



West Sussex County Council

CHICHESTER POP UP CYCLE SCHEME

Stage 3 Road Safety Audit





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CONFIDENTIAL

PROJECT NO. 70073305-RS3

OUR REF. NO. 70073305-RSA3-001 70073305-SR1

DATE: SEPTEMBER 2020

WSP
2 London Square
Cross Lanes
Guildford, Surrey
GU1 1UN



Quality control

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	FINAL			
Date	30-09-2020			
Prepared by	[REDACTED]			
Signature	[REDACTED]			
Checked by	[REDACTED]			
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Authorised by	[REDACTED]			
Signature				
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1. PROJECT DETAILS

Report title:	Chichester Pop Up Cycle Scheme Stage 3 Road Safety Audit
Date:	September 2020
Document reference and revision:	70073305-RSA3-001
Prepared by:	WSP
On Behalf of:	West Sussex County Council

2. INTRODUCTION

2.1. INTRODUCTION

2.1.1. This report results from a Stage 3 Road Safety Audit carried out on the Chichester Pop-Up Cycle scheme on behalf of [REDACTED], Audit Project Sponsor, West Sussex County Council. The Road Safety Audit was carried out during September 2020.

2.1.2. The Road Safety Audit Team was as follows:

Audit Team Leader: [REDACTED]

Audit Team Member [REDACTED],

Both team members hold a Road Safety Certificate of Competence meeting the requirements of the European Directive 2008/96/EC and GG119 paragraph 3.9 and appendix G.

2.1.3. The audit took place in WSP home offices in September 2020. The Road Safety Audit was undertaken in accordance with the Road Safety Audit brief provided by [REDACTED] and accepted by the Audit Team.

2.1.4. The Audit Team visited the site together on 22nd September between 8am and 1pm. The weather was dry and overcast / sunny intervals. The road surface was dry during the site visit. There was a steady flow of traffic and a medium flow of pedestrians and cyclists. The site visit was also attended by [REDACTED] of West Sussex Police and [REDACTED] of West Sussex County Council.

2.1.5. The Road Safety Audit also comprised of an examination of the documents and drawings supplied to the Road Safety Audit Team, referenced in Appendix A of this report.

2.1.6. All comments and recommendations are referenced to the design drawings and the locations have been indicated on the plan located in Appendix B.

2.1.7. The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard GG 119 Road Safety Audit, with the following exceptions as set out in the Road Safety Audit Accepted Practice WSCC 1/4/2019:

- No audit team approval required (as audit team requirements specified)
- No Full Audit Brief required (unless for major project schemes)
- No GG104 process required for exception reports (unless for major project schemes)
- No digital copy required to be sent to Highways England

2.1.8. The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

2.1.9. No Departures from Standards relating to the scheme were provided to the Audit Team.

2.2. AUDIT ADMINISTRATION

2.2.1. This Audit Report has been submitted to the design organisation for consideration and an RSA response report should be produced in collaboration between the Overseeing Organisation. This



should be completed within 1 month of the issue of the RSA report and the Overseeing Organisation should then provide a copy to the RSA team for information.

- 2.2.2. The Overseeing Organisation is responsible for identifying any misinterpretations of the highway scheme proposals or if any problem or recommendation is not accepted.
- 2.2.3. Safety issues identified during the audit and site inspection which the Terms of Reference exclude from this report, but which the audit team wishes to draw to the attention of the Overseeing Organisation, will be set out in a separate letter. Maintenance issues should be reported directly to the maintaining agent.

2.3. PURPOSE OF THE SCHEME

The purpose of the scheme is to reallocate road space to cyclists to encourage more cycling trips during the COVID-19 pandemic, through the use of segregation provided by traffic wands and other temporary traffic management measures, signing and road markings.

3. PROBLEMS IDENTIFIED IN PREVIOUS ROAD SAFETY AUDITS

Desktop safety reviews have been undertaken during the design stage and these have been provided to the audit team. The recommendations made during the reviews are not specifically referenced in this audit but have been taken into account.

4. PROBLEMS IDENTIFIED AT THIS STAGE 3 ROAD SAFETY AUDIT

4.1. PROBLEM 1

Location: Throughout the Scheme

Summary: Cylinders used for different purposes, creating confusion for all road users.

The orange cylinders that have been used throughout the scheme are used to create areas where cyclists are segregated from traffic, and to create areas where cyclists are not permitted and should share the narrowed road space with other traffic.

