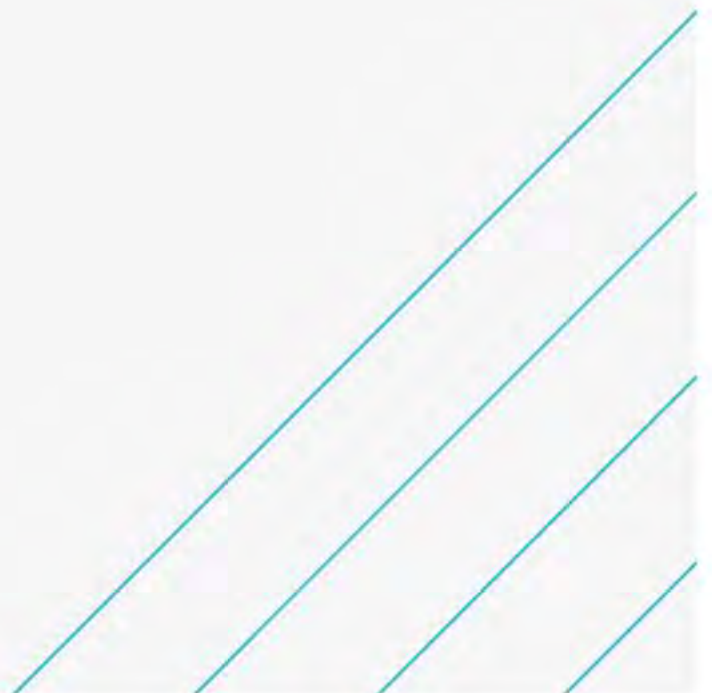


Tram Cycle Safety Improvements Project - Sites 4.2.1 and 4.2.6 Stage 3 Road Safety Audit

City of Edinburgh Council

October 2023



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This document has 14 pages including the cover.

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 1.0	For Submission					10-10-23

Client signoff

Client	City of Edinburgh Council
RSA team organisation	Atkins
Report title	Phase 3 Tram Cycle Safety Improvements Project - Site 4.2.1 and 4.2.6 Stage 3 Road Safety Audit
Client Reference	RSA/18/016d
Atkins reference	8003-700

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1. Introduction

1.1 Project Details

Report Title:	Tram Cycle Safety Improvements Project - Sites 4.2.1 and 4.2.6 Stage 3 Road Safety Audit
Date:	October 2023
Document Reference and Revision:	8003-700
Prepared by:	Atkins
Overseeing Organisation:	City of Edinburgh Council

Atkins has been commissioned by City of Edinburgh Council (CEC), to undertake a Stage 3 Road Safety Audit (RSA) on the cycling improvements proposed at Site 4.2.1 on Princess Street at the junction with South St. Andrews Street and at Site 4.2.6 on Princess Street at the junction with South Charlotte Street in Edinburgh's City Centre.

This report documents the outcome of the RSA in the form of identified road safety problems and associated recommendations. To the knowledge of the RSA team the proposals have previously been subject to:

- A combined Stage 1/ 2 RSA in August 2018 as part of a wider scope which covered walking and cycling improvements along the alignment of the Edinburgh Tram.
- A Stage 2 RSA in April 2019 as part of a wider scope which covered improvements for cyclists adjacent to the Edinburgh Tram lines.

Site 4.2.1 has also been subject to:

- A Stage 2 RSA in May 2023.

1.2 Terms of Reference

The RSA has been conducted in accordance with GG 119 Road safety audit, in the Design Manual for Roads and Bridges. The RSA team has examined and reported only on the road safety implications of the highway scheme proposals and has not examined or verified the compliance of the designs to any other criteria. Where there are issues that may be of interest to the Design Organisation, but not necessarily within the scope of the RSA, these have been provided to the Overseeing Organisation separately.

In addition to GG 119, this RSA has been informed by the RSA brief provided and approved by Brendan Forrester of CEC.

