

# London Road/Abbey Road— RSA Stage 2 Designer Response

For Coventry City Council



July 2023

LRAR-RSA2-DOC-SM-0001-Rev-01

This document and its contents have been prepared and are intended solely as information for Coventry City Council and use in relation to Coventry South Infrastructure Improvements Scheme

### Note

Scott Mills is a Contractor working for Coventry City Council and he assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 14 pages including the cover, plus the RSA -2 in Appendix A.

### Document Status

Revision	Status	Originated	Checked	Authorized	Date
1.0	Issued for Comment	SM	SM	SS	03/07/23
2.0	Final	SM	SS	SS	03/07/23

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## **1.0 Introduction**

The existing Abbey Road/London Road junction is to be signalised and cycleway provision is to be incorporated into the scheme. A new stub arm has been designed to cater for a new housing development to the north of the new junction.

The scheme did undergo a Stage1 / 2 safety audit previously, but was re-submitted due to some changes to cycleway provision around the scheme.

Accident data indicates that there has been 1 slight recorded personal injury collision in the last 3 years (21/10/19 – 20/08/22).

The Design Team comprised the following:

Scott Mills – Highway Lead, Contractor working for Coventry City Council

Yunex – designers of the signalisation scheme.

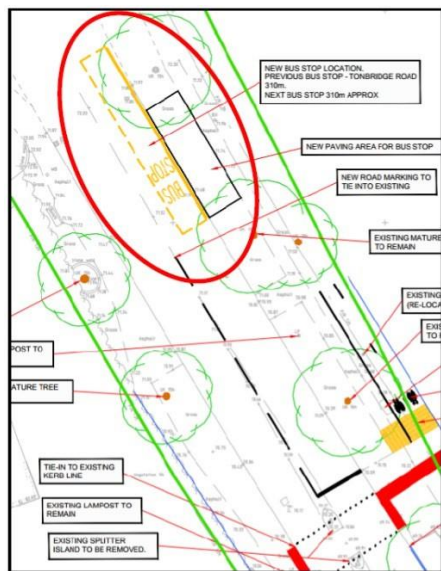
## 2.1 Problem

Bus stop location – London Road

### Summary

The bus stop relocation is on the approach to the proposed signalised junction and in particular the signal heads. Buses waiting within the bus stop will significantly reduce the conspicuity of the signal heads (for vehicles on the approach from north-west to south-east) and this significantly increases the risk of vehicle to vehicle and vehicle to pedestrian type personal injury collisions.

### Plan



### Recommendation

The designer's response in regards to the stopping distance is noted, however, the audit team still regard the location of the bus stop may result in conspicuity problems. Relocating the bus stop may significantly reduce the likelihood of vehicle to vehicle and vehicle to pedestrian type collisions.

### Recommendation Accepted Y/N

Y

### Designer Response

This comment has been accepted. However, discussions have been held with the signal designers and an additional meetings have been held with safety team members and the bus stop co-ordinator for TfWM. Discussions indicated a number of additional locations and measure to be undertaken. There were two further locations for the bus stop explored and discussions on the possibility of the a mast on the southbound approach to the signalisation.

- 1) Yunex, who are the signal designers indicate that the signalisation design is in accordance with design guidance. Given the proximity of the bus stop, they provided 3 primary signals at numbers 5, 6 and 16 (as shown below). Therefore, their view is an additional mast is not appropriate. The designer has accepted this advice.



Fig 1 – Proposed Signal Layout

- 2) The meeting with the safety team suggested a mast if the bus stop was located at 30m from the signal stop line, but also if it was located 40m from the signal stop line. As 1) the additional mast has been reviewed as discussed as the signal design follows current guidance. If the bus stop was located 40m from the stop line, then the adjacent bus stop serving northbound traffic should be relocated as well. There was also a location south of the current bus stop that was considered.
- 3) A further meeting with a representative of TfWM was held. They were happy with the 30m location currently shown. They did not consider the southern option suitable as visibility was not very good. The 40m was considered and TfWM would wish the opposing bus shelter to be relocated as well. The final layout agreed with TfWM is as shown below.

