large roundabout at the A24 / A264 junction has been assessed at Level 3 and the crossing points to reach the track have been assessed at Level 3.5. The rating is due to the heavy and fast moving traffic which is a major deterrent to all cyclists. This measure, which is shown on the Horsham cycling map, is a clear example of a situation where no provision would be better than sub-standard and dangerous facilities. Its use should not be recommended on any cycle route map.



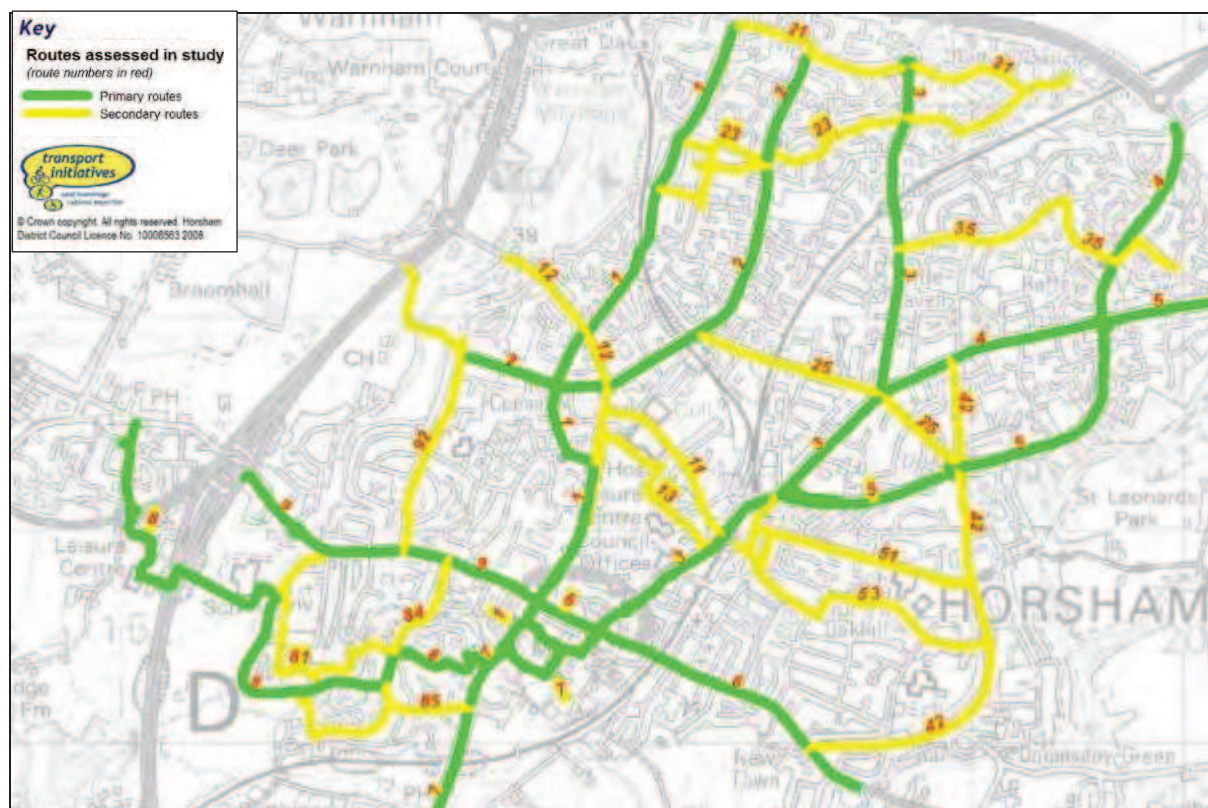
Crossing and cycle track at A24 / A264 junction

4. CERS2 Assessments

4.1 Route network for assessment

In order to carry out the CERS2 assessment, a series of potential routes have been developed comprising both primary and secondary routes. These are shown in the plan below. Primary routes comprise the main access routes to the town centre and are predominantly radial. Secondary routes link other areas or provide connections to the primary route network.

It is important to bear in mind that the main rationale for the CERS2 assessment is to determine the relative merits of carrying out improvements to the assessed route. The selection of these routes does not imply that cyclists should be directed away from other routes along Level 2 roads. The main effect of improving the routes shown in the plan would be to increase the number of areas where cyclists with a skill level equivalent to Bikeability Level 2 could travel safely.



CERS2 audit – recommended routes

The routes listed below are the basis for investigation of detailed recommendations for improvements for cycling

Primary routes	
1	Pondtail Road - town centre
2	North Heath Road - Redford Way
3	Giblets Way roundabout - town centre
4	Crawley Road – King's Road /Rusper Road roundabout
5	Roffey – King's Road / North Street roundabout
6	Brighton Road - town centre
7	Worthing Road - town centre
8	Broadbridge Heath - town centre

9	Guildford Road - town centre
Secondary routes (even no. routes N/S, odd no. routes E/W)	
11	Station - North Parade (on-road)
12	Warnham Road - North Parade (north)
13	Station - North Parade (off-road)
21	North Horsham orbital
23	Bartholomew Way - Pondtail Road
25	Parsonage Road / Redkiln Way
35	Roffey
42	Comptons Lane
51	Comptons Lane - station (via Depot Road)
53	Comptons Lane - station (via Highlands Rd)
81	Hills Farm Lane - Worthing Road
84	Blackbridge Road north
85	Granary Way - Worthing Road
92	The Common - Rookwood Park

4.2 Description of assessments

CERS2 audits can be carried out either at the level of a whole route, or built up from assessments of individual sections of route. In this study whole routes have been considered due to the number of routes under consideration. Detailed analysis of individual sections of route (as in the Gatwick-Three Bridges study) would require a significant amount of survey time which would have exceeded the time available.

It is important to bear in mind that CERS2 comprises an analysis of the issues on an assessed route which have an impact on its overall suitability for cycling, in terms of how *Convenient*, *Accessible*, *Safe*, *Comfortable* and *Attractive* the route is. It is NOT an in-depth study of every aspect of the assessed route.

The CERS2 process is designed to allow reasonable judgements to be made of the relative benefits of addressing issues on an assessed route or range of routes. A score is given for both the existing situation and the potential situation assuming a realistic range of measures are introduced to increase the cycle friendliness of a route. The percentage improvement is used as the basis for prioritising development of a route.

Again, the potential score does not imply the introduction of any particular measure and the process does not in itself recommend any particular measure. Clearly a more detailed assessment could be made by designing all potential routes in some detail and subjecting them to thorough assessments. However this would again require a significant amount of resources.

In order to further assist the assessment of the merits of carrying out improvements on a route the output from CERS2 also includes an assessment of the practical difficulties that might be encountered as part of improving part or all of a route, a broad estimate of the level of cost for improvements to part or all of a route, and a likely timescale for implementation.

