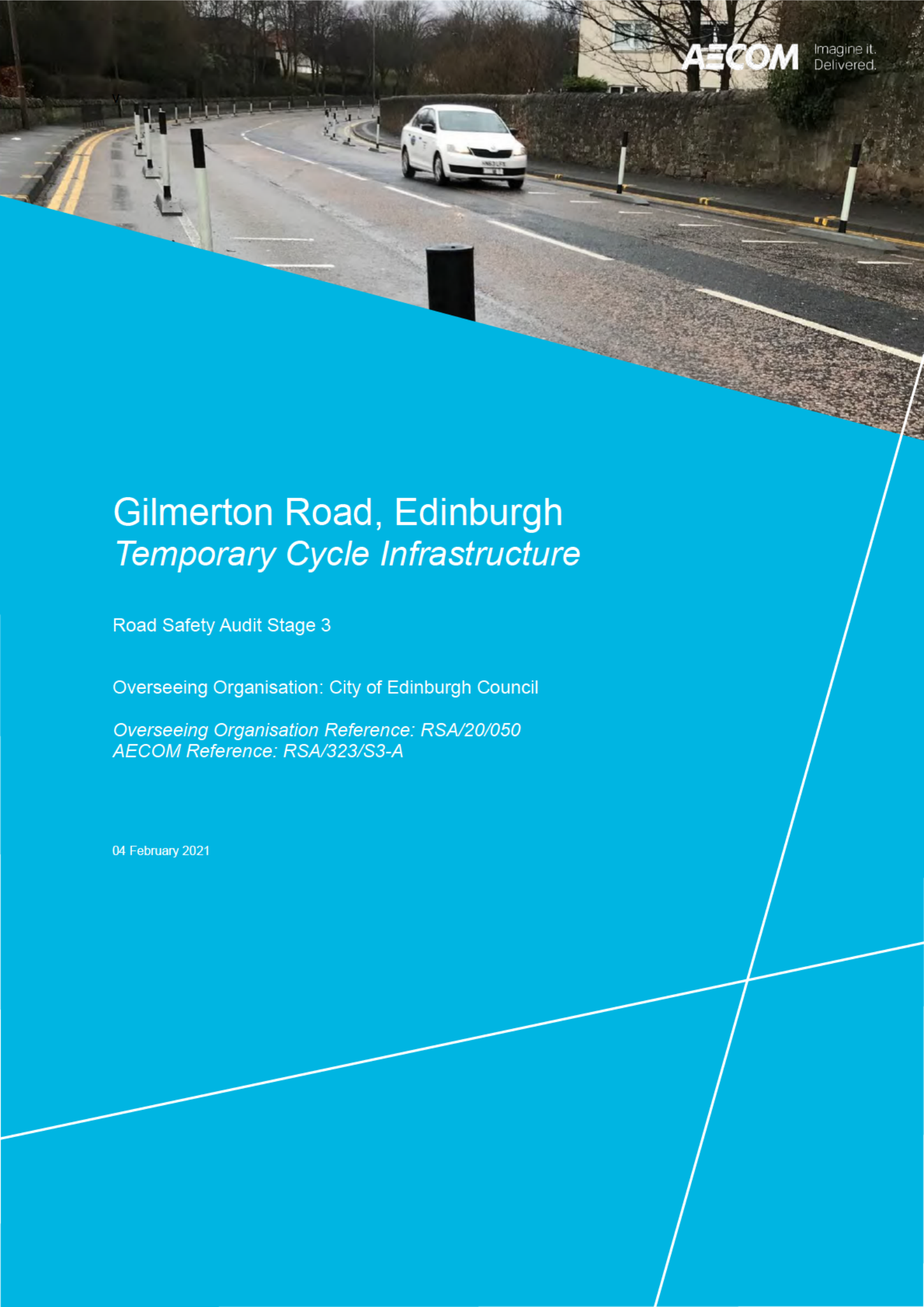




Gilmerton Road, Edinburgh

Temporary Cycle Infrastructure

Road Safety Audit Stage 3

Overseeing Organisation: City of Edinburgh Council

Overseeing Organisation Reference: RSA/20/050
AECOM Reference: RSA/323/S3-A

04 February 2021

Quality information

Prepared byChecked byApproved by

Revision History

Revision	Revision date	Details	Authorised Name		Position
-	4/02/2021	RSA Team Approval and Verification		 	Associate Director
0	4/02/2021	FINAL Report Issue to Client		 	Senior Engineer