1.3 RSA Team

The RSA team, approved by Suzanne Hunter of CEC, was as follows:

 BEng MSc CEng FCIHT MSoRSA
RSA Team Leader, Atkins Transportation
(Certificate of Competency in RSA, 2017)

 MEng GMICE
RSA Team Member, Atkins Transportation

A representative of Police Scotland was invited to attend the site visit but was unable to attend. The RSA Team Leader held a Microsoft Teams meeting with PC  to

ascertain if the Police had any concerns regarding the scheme. This meeting was held 6th October 2023. Following this meeting Police Scotland did not raise any issues in addition to the problems raised in this audit report.

1.4 Site Visit

The RSA comprised a desktop review of the information provided, and a site visit was undertaken during daylight hours on 5th September 2023 between 19:20 and 19:35 with all members of the RSA team in attendance. During the site visit the road surface was dry and the weather was fine. Traffic levels were busy, pedestrian levels were busy and cyclist volumes were steady.

A further site visit was undertaken during the hours of darkness on the 5th September 2023 between 20:15 and 20:30. During the site visit the road surface was dry, the weather was fine, and traffic, pedestrian levels were busy and cyclist volumes were steady

1.5 Scope

The scheme proposals for Site 4.2.1 on Princess Street at the junction with South St. Andrews Street include:

- An eastbound stepped cycle track on approach to the junction;
- 2No. new traffic islands; traffic signal installations and adjustments;
- A new section of northern footway on Princes Street downstream of the junction that included the installation of 3No. socketed cycle stands;
- New Princes Street eastbound mandatory cycle lane downstream of the junction;
- New and refreshed road markings;
- New and refreshed anti-skid surfacing; and
- Footway and carriageway resurfacing.

The scheme proposals for Site 4.2.6 on Princess Street at the junction with South Charlotte Street include:

- New cycle early release signals on the westbound Princes Street and South Charlotte Street approaches to the junction.

Princess Street, South St Andrews Street and South Charlotte Street are subject to a posted 20mph speed limit, with footways in place on both sides of the carriageway and street lighting present. The construction of the sites was completed in April 2023.

1.6 Report Outline

Section 2 of this report documents any outstanding issues identified from previous Audit Reports and Section 3 documents the findings of the current RSA stage. Section 4 comprises the RSA Team statement. Details of the information provided about the scheme are included in Appendix A. Problems and recommendation locations for the current RSA stage are shown on the plan included in Appendix B.

1.7 Notes and clarifications

The 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; alternative methods should be considered by the Design Organisation. GG 119 provides requirements and advice on the process for responding to this RSA report including the production and agreement of a separate RSA response report. The RSA response report provides the full

audit trail of decision making at each stage of the process and captures the changes made as a result of the recommendations made here. Details of the previous RSAs are included in Appendix A.

2. Items Outstanding from Previous Audits

To the knowledge of the RSA team the proposals has previously been subject to:

- A combined Stage 1/ 2 RSA in August 2018 as part of a wider scope which covered walking and cycling improvements along the alignment of the Edinburgh Tram.
- A Stage 2 RSA in April 2019 as part of a wider scope which covered improvements for cyclists adjacent to the Edinburgh Tram lines.

Site 4.2.1 has also been subject to:

- A Stage 2 RSA in May 2023.

In reviewing the previous RSAs received for the scheme, no outstanding problems have been identified.

3. Items raised at this Stage 3 RSA

This section details the items raised in this Stage 3 RSA.

Problem:	3.1
Location(s):	Princess Street approach to South St Andrews Street
Drawing(s):	60487449-DD-C-WP1-4.2.1-0701
Summary:	Risk of cyclists falling onto carriageway/ tramlines.



Description:

During the site visit it was observed that the cycle way is stepped from the carriageway. The cycle way is surfaced with red surfacing and cycleway markings, however the buffer strip provided on the stepped cycle track is a similar colour to the carriageway and there are various longitudinal lines (kerb line, double yellow road markings) which may make it difficult to distinguish the level difference, particularly in hours of darkness.

