Stage 1 Road Safety Audit
Princes Road, Dartford – Proposed Shared Use Footway

c004300557/RSA/KCC/Princes Rd Footway Revision 0
November 2016
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<td>Name: Greg Allgood</td>
<td>Name: Richard Cowling</td>
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1 Introduction

1.1 Commission and Terms of Reference

1.1.1 This report results from a Stage 1 Road Safety Audit carried on the scheme ‘CO04300557, Princes Road, Dartford – Proposed Shared Use Footway’ at the request of David Goodwin, Highways Engineer for Amey on behalf of the Project Sponsor for the Overseeing Organisation, Kent County Council (KCC).

1.1.2 No departures from standards relating to the scheme were provided to the Audit Team.

1.1.3 Traffic and Non-Motorised User (NMU) data was not available for this Road Safety Audit.

1.1.4 A copy of the latest 3-years personal injury collision (PIC) data was not supplied for this Road Safety Audit and none was requested by the Audit Team. A brief analysis of the latest 5-year PIC data available on www.crashmap.co.uk does not indicate a collision problem at the location of the proposed scheme.

1.1.5 The Amey Audit Team membership approved by Kent County Council for this audit was-

Elaine Hendren EngTech, MCIHT, MIHE, MSoRSA (Audit Team Leader)

1.1.6 The Amey site buddy was-

Robert Fletcher, Senior Technician

1.1.7 For the purposes of compliance with Highways England highway standard HD 19/15 Annex J it is recorded that the Audit Team Leader holds a Certificate of Competency.
1.1.8 The audit was undertaken on 03, 09 and 10 November 2016 at the offices of Amey, Brenchley House, 123-135 Week Street, and Maidstone, ME14 1RF. The audit comprised an examination of documents forming the Audit Brief and an examination of the site during daylight hours. The documents were made available to the Audit Team by David Goodwin on the instructions of the KCC Project Sponsor. The total documents forming the Audit Brief are listed in Appendix A. This information was generally considered sufficient for the purpose of carrying out the Road Safety Audit requested.

1.1.9 The site was examined for approximately 90 minutes during the late morning and early afternoon of Thursday, 03 November. The weather during the site visit was fine and dry, and the carriageway and footway surfaces were dry. Traffic flows on Princes Road through the area were predominantly moderate-heavy and the number of non-motorised users (NMUs) using the existing footway was low (four pedal cyclists and no pedestrians).

1.1.10 The Terms of Reference are as described in within Kent County Council Policy for Safety Audit 2004, and partly as described in the ‘Design Manual for Roads and Bridges, Volume 5 Section 2, Part 2, document HD 19/15 Road Safety Audit’.

1.1.11 The 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 design to any other criteria. To clearly explain a safety problem or recommendation the Audit Team may refer to a design Standard without touching on technical audit.

1.1.12 Unless general to the scheme each Problem location has been described in this report, and marked on a copy of the drawing supplied with the Audit Brief (please refer to Appendix B).

1.1.13 Safety issues identified during this Stage 1 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 Project Sponsor, will be set out in a separate letter.
2 Scheme Description

2.1 Location of the Scheme

2.1.1 The proposed works are located on the northern footway of the A296 Princes Road in the town of Dartford, between its junction with the A225 Princes Road Interchange to the west, and its junction with the B2500 Watling Street to the east.

2.1.2 Within the extent of the site –

- from the A225 Princes Road Interchange to a point located approximately 305 metres west of the junction with Watling Street, Princes Road is a two-lane dual carriageway (one lane is a bus lane), subject to one-way traffic flows running west to east.
- at a point located approximately 305 metres west of the junction with Watling Street, the dual carriageway ends and Princes Road becomes a single lane carriageway, subject to two-way traffic flows.
- Princes Road is urban in nature and subject to a maximum speed limit of 40 mph.
- several light industrial and business estates are located adjacent to the north side of the road, and
- residential housing, a service road and several side road junctions are located on the south side of the road.
- The area is street lit and public footways are provided on both sides of Princes Road.
**2.2 Purpose of the Scheme**

2.2.1 It is proposed to construct 2.4 metre width shared use pedestrian and cycle footway using the existing footway and verge areas located on the north side of Princes Road.
Audit Management

3.1.1 A draft report will be submitted to the Project Sponsor and the Design Team Lead for checking, consideration and approval. Notwithstanding paragraph 3.1.2 below, the Project Sponsor is responsible for agreeing with the Audit Team the content of the final version of the report.

3.1.2 Upon issue of the draft version of the Road Safety Audit report, the Project Sponsor will request the Design Team Leader/Project Manager to prepare a Road Safety Audit Response Report in line with Kent County Council Policy for Safety Audit 2004. A copy of Design Team Leader/Project Manager Response Report is to be issued to the Audit Team for information and inclusion in the final report.