Prepared for:

City of Edinburgh Council

Audit Team Leader:

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1. Project Details

Report Title:	Gilmerton Road, Temporary Cycle Infrastructure Stage 3 Road Safety Audit
Date:	04/02/2021
AECOM Document Reference:	RSA/323/S3-A
Overseeing Organisation Reference:	RSA/20/050
Prepared By:	AECOM
On Behalf Of:	City of Edinburgh Council

2. Introduction

- 2.1** This report results from a Stage 3 (post-construction) Road Safety Audit carried out on the temporary cycle infrastructure on Gilmerton Road, Edinburgh. The Audit was carried out at the request of City of Edinburgh Council.
- 2.2** The report indicates each of the problems identified together with recommendations to solve or mitigate the problems, the Audit Team Statement and a schedule of documents reviewed.
- 2.3** To the knowledge of the Audit Team, this is the first formal Road Safety Audit of the scheme.
- 2.4** The Audit Team that were approved by [REDACTED] of the City of Edinburgh Council were as follows:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

A representative from Police Scotland was invited to attend the Road Safety Audit but was unable to due to the ongoing COVID-19 pandemic.

- 2.5** A Road Safety Audit brief was provided by [REDACTED], which was approved by [REDACTED] of the City of Edinburgh Council (the Overseeing Organisation). This brief was accepted by the Audit Team.
- 2.6** The Road Safety Audit took place at the private residence of each Audit Team member, during January to February 2021 when working conditions were restricted due to COVID-19. The Road Safety Audit comprised of an examination of the documents provided by the designers (see Appendix A). In addition to examining the documents supplied, the Audit Team visited the site on 29 January 2021 between 11:15 and 12:00 hrs. During this time traffic flows were steady. The weather conditions were overcast, and the carriageway and footway surfaces were wet. An additional site visit was undertaken during the hours of darkness on 29 January 2021 between 17:30 and 18:00 hrs.
- 2.7** The scheme is located on the A772 Gilmerton Road in Edinburgh, extending from north-west of the junction with Walter Scott Avenue in the south-west to the junction with the A701 Liberton Road in the north-west. The road is located in an urban environment with relatively few active frontages. The A702 is subject to a speed limit of 30mph and is illuminated by street lighting. Footways are provided on both sides of the road and the road predominantly comprises a single lane in each direction, although a bus lane is provided in the north-eastbound direction from Orrok Park north-westwards, over a distance of approximately 180 metres. Buses run along the street in both directions.
- 2.8** The scheme comprises the following measures:
- The provision of temporary cycle space on the carriageway, predominantly comprising mandatory lanes segregated from traffic by temporary segregation units; and
 - Alterations to existing road markings.
- 2.9** The terms of reference of the Road Safety Audit are as described in GG119 of the Design Manual for Roads and Bridges. 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. The scheme has not been examined or verified for compliance with any other standards. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. Any Audit comments should not be construed as implying that a technical audit has been undertaken in any respect.
- 2.10** Section 3 of this report includes outstanding issues identified from previous Audit Reports and Section 4 describes the safety issues identified in this Stage 3 Audit together with

recommendations for improvement, to either remove or reduce the associated risk in connection with this highway proposal.