Practicality

While improvements to all assessed routes would of course be desirable, it is important to assess how practicable it might be to carry out improvements. There are many reasons why measures may not be practical – they could require significant engineering or they could lead to knock-on effects outside the improved area. It should also be noted that it is entirely possible that a measure which is entirely practical may

nevertheless require real political commitment to implement (e.g. allowing cycling in pedestrianised areas). The assessments indicate the following levels of practicality:

- M** *Best carried out as part of the maintenance programme (e.g. resurfacing) or when other highway works are being undertaken*
- 1** *Relatively inexpensive to introduce in both design and implementation, and should provide good return for minimal cost*
- 2** *Could be more expensive but generally should provide a reasonable return in giving more advantage to cyclists and pedestrians*
- 3** *Potentially expensive with the level of return uncertain*
- 4** *May be desirable but may also be impractical/very difficult to implement, or have negative outcomes beyond the area to be treated.*

Cost level

The cost estimates for whole routes and individual schemes are assessed as follows:

Cost level	Whole route	Individual scheme / part of route
Low	<£25k	<£10k
Medium	£25K - £100K	£10K - £50
High	£100K - £250K	£50- £100K
Major	>£250K	>£100K

Timescale

The levels of time-based priorities for both routes and schemes are:

- Immediate** *Immediate action required to deal with a single issue that is causing a significant problem or hazard (schemes only)*
- Short** *Route/scheme which would give highest benefit while requiring little consultation and/or design*
- Medium** *More investigation is needed and hence work will only be possible in the medium-term (i.e. within the current LTP period)*
- Long** *Complex project requiring more detailed consideration including possible modelling and public consultation (long-term i.e. next LTP period)*



Middle Street

An example of this is at Middle Street, where allowing cycling here (at least off-peak) is practical based solely on the physical layout. However, it is likely that any decision to proceed with cycle access is likely to be controversial and hence require a long timescale for consultation.

4.3 Route assessments

Routes have been assigned a priority level (High, Medium, Low) for further detailed investigation. This is based on a combination of the potential increase in CERS2 score and the assessment of practicality, cost and timescale.

Primary routes

Route number	Name	Convenient	Accessible	Safe	Comfortable	Attractive	TOTAL	Rating	% increase	Priority	Practicality	Cost level	Timescale
1	Pondtail Road - town centre												
	Existing route score	11	9	12	12	11	55						
	Potential route score (with improvements)	16	13	13	15	13	70	Good	27.3%	High	2	High	M
2	North Heath Road - Redford Way												
	Existing route score	11	13	10	10	12	56						
	Potential route score (with improvements)	16	15	11	14	13	69	Ave	23.2%	High	2	Med	M
3	Giblets Way roundabout - town centre												
	Existing route score	10	14	11	11	11	57						
	Potential route score (with improvements)	15	16	13	15	11	70	Good	22.8%	High	3	High	L
4	Crawley Road - King's Road/Rusper Road roundabout												
	Existing route score	13	11	10	13	11	58						
	Potential route score (with improvements)	16	13	12	15	11	67	Ave	15.5%	Low	2	Med	M
5	Roffey – King's Road/North Street roundabout												
	Existing route score	12	9	10	12	11	54						
	Potential route score (with improvements)	16	13	12	14	14	69	Ave	27.8%	Med	2	Major	M
6	Brighton Road - town centre												
	Existing route score	11	13	12	13	11	60						
	Potential route score (with improvements)	17	15	13	15	12	72	Good	20.0%	Med	3	High	L
7	Worthing Road - town centre												
	Existing route score	11	13	10	10	10	54						
	Potential route score (with improvements)	16	15	12	14	13	70	Good	29.6%	High	2	Med	M
8	Broadbridge Heath - town centre												
	Existing route score	7	13	12	11	12	55						
	Potential route score (with improvements)	15	14	15	14	13	71	Good	29.1%	High	1	Med	S
9	Guildford Road - town centre												
	Existing route score	12	14	9	8	9	52						
	Potential route score (with improvements)	16	16	12	13	11	68	Ave	30.8%	Med	3	High	M

Secondary routes

Route number	Name	Convenient	Accessible	Safe	Comfortable	Attractive	TOTAL	Rating	% increase	Priority	Practicality	Cost level	Timescale
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11	Station - North Parade (on-road)											
Existing route score	13	10	11	13	11	58						
Potential route score (with improvements)	16	14	12	14	12	68	Ave	17.2%	Low	3	H	L
12	Warnham Road - North Parade (north)											
Existing route score	12	8	7	12	10	49						
Potential route score (with improvements)	15	12	10	13	11	61	Ave	24.5%	Med	3	Med	M
13	Station - North Parade (off-road)											
Existing route score	11	12	14	11	15	63						
Potential route score (with improvements)	15	15	16	15	17	78	Good	23.8%	Med	1	H	M
21	North Horsham orbital											
Existing route score	10	7	12	15	13	57						
Potential route score (with improvements)	13	10	14	15	13	65	Ave	14.0%	Low	1	Med	S
23	Bartholomew Way - Pondtail Road											
Existing route score	9	8	11	8	14	50						
Potential route score (with improvements)	12	10	13	13	15	63	Ave	26.0%	Med	3	Maj	L
25	Parsonage Road / Redkiln Way											
Existing route score	9	10	10	9	10	48						
Potential route score (with improvements)	14	12	12	14	11	63	Ave	31.3%	High	3	H	L
35	Roffey											
Existing route score	10	8	12	12	13	55						
Potential route score (with improvements)	15	11	14	13	13	66	Ave	20.0%	Med	1	Med	S
42	Comptons Lane											
Existing route score	12	14	11	11	12	60						
Potential route score (with improvements)	15	15	12	13	13	68	Ave	13.3%	Low	2	Med	M
51	Comptons Lane - station (via Depot Road)											
Existing route score	12	12	9	12	11	56						
Potential route score (with improvements)	15	13	13	13	12	66	Ave	17.9%	Low	3	High	L
53	Comptons Lane - station (via Highlands Rd)											
Existing route score	9	8	13	12	13	55						
Potential route score (with improvements)	13	12	15	14	14	68	Ave	23.6%	Med	2	Med	M
81	Hills Farm Lane - Worthing Road											
Existing route score	8	11	13	11	16	59						
Potential route score (with improvements)	14	12	15	13	16	70	Good	18.6%	Med	2	Med	M
84	Blackbridge Road north											
Existing route score	12	8	11	13	12	56						
Potential route score (with improvements)	15	10	13	14	13	65	Ave	16.1%	Low	3	Med	L
85	Granary Way - Worthing Road											
Existing route score	11	8	12	13	14	58						
Potential route score (with improvements)	15	10	14	14	15	68	Ave	17.2%	Low	3	Med	L

92	The Common - Rookwood Park												
Existing route score	12	10	11	14	15	62							
Potential route score (with improvements)	14	11	14	14	15	68	Ave	9.7%	Low	1	Med	S	

5. Detailed recommendations

5.1 High priority routes

These routes are described in detail with recommendations given for each section and junction. Agreement from West Sussex County Council, as the Highway Authority, will be needed for many of the recommendations.

