

# ROAD SAFETY ENGINEERING

## AUDIT REPORT COVER SHEET

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To:	.....
Position:	Project Officer
Organisation:	Cambridge City Council
Scheme:	Kings Parade, Cambridge - HVM
Date	8th November 2019
<i>File Ref:</i>	2162

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The following comments should be read in conjunction with the associated safety audit:

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1. The overall size and mounting details of the revised 'PEDESTRIAN ZONE' signs have not been provided for audit. Care should be taken to ensure these are mounted at a minimum height of 2.3m so that they do not cause an obstruction for cyclists (as per the existing signs).

## Cambridgeshire County Council Road Safety Engineering Team

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### SAFETY AUDIT REPORT

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**Project Name:** Kings Parade, Cambridge – HVM

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**Audit Stage:** Combined Stage 1 & 2

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**Date of Report:** 8th November 2019

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**Auditors:**

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**Information  
Supplied:**

Safety Audit Request received 01/11/2019

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Drawing No. 010 – Design Plan Option D Single Barges on Footways

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Drawing No. 018 – Proposed Sign Design

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Drawing No. 019 – Trumpington Street Proposed Disabled Bays

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Pedestrian Count Data

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### Introduction

The Audit was carried out at the request of:

*Name*

*Job Title*

*Organisation*

**Project Officer**

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**Cambridge City Council**

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The terms of reference of the audit are as described in GG 119. The audit 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 or design standards. Design standards are quoted only where those standards have road safety implications.

#### Notified Departures from Standard

##### DEPARTURES

1. The Audit Team have not been made aware of any proposed Departures from Standard associated with this scheme.

##### RELAXATIONS

2. The Audit Team have not been made aware of any proposed Relaxations associated with this scheme.

#### Scheme Description:

Cambridge City Council are leading on measures to install an anti-terrorism barrier / gate across Kings Parade. Although there is no known threat to Cambridge, Kings Parade with its high numbers of pedestrians is a potential target for a vehicle attack due to the long, wide and straight approach where a vehicle could gain speed. The

project is a partnership with Police, Greater Cambridge Partnership and Cambridge City Council.

The proposed scheme is to install initially a temporary barrier which will reduce the probability of a hostile vehicle incident and with other associated measures to reduce speeds on the approach to the Kings Parade. The location of the barrier shall be just north of the junction with Bene't Street. The barrier will prevent vehicles entering Kings Parade during the busiest part of the day for pedestrians (barrier closed from 9:30am to 7pm) and will open to allow loading when the pedestrian numbers are lower. Works to Trumpington Street on the approach to Kings Parade shall be to introduce disabled parking bays, which will reduce the long, wide straight approach to Kings Parade. These new disabled bays will also replace the bays lost on Kings Parade during the times the gate is closed.

The proposed disabled and loading bays shall be time restricted so no vehicles can park during the hours of the barrier closure or leave their vehicle in Kings Parade when the barrier is closed.

Date/Time of site visit: Wednesday 6th November 2019  
between the hours of 17:00 and 17:30.

Attending: - \_\_\_\_\_

**Conditions at Visit:**

Weather: Overcast. The road surface was generally dry with localised damp patches.

Traffic: Kings Parade has restricted access therefore vehicle flows were low, with predominantly taxi's observed driving through the site.

Other: High flows of pedestrians and cyclists (in both directions) were observed during the visit.

**Collision record:**

Collision data held by Cambridgeshire County Council has been reviewed. During the 5 years 2014 to 2018, there have been 7 recorded personal injury collisions within the site extents, including 2 serious and 5 slights. Three of the collisions (including the two serious) involved cyclists. Five of the collisions involved injuries to pedestrians (including one of the serious collisions which involved a cyclist colliding with a pedestrian). Both serious collisions occurred at Kings Parade junction with Bene't Street.

## 1 Items raised at previous road safety audits and still outstanding

The audit team are not aware of any previous safety audits associated with this scheme.

## 2 Items raised at this Combined Stage 1 & 2 road safety audit

### 2.1 Problem

**Location:** King's Parade – southbound approach to the proposed HVM installation.

**Summary:** Increased risk of southbound cyclists losing control traversing granite setts and kerb upstands when bypassing the HVM installation.

The position of the HVM installation means that, when the gate is closed, southbound cyclists will be required to traverse the raised buildout located to the north of Bene't Street (east side of Kings Parade). The surface of the buildout is formed from granite setts and is bounded by a 40-50mm upstand where it bounds the carriageway. Cyclists traversing this feature are likely to be at increased risk of injury as a result of falling from their cycle.