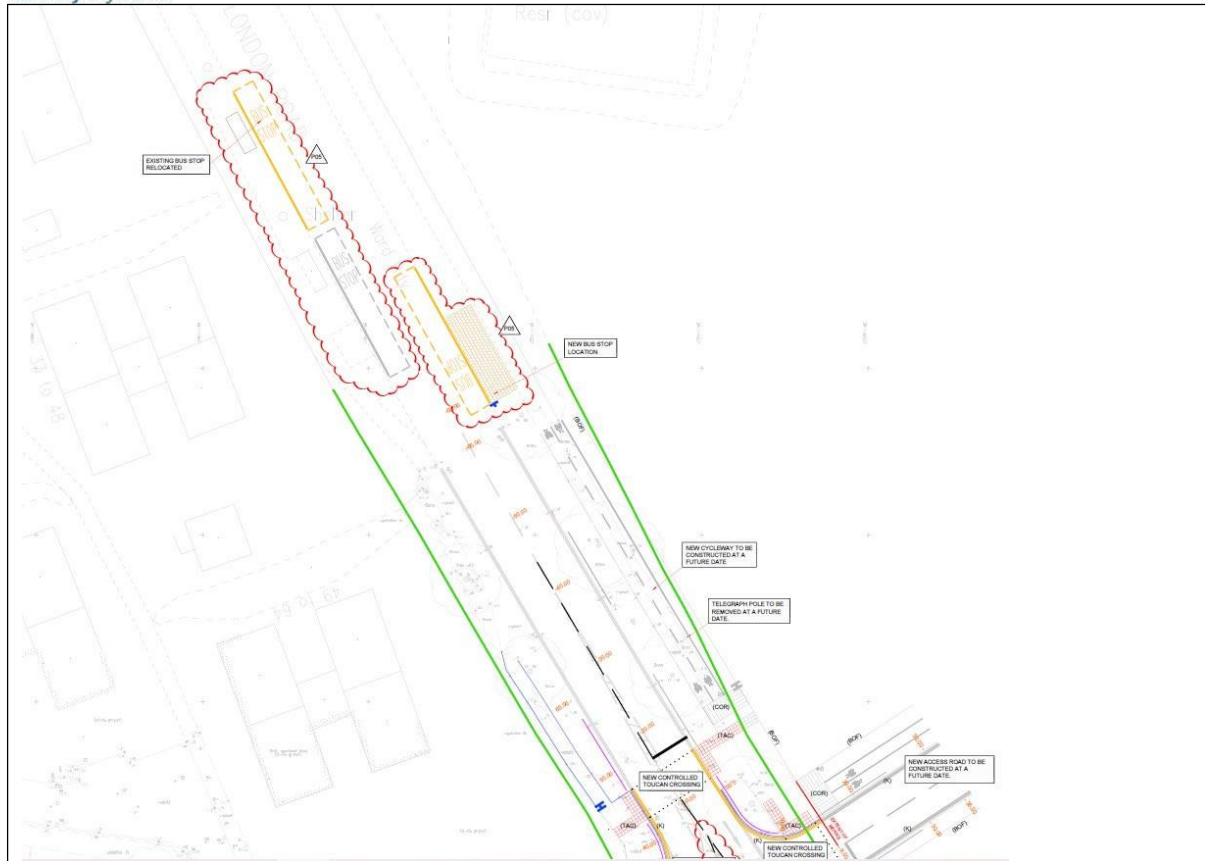


Fig 2 - New Bus stop location



## 2.2 Problem

Confusing tactile paving – London Road

### Summary

The submitted drawings are confusing as different drawings highlight different tactile paving layouts for the same locations. This may result in visually impaired pedestrians becoming confused and entering the highway at the wrong location; and this may result in pedestrian to vehicle type personal injury collisions.

### Plan



### Recommendation

If the above shows the proposed tactile layout, redesign the tactile paving so that the tactile paving is separated. This will significantly reduce pedestrian confusion and this will significantly reduce the likelihood of vehicle to pedestrian type personal injury collisions.