During the site visits it was observed that neither the cyclists or other road users were clear on the intention in the areas where cyclists were not intended to go. Frequent conflict and verbal abuse of cyclists was observed at these locations.

“COVID Pop Up Cycle Lane Ahead” signing has been used on the approach to areas where cyclists are not permitted, further confusing matters.

Cyclists were observed on site to slow down in the circulatory carriageway to enter between closely spaced wands on the outside of the circulatory carriageway that were not intended for cycle use.

This could result in collisions between cyclists and other vehicles, or aggression towards cyclists whereby they might hesitate and collide with each other, or fall off.



Areas not intended for cycle use, Via Ravenna

RECOMMENDATION:

It is recommended that areas not intended for use by cyclists are closed with a solid barrier.

4.2. PROBLEM 2

Location: Roundabouts throughout the scheme

Summary: Cyclists and other road users unable to identify suitable entry and exit points to the scheme, resulting in collisions between cyclists and shunts between other vehicles.

No specific entry and exit points are provided at the roundabouts throughout the scheme. All of the cylinders are the same colour and spacing and from the driver / rider view point it is difficult to identify the intended route for cyclists.

Examples of this are where gaps are provided for cyclists to turn right to leave the lane or to cross a roundabout exit arm, and where cyclists join the cycle lane from a roundabout circulatory carriageway.

Drivers may fail to realise that cyclists must pull out around any signing within the taper in order to join the lane, resulting in side-on collisions with cyclists, or shunts between following vehicles.

Cyclists stopping to turn right may be hit by other following cyclists. Cyclists proceeding along a lane through a roundabout may fail to negotiate with a cyclist entering from a roundabout, resulting in one of them falling.

Cyclists may hesitate in the circulatory carriageway deciding which gap to use to enter the cycle lane, causing other vehicles to brake hard, resulting in shunts.

Cyclists entering the lane from a roundabout at a difficult angle may fail to turn, hitting the kerb and falling off.



Lack of clarity between areas intend for cycle use, areas closed off, exit point from circulatory carriageway to cycle lane, and intended route for cyclists heading to New Park Road.

RECOMMENDATION:

It is recommended that all entry and exit points are marked with a different colour wand to help all road users identify appropriate gaps and anticipate each other's path.

It is recommended that give way triangles are placed in advance of the marked gap so that cyclists proceeding along the lane give way to those joining from the roundabout circulatory areas.

4.3. **PROBLEM 3**

Location: Throughout the scheme

Summary: Inconsistent signing where cyclists are expected to use pedestrian crossings, resulting in hesitation and conflicts with other road users, including pedestrians.

At some roundabout locations, cyclists are expected to go past the roundabout and turn across the pedestrian crossing point, re-joining the cycle lane on the entry arm to proceed around the roundabout.

There is inconsistent signing to advise cyclists that they should do this, or to advise pedestrians that the crossing point is shared.

The crossings may also be used to traverse the roundabouts in the opposite direction.

This could result in conflicts between cyclists, and between cyclists and pedestrians.

RECOMMENDATION:

It is recommended that the routes for cyclists using the crossing points is clearly signed, with map type signs.

4.4. **PROBLEM 4**

Location: Throughout the scheme

Summary: Cyclists failing to identify dropped kerbs at pedestrian crossing places, resulting in sharp braking and collisions between cyclists.

Cyclists who may want to use dropped kerbs and shared footways to navigate around roundabouts in contraflow rather than cross the exit arms may not be able to easily identify where the kerbs are when approaching within the pop up cycle lane. They may brake suddenly, causing following cyclists to swerve and fall.

RECOMMENDATION:

It is recommended that different coloured cylinders are provided to identify all crossing points, regardless of whether it is intended that they form part of the cycle route.

4.5. PROBLEM 5

Location: Throughout the scheme

Summary: Lack of clarity giving way to cyclists at roundabouts and junctions, resulting in T-bone collisions with cyclists.

The line of cylinders forming the edge of the cycle lane across entry points to roundabouts infers that the give way line has been pulled forward to the edge of the vehicle carriageway. This could result in drivers overshooting the give way line into the cycle lane where cyclists could ride into the side of them and be thrown from their bikes.