On approach to the junction with South St Andrews Street there is a risk that due to a see through effect cyclists may try to avoid the minor left then right turn manoeuvre required on the stepped cycle track. This may be exacerbated as the red surfacing is not continued over the carriageway. If they do not anticipate the level difference due to the lack of contrast this could lead to loss of control and the potential for falls into the carriageway/ tram lines.

Recommendation:

It is recommended that the presence of the edge of the stepped cycle track is highlighted so users are aware of the level difference.

Problem:	3.2
Location(s):	Princess Street approach to South St Andrews Street
Drawing(s):	60487449-DD-C-WP1-4.2.1-0701
Summary:	Risk of cyclists colliding with street furniture..



Description:

During the site visit it was observed that there is limited clearance between the cycle facility and a utility cabinet. There is a risk that cyclists, particularly during the hours of darkness, may collide with the cabinet potentially resulting in personal injury.

Recommendation:

It is recommended that reflective material is applied to the cabinets near edges to increase their conspicuity.

4. RSA team statement

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

AUDIT TEAM LEADER:

Name: [REDACTED] BEng MSc CEng FCIHT MSoRSA HE CoC

Position: Associate

Organisation: Atkins

Signed [REDACTED]

Date: 10-10-23

AUDIT TEAM MEMBER:

Name: [REDACTED] MEng GMICE

Position: Engineer

Organisation: Atkins

Signed: [REDACTED]

Date: 10-10-23

Appendices

Appendix A. Drawings and Documents

A.1. Drawings

Reference	Description	Revision	Date
60487449-DD-C-WP1-4.2.1-0001	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET LOCATION PLAN	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0101	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET EXISTING PUBLIC UTILITIES	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0201	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET SITE CLEARANCE	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0501	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET DRAINAGE	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0701	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET GENERAL ARRANGEMENT	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0702	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CIVILS WORKS	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0703	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CROSS SECTIONS	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0703A	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CROSS SECTIONS	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0901	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CONSTRUCTION DETAILS 1 OF 4	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0902	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CONSTRUCTION DETAILS 2 OF 4	AB1	01/05/2023
60487449-DD-C-WP1-4.2.1-0903	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CONSTRUCTION DETAILS 3 OF 4	AB1	01/05/2023
60487449DD-C-WP1-4.2.1-0904	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET CONSTRUCTION DETAILS 4 OF 4	AB1	01/05/2023
60487449DD-C-WP1-4.2.1-1201	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET TRAFFIC SIGNS & ROAD MARKINGS	AB1	01/05/2023
60487449DD-C-WP1-4.2.1-1202	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET ABOVE GROUND TRAFFIC SIGNALS INFRASTRUCTURE	AB1	01/05/2023