3.1.3 If any problem or recommendation is not accepted on submission of the final report, a signed ‘Exception Report’ is to be produced by the Project Sponsor and approved by the Project Director, a copy of which should be sent to the Audit Team Leader for record keeping purposes.

3.1.4 Any other issues including those relating to maintenance which the Terms of Reference exclude from this report but which the Audit Team wishes to draw the attention of the Project Sponsor will be documented in a separate covering letter to this report.
4 Items raised at this Stage 1 Road Safety Audit

4.1 General

The Audit did not raise any road safety issues.

4.2 Local Alignment

The Audit did not raise any road safety issues.

4.3 Junctions

The Audit did not raise any road safety issues.
4.4 Non-Motorised Users (NMUs)

4.4.1 PROBLEM

Location: General (Please refer to drawing no. 4300557/DRAFT Rev P1 sheets 1-3 in Appendix B)
General across the site – various locations

Summary: Tree roots in a number of areas have damaged the footway. There is a risk a pedestrian could sustain an injury if they were to slip, trip or fall. A cyclist could be unseated and fall onto the footway or into the path of an oncoming vehicle.

The proposed scheme does not indicate whether footway resurfacing or patching works will be undertaken along the existing footway. Tree roots at a number of locations have damaged the footway creating a potential trip hazard and an uneven footway surface. Widening the footway may result in the location becoming more popular with visitors to the area, local residents, and cyclists and as a result, the number of NMUs using the footway may increase. If the uneven surface is not addressed there is a risk that a pedestrian could sustain an injury if they were to slip, trip or fall. A cyclist using the shared use footway could be unseated and fall onto the footway, or into the path of an oncoming vehicle.

Recommendation

It is recommended that the tree roots should be treated using a suitable deflection barrier or mesh, or chemical treatment, and the footway be resurfaced.
4.4.2 PROBLEM

**Location:** General (Please refer to drawing no. 4300557/DRAFT Rev P1 sheets 1-3 in Appendix B)  
General across the site – various locations

**Summary:** Drivers are parking their vehicles on the verge. An NMU may come into conflict with and sustain injury from a parked vehicle, or vehicle that is driving on/off the new footway.  

The proposed scheme indicates footway bollards will be installed at one location along the route. The footway will be located outside a number of business premises, some of which are open to the public. Parking places are very limited in this area and site observations suggest drivers are using the verge to park on. There is a risk that without any physical measures in place (or increased enforcement of the parking restrictions) drivers will continue to park their vehicles as they do now. An NMU using the new footway may come into conflict with and sustain injury from a parked vehicle, or vehicle that is driving on/off the new footway.

**Recommendation**  
It is recommended that physical measures should be installed along the route to prevent parking on the new footway and remaining verge areas.
4.4.3 **PROBLEM**

**Location:** General (Please refer to drawing no. 4300557/DRAFT Rev P1 sheets 1-3 in Appendix B)
General across the site – various locations

**Summary:** The new footway will be located adjacent to an unprotected slope. There is a risk an NMU could slip, trip or fall down the slope.

The proposed scheme does not indicate whether the land that will be located to the back edge of the new footway alignment will be levelled-off to remove or reduce the gradient of any existing slopes. Site observations suggest that in some places, the land behind the footway is subject to fly tipping and the disposal of litter. In addition, brambles, small tree trunks and rusted wire fencing were seen at the bottom of the slopes. Widening the footway may result in the location becoming more popular with visitors to the area, local residents, and cyclists and as a result, the number of NMUs using the footway may increase. If a pedestrian or cyclist was to inadvertently ride or walk over the footway edging there is a risk they could fall down the slope and sustain an injury.

![Picture 7: litter disposed of at the bottom of a slope](image1)
![Picture 8: tree trunk and brambles on a slope](image2)

**Recommendation**

It is recommended that any steep gradients should be reduced or protected, and fly tipping/litter removed.
4.5 **Traffic Signs, Carriageway Road Markings and Lighting**

The Audit Brief indicates that all existing and relevant traffic signs, street lighting columns and utility cabinets will be relocated when the footway is widened. The Audit Brief did not provide details of any new traffic signs and/or roads markings and as such, this Stage 1 Road Safety Audit did not raise any issues.

END OF ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT
5 Audit Team Statement

I certify that this audit has been carried out in accordance with Kent County Council Policy for Safety Audit 2004 and partly in accordance with HD19/15.