### Recommendation Accepted Y/N

Y

### Designer Response

This comment has been accepted. The design has been co-ordinated with the signal designer. The current GA shows the design as below and will be passed to the signal designer for inclusion in



their details.

Fig 3 – Proposed Tactile Layout



## 2.3 Problem

### Cycleway Connectivity - throughout

#### Summary

Although the updated drawings have demonstrated the typical footway/cycleway design, with pedestrians furthest away from the road, there are still gaps in the cycleway connectivity throughout the scheme. This includes providing toucans with no associated cycle routes on the footway. This may result in cyclist confusion and this may increase the likelihood of cyclist to pedestrian personal injury collisions.

#### Plan

N/A

#### Recommendation

Ensure the proposed cycleway infrastructure is fully connected to the existing cycleway infrastructure. This will significantly reduce the likelihood of cyclist to pedestrian type personal injury collisions

#### Recommendation Accepted Y/N

Y

#### Designer Response

This comment has been accepted; however, this scheme represents a part of the larger Coventry South. The proposed cycleway is planned to run on the northbound footway up to the junction and then cross over to the opposite side of the road up to the ASDA roundabout. The design is at an early stage on this and involves discussions with the adjacent house builder and Homes England.

## 2.4 Problem

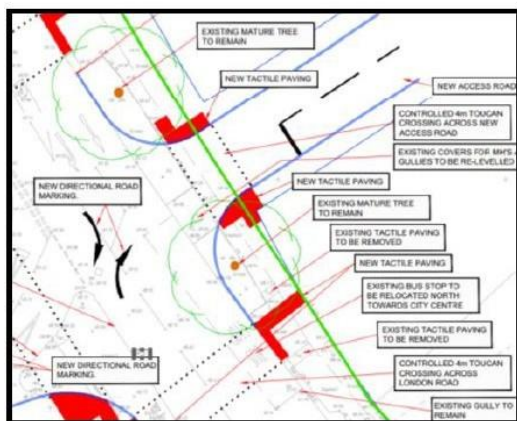
Service covers – throughout scheme & London Road junction with new access.

### Summary

The existing covers are to be re-levelled but will remain in-situ. This location is where a high proportion of vehicles will be turning out of the new access into London Road. Having service covers at/on a corner increases the risk of vehicles skidding and also increases the likelihood of the service covers failing and becoming a maintenance issue. This increases the likelihood of vehicle to vehicle type personal injury collisions.

There are service covers on the proposed cycleway and the designs do not indicate that they will be made cycle friendly. Service covers can make cycling unsafe, particularly in adverse weather conditions; and significantly increases the likelihood of cyclist personal injury.

### Plan



### Recommendation

Examine existing service covers and make the service covers cycle friendly so they do not cause any road safety hazards.

### Recommendation Accepted Y/N

Y

### Designer Response

There is a product called GripTop by Saint Gobain, see extract below. This product can be utilised on the covers. This option will be investigated further with the contractor and utility providers.

optional  
red finish

Patent pending

## 10/10

### Ten good reasons why you should choose GripTop

1. GripTop meets road skid resistance requirements and contributes to improve safety on all roads.
2. Choosing GripTop demonstrates forward thinking in line with impending government legislation.
3. GripTop has demonstrated proven durability in exhaustive trials.
4. GripTop can be safely and beneficially installed in carriageway wheel tracks.
5. GripTop brings extra safety to our major ranges of manhole covers providing with a wide choice of dimensions.
6. GripTop manufacturing process is fully industrialised and operated under Quality Insurance Management.
7. GripTop is a proven maintenance-free solution.
8. GripTop is fully compliant to BS EN 124 and is Kitemarked.
9. GripTop covers are virtually invisible when dressed to match existing road surface colour.
10. GripTop helps improve aesthetics in the urban environment.