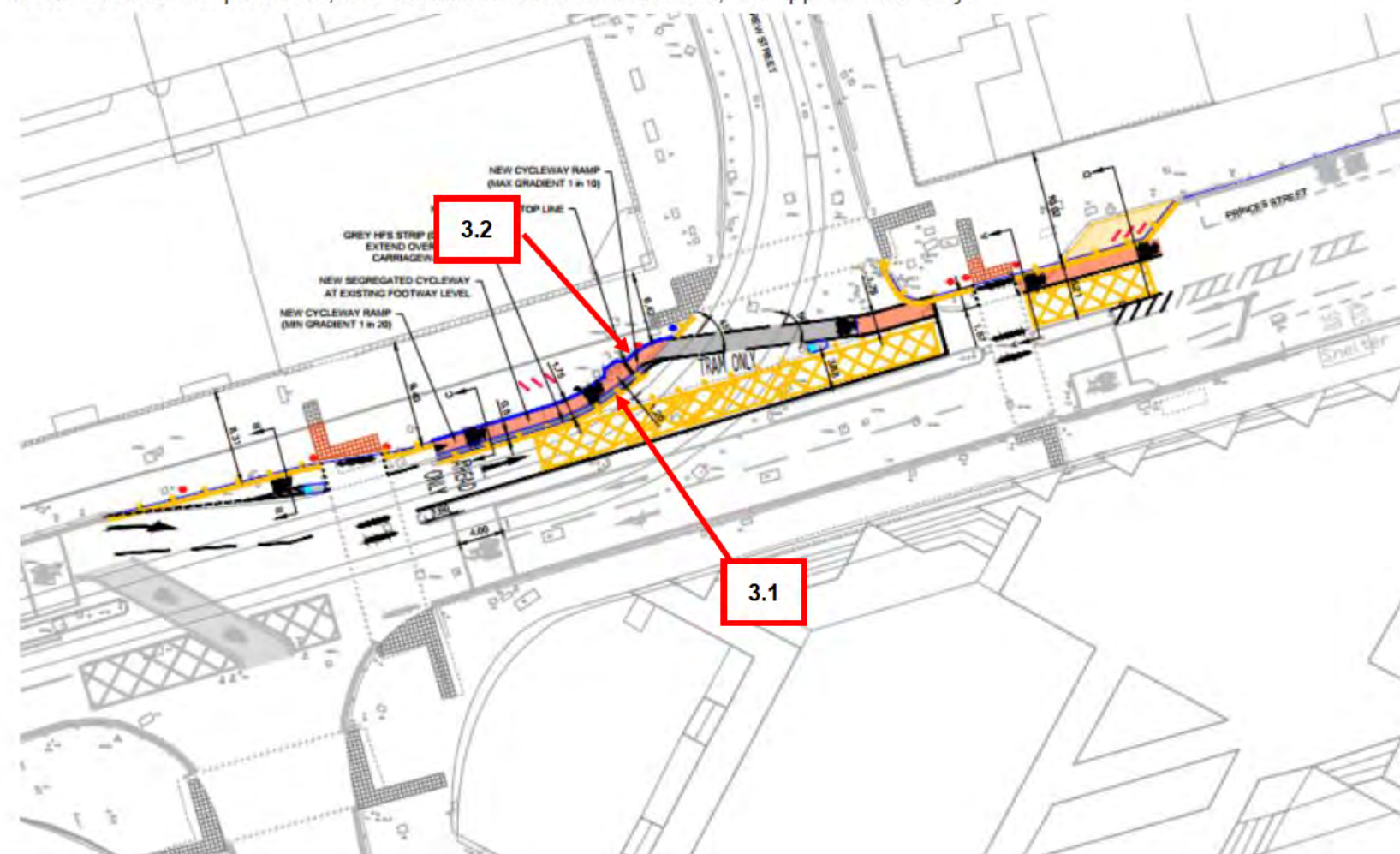
60487449DD-C-WP1-4.2.1-1301	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET ILLUMINATED SIGN CONNECTION	AB1	01/05/2023
60487449DD-C-WP1-4.2.1-1401	4.2.1 PRINCES STREET & JUNCTION WITH SOUTH ST. ANDREW STREET BELOW GROUND INFRASTRUCTURE	C2	30/03/2023
60487449-DD-C-WP1-4.2.6-0001	4.2.6 PRINCES STREET/ SOUTH CHARLOTTE STREET LOCATION PLAN	C1	16/11/2022
60487449-DD-C-WP1-4.2.6-1202	4.2.6 PRINCES STREET/ SOUTH CHARLOTTE STREET ABOVE GROUND TRAFFIC SIGNALS INFRASTRUCTURE	C02	17/11/2022
60487449-DD-C-WP1-4.2.6-1401	4.2.6 PRINCES STREET/ SOUTH CHARLOTTE STREET BELOW GROUND TRAFFIC SIGNALS INFRASTRUCTURE	C02	17/11/2022

A.2. Documents

Type	Reference	Revision	Date
RSA Brief	RSA/18/016d	-	22/06/2023
Stage1/ 2 RSA Tram Walking and Cycling Improvements Phase 3	RSA/18/017/RSA2	1	09/08/2018
Stage 2 RSA Tram Walking and Cycling Improvements Phase 3	RSA/210/S2-A	0	10/04/2019
Stage 2 RSA South St Andrew Street Tram Cycle Safety	RSA/370/S2A	0	06/04/2023

Appendix B. Location of problems

Note: Locations of problems, and associated recommendations, are approximate only.



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