### Recommendation

It is recommended that a suitable surface is provided along the route cyclists are expected to take and kerb upstands dropped flush to reduce the risk of cyclists falling from their cycle.

### 2.2 Problem

**Location:** Kings Parade – southbound approach to the proposed HVM installation.

**Summary:** Increased risk of cyclists riding on footways and colliding with pedestrians or other cyclists due to the obstruction caused by the HVM installation.

High two-way flow of cyclists was observed on Kings Parade. When the HVM gate is closed, southbound cyclists will be forced over granite setts (see problem 2.1) and through the narrow gap on the eastern side of the gate (estimated to be less than 1m wide, significantly less than the dynamic envelope of a cyclist). The narrow width means cyclists may choose to ride on the footway, increasing the risk of collisions between cyclists and pedestrians, or choose to cycle through the wider gap on the

western side of the carriageway, resulting in the increased risk of head-on collisions with northbound cyclists.

### **Recommendation**

It is recommended that the width of the gap on the eastern side of Kings Parade should be increased, with the width provided being appropriate for the speed and volume of cyclists expected.

## **2.3 Problem**

**Location:** Trumpington Street south of its junction with Bene't Street

**Summary:** Large/long vehicles turning left out of Bene't Street are likely to collide with vehicles parked in the proposed disabled bay.

The proposed disabled bay to the south of Bene't Street may obstruct vehicle movements involving large/long vehicles turning out of the junction, resulting in the increased risk of turning vehicles colliding with vehicles parked in the disabled bay.

### **Recommendation**

It is recommended that swept path analysis is undertaken for all design vehicles and the disabled bays removed or relocated as necessary if large vehicles are likely to overrun the bays.

## **2.4 Problem**

**Location:** Trumpington Street south of its junction with Bene't Street

**Summary:** Vehicles parked in the proposed disabled bay are likely to obstruct road users view to vehicles (including cyclists) when exiting Bene't Street.

Vehicles parked in the proposed disabled bay to the south of Bene't Street are likely to obstruct road users visibility to vehicles on Trumpington Street/Kings Parade, increasing the risk of failure to give way collisions involving road users exiting Bene't Street (with cyclists being most at risk).

### **Recommendation**

It is recommended that the disabled bays removed or relocated as outside the junction visibility splay.

## 2.5 Problem

**Location:** Kings Parade at its junction with Bene't Street.

**Summary:** Increased risk of collisions involving road users reversing into the path of vehicles exiting Bene't Street as well as NMUs crossing at the junction.

Kings Parade is only accessible from the south. Currently there is a generously sized turning head at the northern end of Kings Parade. This allows road users (with access rights) to turnaround and head back south in order to exit via the Trumpington Street/Silver Street junction. The turning head will not be accessible when the HVM gate is closed. This means road users are most likely to use the Bene't Street junction in order to turn around. This could result in the increased risk of collisions involving road users reversing into the path of vehicles exiting Bene't Street as well as NMUs crossing at the junction.

### Recommendation

It is recommended that appropriate turning provision is made on the southern side of the HVM installation to reduce the likelihood of road users using Bene't Street as a turning head or make Trumpington Street one-way in the southbound direction between Bene't Street and Silver Street to negate the requirement for a turning head.

## 2.6 Problem

**Location:** Eastern side of Kings Parade at the proposed HVM installation

**Summary:** Increased risk of collisions between pedestrians and cyclists due to a combination the HVM measures and dining furniture causing an obstruction.

Tables and chairs were observed outside the Cambridge Wine Merchants (No. 2 Kings Parade). If these are still present when the proposed HVM installation is in place they will cause a significant obstruction within the eastern footway, essentially funnelling pedestrians and cyclists through the narrow gap between the gate and barge located on the footway. This

could result in the increased risk of collisions between pedestrians and cyclists.

### **Recommendation**

It is recommended that the area in the immediate vicinity of HVM installation is kept clear of table and chairs.

## **2.7 Problem**

**Location:** King's Parade and Senate House Hill – at the location of the proposed HVM installations.

**Summary:** Increased risk of pedestrians and cyclists colliding with the HVM installation during the hours of darkness.

The Audit Team acknowledge that the proposed HVM installations are to have reflective strips applied. However, full detail of the size and location of the reflective strips have not been provided. If the proposed installations are not conspicuously marked there may be an increased risk pedestrians and cyclists colliding with the HVM installations (both the gate and ballasted barges) during the hours of darkness, resulting in the potential for injury.