### GripTop range:

SAP code	Design	Clear opening (mm)	Depth (mm)
212925	GripTop Opt-Emax	600x600	100
212927	GripTop Opt-Emax	900x600	100
212928	GripTop Opt-Emax	1220x685	100
212933	GripTop Ult-Emax	600x600	100
212934	GripTop Ult-Emax	675x675	100
212937	GripTop Inter-Ax2	600x600	100
212938	GripTop Inter-Ax2	675x675	100

SAP code	Design	Clear opening (mm)	Depth (mm)
212929	GripTop Opt-Emax	600x600	150
212931	GripTop Opt-Emax	900x600	150
212932	GripTop Opt-Emax	1220x685	150
212935	GripTop Ult-Emax	600x600	150
212936	GripTop Ult-Emax	675x675	150
212939	GripTop Inter-Ax2	600x600	150
212940	GripTop Inter-Ax2	675x675	150

## 2.5 Problem

Driver frustration – London Road inbound approach to new junction

### Summary

The proposed layout comprises a dedicated left-turn and straight on/right turn configuration on the London Road inbound approach to the new junction. London Road is a high traffic volume route into the city centre, and the proposed lane configuration can result in driver frustration due to traffic queuing behind right turners into the new access. This may result in drivers using the dedicated left-turn lane to manoeuvre through the junction, or try to bypass waiting right turn traffic, and this may result in drivers colliding with left turners and the footway on the north western side of the junction. This significantly increases the likelihood of personal injury collisions related to side swipe collisions and vehicle to pedestrian type collisions.

### Plan



### Recommendation

Redesign the junction layout to consider the impact of the driver frustration related to the lane layout and signal phasing. This will significantly reduce the likelihood of personal injury collisions related to the junction layout.

### Recommendation Accepted Y/N

Y

### Designer Response

This comment has been accepted, but it is noted that the junction road markings and layout have not changed from the previous RSA2 and this was not picked up then. As a result, the junction has been reviewed and the proposed layout has been modified as shown below. A dedicated right turn has been included with a central ghost right turn markings to aim decision making prior to the arrival at the junction. Wicket signs will also display the proposed layout to help guide drivers. Additional Linsig modelling is to be undertaken to ensure the right turn capacity is adequate.