- 2.11** 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.
- 2.12** No departures from standards have been notified to the Audit Team on the proposals.
- 2.13** All traffic sign and road marking diagram number references are made to The Traffic Signs Regulations and General Directions, 2016 (TSRGD).
- 2.14** Where applicable, the locations of problems are shown in conjunction with the scheme proposals in Appendix B where the reference numbers relate to the problems identified in this report.
- 2.15** The Design Organisation(s) and Overseeing Organisation are advised of the following:
- a. The RSA team shall produce and issue an RSA report directly to the Overseeing Organisation for all stages. Where changes are agreed to an RSA report between the RSA team and Overseeing Organisation, a revised version of the RSA report shall be produced by the RSA team and issued to the Overseeing Organisation.
 - b. Following the issue of the Road Safety Audit report the Road Safety Audit Response Report is produced by the Design Organisation(s) in collaboration with the Overseeing Organisation. To assist with this, the Design Team must prepare a Road Safety Audit Response Report to the audit at Stage 1, 2 and 3 Road Safety Audits.
 - c. The Road Safety Audit Response Report must contain a response from the Overseeing Organisation and a Road Safety Audit action for each problem agreed between the Design Organisation(s) and the Overseeing Organisation. The Road Safety Audit Response Report shall be signed by the Overseeing Organisation and Design Organisation(s) to indicate their agreement on the Road Safety Audit actions. A copy of the signed Road Safety Audit Response Report is to be sent to the Audit Team Leader for information.

3. Items Outstanding from Previous Audits

To the knowledge of the Audit Team, this is the first formal Road Safety Audit of the scheme.

4. Items Resulting from the Stage 3 Road Safety Audit

4.1 General

Problem: 4.1.1

Location(s): Scheme extents

Drawing(s): GIL-12727-1100-01 to GIL-12727-1100-03

Summary: Risk of cyclists getting their wheels stuck in a gully, falling from their bicycles and sustaining personal injuries.



Description:

During the site investigation it was observed that there are road gullies within the cycle lanes in which cyclists could get their wheel stuck. Two examples are shown in the photographs above.

If a cyclist was to get their wheel stuck in the gap between the grate and gully frame, it could lead to them falling from their bicycle and sustaining a personal injury.

Recommendation:

It is recommended that these gully covers are replaced with covers that are cycle friendly.

Problem: 4.1.2**Location(s):** Scheme extents**Drawing(s):** GIL-12727-1100-01 to GIL-12727-1100-03**Summary:** Risk of road users skidding and losing control of their vehicles resulting in injuries to vehicle occupants / riders, due to excess surface water on the carriageway.**Description:**

During the site investigation water was observed pooling on the carriageway at several locations within the extents of the scheme. It is acknowledged that the site visit took place following a period of wet weather. Furthermore, at least one blocked gully was observed in the cycle lane, as shown in the photograph above.

There is a risk that excess surface water on the carriageway could lead to vehicles (both motorised and non-motorised) skidding and drivers / riders losing control of their vehicles. This could lead to vehicle occupants / riders sustaining personal injuries. This risk is heightened during periods of cold / freezing weather, when the surface water could freeze and form ice.

Recommendation:

It is recommended that drainage is appropriate throughout the extents of the scheme and that any blocked gullies are appropriately cleared.

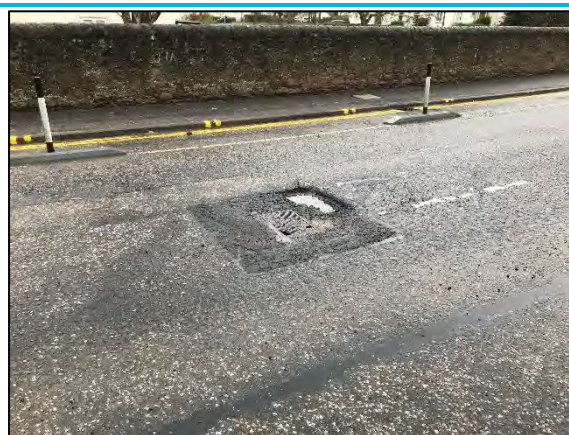
Problem: 4.1.3

Location(s): Gilmerton Road, adjacent to Inchpark Surgery

Drawing(s): GIL-12727-1100-02

Summary: Risk of drivers / riders losing control of their vehicles and resulting in the vehicle occupants / riders sustaining personal injuries, due to uneven carriageway surface.

