



# **West Bridgford – Hostile Vehicle Mitigation Measures**

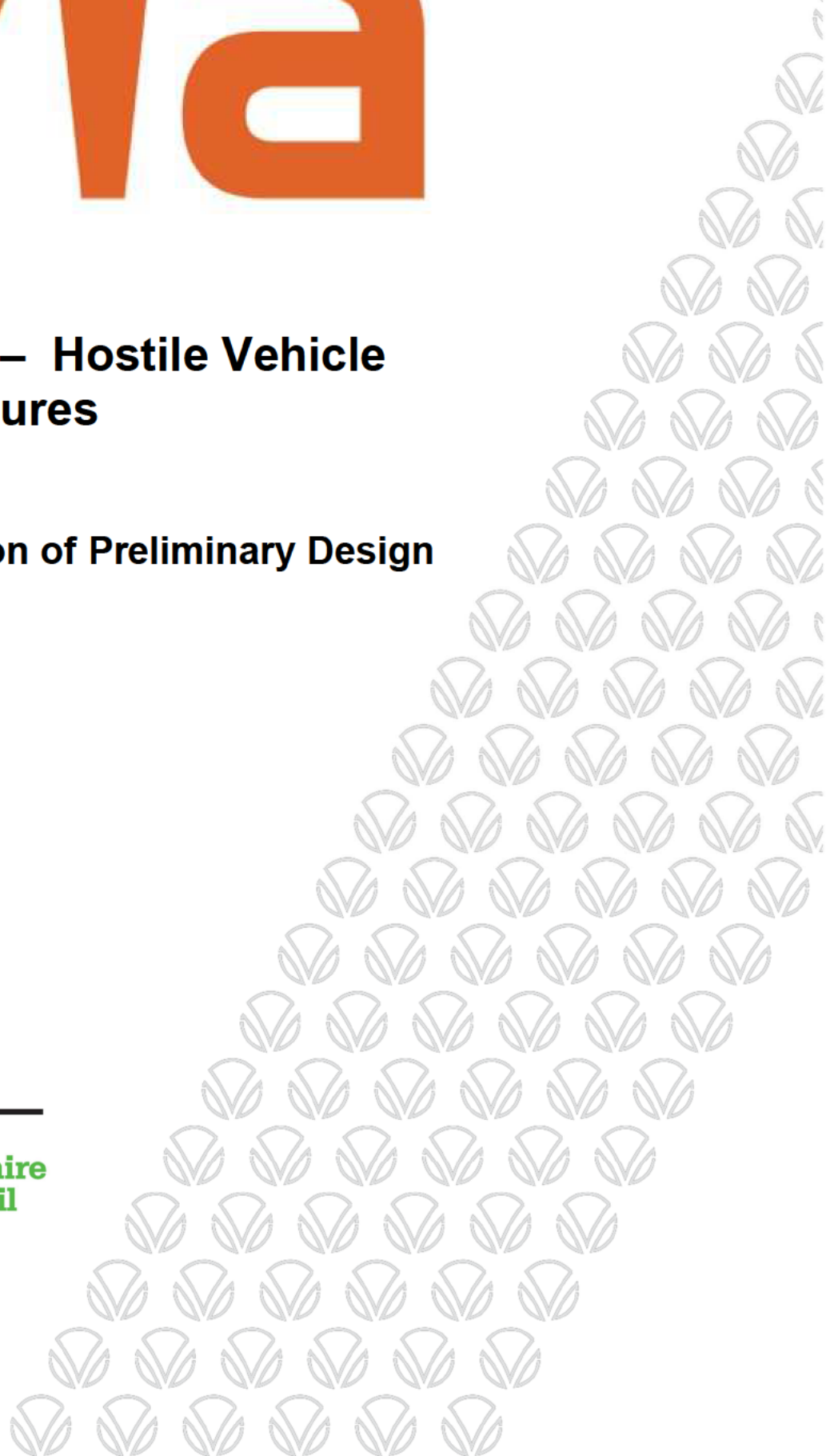
**Road Safety Audit  
Stage 1 - Completion of Preliminary Design**

in partnership with

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SA2185A  
May 2018



# West Bridgford – Hostile Vehicle Mitigation Measures

Stage 1 Road Safety Audit

***Prepared for:***

Personal Information

Environmental Management and Design  
**Via East Midlands**

Via East Midlands Ltd  
Trent Bridge House, Fox Road, West Bridgford, Nottingham NG2 6BJ