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
1	Pondtail Road - town centre (primary)			2
	Pondtail Drive/ Pondtail Rd roundabout	3	1. Redesign roundabout to continental design	2
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
	Pondtail Rd (Pondtail Drive – Pondtail Close)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Remove parking where this affects visibility at junctions	1
	Pondtail Rd/ Pondtail Close roundabout	3	1. Redesign roundabout to continental design	2
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
			• Increase deflection northbound with cycle slip	2
	Pondtail Rd (Pondtail Close – Warnham Rd)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Remove parking where this affects visibility at junctions	1
	Pondtail Rd junction with Warnham Rd	2	1. Signalise junction	4
			2. Move signalled crossing towards junction and convert to Toucan to allow use by cyclists	3
			3. Convert crossing to Toucan w. linking cycle tracks	2
	Warnham Rd – Trafalgar Rd	1	• Create new link path across open space to signalled crossing of Warnham Rd	2
	Trafalgar Rd / Rushams Rd (Warnham Rd – North Parade)	2	1. 20mph limit	2
			2. Sign cycle route	1
	Crossing of North Parade	2	1. Replace island crossing with single-stage Toucan crossing (with link paths)	2
			2. Replace central island crossing with build-outs (with cycle lane continued) and wide cycle/zebra crossing	2
	North Parade (Rushams Rd – Springfield Rd)	3	1. Widen cycle lanes to min 1.25m	1
			2. Create cycle tracks on both footways	3
			3. Create cycle track on east footway	2
			4. Create cycle track inside park	3
			• Convert existing Pelican crossing to Toucan	2
	Springfield Rd (N of Albion Way)	3	1. Remove parking on west side to allow northbound cycle lane (min 1.25m)	2
			2. Colour existing southbound lane at j/w London Rd	1
			3. Move centre line to allow northbound cycle lane outside parking	2
	Springfield Rd j/w Albion Way	3	• Realign southbound cycle lane to run straight ahead at left turn (i.e. not following kerblines)	1
			• Install ASLs at junction with Albion Way	

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Springfield Rd (S of Albion Way)	2/3	• Remove upstand in southbound cycle lane	1
			• Allow contraflow cycling southbound	1
			• Clarify situation re. cycling on western footway	1
	Springfield Rd/ Worthing Rd (ped- estrian priority area)	1	• Formally allow cycling at all times and sign appropriately	1
	Worthing Road (bus station access)	3	1. Reallocate road space to create wide cycle track on W side with table crossing at bus station to Route 3	3
			2. Create shared use cycle track on ex. west footway	2
2	North Heath Road - Redford Way (primary)			2
	North Heath Rd/ Giblets Way roundabout	3	1. Redesign roundabout to continental design	3
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
	North Heath Lane (Giblets Way - Holbrook School Lane)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
	North Heath Rd/ Holbrook School Lane roundabout	3	1. Redesign roundabout to continental design	3
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
	North Heath Lane (Holbrook School Lane - bridge over Channells Brook)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
	North Heath Lane j/w Dutchells Copse	3	• Remove central island at Dutchells Copse and narrow to single lane in each direction w. reduced radius at corners	2
	North Heath Lane (Channells Brook - Amudsen Rd)	3	• Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			• Install Toucan crossing of North Heath Lane to provide link between Amudsen Close and path along n. side of Channells Brook	3
	North Heath Lane (Amudsen Rd - Parsonage Rd)	3	• Introduce cycle-friendly traffic calming measures	3
	North Heath Lane j/w Heath Way	3	• Replace ex. Pelican crossing with Toucan and linking cycle tracks between Heath Way and Coltsfoot Drive	2
	North Heath Rd/ Parsonage Rd roundabout	3	1. Redesign roundabout to continental design	3
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
			• Increase deflection northbound with cycle slip	2
	Wimblehurst Rd (Parsonage Rd - Richmond Rd)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
	Wimblehurst Rd (North Heath Rd - North Parade)	3	• Introduce cycle-friendly traffic calming measures	3
	Wimblehurst Rd j/w North Parade	3	• Introduce ASL with lead-in lane	2
	West Parade (North Parade - Trafalgar Rd)	2	1. Make section east of Newlands Rd 2-way for all traffic (with signal phase at North Parade) and install eastbound contraflow cycle lane west of Newlands Rd	3
			2. Install eastbound contraflow cycle lane with signal phase at North Parade	3
	Kempshott Rd/	2	• Sign as cycle route	1

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Spencers Place			
3	Giblets Way roundabout - town centre (primary)			3
	Giblets Way/Rusper Rd roundabout	3	1. Major redesign of roundabout including redistribution of roadspace to give direct cycle route between Giblets Way and Lemmington Way	3
			2. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
	Rusper Rd (Giblets Way - Tylden Way)	3	• Provide 1.5m cycle lanes	2
	Rusper Rd j/w Giblets Lane	3	• Construct speed table at junction	2
	Rusper Rd j/w Tylden Way	3	• Construct speed table at junction including crossing to path along Channells Brook	3
	Rusper Rd (Tylden Way - Littlehaven station)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Remove parking where this affects visibility at junctions/bends	1
	Rusper Rd (Littlehaven station - Littlehaven Lane)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Remove existing s/bound cycle lane	1
			• Remove parking where this affects visibility at junctions/bends	1
			• Allow cycling on path to Millthorpe Close	1
	Rusper Rd (Littlehaven Lane - Kings Rd/Redkiln Way roundabout)	3	• Introduce cycle-friendly traffic calming measures	3
			• Remove existing s/bound cycle lane	1
			• Remove parking where this affects visibility at junctions/bends	1
	Kings Rd/Redkiln Way roundabout	3	1. Major redesign of roundabout including redistribution of roadspace to give wide cycle track around roundabout with signalled crossings of arms	3
			2. Formalisation and improvement of existing shared use of footways around roundabout (including removal of "Cyclists Dismount" signs)	2
			3. Reduce circulating space and entry/exit speeds by introducing hatching/overrun areas	1
	Kings Rd	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane (min 5m) for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Remove existing southbound cycle lane	1
			• Remove parking where this affects visibility at junctions/bends esp. on SE side SW of Bowes Close	1
	Kings Rd/North Street gyratory	3	1. Major redesign of gyratory including redistribution of roadspace to give wide cycle track with signalled crossings (e.g. close southern section of gyratory and make other sections 2-way)	4
			3. Formalisation and improvement of existing shared use of footways around gyratory with signalled crossings	2
	North Street (Kings Rd - Hurst Rd)	3	1. Widen bridge to create 3m shared use footway on W side	4
			2. Redistribute roadspace to create 2m shared use footway on W side	3
	North Street/Hurst	3	1. Major redesign of junction including replacement with	