Secondary risk of vehicles swerving to avoid the affected area of surfacing and colliding with another road user, resulting in them sustaining personal injuries.

**Description:**

Adjacent to Inchpark Surgery, an area of uneven surfacing was observed in the centre of Gilmerton Road, as shown in the photograph above. The carriageway surface appears to have broken up around the ironwork, which itself was also damaged.

There is a risk that a driver / rider could lose control of their vehicle were they to travel over this area of surfacing, which could lead to the vehicle occupants / riders sustaining personal injuries. There is also a risk that a driver / rider could swerve to attempt to avoid this area, which could lead to them colliding with another road user.

Recommendation:

It is recommended that the ironwork and the surface of the carriageway are appropriately repaired / made good.

Problem: 4.1.4**Location(s):** Scheme extents**Drawing(s):** GIL-12727-1100-01 to GIL-12727-1100-03

Summary: Risk of vehicles striking a temporary segregation unit, resulting in vehicle occupants / riders sustaining personal injuries, due to lack of signage and temporary segregation units not being conspicuous.

**Description:**

During the site investigation it was observed that reflectorized red discs had been mounted on some of the temporary segregation units. These were generally provided where the cycle lane starts at either end of the scheme and at the first units that vehicles turning onto Gilmerton Road from side roads would encounter. However, this was not the case throughout the extents of the scheme. An example where a red reflector has not been provided at the first unit that a vehicle turning onto Gilmerton Road from a side road would encounter is shown in the photograph above (at Rutherford Drive).

Furthermore, no signage is provided on the side roads to alert drivers / riders to the presence of cycle lanes on the road on which they are turning onto.

There is a risk that a driver / rider may not be aware of the presence of the temporary segregation units due to the general lack of signage and the relative inconspicuity of the units. This could lead to vehicles colliding with a temporary segregation unit, resulting in the vehicles occupants / riders sustaining injuries.

Recommendation:

It is recommended that additional measures are provided to ensure that drivers / riders are aware of the presence of the segregation units, which could include enhancing the conspicuity of the units and / or providing suitable signage.

Problem: 4.1.5

Location(s): Scheme extents

Drawing(s): GIL-12727-1100-01 to GIL-12727-1100-03

Summary: Risk of vehicles striking a temporary segregation unit resulting in vehicle occupants / riders sustaining personal injuries, due to temporary segregation units not being conspicuous.

No photo

Description:

During the site visit that took place during the hours of darkness it was observed that the reflectorized red discs that had been mounted on some of the temporary kerb units were not appropriately reflective and were not very visible during the hours of darkness. There is a risk that this could lead to drivers / riders striking a temporary kerb unit, resulting in vehicle occupants / riders sustaining personal injuries.

Recommendation:

It is recommended that the reflectors mounted on the temporary segregation units are appropriately reflective.

4.2 Local Alignment

No problems identified at this Stage 3 Road Safety Audit.

4.3 Junctions

No problems identified at this Stage 3 Road Safety Audit.

4.4 Non-Motorised User Provision

Problem: 4.4.1

Location(s): Gilmerton Road south-eastbound, south-east of crossing at Liberton Primary School

Drawing(s): GIL-12727-1100-02

Summary: Risk of cyclists colliding with temporary ramp, falling from their bicycles and sustaining personal injuries due to presence of ramp within cycle lane.



Description:

During the site investigation it was observed that there is a temporary ramp provided within the cycle lane, which appears to be associated with construction works adjacent to Liberton Primary School.

There is a risk that a cyclist may not see the ramp and could collide with it, resulting in them falling and sustaining a personal injury. This risk is heightened during the hours of darkness, when the ramp may be less conspicuous.

