



Marsh Barton Station, Exeter

Devon County Council

Stage 1 Road Safety Audit

70070650/2283/RSA1/1/1

29 June 2020

Marsh Barton Station, Exeter
Stage 1 Road Safety Audit Report

Marsh Barton Station, Exeter

Document title: Stage 1 Road Safety Audit
Document No.: 70070650/2283/RSA1/1/1
Revision: Final
Date: 29 June 2020
Client name: Devon County Council
Author: James Perkins

Document history and status

Revision	Date	Description	By	Review	Approved
0	26/06/2020	Draft report issued to Daniel Berridge	JP	AW	LS
1	29/06/2020	Final report issued to Daniel Berridge	JP	AW	LS

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1. Introduction

This report results from a request received from Daniel Berridge for a Stage 1 Road Safety Audit of the proposed footway / cycleway bridge and vehicular access for the Marsh Barton Station off Clapperbrook Lane East in Exeter. The scheme works are as identified in the Road Safety Audit Brief, received on 29th April 2020, as follows:

- New shared use bridge over the Exeter to Plymouth railway line;
- New access into the proposed station off Clapperbrook Lane East to the north of the existing railway bridge;
- New vehicular access road into the station with drop off area, parking and cycle charging area.

Aspect	Detail
Road Safety Audit Team:	<u>Team Leader:</u> James Perkins MCIHT MSoRSA, Senior Technician, Devon County Council (WSP) <u>Team Member:</u> Adam Walton MIHE, Principal Transport Planner, Devon County Council (WSP)
Road Safety Audit Brief:	Audit requested by: Daniel Berridge, Design Co-ordinator, Graham Construction Audit brief approved by: Daniel Berridge, Design Co-ordinator, Graham Construction Audit team approved by Nigel Flower, Safer Travel Strategic & Programme Officer, Devon County Council
Documents and drawings received:	A list of drawings provided for audit is included in Appendix A for reference purposes.
Site visit details (Daylight)	The Road Safety Audit Team undertook a site visit together on Tuesday 23rd June 2020 between 12:00pm and 1:00pm. During the site visit, the weather was fine, the road surface was dry and vehicular traffic along Clapperbrook Lane East was light. Several pedestrians and cyclists were observed.
Site visit details (Darkness)	N/A – Darkness site inspection not required by the Road Safety Audit process

Table 1-1 Audit Details

The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) document HD 19/03, and in accordance with Devon County Council's locally approved relaxations.

Both members of the Road Safety Audit Team have the relevant training, skills and experience recommended for Road Safety Audit Team Leader and Road Safety Audit Team Member in accordance with the guidance stated in HD 19/03. The Road Safety Auditors have examined and reported only on the road safety implications of the proposed highway works, and they have not examined or verified the compliance of the design to any other criteria.

This Road Safety Audit has been undertaken based on the Road Safety Audit Team's previous experience and knowledge in undertaking Road Safety Audits, Highway Design, Collision Investigation and Road Safety Engineering. No member of the Road Safety Audit Team has had any previous input into the design of the scheme.

2. Items Raised at Previous Road Safety Audits


It is understood that this is the first Road Safety Audit undertaken for this scheme.

3. Items Raised at this Road Safety Audit


3.1 Problem A: Junctions – Swept Vehicle Paths

Location	Clapperbrook Lane East
Summary	Right turn into and left turn out of the station access appears restricted by the tight horizontal alignment and could lead to a vehicle over-running a kerb of the footway / cycleway.
Description	<p>No swept vehicle path information has been provided for the station access. The right turn from the eastbound direction on Clapperbrook Lane East into the station access and left turn out of the station access onto Clapperbrook Lane East southbound includes a tight radius 'hairpin' type bend.</p> <p>It appears that the main traffic flow into and out of the station will travel to and from the Marsh Barton trading estate direction. Therefore, a vehicle travelling into or out of the access junction may have difficulties negotiating the turn which could lead to a vehicle striking a kerb or over-running the shared use footway / cycleway and colliding with a pedestrian or cyclist.</p>
Recommendation	It is recommended that a swept vehicle path analysis is undertaken for the junction using the largest expected vehicle and suitable adjustments made to the design if required to ensure that the junction can safely accommodate all vehicles permitted to use it.

3.2 Problem B: Junction – Visibility

Location	Clapperbrook Lane East
Summary	Visibility to the right along Clapperbrook Lane East from the station access could be obstructed by parked vehicles.
Description	<p>During the site visit parked cars were observed on Clapperbrook Lane East to the east of the proposed station access, See Photograph 1.</p> <p>The visibility from the proposed access junction to vehicles approaching from the east could be restricted by parked vehicles to less than 10m. This could increase the possibility of a vehicle entering the Clapperbrook Lane East carriageway from the proposed access junction into the path of a vehicle travelling westbound, leading to a collision.</p>  <p>Photograph 1: the view eastbound along Clapperbrook Lane East to the east of the railway bridge</p>
Recommendation	It is recommended that parking is prohibited in this location to allow sufficient visibility between road users exiting the proposed station access and westbound vehicles on Clapperbrook Road.