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Rd roundabout		signalled t-junction and significant public realm improvements of Horsham station forecourt	
	North Street (Hurst Rd - Chart Way)	2.5	<ul style="list-style-type: none"> Start cycle lane at crossing to run across mouth of exit from station forecourt 	2
			<ul style="list-style-type: none"> Widen existing cycle lanes 	M
	North Street cycle track	2	<ul style="list-style-type: none"> Continue markings across accesses 	1
	Chart Way	1	<ul style="list-style-type: none"> Clearer signing of shared use 	1
	Chart Way (ramp to Copnall Way)	1	<ul style="list-style-type: none"> Formalise shared use incl. clearer signing 	1
	South Street (Copnall Way - Market Square)	2	1. Permit contraflow (westbound) cycling with one-way plug at foot of ramp and 2-way traffic in South Street	2
			2. Create contraflow (westbound) cycle lane	2
	Market Square (South Street - East Street)	2	<ul style="list-style-type: none"> Permit contraflow (southbound) cycling by replacing "No-entry" sign with "No motor vehicles" and revising TRO appropriately 	2
	Market Square (South Street - East Street)	2	<ul style="list-style-type: none"> Remove unnecessary cycle lane marking and sign route sensitively 	1
			<ul style="list-style-type: none"> Add "Except cyclists" plate to "No right turn" sign (into East Street) 	1
	Market Square (Town Hall)	1	<ul style="list-style-type: none"> Allow cycling on path on W side of Town Hall and remove "Cyclists Dismount" signs 	1
	The Causeway	2	<ul style="list-style-type: none"> Sign route sensitively 	
	Cycle track to Sainsbury's/ library	1	<ul style="list-style-type: none"> Formally allow shared use at junction with The Causeway 	1
			<ul style="list-style-type: none"> Sign route more clearly 	1
	Lower Tanbridge Way	2	<ul style="list-style-type: none"> Reduce carriageway width to allow creation of shared use track on S footway (in front of library) 	3
7	Worthing Rd - town centre (primary)			2
	Worthing Rd (Tower Hill - railway bridge)	3	1. Reduce speed limit to 40mph and create cycle track on W footway	3
			2. Reduce speed limit to 40mph	2
	Worthing Rd (railway bridge)	3	<ul style="list-style-type: none"> Create gateway feature at start of 30mph zone 	2
	Worthing Rd (railway bridge - Blackridge Lane)	3	1. Reallocate roadspace and remove centre hatching to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	2
			2. Remove centre hatching to provide wider lanes in both directions	2
			3. Introduce cycle-friendly traffic calming measures	3
	Worthing Rd j/w Blackridge Lane	3	<ul style="list-style-type: none"> Replace t-junction with continental design roundabout 	3
	Worthing Rd (Blackridge Lane - Tanbridge Park)	3	1. Reallocate roadspace and remove centre hatching and right turn lane at Tanbridge Park jn to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Reallocate roadspace and remove centre hatching and right turn lane at Tanbridge Park jn to provide cycle lanes (min 1.25m) in both directions	2
	Worthing Rd j/w Tanbridge Park southern cycle track	3	<ul style="list-style-type: none"> Install Toucan crossing 	2
	Worthing Rd (Tanbridge Park - Toucan crossing N of Rivermead)	2 (track) 3 (road)	1. Reallocate roadspace and remove centre hatching and right turn lane at private access to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
			2. Reallocate roadspace and remove centre hatching and right turn lane at private access to provide cycle lanes (min 1.25m) in both directions	2
			• Improve cycle track on shared-use W footway incl. removal of "Cyclists Dismount" signs and redundant barriers and wall at j/w Tanbridge Park N cycle track	1
			• Move cycle section of shared-use W footway to lie next to carriageway (i.e. switch with ped. section)	1
	Worthing Rd j/w Rivermead	2	• Install raised table for cycle track crossing of Rivermead and set back give way markings to give priority to cycle track	
	Worthing Rd (Toucan crossing - Mill Bay Lane)	1 (track) 3 (road)	• Widen shared-use footway by reallocating roadspace and removing centre hatching	3
			• Remove "Cyclists Dismount" signs	1
	Cycle track crossing of Mill Bay Lane	2	1. Install raised table for cycle track crossing of Mill Bay Lane with wide cycle/zebra crossing to give priority to pedestrians & cyclists	2
			2. Remove "Cyclists Dismount" signs	1
	Sainsburys cycle track (S & E side)	1	• Remove barriers and "Cyclists Dismount" signs	1
			• Improve signing	1
8	Broadbridge Heath - town centre (primary)			1
	Wickhurst Lane (Old Guildford Rd - Church Lane)	2	1. Make 2-way for cyclists by adding cycle plug at Church Lane and making remainder 2-way for all traffic	2
			2. Install northbound contraflow cycle lane	2
	Wickhurst Lane (A264 subway)	1	• Improve N link between shared-use subway and Wickhurst lane, including signing	1
	Wickhurst Lane (A264 subway - Tesco's)	1	• Improve track link between shared-use subway and Tesco's site, including wider track and clearer signing	2
	Cycle track, Tesco's site	2	• Carry out detailed study into improvements between Wickhurst Lane and A264 footbridge, including wider tracks, better crossings of link roads/car park accesses and clearer signing	2
	A264 footbridge	1	• Short-term improvements - make all kerbs flush, remove "Cyclists Dismount" signs	1
	Tanbridge House School cycle track	1	• Minor improvements including clearer signing	1
	Tanbridge House School cycle track j/w Hills Farm Lane	1	• Replace barriers with more cycle friendly designs - mark and sign all tracks as unsegregated shared use	
			• Re-mark and sign section of track not adjacent to road as unsegregated shared use	1
			• Remove cycle-only path next to road	1
			• Install speed table and crossing at S end of cycle track (N of j/w Somergate)	2
	Hills Farm Lane (Somergate - Stoneybrook)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	2
			2. Remove centre line to provide wider lanes in both directions	2
			3. Continue shared use cycle-track along W side	3
			4. Introduce cycle-friendly traffic calming measures	3
			• Install speed table and crossing s of j/w Stoneybrook	2
	Hills Farm Lane (Stoneybrook - Riddehurst Drive)	2	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	2
			2. Remove centre line	2

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
			3. Widen ex. footway to provide shared use cycle track along E & N sides as far as Fellcott Way (w. priority crossing of Brockhurst Close)	3
			4. Introduce cycle-friendly traffic calming measures	3
			• Install speed tables at j/w Fellcott Way & at N end of shared use path to Granary Way	2
	Hills Farm Lane (Riddehurst Drive - Blackridge Drive)	2.5	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
	Hills Farm Lane j/w Blackridge Lane	2.5	• Install speed table	2
	Blackridge Lane (Hills Farm Lane - Arunside)	2	• Introduce cycle-friendly traffic calming measures	2
	Blackridge Lane j/w Arunside/ Tanbridge Park cycle track	3	• Install speed table with build-out at link to cycle track	2
			• Provide link to cycle track across ex. verge incl. build-out & removal of fencing to improve visibility	1
	Tanbridge Park W cycle track	1	• Improve signing	1
	Tanbridge Park	2	• Improve signing of cycle route through development	1
			• Widen gaps at chicanes to 1m to allow cycle use & sign w. cycle symbol	1
	Tanbridge Park N cycle track	1	• Install speed table at chicane with link to cycle track	2
			• Improve signing	1
25	Parsonage Rd / Redkiln Way (secondary)			3
	Parsonage Rd (North Heath Lane - Kings Rd)	3	1. Reallocate roadspace and remove centre line to allow widening of ex. cycle lanes (min 1.25m) in both directions w. 2-way central lane (min 4.8m) for motor vehicle flow	2
			2. Widen ex. cycle lanes to min 1.2m	1
			3. Remove existing cycle lanes to provide wider lanes in both directions	1
	Parsonage Rd level crossing	3	• Provide ASLs (as at Stockbridge Rd, Chichester)	1
	Parsonage Rd/Foundry Lane roundabout	3	• Redesign roundabout to continental design	2
	Kings Rd/Redkiln Way roundabout	3	• See Route 3	-
	Redkiln Way cycle track (Kings Rd - Blatchford Rd)	3	1. Install raised table at accesses with priority for pedestrians & cyclists, plus reduce no. of accesses across cycle track	3
			2. Install raised table at accesses with priority for pedestrians & cyclists	2
			3. Continue markings across access to give priority for pedestrians & cyclists	1
	Redkiln Way j/w Blatchford Rd	3	• Redesign junction as roundabout to continental design w. raised table crossing of Blatchford Rd	3
	Redkiln Way (Blatchford Rd - Comptons Lane)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	2
			2. Introduce cycle-friendly traffic calming measures	3
			• Install raised table crossing of Plovers Rd w. priority for pedestrians & cyclists	2
			• Widen shared-use footway immediately W of roundabout and provide dropped kerb at end of	2

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
			segregated section	
	Redkirk Way/Comptons Lane roundabout	3	<ul style="list-style-type: none"> Major redesign of cycle track around roundabout including kerb realignment to give wider cycle track and improved visibility at crossings of arms 	3

5.2 Medium priority routes

Recommendations are given for these routes for key sections and junctions only.