Registered Office: Cornwall Council Legal Services, New County Hall, Treyew Road, Truro, Cornwall, United Kingdom TR1 3AY

# 1. Introduction

- 1.1** This report results from a Stage 1 Road Safety Audit carried out on installation of Hostile Vehicle Mitigation Measures around Trent Bridge and Radcliffe Road, West Bridgford.
- 1.2** The Road Safety Audit has been carried out following a request received from **Personal Information** on 21/05/18.
- 1.3** The Road Safety Audit Team membership approved by **Personal Information**, Service Manager for Safer Highways at Via East Midlands, consisted of:
- Personal Information** - Audit Team Leader, Via East Midlands
  - Personal Information** - Audit Team Member, Via East Midlands
- 1.4** The Road Safety Audit comprised an examination of the following documents provided:
- LR/HW10728/017 Rev B – Temporary Proposals
  - LR/HW10728/019 – Temporary Bus Build Out
- 1.5** The Road Safety Audit took place at Trent Bridge House, the Via East Midlands Ltd offices in West Bridgford, Nottingham 31/05/2018. The Audit Team visited the site of the Hostile Vehicle Restraint Systems on 31/05/2018 at 11:30. During the site visit the weather was foggy and muggy and the road surface was dry. Traffic was busy of all road user types.
- 1.6** The audit has been carried out in accordance with Nottinghamshire County Council's Road Safety Audit Policy, following the principles of DMRB HD19/15. The audit has been carried out with the sole purpose of identifying features of the scheme which could, in our view, lead to road safety problems. 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.
- 1.7** All comments and recommendations are referenced to the design drawings and the locations are indicated on a plan within this report.

## 2. Items raised in previous road safety audit(s)

- 2.1** The Audit Team is not aware of any other Road Safety Audits having been carried out on this proposal.

## 3. Items raised at this Stage 1 Audit

### 3.1 Problem

Location: 3.1 – Length of Steel Barrierguard on Radcliffe Road and Bridgford Road.

Summary: Pedestrians climb over, fall into carriageway and hit by a vehicle.

The Barriers are 800mm high. These have been installed on Trent bridge where pedestrians are unlikely to cross the 6 lanes of traffic and it has barrier both sides. On Radcliffe Road and Bridgford Road pedestrians cross regularly, especially during cricket matches and are likely to continue doing this by climbing over the barrier to get to amenities on the other side where there is no barrier. A pedestrian could trip over into live traffic and a collision occur likely resulting in serious or fatal injury.

### Recommendation

Fences should be added to deter pedestrians from climbing over the barrier and to use the pedestrian crossing points.



### 3.2 Problem

Location: 3.1 - Length of Steel Barrierguard on Radcliffe Road and Bridgford Road.

Summary: Pedal cyclist push into the barrier and crushed.

The barrier guard provides no escape route for pedal cyclist running along traffic. When traffic builds up, the pedal cyclist may find themselves trapped and injured.

#### Recommendation

Provisions for cycles should be implemented, such as creating extra space by moving over the centre line or warning signs which may also help.

### 3.3 Problem

Location: 3.3 – Trent Bridge.

Summary: Side swipe collisions from poor lane discipline.

The nearside lanes will be reduced in width with the installation of the barrier. The barriers installed on Trent Bridge narrowed the lane widths and so lanes markings were moved over to provide more space. The left turn Lane at Radcliffe road splays out and may cause a pinch point and side swipes occur causing injury to vehicle occupants.

#### Recommendation

No alterations are shown to the lining here and this will need to be detailed at stage 2 to show adequate lane widths.

### 3.4 Problem

Location: 3.4 – Pedestrian Gap Radcliffe Road.

Summary: Pedestrians forced into carriageway at bottle neck and a collision with a vehicle occurs.

The gap in barrier provided isn't at a formal crossing. Finding a gap to cross here can take a few minutes on match days when thousands of pedestrians could be seeking lunch from the nearby amenities. If they use this exit they could potentially push people into the carriageway from lack of space and squashing into the bottleneck. A pedestrian could be hit by a vehicle.

#### Recommendation

Close this gap and add a fence as shown in problem 3.1 to force pedestrians to use formal crossing points.

### 3.5 Problem

Location: 3.5 – Dixon Gate.