Recommendation:

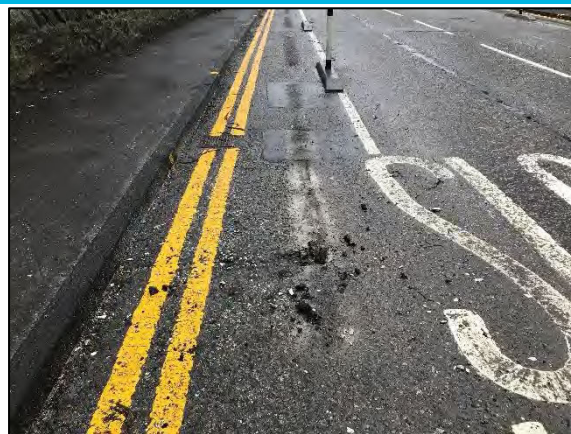
It is recommended that the temporary ramp is removed or that appropriate measures are provided to make it conspicuous to approaching cyclists.

Problem: 4.4.2

Location(s): Gilmerton Road north-westbound,
adjacent to Inchpark Surgery

Drawing(s): GIL-12727-1100-02

Summary: Risk of cyclists falling from their bicycles and sustaining personal injuries due to uneven surfacing within cycle lane.

**Description:**

As shown in the photograph above, the surfacing in the cycle lane at this location was found to be very uneven, with part of the surface having come loose and with a small pothole in the surface.

There is a risk that a cyclist could travel over this area of surfacing, lose control of their bicycle and sustain a personal injury. There is also a risk that a cyclist could swerve to avoid the pothole / debris and collide with another road user, a kerb or an item of street furniture.

Recommendation:

It is recommended that the surface of the cycle lane is appropriately repaired / made good.

4.5 Road Signs, Carriageway Markings and Lighting

Problem: 4.5.1

Location(s): Gilmerton Road south-eastbound at junction with A701 Liberton Road

Drawing(s): GIL-12727-1100-01

Summary: Risk of drivers / riders undertaking sudden manoeuvres in order to avoid entering the cycle lane, resulting in them colliding with other vehicles, due to markings and lack of signage in advance of cycle lane.



Description:

The cycle lane on Gilmerton Road south-eastbound starts abruptly downstream of a bus stop, as shown in the photograph above. No measures are provided in advance of the cycle lane to warn approaching drivers / riders of its presence and no taper is provided at the start of the cycle lane.

There is a risk that the driver / rider of an approaching motorised vehicle may undertake a sudden manoeuvre in order to avoid entering the cycle lane and could collide with another vehicle whilst doing so.

Recommendation:

It is recommended that appropriate measures are provided to highlight the presence of the cycle lane to approaching drivers / riders, such as signage and / or providing a taper at the start of the cycle lane.

Problem: 4.5.2**Location(s):** Scheme extents**Drawing(s):** GIL-12727-1100-01 to GIL-12727-1100-03**Summary:** Risk of vehicles overshooting give way lines and colliding with a passing cyclist or vehicle, due to give way markings not being sufficiently visible.**Description:**

During the site investigation it was observed that there are several priority side road junctions where the existing give way markings are very faded. An example, from Orrok Park, is shown in the photograph above.

There is a risk that a vehicle could fail to give way due to the markings not being sufficiently visible, which could lead to them colliding with a passing cyclist or vehicle.

Recommendation:

It is recommended that the give way markings are appropriately refreshed.

Problem: 4.5.3**Location(s):** Gilmerton Road at controlled crossing at Liberton Primary School**Drawing(s):** GIL-12727-1100-01**Summary:** Risk of vehicles striking a temporary segregation unit, resulting in vehicle occupants / riders sustaining personal injuries, due to alignment of zig zag markings and position of temporary segregation units.**Description:**

Segregation units have been placed downstream of the controlled crossing at Liberton Primary School. The segregation unit positioned on the north-westbound side of the carriageway is shown in the image and photograph above. The zig zags are parallel to the kerb and do not indicate to an approaching driver / rider that they need to deviate from their path in order to avoid striking the temporary segregation unit.

There is a risk that the alignment of the zig zag markings could lead to vehicles colliding with the temporary segregation unit, resulting in vehicle occupants / riders sustaining personal injuries. The potential alignment of vehicles in the north-westbound direction, were they to follow the alignment of the zig zags, is shown as a purple arrow in the image on the left above.