Car giving way at the edge of the cycle lane rather than in advance of it

RECOMMENDATION:

It is recommended that the Give Way markings are refreshed on all approaches where the cycle lane continues around roundabouts and signs are provided to advise Drivers to Give Way to pop up cycle lane at the give way line.

4.6. PROBLEM 6

Location: Northgate gyratory

Summary: Cyclists observed going against the direction of traffic within the cycle lanes

Cyclists were observed going against the direction of traffic within the cycle lane. Although there were low volumes of cyclists within the lane itself, there is no indication for drivers that cyclists are likely to be crossing the junctions from both directions and they are unlikely to look to their left to check for cyclists going the wrong way. This could result in cyclists being struck by vehicles at the junctions.

At points where the existing islands restrict the width of the lanes, there may be conflicts between opposing cyclists.



Cyclists using the lane in contraflow

RECOMMENDATION:

It is recommended that specific desire lines are identified where it would be beneficial to allow contraflow cycling and provide additional signing and road markings to promote safe use of the cycle lanes in contraflow.

4.7. PROBLEM 7

Location: Avenue de Chartres approach to Westgate Roundabout

Summary: Vehicles merging left into the path of cyclists, resulting in side swipes and shunts.

The cycle lane terminates on the approach to the roundabout, and the central cylinders continue in a straight line up to the central island. The existing hatch markings that direct drivers around the splitter island at the roundabout are still present, but drivers are now expected to drive over them.

This guides drivers to merge left at the point where cyclists no longer have protected space. This could result in side swipe collisions between cyclists and other vehicles.

The revised alignment for other vehicles does not guide them around the splitter island. The only other guidance is the keep left bollard on the small island, which is set back a long way from the kerb of the splitter island and may be hidden from view by the cylinders. The realignment of the traffic lane could result in vehicles striking the island, or sudden manoeuvres to avoid hitting it, resulting in shunts.



Wands and hatching on the approach to central island on Avenue de Chartres

RECOMMENDATION:

It is recommended that the existing hatch markings and zig zags are removed and realigned to properly indicate the vehicle approach to the island and discourage drivers from “squeezing out” cyclists, with additional cycle logos provided up to the give way line.

4.8. PROBLEM 8

Location: Westgate Roundabout exit onto Avenue de Chartres

Summary: Wand location on the exit arm of Avenue de Chartres discourages cyclists from taking a primary position around the roundabout which could lead to vehicle / cycle collisions

A temporary pop up cycle lane bounded by wands has been provided on Avenue de Chartres in a southbound direction from Westgate Roundabout. Cyclists using the roundabout were observed to take a primary position which discourages vehicles from overtaking and encourages cyclists away from the entry arms, providing increased visibility to / from the cyclist.

The location of the wands on the exit arm require a cyclist to align themselves closer to the outside of the roundabout which may lead to reduced visibility of the cyclist from West Street resulting in collisions. Cyclists may change direction to enter the cycle lane on the circulatory carriageway and following vehicles may not anticipate this, leading to side swipe collisions.



Wands on exit arm of Westgate roundabout to Avenue de Chartres

RECOMMENDATION:

It is recommended that the first wands on the exit arm are removed.

4.9. PROBLEM 9

Location: Spitalfields Lane

Summary: Vehicles merging with cyclists, resulting in side swipe and shunt collisions.

The exit from the Oaklands Way Roundabout onto Spitalfield Lane has previously been reduced to a single lane by providing hatching on the offside, in order to create a right turn pocket for vehicles entering College Lane. The provision of the cycle lane has meant that the general traffic lane now passes over the hatching, which has not been removed.

At the end of the splitter island the cylinders forming the cycle lane end, and additional cylinders on the centre line guide vehicles to merge into the cycle lane. The lane marking forming the edge of the hatching could be construed as a give way line for vehicles merging left, giving cyclists priority. As this is not the intention, it is open to misinterpretation and some drivers may not expect the vehicle in front to stop, resulting in shunts. Some cyclists may believe they have priority over merging vehicles, resulting in side swipe collisions.



Hatchmarking in general traffic lane, Spitalfields Lane

RECOMMENDATION:

It is recommended that the hatch marking and lane marking are removed, and additional, larger cycle logos are provided in the centre of the lane at the merge point, and a sign is provided on the splitter island indicating “cyclists merging from the left”.