### **Recommendation**

It is recommended that both the gate and ballasted barges are conspicuously marked with reflective bands.

**Audit Team Statement**

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

**Road Safety Audit Team Leader**  
Road Safety Engineering Team  
Cambridgeshire County Council

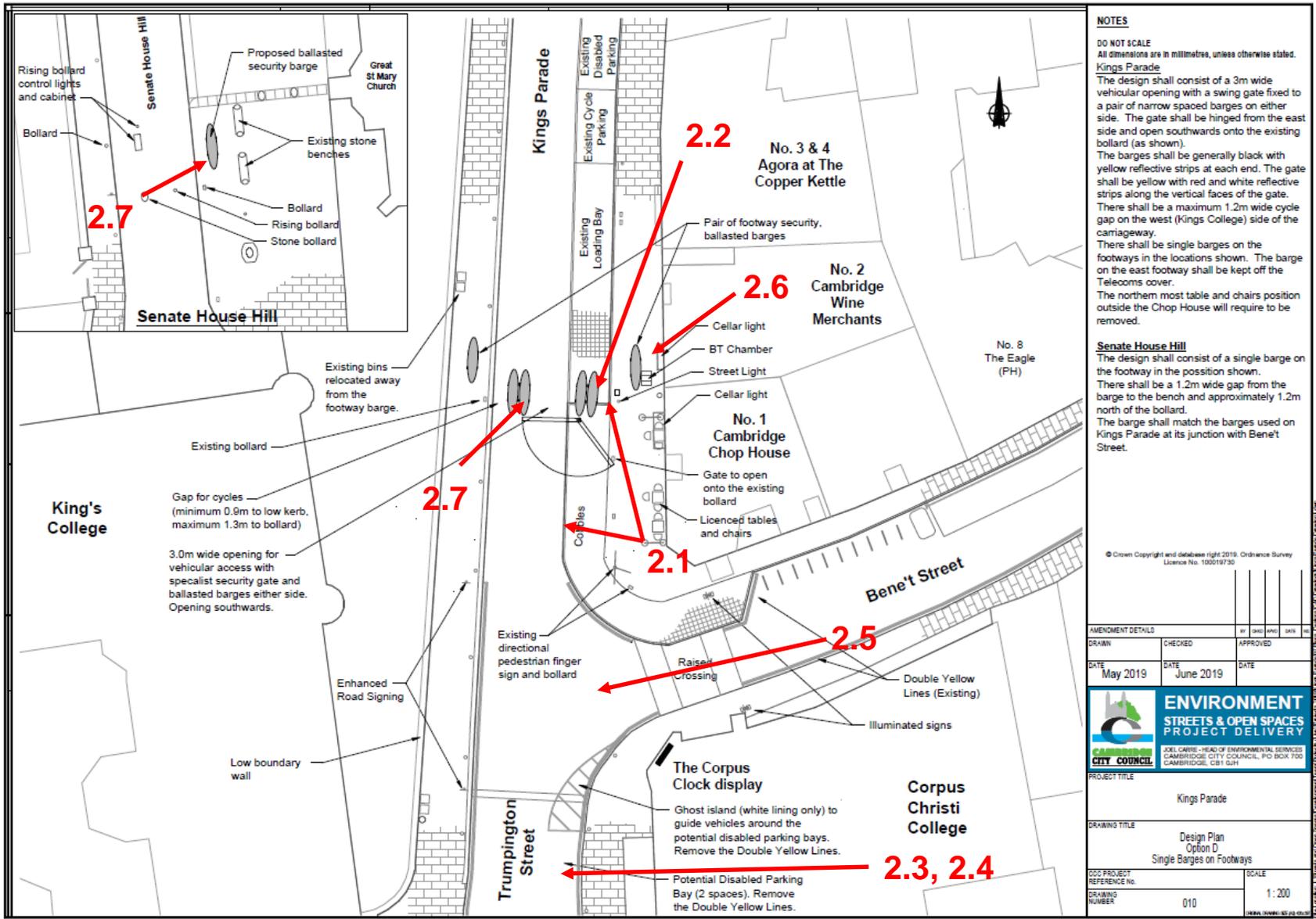
Signed: \_\_\_\_\_

Date: 08/11/2019  
\_\_\_\_\_

**Road Safety Audit Team Member**  
Asset Team  
Skanska Engineering Solutions

Signed: \_\_\_\_\_

Date: 08/11/2019  
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**SA 2162 – Kings Parade, Cambridge – HVM – Combined Stage 1&2 RSA Problem Location Plan (NTS)**