3.3 Problem C: Walking, Cycling and Horse Riding – Accessibility

Location	Clapperbrook Lane East
Summary	Visibility to the left from the proposed station access could be obstructed by fences between the shared use footway / cycleway.
Description	<p>It is proposed to provide a fence between the existing Clapperbrook Lane East carriageway and proposed shared use footway / cycleway. No details have been provided regarding the type of fencing that will be used.</p> <p>The visibility from the proposed access junction to vehicles approaching from the west could be restricted by the fence to less than 15m (the existing visibility from the location of the proposed access is shown in Photograph 2). This could increase the possibility of a vehicle entering the Clapperbrook Lane East carriageway from the station access into the path of a vehicle, leading to a collision.</p>  <p>Photograph 2: the view westbound along Clapperbrook Lane East to the east of the railway bridge</p>
Recommendation	It is recommended the type and position of the fencing proposed makes allowance for the station access visibility requirements. Sufficient visibility between road users exiting the station access junction and eastbound vehicles on Clapperbrook Road must be provided.

3.4 Problem D: Walking, Cycling and Horse Riding – Accessibility

Location	Clapperbrook Lane East
Summary	Lack of continuation of the shared use footway / cycleway could lead to a pedestrian or cyclist being struck by a passing vehicle.
Description	<p>No details are provided of where pedestrians or cyclists are expected to go at the eastern end of the shared use footway / cycleway ramp.</p> <p>If sufficient provision and directional signage is not provided this could lead to a pedestrian or cyclist emerging from the shared use facility into the path of a vehicle on the station access road or Clapperbrook Lane East.</p> <p>Clapperbrook Lane East provides a link to National Cycle Network (NCN) 34.</p>
Recommendation	It is recommended that suitable measures are provided to guide pedestrians and cyclists at the end of the shared use facility. These should include 'Cyclists re-join the carriageway' signs and the provision of a footway on the southern side of Clapperbrook Lane East to the east of station access junction.

3.5 Problem E: Walking, Cycling and Horse Riding – Accessibility

Location	Alphin Brook Lane / Grace Road South
Summary	Lack of continuation of the shared use footway / cycleway could lead to a pedestrian or cyclist being struck by a passing vehicle.
Description	<p>No details are provided of where pedestrians or cyclists are expected to go at the western end of the shared use footway / cycleway ramp.</p> <p>If sufficient provision and directional signage is not provided this could lead to a pedestrian or cyclist emerging from the western end of the shared use footway / cycleway into the path of a road user on Alphin Brook Lane or Grace Road South.</p> <p>Clapperbrook Lane East provides a link to National Cycle Network (NCN) 34.</p>
Recommendation	It is recommended that suitable measures are provided to guide pedestrians and cyclists at the end of the shared use facility. These should include cycle ingress / egress ramps and the provision of suitable crossing facilities to enable pedestrians and cyclists to join the facility from Alphinbrook Road.

3.6 Problem F: Local Alignment – Carriageway Width

Location	Clapperbrook Lane East
Summary	Insufficient carriageway width on Clapperbrook Lane East could lead to a collision between opposing traffic streams.
Description	<p>No information has been provided to the Road Safety Audit Team regarding the expected additional trips that will be generated by the proposed station. Clapperbrook Lane East is a narrow single-track road with passing places and sections of limited intervisibility.</p> <p>An increase in traffic flows along Clapperbrook Lane East could increase the risk of collisions between opposing traffic streams on Clapperbrook Lane East.</p>
Recommendation	It is recommended that Clapperbrook Road is widened to provide a two-way road. If this is not feasible, it is recommended that the existing passing passes are formalised with appropriate traffic signs and road marking with sufficient intervisibility between opposing road users.

4. Audit Team Statement

We certify that we have examined the documents listed in this report. The examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified in this report together with associated safety improvement suggestions that we recommend should be studied for implementation. No member of the Road Safety Audit Team has been involved with the scheme design.

We certify that this Road Safety Audit has been carried out in accordance with HD 19/03 and in accordance with Devon County Council's locally approved relaxations to this DMRB document.

Signed on behalf of Devon County Council (WSP):

Road Safety Audit Team Leader

Name: James Perkins*

Signed:

Position: Senior Technician

Organisation: WSP

Address: Keble House, Southernhay Gardens, Southernhay East,
Exeter, EX1 1NT

Date: 26th June 2020

Road Safety Audit Team Members

Name: Adam Walton

Signed:

Position: Principal Transport Planner

Organisation: WSP

Address: Keble House, Southernhay Gardens, Southernhay East,
Exeter, EX1 1NT

Date: 26th June 2020

*The Road Safety Audit Team Leader holds a Certificate of Competency in Road Safety Audit, compliant with EC Directive 2008/96/EC and GG 119, the latest national Road Safety Audit standard.

Appendix A. – List of documents and drawings supplied for this Road Safety Audit

Document Number	Title	Date
-	Safety Audit of Highway Schemes – Request Form (Safety Audit Brief): Marsh Barton Station, Exeter	14/05/2020
	---Last Item---	

Drawing Number	Title	Revision
AW19-PEL-BR-02-DR-S-000001	Station Footbridge and Cycleway AIP Drawing 1 of 3 - Overview	P01
AW19-PEL-BR-02-DR-S-000002	Station Footbridge and Cycleway AIP Drawing 2 of 3 – Main Span (Railway)	P01
AW19-PEL-BR-02-DR-S-000003	Station Footbridge and Cycleway AIP Drawing 3 of 3 – Approach Spans	P01
AW19-PEL-RA-00-DR-C-000001	AIP - Location	P01
AW19-PEL-RA-00-DR-C-000002	AIP – Existing Site Plan	P01
AW19-PEL-RA-00-DR-C-000003	AIP – Proposed Works Plan	P01
AW19-PEL-RA-00-DR-C-000004	AIP – Ramp Sections 1 of 2	P01
AW19-PEL-RA-00-DR-C-000005	AIP – Ramp Sections 2 of 2	P01
	---Last Item---	

Appendix B. – Problem location plan