AUDIT TEAM LEADER

Elaine Hendren EngTech, MCIHT, MIHE, MSoRSA
On behalf of Amey

Signed: Elaine Hendren
Date: 10 November 2016

Amey Consulting and Rail
Brenchley House
123-135 Week Street
Maidstone
Kent ME14 1RF

AUDIT TEAM MEMBER

N/A

OTHERS INVOLVED

Robert Fletcher, Senior Technician
Amey
Appendix A  Scheme Documentation

The Road Safety Audit was conducted using the drawings and documents listed below.

Drawings
4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 1 of 3
4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 2 of 3
4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 3 of 3

Departures from Standard
None

Personal Injury Collision Data
None

Traffic Data
None

Other Documents
None
Appendix B  Problem Location Plan

4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 1 of 3

4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 2 of 3

4300557/Draft  Revision P1  Princes Road, Dartford – General Arrangement Plan
Sheet 3 of 3
General across the route – various locations

4.4.1 (Tree roots), 4.4.2 (Parking on the verge) and 4.4.3 (Gradient of slopes to the rear of the footway)
General across the route – various locations

4.4.1 (Tree roots), 4.4.2 (Parking on the verge) and 4.4.3 (Gradient of slopes to the rear of the footway)
General across the route – various locations
4.4.1 (Tree roots), 4.4.2 (Parking on the verge) and 4.4.3 (Gradient of slopes to the rear of the footway)
Design Team Project Manager, and Project Sponsor Response Report

Project Name: Princes Road, Dartford – Proposed Shared Use Footway

Document Title: Stage 1 Road Safety Audit

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**Document Control Sheet**

**KENT COUNTY COUNCIL**

**DESIGN TEAM AND PROJECT SPONSOR RESPONSE REPORT TO ROAD SAFETY AUDIT**

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DESIGN TEAM PROJECT MANAGER
AND
PROJECT SPONSOR
RESPONSE TO ROAD SAFETY AUDIT

Road Safety Audit Stage: 1

Project Title: Princes Road, Dartford – Proposed Shared Use Footway

Project Number: CO04300480

Project Sponsor: Kerry Clarke, Kent County Council

Overseeing Organisation: Kent County Council

Design Team Project Manager Response

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<th>Chris Smith</th>
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Project Sponsor Response

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### Issues Identified and Their Recommendations

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**Summary:** tree roots in a number of areas have damaged the footway. There is a risk a pedestrian could sustain an injury if they were to slip, trip or fall. A cyclist could be unseated and fall onto the footway or into the path of an oncoming vehicle.

The proposed scheme does not indicate whether footway resurfacing or patching works will be undertaken along the existing footway. Tree roots at a number of locations have damaged the footway creating a potential trip hazard and an uneven footway surface. Widening the footway may result in the location becoming more popular with visitors to the area, local residents, and cyclists and as a result, the number of NMUs using the footway may increase. If the uneven surface is not addressed there is a risk that a pedestrian could sustain an injury if they were to slip, trip or fall. A cyclist using the shared use footway could be unseated and fall onto the footway, or into the path of an oncoming vehicle.

**Recommendation**

It is recommended that the tree roots should be treated using a suitable deflection barrier or mesh, or chemical treatment, and the footway be resurfaced.

### Design Team Project Manager Response

Where the pavement has been damaged, the footway will be reconstructed.

A new surface course will be laid over existing, widened and reconstructed areas of footway.

Where the existing footway is adjacent to the kerb, the existing levels will be maintained by removing the existing asphalt courses and laying a new base course and surface course.

Where the existing footway is separated from the kerb by a verge, a new surface course will be laid on top of the existing footway.

### Project Sponsor Decision and Proposed Action

Agreed
### Design Team Project Manager, and Project Sponsor Response Report

### Project Name
Princes Road, Dartford – Proposed Shared Use Footway

### Document Title
Stage 1 Road Safety Audit

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<td><strong>Recommendation</strong> It is recommended that physical measures should be installed along the route to prevent parking on the new footway and remaining verge areas.</td>
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### Design Team Project Manager Response

Bollards are to be placed at the following locations:
- Chainage 190 to 270
- Chainage 800 to 810
- Chainage 850 to 860

The bollard types will be agreed with the Client and are to be set at 2m spacing

### Project Sponsor Decision and Proposed Action

Agreed
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<td><strong>Recommendation</strong> It is recommended that any steep gradients should be reduced or protected, and fly tipping/litter removed.</td>
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**Design Team Project Manager Response**

Litter will be removed.

In general, the footway is to be widened in the verge towards the road. At the locations where the footway is to be widened further away from the road, there is still adequate width to the top of the batter slope (2m) and the batter slope is gentle (1 in 4) rather than steep. Therefore no protection is required.

**Project Sponsor Decision and Proposed Action**

Agreed