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
5	Roffey – King’s Road/North Street roundabout (primary)			2
	Crawley Rd j/w Harwood Rd	3	<ul style="list-style-type: none">ASLs on all arms of junction w. ped phase on all crossings	4
	Harwood Rd. (Crawley Rd – Comptons Lane)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Develop route through residential area from Woodlands Way to Comptons Lane	2
	Harwood Rd (Comptons Lane – Kings Rd)	3	<ul style="list-style-type: none">Develop cycle track along S footway incl. conversion of ex. Pelican at nursery school to Toucan	3
			<ul style="list-style-type: none">Create shared use cycle track along N verge from nursery school to Kings Rd	3
6	Brighton Road – town centre (primary)			3
	Brighton Rd (St. Leonard’s Rd – New St)	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Introduce cycle-friendly traffic calming measures	3
	Queen St (New St – Park Way)	3	<ul style="list-style-type: none">1. Remove parking to provide cycle lanes (min 1.5m)2. Introduce cycle-friendly traffic calming measures	3
	Queen St j/w Park Way	3	<ul style="list-style-type: none">ASLs on all arms of junction	3
	East St (Park Way – Denne Rd)	3	<ul style="list-style-type: none">1. Provide cycle lanes (min 1.5m) in both directions2. Introduce cycle-friendly traffic calming measures	3
			2. Introduce cycle-friendly traffic calming measures	3
	East St (Denne Rd – South St)	2	Maintain 2-way cycle access at all times	1
	Middle St / West St	n/a	Permit cycle access at off-peak periods	1
9	Guildford Road - town centre (primary)			3
	A24/A264 roundabout	3.5	<ul style="list-style-type: none">1. Signalise roundabout with cycle phase to improve access to ex. cycle track2. Install Toucan crossings for cycle track	4
			2. Install Toucan crossings for cycle track	2
	Guildford Road (A24 – Hills Farm Lane)	3	<ul style="list-style-type: none">1. Provide cycle lanes (min 1.5m) in both directions	3
	Guildford Road (Hills Farm Ave – Merryfield Drive)	2/3	<ul style="list-style-type: none">Provide cycle lanes (min 1.5m) in both directionsInstall raised table at side roads and markings at accesses to give priority for pedestrians & cyclists	3
			2. Install raised table at side roads and markings at accesses to give priority for pedestrians & cyclists	3
	Guildford Rd / Bishopric (Merryfield Drive – Albion Way)	3	<ul style="list-style-type: none">1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow2. Introduce cycle-friendly traffic calming measures	3
			2. Introduce cycle-friendly traffic calming measures	3
	Bishopric j/w Albion Way	3	<ul style="list-style-type: none">1. Redesign junction to allow direct cycle crossing of Albion Way incl. ASL at Bishopric2. Amend signalled crossings to accommodate cyclists w. widened link path to E section	4
			2. Amend signalled crossings to accommodate cyclists w. widened link path to E section	3
	Bishopric (Albion	1	<ul style="list-style-type: none">Formally allow cycling at all times and sign	2

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Way – West St)		appropriately	
12	Warnham Road - North Parade (north) (secondary)			3
	Warnham Road	3	1. Provide cycle lanes (min 1.5m) in both directions	3
			2. Introduce cycle-friendly traffic calming measures	3
	North Parade (Pondtail Rd – Rushams Rd)	3	• Reallocate roadscape to provide cycle lanes (min 1.5m) in both directions and create ASLs at both signalled junctions	3
13	Station - North Parade (off-road) (secondary)			1
	North St Pelican crossing (by station)	2	• Convert Pelican to Toucan and improve link to path in Horsham Park incl. removal of barriers	2
	Horsham Park (North St – Pavilions in the Park)	1	• Widen path and improve surface and signing	1
	Horsham Park (Pavilions in the Park – North Parade)	1	• Widen path to allow shared use incl. improvements to surface and signing	2
23	Bartholomew Way - Pondtail Road (secondary)			3
	Bartholomew Way (Lemington Way – Tylden Way)	3	• Widen eastbound cycle lane and create westbound lane (both min 1.25m)	1
	Bartholomew Way j/w Tylden Way)	3	• Install speed table	2
	Tylden Way (Bartholomew Way – Rusper Road)	3	• Widen westbound cycle lane and create eastbound lane (both min 1.25m)	1
	Chennells Brook path (Rusper Rd – North Heath Lane)	1	• Widen path to allow unsegregated shared use	3
	Pondtail Close – Heath Way	1	• Allow cycling and sign appropriately	1
35	Roffey (secondary)			1
	Lambs Farm Road (Rusper Rd – Shepherds Way)	3	1. Reallocate roadscape and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Introduce cycle-friendly traffic calming measures	3
	Shepherds Way	2	• Introduce cycle-friendly traffic calming measures	2
	Crawley Road	3	• Replace ex. Pelican w. Toucan closer to Shepherds Way and create link path to Bracken Close	3
53	Comptons Lane - station (via Highlands Rd) (secondary)			2
	Comptons Lane j/w St. Leonards Rd	3	• Realign junction to improve safety for cyclists	2
	Comptons Lane/ Highlands Rd/ Oakhill Rd		• Introduce cycle-friendly traffic calming measures	2
	Station Rd (Oakhill Rd – station)		1. Reallocate roadscape and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Introduce cycle-friendly traffic calming measures	3
81	Hills Farm Lane - Worthing Road (secondary)			2
	Hills Farm Lane j/w Meadvale	2	• Install speed table and crossings at junction	2
	Meadvale – Groombridge Way	1/2	• Allow cycling on link paths and sign accordingly	1
			• 20mph limit on all estate roads	2
	Ridgehurst Drive –	1/2	• Restore missing bridge over River Arun	3

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Arunside		<ul style="list-style-type: none">Widen path either side of missing bridge	2

5.3 Low priority routes

General recommendations only are given for these routes.

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
4	Crawley Road - King's Road/Rusper Road roundabout (primary)			2
	Crawley Road (N of Harwood Rd junction)	3	1. Reallocate roadspace (incl. removal of parking) and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Introduce cycle-friendly traffic calming measures	3
	Crawley Road (W of Harwood Rd junction)	2.5/3	• Improvements to ex. traffic calming	2
11	Station - North Parade (on-road)			3
	Hurst Road	2.5/3	1. Reallocate roadspace (incl. removal of parking) and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	4
			2. Introduce cycle-friendly traffic calming measures	3
21	North Horsham orbital			1
	Pondtail Rd / Giblets Way	3	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	3
			2. Introduce cycle-friendly traffic calming measures	2
	Lemington Way		• Provide cycle lanes (min 1.25m)	1
42	Comptons Lane			2
	Godwin Way	2	• Improve layout of cycle gap at road closure	1
	Comptons Lane (S of Harwood Rd)	2.5	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	4
			2. Introduce cycle-friendly traffic calming measures	3
	St. Leonards Rd	2/3	• Introduce cycle-friendly traffic calming measures & improve junctions	3
51	Comptons Lane - station (via Depot Road)			3
	Depot Rd	3	• Improve ex. cycle track & extend to school entrance	1
			• Introduce cycle-friendly traffic calming measures	3
	Barrington Rd	2	• Make 2-way for cyclists w. cycle plug	
	Station Rd		• Introduce cycle-friendly traffic calming measures	3
84	Blackbridge Road north			3
	Blackbridge Rd (Arunside – Middleton Rd)	3	• Introduce cycle-friendly traffic calming measures	2
	Blackbridge Rd (Middleton Rd – Guildford Rd)	2	1. Reallocate roadspace and remove centre line to provide cycle lanes (min 1.25m) in both directions and 2-way central lane for motor vehicle flow	4
			2. Introduce cycle-friendly traffic calming measures	3
85	Granary Way - Worthing Road			3
	Hills Farm Lane – Granary Way	1	• Widen and sign path	1
	Blackbridge Rd (Granary Way – Worthing Rd)	2/3	• Introduce cycle-friendly traffic calming measures	3
92	The Common - Rookwood Park			1
	Merryfield Drive /	2	• Improve signing	1

Route	Description	CSNA Level	Recommended measures (if numbered, in order of preference)	Practicality
	Redford Ave			

6. Area-wide cycling measures

6.1 Proposals for infrastructure measures

In addition to the detailed recommendations summarised above, a number of area-wide recommendations are also made. As with the detailed recommendations, West Sussex County Council as the Highway Authority would need to agree to many of the proposals but funding could come from a range of sources.