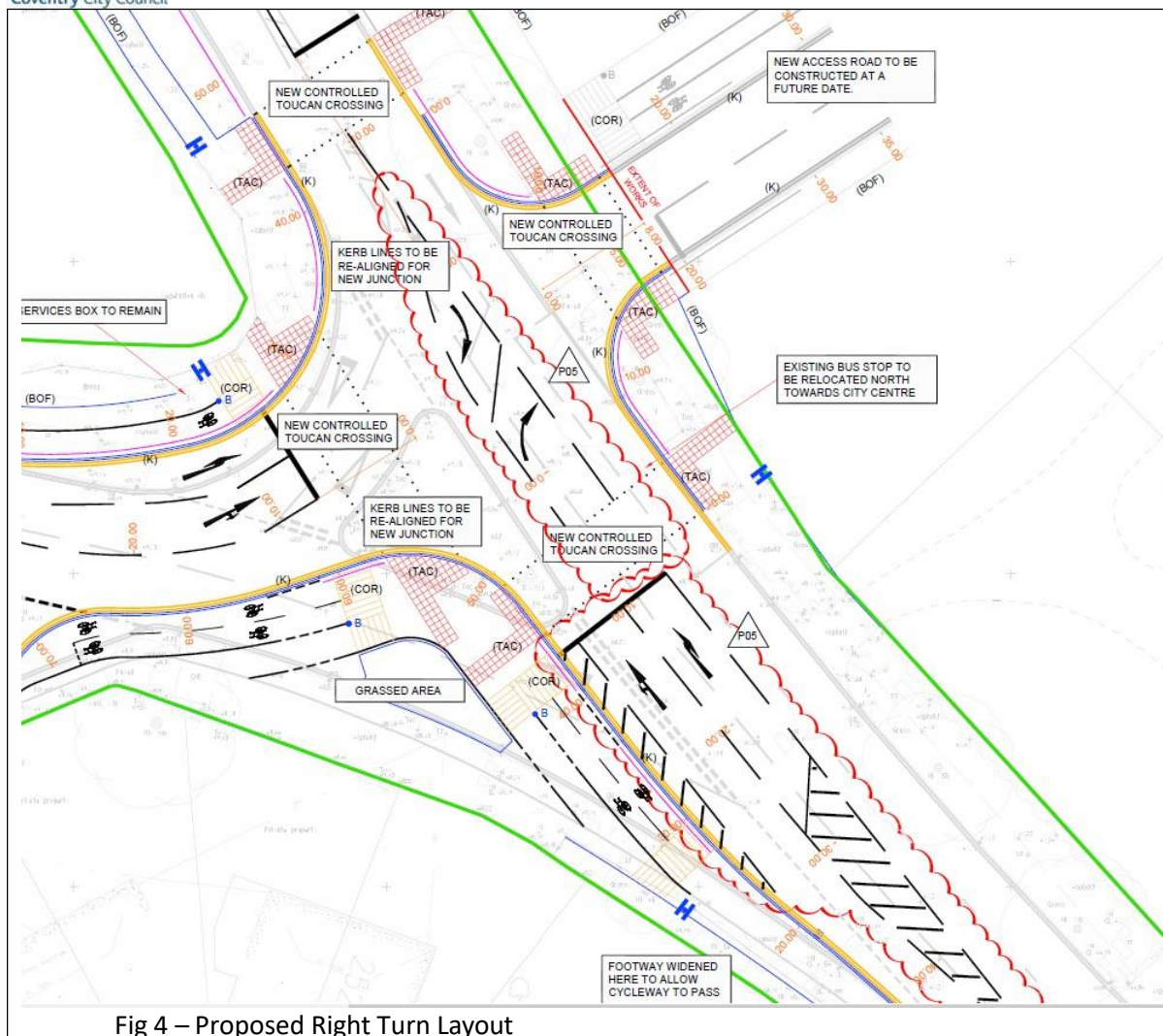


Fig 4 – Proposed Right Turn Layout

## **Appendix A – RSA 2**

**STAGE 2 ROAD SAFETY AUDIT**  
**LONDON ROAD SIGNALISED JUNCTION**

**1. INTRODUCTION**

- 1.1** This report describes a Stage 2 Road Safety Audit carried out on London Road, at the junction with Abbey Road, Coventry. The scheme drawings were produced and submitted by Coventry City Council, Transport and Infrastructure Design Team.
- 1.2** The audit team members were Joel Logue (Highways, Traffic and Road Safety Engineer) and Caron Archer (Principal Officer – Traffic Management).
- 1.3** The audit comprised an examination of drawings relating to the scheme (listed in Appendix B) and a daytime site visit between 9:15 and 9:45 on 10<sup>th</sup> May 2023. The weather was dry and bright. Traffic flows were medium to high as expected for this type of road, and pedestrian movements were low during the site visit.
- 1.4** The terms of reference of the audit are as described in GG119. The scheme has been examined and this report compiled only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other Standards or criteria. However, in order to explain clearly a safety problem or the recommendation to resolve a problem, the Audit Team may have referred to a design standard for information only. Any audit comments should not be construed to imply that a technical audit has been undertaken.
- 1.5** All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence. Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem in accordance with GG119 and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.
- 1.6** It is assumed that the scheme designer has advised of any departures from standard when the audit was requested. None were specified.
- 1.7** The scheme is detailed in the drawings listed in Appendix B and comprises a signalised junction upgrade, and a new access onto London Road, including the relocation of a bus stop.
- 1.8** **EXISTING PERSONAL INJURY COLLISION SITUATION**  
The recorded personal injury collision history of the highway affected by the scheme has shown that there were 1 slight recorded personal injury collision in the last three years (21/10/19 – 20/08/22).