Recommendation:

It is recommended that the zig zags are appropriately realigned and / or that the temporary segregation units are removed or repositioned further from the crossing.

End of problems / recommendations raised in this Stage 3 Road Safety Audit.

5. Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119.

AUDIT TEAM LEADER:

Name: [REDACTED]

Signed: [REDACTED]

Position: [REDACTED]

Date: 04/02/2021

Organisation: AECOM

Address: 1 Tanfield

Edinburgh

EH3 5DA

AUDIT TEAM MEMBER:

Name: [REDACTED]

Signe [REDACTED]

Position: [REDACTED]

Date: 04/02/2021

Organisation: AECOM

There were no other persons involved in this audit.

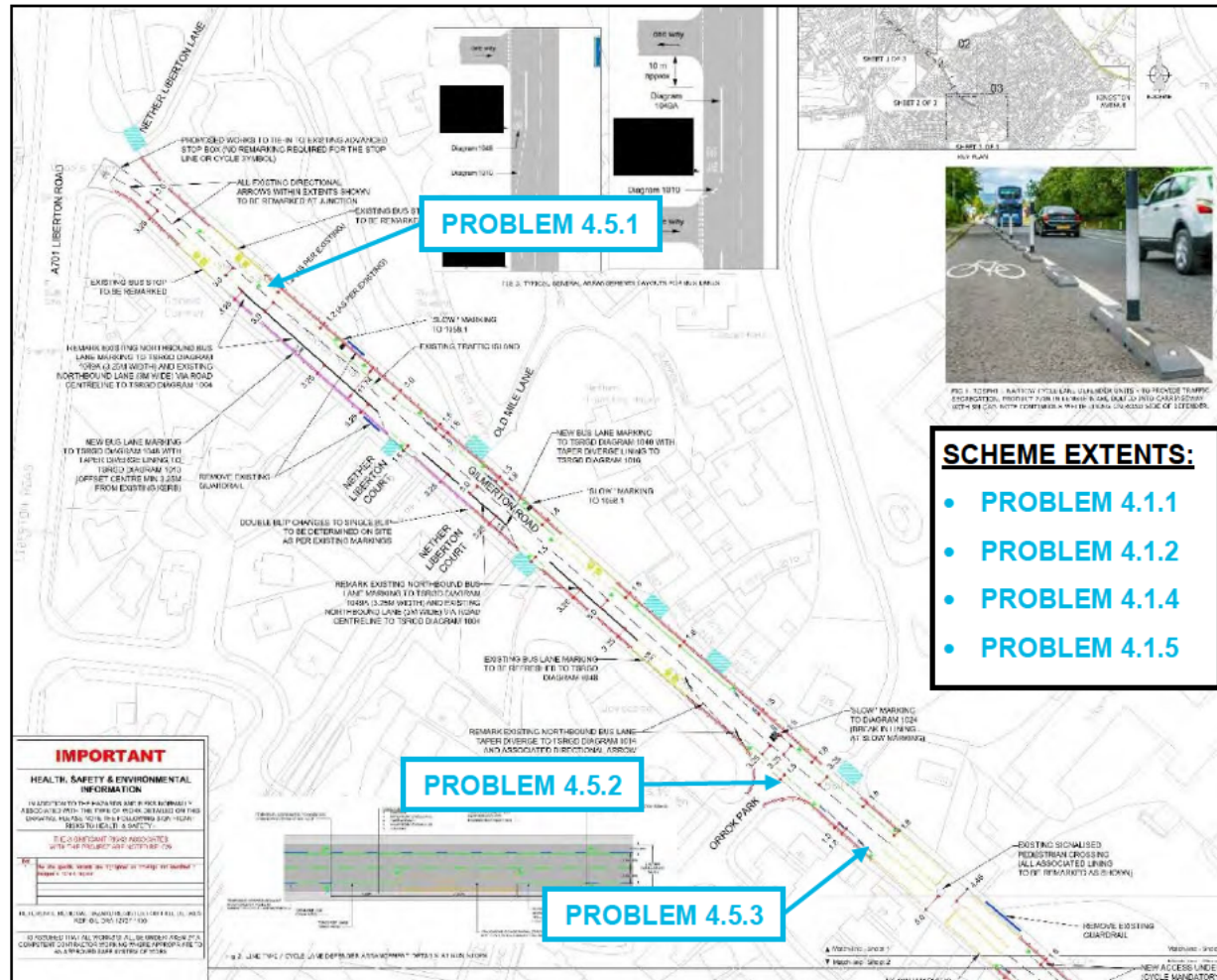
Enquiries regarding this Road Safety Audit should be made to the Audit Team Leader.