Infrastructure

- As a priority, a policy should be considered of making the urban area of Horsham a 20mph zone (excepting distributor roads). This would follow the example of larger towns and cities such as Portsmouth, Oxford, Norwich and Leicester where the default speed limit is 20mph. While implementation of such a policy would need to be incremental, the adoption of such a policy would send a clear message about local transport priorities.
- A programme should be developed to provide Advanced Stop Lines at all appropriate signalled junctions (i.e. excluding junctions with Level 3.5 roads). As far as possible these should include a reasonable length of lead-in lane
- A programme should be developed to investigate and deliver targeted improvements to cycle provision. Sub-standard measures should be examined in detail and either brought up to standard, redesigned (e.g. as unsegregated shared use) or removed.
- In particular, narrow cycle lanes (below 1.25m wide) should be examined and either widened or removed.
- On roads forming part of the primary cycle route network where there are currently no or very narrow cycle lanes, the possibility should be investigated of removing the centre line to give a narrower central 2-way lane for motor vehicles and reallocating roadspace to provide cycle lanes in both directions
- Roundabouts on the primary cycle route network should be examined and where possible redesigned to meet continental style design (see DfT Traffic Advisory Leaflet 9/97 *"Cyclists at Roundabouts. Continental Design Geometry"*)
- Car parking in and near cycle facilities should be reviewed to remove locations which obstruct cyclists, reduce visibility or cause some other hazard.
- Where cycle routes cross roads without signals, wide Zebra crossings should be considered. These comprise a wide speed table with a Zebra crossing and a parallel non-priority crossing for cyclists – see example below.



Parallel Zebra and cycle crossing (Chelmsford, Essex)

Cycle parking

Improved cycle parking has been provided in some locations (e.g. Horsham Station east entrance, Pavilions in the Park). However there remains a general shortage of good quality cycle parking outside the town centre.

- A programme should be developed to provide cycle parking facilities at main destinations, using Sheffield stands or equivalent

Signing

Signing and continuity of provision is very variable throughout Horsham. Improving this would add to convenience, continuity and the 'profile' of cycling.

- A review of cycle signing across the area should be carried out in order to develop a cycle signing strategy
- A programme of works should then be drawn up to introduce new signs and improve existing provision.

Traffic-free links

In parallel with the signing review a detailed review of all potential traffic-free links should be carried to produce a programme of works to make available to cyclists. There are many missed opportunities that could easily be put right, including many short paths that could be shared to create links with minimal expense and good signing and hence extending the cycle network and increasing coherence and continuity.

- Review short traffic-free links and develop a programme of works to open these up to cyclists where possible, including appropriate signing and removal of barriers



Link at Delius Gardens

6.2 Proposals for smart measures (i.e. non-infrastructure)

These would require input from the Travel Plan team at West Sussex County Council.

- Cycle route information and promotional activities – to include a revised cycle map based on the CSNA levels for roads and cycle tracks
- Workplace Travel Plans to promote cycling more actively
- School Travel Plans to include local CSNA plans and to promote cycling more actively

- Bikeability training to be established for children outside Year 6 as well as for adults

Appendix A

Methodology for Undertaking Cycle Skills Network Audits

Purpose

The purpose of this methodology is to provide clear guidance on the **Cycle Skills Network Audit (CSNA)**. The CSNA classifies sections of roads, junctions and off-carriageway facilities usable by cyclists by the Bikeability standard that cyclists would need to have achieved to be able to ride on them in comparative safety. Bikeability is the name given to the UK National Standard for Cycle Training.

The guidance first explains the benefits of carrying out an audit. It then explains the three Bikeability levels of achievement and how these have been adapted into five levels for the purposes of the audit. It then gives detailed explanations of the characteristics that define roads at each of the levels. Finally the guidance explains how an audit should be carried out.

Benefits

The information provided by a Cycle Skills Network Audit can be used in a number of ways. An audit can be used for some of the following:

- Production of maps or guides for local cycle users enabling them to plan journeys based on their level of skill
- Identifying barriers to cycling and accessibility. Audits include assessment of pedestrian crossings by their Bikeability levels
- Targeting of cycle training to schools where improved skills are most needed within their catchment areas
- Identification of roads and other routes where a more detailed assessments, such as a CERS2 (Cycle Environment Review System 2) audit, could be carried out

Bikeability (National) Standard Levels

The Bikeability Standard has three levels of achievement:

Level 1 Beginner

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.

Level 2 Introduction to Riding on the Road

The cyclist has the skills and understanding to be able to make a trip safely to school, work or for leisure on quiet roads.

Level 3 Advanced

The cyclist has the skills and understanding to be able to make a trip safely to school, work or leisure on busy roads and using complex junctions and road features.

Cycle Skills Network Audit Levels

The three Bikeability levels have been used as a base to classify the existing road network but have been expanded slightly for the purposes of the CSNA, adding two new categories.

Routes

Roads or any off-carriageway route which cyclists are permitted to use, whether highway or not, are categorised as follows:

- Level 1** Motor traffic-free off-carriageway routes where cycling is permitted and some streets with extremely low levels of calmed traffic *e.g. cycle tracks, paths through parks, shared spaces, private road cul-de-sacs*.
NB not all cycle tracks alongside roads will be Level 1.
- Level 2** Roads or lengths of a road that cyclists who have achieved Bikeability level 2 can cycle on and carry out all manoeuvres *e.g. most residential roads, roads with traffic calming*
Cycle tracks which require a degree of attention equivalent to that needed on a Level 2 road *e.g. cycle tracks on shared-use footways crossing frequent side roads or private accesses*
- Level 2.5** Roads or lengths of a road that cyclists who have achieved Bikeability level 2 can cycle on and carry out all manoeuvres except turning across traffic (i.e. turning right onto or off the road) *e.g. busier residential roads, mixed priority roads, low-flow distributor roads – especially where there is a wide cycle lane*
- Level 3** Roads or lengths of a road that cyclists who have achieved Bikeability level 3 can cycle on and carry out all manoeuvres *e.g. most main roads including smaller roundabouts*
Cycle tracks which require a degree of attention equivalent to that needed on a Level 3 road
- Level 3.5** Roads or lengths of a road where the level of risk is so high it is a barrier to even the most experienced and competent cyclists *e.g. the most difficult/busy main roads and junctions, including most dual carriageways, gyratory systems, large roundabouts and grade-separated junctions with slip roads*

In additions some traffic-free links which are not currently available to cyclists (either by legal or physical restrictions) are classified as **Potential Level 1**. For example, this might include a path between two cul-de-sacs which is wide enough to be shared by pedestrians and cyclists but has a “No cycling” sign. It could also include a bridleway with a poor quality surface.