## 2. ITEMS RESULTING FROM THIS STAGE 2 ROAD SAFETY AUDIT LONDON ROAD SIGNALISED JUNCTION

### 2.1 Problem: Bus stop Location

Location: London Road - see screen-print



#### Summary

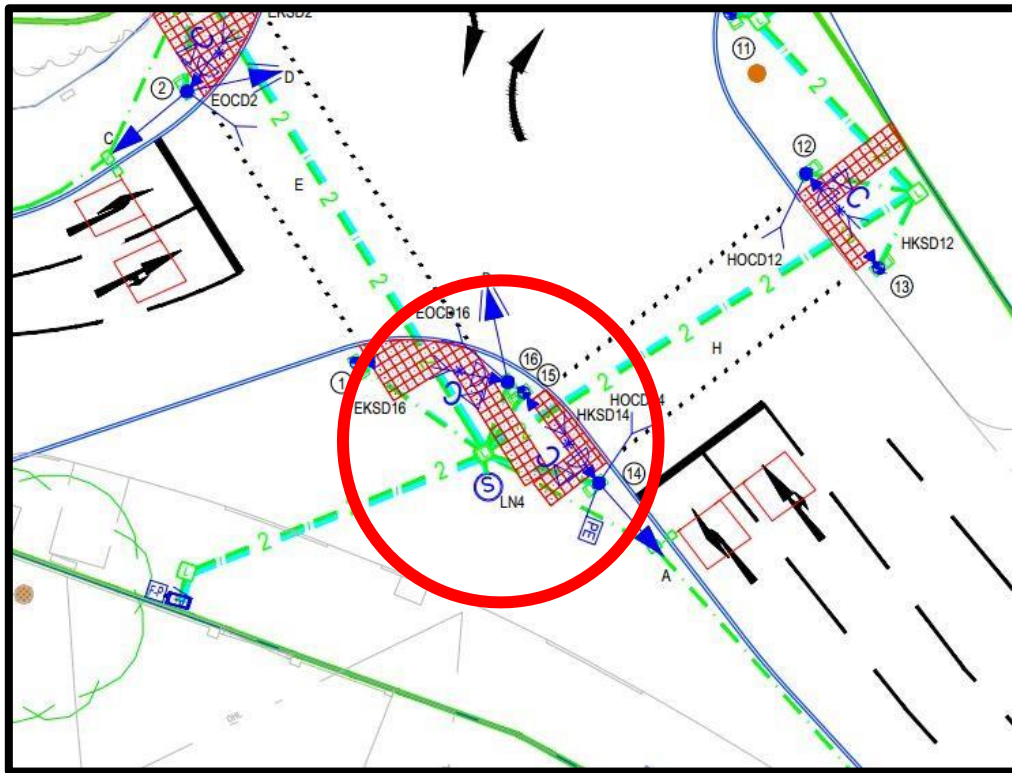
*The bus stop relocation is on the approach to the proposed signalised junction, and in particular the signal heads. Buses waiting within the bus stop will significantly reduce the conspicuity of the signal heads (for vehicles on the approach from north-west to south-east) and this significantly increases the risk of vehicle to vehicle and vehicle to pedestrian type personal injury collisions.*

#### RECOMMENDATION

*The designer's response in regards to stopping distances is noted, however, the audit team still regard the location of the bus stop may result in conspicuity problems. Relocating the bus stop may significantly reduce the likelihood of vehicle-to-vehicle and vehicle to pedestrian type collisions.*

## 2.2 Problem: Confusing Tactile Paving

**Location** – See screen-print below



### Summary

*The submitted drawings are confusing as different drawings highlight different tactile paving layouts for the same locations. As highlighted in the above drawing abstract, the tactile paving has been designed immediately adjacent to tactile paving that is advising pedestrians to travel in different directions. This may result in visually impaired pedestrians becoming confused and entering the highway at the wrong location; and this may result in pedestrian to vehicle type personal injury collisions.*

### RECOMMENDATION

*If the above extract shows the proposed tactile layout, redesign the tactile paving so that the tactile paving is separated. This will significantly reduce pedestrian confusion and this will significantly reduce the likelihood of vehicle to pedestrian type personal injury collisions.*