Appendix A Documents Submitted to the Audit Team

The following documents were submitted as part of the Road Safety Audit:

Document Number	Rev	Description	Date
BRIEF			
RSA Brief - Gilmerton Road SfP	-	Road Safety Audit Brief	23/12/2020
DRAWINGS			
GIL-12727-1100-01	-	General Arrangement Sheet 1 of 3	17/06/2020
GIL-12727-1100-02	-	General Arrangement Sheet 2 of 3	17/06/2020
GIL-12727-1100-03	-	General Arrangement Sheet 3 of 3	17/06/2020

Appendix B Problem Location Plans



Problem Location Plan 1





Appendix C Road Safety Audit Brief

Road Safety Audit Brief		RSA File Ref	
PREPARED BY			
Name		Finance Code	50242
Organisation	CEC	Stage	3
Project Title	Gilmerton Road- Spaces for People		
Signed	Gert Rijdsdijk		
DOCUMENTS ATTACHED			
List drawings, previous RSA's and any data attached			
Drawing No	Title	Scale	
GIL-12727-1100-01	Spaces for People - Gilmerton Road - 1	1:500 @ A3	
GIL-12727-1100-02	Spaces for People - Gilmerton Road - 2	1:500 @ A3	
GIL-12727-1100-03	Spaces for People - Gilmerton Road - 3	1:500 @ A3	
TERMS OF REFERENCE			
List relevant DMRB documents and other guidance			
1			
2			
3			
4			
5			
6			

For completion by	Road Safety Team		
ADMIN DETAILS			
RSA Reference		Batch	
Title			
Finance Code		Cost	
Telford		CEFATS	
Assigned to		Date	

PROJECT SUMMARY			
Location	See drawings for the interventions in this area: Gilmerton Road		
Type of Scheme	Spaces for People - Traveling safely scheme		
Description	Gilmerton Road - Spaces for People Implementation of on-road segregated cycle lanes		
Construction Start Date		Completion Date	
<i>Select Stage Requested</i>			
STAGE 1	Preliminary Design	STAGE 2	Detailed Design
STAGE 3	Completion of Construction	STAGE 4	Post Opening Monitoring
AUTHORISATION			
Design Organisation	Sustrans Scotland Rosebery House 9 Haymarket Terrace Edinburgh EH12 5EZ		
Overseeing Organisation	The City of Edinburgh Council Road Safety & Active Travel Transport Networks, Place Development Waverley Court, 4 East Market Street, Edinburgh, EH8 8BG		
SCHEME DETAILS			
Committee Report	Description	Attached	
	Title and approval date	Yes	No
Collision Data	Description	Attached	
	Summary of the data (36 months minimum)	Yes	No
Traffic Survey Data	Description	Attached	
	Summary of the data	Yes	No
Environmental Information/ Constraints	Description	Attached	
	e.g conservation areas, listed buildings	Yes	No
Departures from Standards			
Include status details, i.e. approved/pending/rejected, and any design strategy records			

CHECKLIST			
Tick all that are included and provide reasons for omissions			
Site Plan	☒	Scale Layout Plans	☒
Previous RSA Reports	☐	Construction Details	☐
Collision Data and Analysis	☐	Collision Data Plot	☐
Traffic Signal Staging	☐	Traffic Survey(s)	☐
Design Standards Used	☐	Environmental Information	☐

BRIEF APPROVAL			
Name		Date	23/12/2020
Organisation	The City of Edinburgh Council	E-mail	
Signed			