Crossings

In addition to assessing the cycling conditions, all pedestrian and cycle crossing points (on roads classified Level 2.5 or higher) are identified. These are classified as Level 1, 2 and 3 and the characteristics for these are based on those for routes. 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.

It should be noted that for crossings there is no Level 2.5 as they will either be at Level 2 or Level 3. Level 2.5 is **only** used to denote roads where a cyclist trained to Bikeability level 2 will not feel safe when turning across traffic and so would be advised to dismount and cross as a pedestrian. Occasionally there may be some Level 3.5 crossings, where the level of risk is so high that their use is not considered advisable.

In each case the type of characteristics expected for each level is described. A classification will usually be made when a combination of these characteristics are observed. However, it

is possible that a single factor (e.g. traffic speed) may lift a section of road into a higher level.

Carrying Out the Audit

Initial scoping

An initial scoping of the area can be carried out establishing the roads most likely to be classified higher than level 2 and devising a plan of campaign for the practical audit. A quick cycle round the area on the roads identified as probably higher than level 2 will then help familiarise the auditors with the area, although the audit may begin without such a ride having been undertaken.

Roads classified higher than level 2

These are generally major routes through an area and mixed residential/local distributors. Some apparently minor residential roads may be used as rat runs which may raise the level of classification. For all these roads the auditors need to make measurements of road widths. Measurements should be made at regular intervals:

- where road width may be the factor that would give a higher classification
- where there is an obvious change in road width
- where regular parking on one or both sides of the road change the effective road width for through traffic (measure of both total road width and available carriageway width should be made at these points)
- where there are pedestrian islands the width of each carriageway lane and of the island should be recorded
- at any other points where the auditors feel width may be a factor

The pedestrian crossings on these roads should all be classified and recorded.

Roads classified level 2 or less

Estate roads and terrace streets will usually have very similar characteristics. It should not be necessary to ride along every one of these roads. After consulting the map it will often be possible to cycle along each residential distributor and view down the lesser residential streets from their ends to confirm their status.

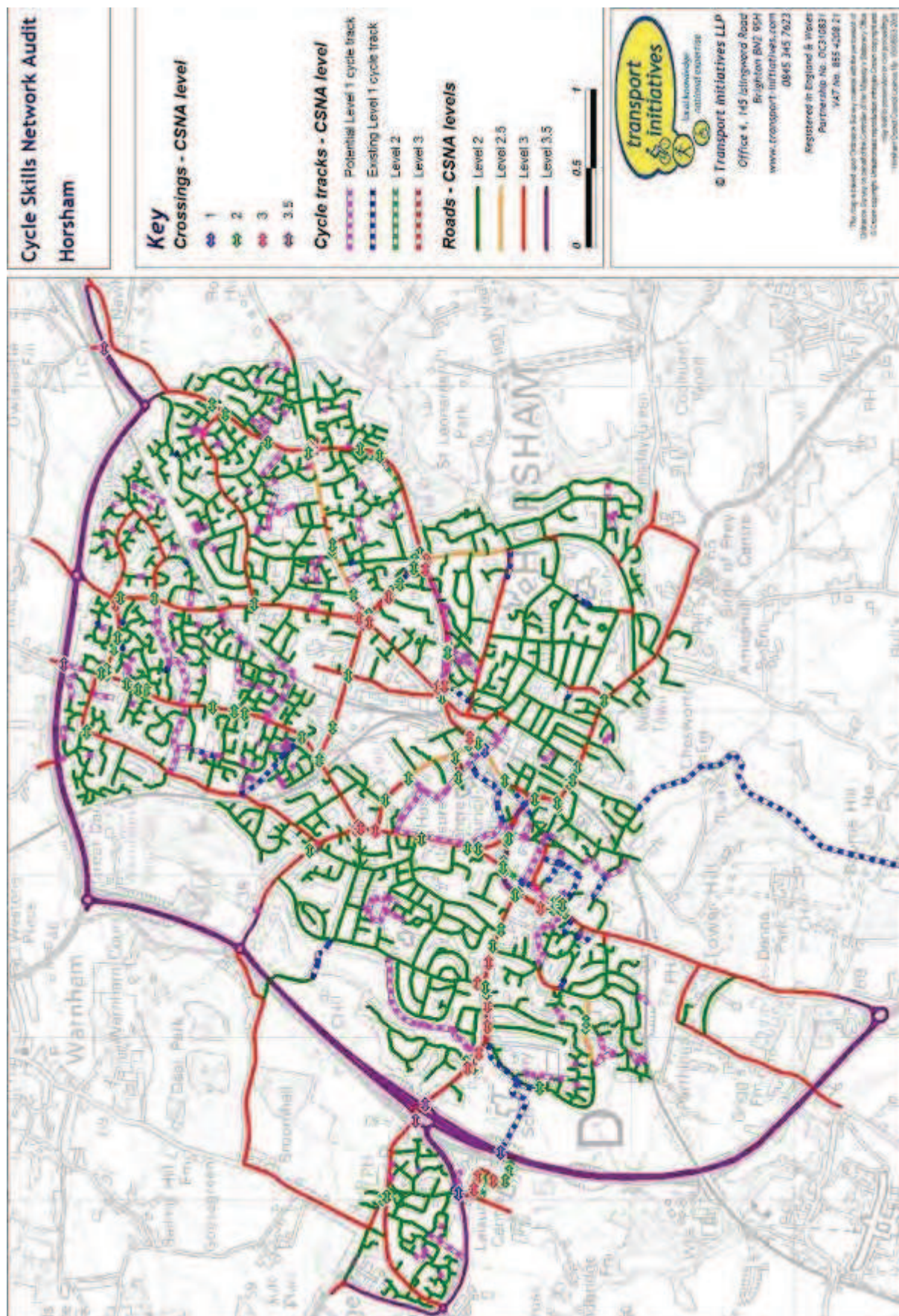
In some residential streets the width of available carriageway (may be that within lines of parked cars on either side of the street) can be a factor in classification at level 2. However, in this case the level of traffic should allow any measurement to be carried out by a single auditor. Observation may also preclude measurement as it may be obvious that the road width is too narrow for two vehicles to pass.

Any identified crossings on Level 2 roads should be recorded although they will never be classified at higher than Level 2.