## 2.3 Problem: Cycleway Connectivity

**Location** – throughout

### Summary

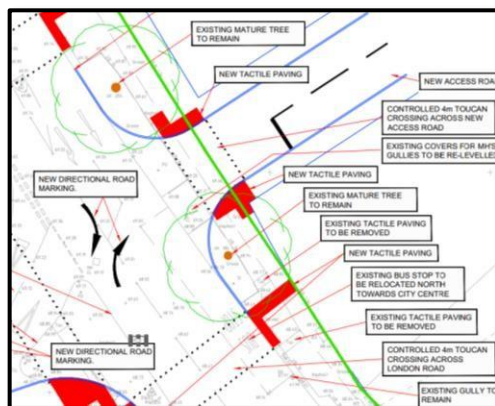
*Although the updated drawings have demonstrated the typical footway/cycleway design, with pedestrians furthest away from the road; there are still gaps in the cycleway connectivity throughout the scheme. This includes providing Toucans with no associated cycle routes on the footway. This may result in cyclist confusion and this may increase the likelihood of cyclist to pedestrian personal injury collisions.*

### RECOMMENDATION

*Ensure the proposed cycleway infrastructure is fully connected to the existing cycleway infrastructure. This will significantly reduce the likelihood of cyclist to pedestrian type personal injury collisions.*

## 2.4 Problem: Service covers - throughout scheme

**Location** – London Road junction with new access



### Summary

*The existing covers are to be re-levelled but will remain in situ. This location is where a high proportion of vehicles will be turning out of the new access into London Road. Having service covers at/on a corner increases the risk of vehicles skidding and also increases the likelihood of the service cover failing and becoming a maintenance issue. This increases the likelihood of vehicle to vehicle type personal injury collisions.*

*There are service covers on the proposed cycleway and the designs do not indicate that they will be made cycle friendly. Service covers can make cycling unsafe, particularly in adverse weather conditions; and significantly increases the likelihood of cyclist personal injury.*

### RECOMMENDATION

*Examine existing service covers and make the service covers cycle friendly so they do not cause any road safety hazards.*

## 2.5 Problem: Driver Frustration

**Location** – London Road inbound approach to new junction



### Summary

*The proposed layout comprises a dedicated left-turn and straight on/ right turn configuration on the London Road inbound approach to the new junction. London Road is a high traffic volume route into the city centre, and the proposed lane configuration can result in driver frustration due to traffic queueing behind right turners into the new access. This may result in drivers using the dedicated left-turn lane to manoeuvre through the junction, or try to bypass waiting right turn traffic and this may result in drivers colliding with left-turners and the footway on the north-western side of the junction. This significantly increases the likelihood of personal injury collisions related to side-swipe collisions and vehicle to pedestrian type collisions.*

### RECOMMENDATION

*Redesign the junction layout to consider the impact of driver frustration related to the lane layout and signal phasing. This will significantly reduce the likelihood of personal injury collisions related to the junction layout*

### **3      AUDIT TEAM STATEMENT**

We certify that this audit has been carried out in accordance with GG 119.

#### **AUDIT TEAM LEADER**

Joel Logue

Signed:



Date: 7 June 2023

#### **AUDIT TEAM MEMBER**

Caron Archer

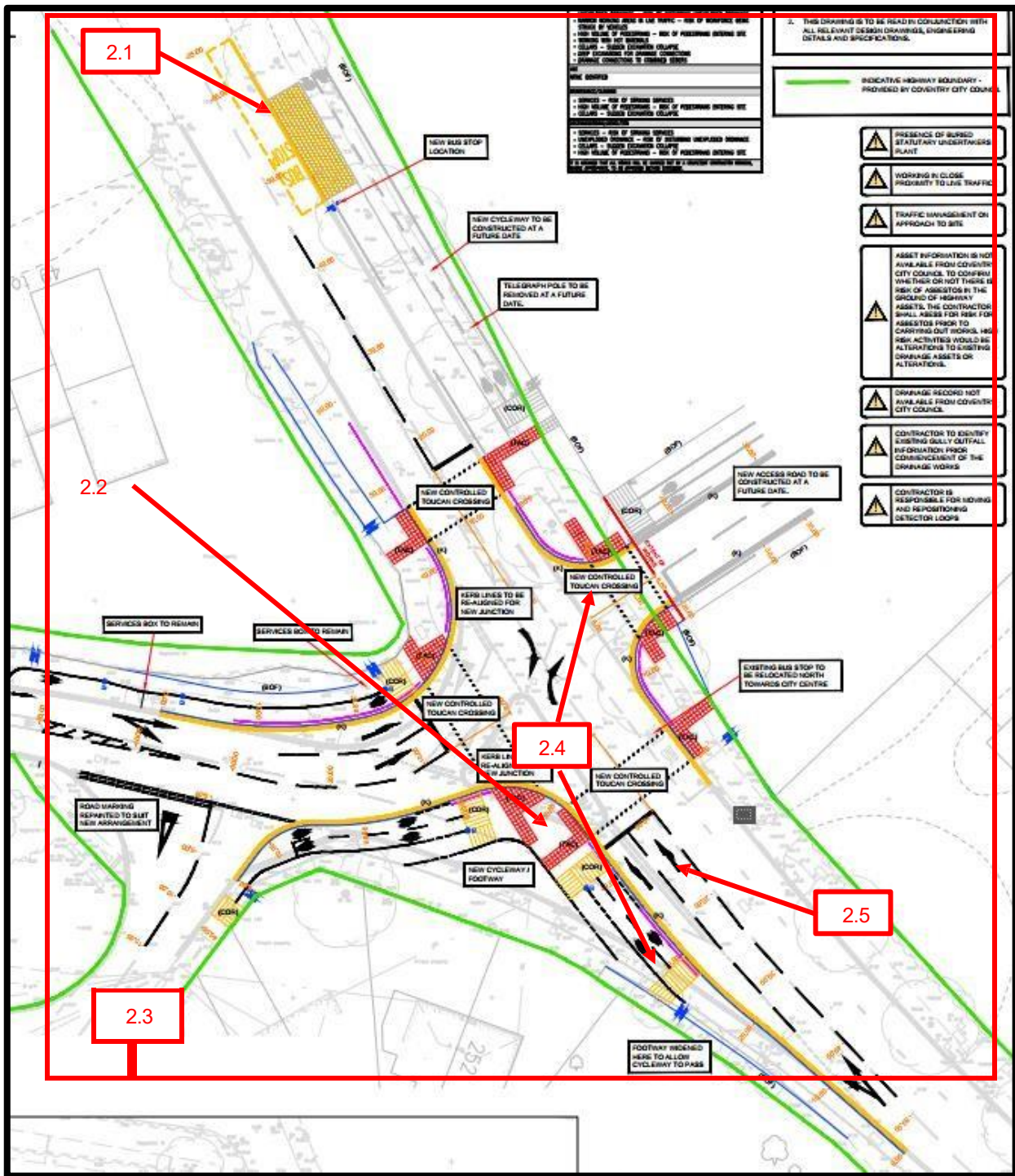
Signed:



Date: 6 June 2023

















## **APPENDIX A - PROBLEM LOCATION PLANS**



## APPENDIX B

### LIST OF DRAWINGS AND DOCUMENTS PROVIDED TO THE AUDIT TEAM

	CS-HWY-ARLR-100-01 P02 GA 19-04-23
	CS-HWY-ARLR-200-01 P02 Site Clearance 19-04-23
	CS-HWY-ARLR-300-01 P02 Dimensions 19-04-23
	CS-HWY-ARLR-700-01 P02 Pavement Plan 19-04-23
	CS-HWY-ARLR-1000-01 P01 Location Plan 03-03-23
	CS-HWY-ARLR-1000-02 P01 Photo Plan Sheet 1 03-03-23
	CS-HWY-ARLR-1000-03 P01 Photo Plan Sheet 2 03-03-23
	CS-HWY-ARLR-1100-01 P02 Kerbs 19-04-23
	CS-HWY-ARLR-1200-01 P02 Road Marking 19-04-23
	CS-HWY-ARLR-1300-01 P02 Traffic Signs Plan 19-04-23
	CS-HWY-ARLR-1300-02 P02 Traffic Signs Schedule 19-04-23
	CS-HWY-ARLR-1400-01 P02 Swept Path Pantec 19-04-23
	871252221-YU-00-XX-DR-Y-0001-P1.pdf 573 KB
	LAR-JUN-HWY-RSA-DOC-SM-0001-Rev-01+App.pdf 2 MB