4.10. PROBLEM 10

Location: Avenue de Chartres, between Deanery Close and Southgate

Summary: Cyclists merging with traffic on the approach to the junction, result in side swipe collisions.

The cycle lane in Avenue de Chartres breaks in advance of Deanery Close to provide for the left turn into the car park, and then continues for a short length in advance of the pelican crossing, where it breaks again for a vehicle access. Downstream of the crossing the road is marked as 2 lanes, both turning left into Southgate. At the junction with Market Avenue and South Street, both lanes turn right into Market Avenue so cyclists will need to be in a primary position in lane 1 to make this turn. The cylinders downstream of Deanery Close may restrict their ability to do this.

Vehicles heading towards South Street are likely to merge left ahead of the south street junction, restricting cyclists ability to take up a primary position.

There are no cycle markings after the cylinders to remind drivers to make room for cyclists.

This could result in cyclists being hit by other vehicles, or being “squeezed” on the approach to the junction, causing them to fall.

The width of the pop up cycle lane is restricted due to the left turn out of Deanery Close and the central island. Cyclists entering the lane will need to travel closer to Deanery Close junction where they may be less visible to drivers exiting the junction. This may lead to vehicle / cycle collisions.



Cycle lane cylinders on the approach to Southgate

RECOMMENDATION:

It is recommended that cyclist and driver interaction is observed over several peak periods, and if beneficial, the cylinders are removed.

It is recommended that a sign is provided on the central island indicating “cyclists merging from the left”, and additional, larger cycle logos are provided in lane 1 to indicate to drivers that cyclists are merging into general traffic.

4.11. PROBLEM 11

Location: Avenue de Chartres / Via Ravenna roundabout

Summary: Reduced lane width and cycle provisions and lack of consistency on roundabout may lead to confusion for cyclists and drivers resulting in cycle / vehicle collisions.

Pop up cycle lanes have been provided with physical separation in the form of wands on the approach to the Avenue de Chartres and Via Ravenna roundabout on both Avenue de Chartres arms. There are also signs within the cycle lane guiding cyclists to crossing facilities and gaining access to the shared footway around the roundabout.

The Via Ravenna arm has been reduced to one lane and “pop up cycle lane ahead” signs provided, however the spacing of the wands prevent cyclists from accessing this area and the area closed off ends at the circulatory carriageway.

Drivers may expect cyclists to enter the coned off area of the carriageway and not give space for cyclists, leading to cycle / vehicle collisions. Cyclists may try to enter the closed off area at a slow speed and swing out into traffic to gain an easier entry angle, resulting in cycle / vehicle collisions.

Cyclists in the general traffic lane do not have the opportunity to access the pedestrian crossing areas of the roundabout and will need to navigate the roundabout in the general flow of traffic. Vehicles were observed to be travelling at a relatively high speed around the roundabout and nervous or hesitant cyclists may take unsuitable gaps in the traffic resulting in cycle / vehicle collisions on the circulatory carriageway.

RECOMMENDATION:

It is recommended that a pop up cycle lane is provided on Via Ravenna in place of the closed off area and extended into lane 1 on the northbound Avenue de Chartres to provide facilities for cyclists to access the pedestrian crossing areas on the roundabout and shared footway.

5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out in accordance with GG 119, with the exception of local departures identified in paragraph 2.1.7.	
ROAD SAFETY AUDIT TEAM LEADER	
Name:	[REDACTED]
Signed:	[REDACTED]
Position:	Safety Audit Team Leader
Organisation:	WSP
Date:	30.09.2020
ROAD SAFETY AUDIT TEAM MEMBER(s)	
Name:	[REDACTED]
Signed:	[REDACTED]
Position:	Safety Audit Team Member
Organisation:	WSP
Date:	30.09.2020

Appendix A



DOCUMENT LIST

DOCUMENTS

-  RSR Response 300620

DRAWINGS

-  70073305-CHI-001 C04
 -  70073305-CHI-002 C04
 -  70073305-CHI-003 C03
 -  70073305-CHI-004 C04
 -  70073305-CHI-005 C03
 -  70073305-CHI-006 C04
 -  Chichester Construction Issue Register
 -  Chichester Sign Schedule 29072020
- Producer: PDF-X
Pages: 1 page(s)
Size: 395.08 KB (4

WEST SUSSEX COUNTY COUNCIL DEPARTURES FROM GG119

WSCC Highways & Transport have adopted GG119 with the following local departures:

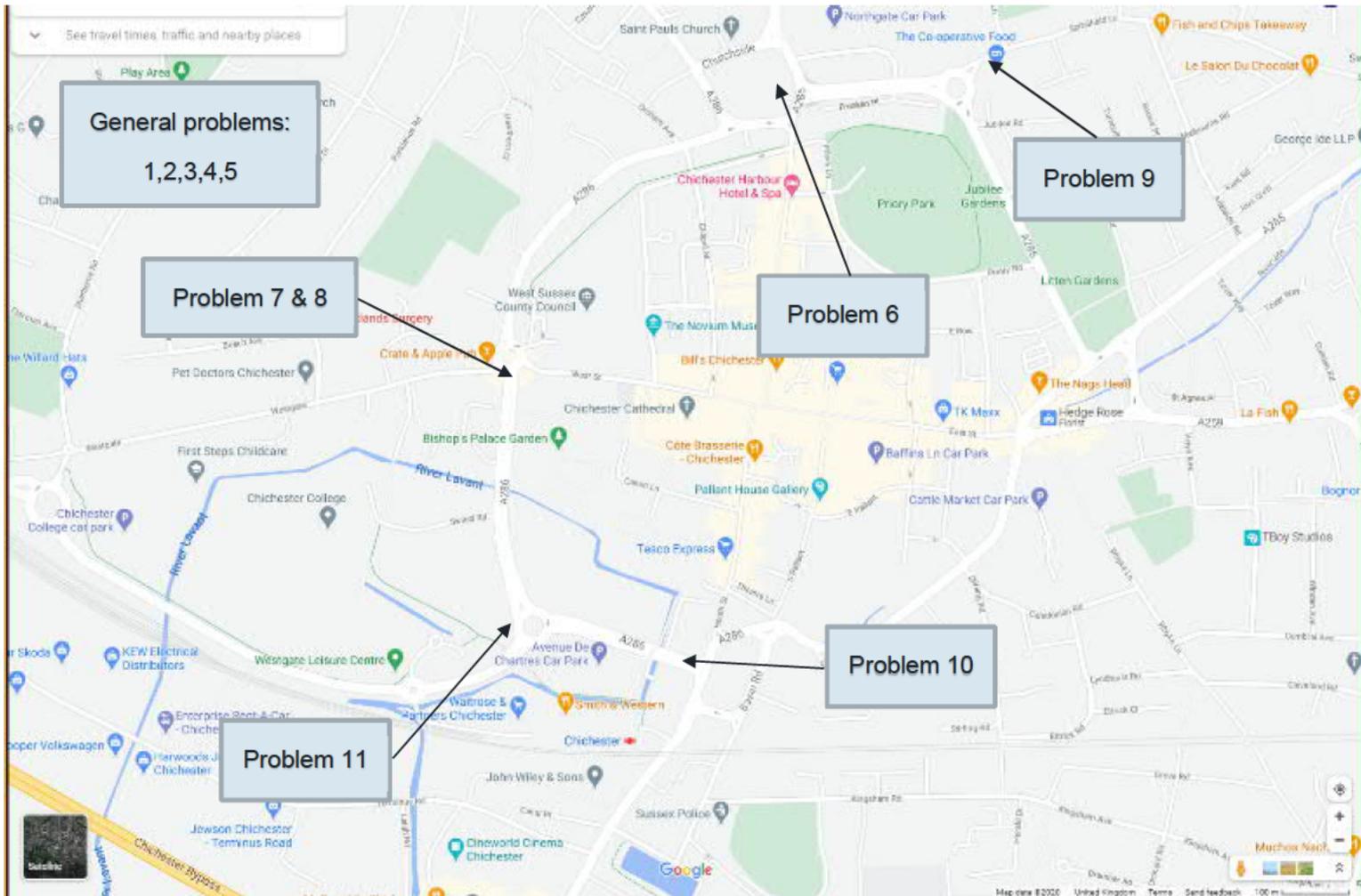
- No audit team approval required (as audit team requirements specified)
- No Full Audit Brief required (unless for major project schemes)
- No GG104 process required for exception reports (unless for major project schemes)
- No digital copy required to be sent to Highways England.



Appendix B



PROBLEM LOCATION PLAN





2 London Square
Cross Lanes
Guildford, Surrey
GU1 1UN
wsp.compl;pl;o