Appendix B

Large scale plans of CSNA

1. **Horsham (overall study area)**
Approx. scale 1:37000 at A4
2. **Horsham – north west**
Approx. scale 1:7250 at A4
3. **Horsham – north east**
Approx. scale 1:7250 at A4
4. **Horsham – south west**
Approx. scale 1:7250 at A4
5. **Horsham – south east**
Approx. scale 1:7250 at A4
6. **Horsham – town centre**
Approx. scale 1:5750 at A4



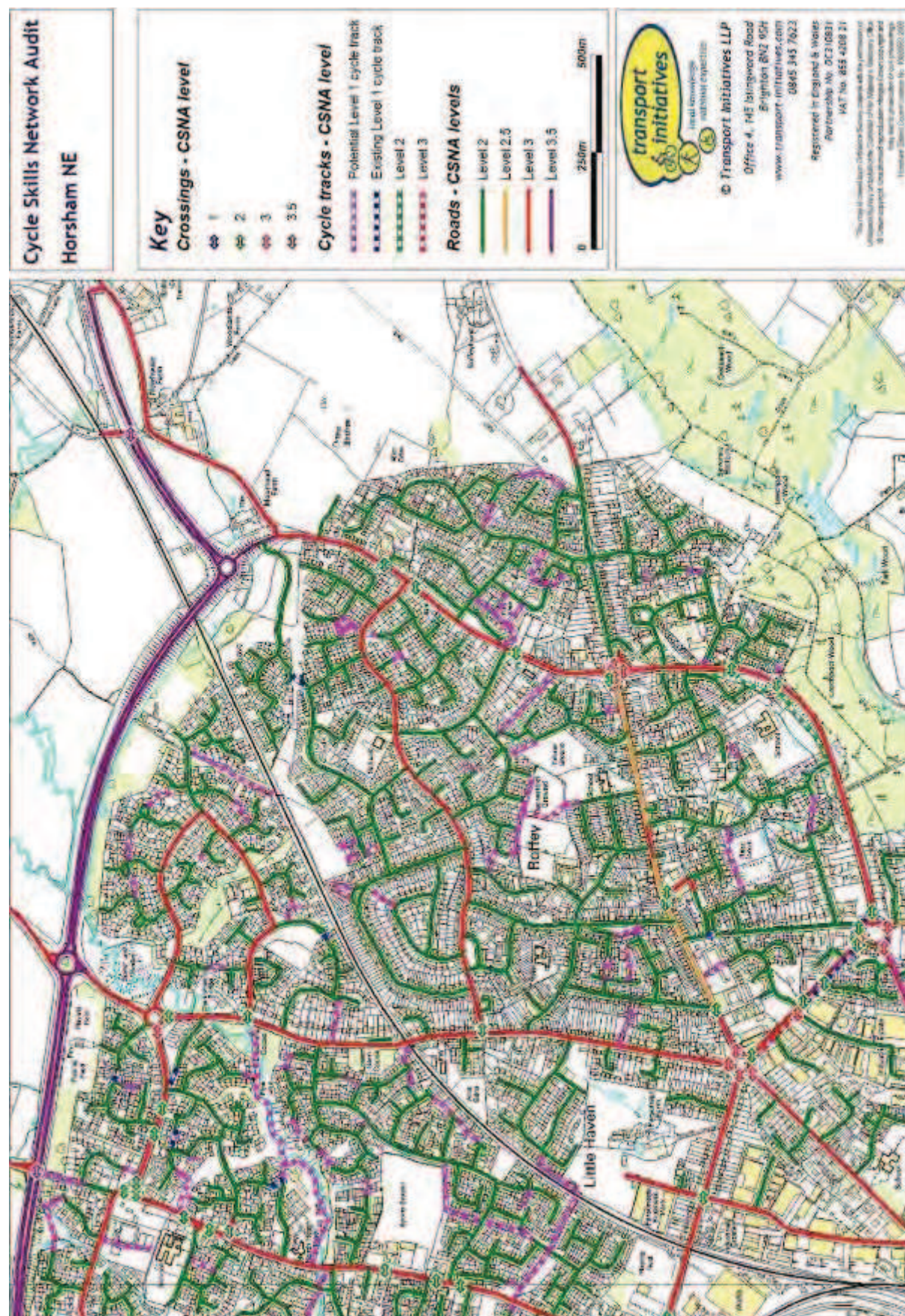
1. *Horsham – overall study area*



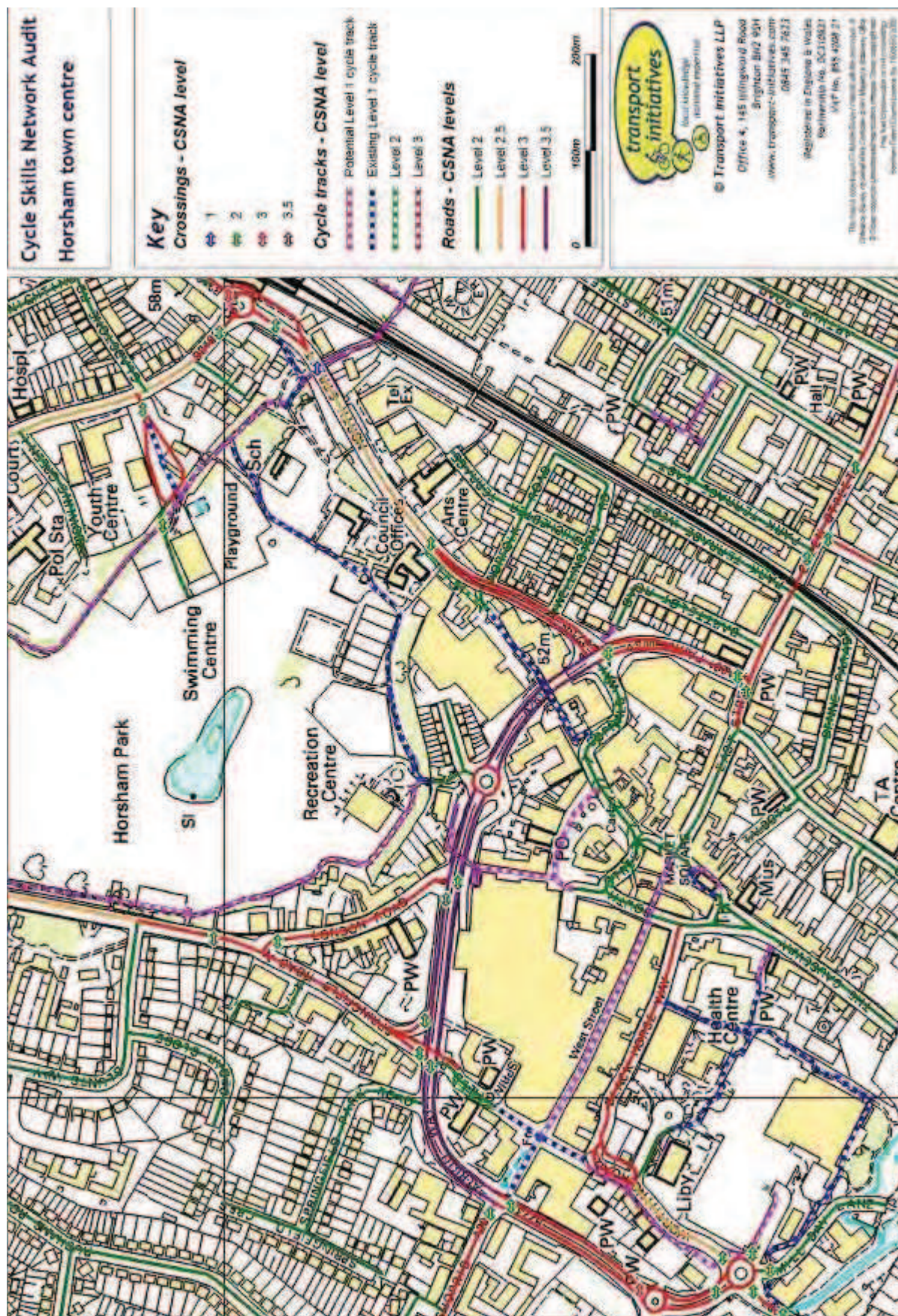


3. Horsham – north east





5. Horsham – south east



6. Horsham – town centre