Summary: Pedestrian tries to walk opposing side of TATA Barge and trips and falls into carriageway.

When on site it looked as if a pedestrian could walk around the lamp column where the TATA Barges are to be installed. This will likely mean after installation walking between the barge and barrier will be possible, especially when busy on match days. This isn't ideal and a pedestrian could trip over or worse fall over the barrier guard into live traffic. A collision with a vehicle could then occur.

#### Recommendation

Any gaps between kerb and barrier should be filled to prevent trips or blocking path completely removing the chance to fall over. Also adding the fence suggested in 3.1 would stop pedestrians falling into the carriageway but they could still hurt themselves.

### 3.6 Problem

Location: 3.6 – Fox Road Planters.

Summary: Driver on Fox Road struggles to see to the west and pulls out into traffic resulting in a collision.

The planters are large and could obscure visibility to the west when exiting Fox Road. A vehicle could pull out without seeing an eastbound vehicle on Radcliffe Road and a collision occur causing injuries to vehicle occupants.

#### Recommendation

Site the planters out of the visibility splay of the Fox Road junction.

### 3.7 Problem

Location: 3.7 – Bus Stop Bridgford Road.

Summary: Pedestrians fall alighting or boarding a bus.

It is understood that the 1.8m wide bus gap will now be 1.2m. This is narrow and maybe difficult for a bus to stop at. If a bus doesn't stop directly at the stop it could also be difficult to alight and board the bus for people with limited mobility, wheelchairs, walking aids or pushchairs. This could lead to trips and falls causing injury. If the bus struggles to stop it could also lead to them reversing into unsuspecting vehicles travelling behind the bus, or injuries to bus passengers in the event of sharp braking.

#### Recommendation

Provide a wider stop that will allow easy use. Ensure all wheelchair ramps carried on buses are fully operational for the size of access.



### **3.8 Problem**

Location: 3.1 – Length of Steel Barrierguard on Radcliffe Road and Bridgford Road.

Summary: Reduced braking stopping distance could cause shunts collisions.

There is an existing drainage problem on Radcliffe Road where gullies are blocked. Ponding could be made worse by the barriers if water can't escape. This could be worse at the bus stop on Bridgford Road where the barrier is to be backfilled with bitmac. Surface water reduces stopping distances and shunts could occur causing injury.

### **Recommendation**

Ensure gullies are cleared before installation and that surface water can drain after installation.

## 4. Reference Locations

**PLANTERS** - 2No. Triangular planters to restrict access from Fox Rd junction. Seasonal display. QMB concrete barriers to secure near bus stop. See detail props, right.

**STEEL BARRIER GUARD** - from cricket ground gate westwards to before TBI car park entrance. Include 1No 1.4m gap for pedestrian movement.

**STEEL BARRIER GUARD** - to location of existing red and white barriers. To remain in place until permanent measures implemented. Double yellow lines and carriageway lines remarked.

QMB concrete barriers to central island

**BUS STOP BUILD OUT** - 1.8m wide buildout with concrete surface mounted kerbs, backfilled with bitmac.

**STEEL BARRIER GUARD** - From Cricket ground gate, NW to tree, with 1.8m gap for bus buildout.

**TATA BARGE** - Either side of Dixon gate, to reduce access width of footway. See detail props, right.

**TATA BARGE** - At Hound Rd corner

**3.6**

**3.4**

**3.3**

**3.1**

**3.5**

**3.7**

**RADCLIFFE ROAD DETAIL**

Railings  
QMB concrete blocks on edge of footway  
Bus shelter  
Bus pole  
Planters  
Trent Bridge House

**Barrier guard**  
STOP GATE  
1.45

**TATA BARGE to narrow footway**

**DIXON GATE DETAIL**

TATA Barges  
Triangular planter  
Concrete QMB  
Steel Barrierguard  
Details at Radcliffe Rd and Dixon Gate added  
Barriers added at Hound Rd corner

Rev	Description	Drawn	Checked	Auth	Date
B	Details at Radcliffe Rd and Dixon Gate added	ALB	ALB		April 18
A	Barriers added at Hound Rd corner				

Project: Trent Bridge Area Vehicle Incursions  
Project No: HW10728  
Status: ALB  
Title: Temporary Proposals  
Rev: B  
Scale: NTS  
LR/HW10728/017 RevB

via  
in partnership with  
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## 5. Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with Nottinghamshire County Council policy.

### Road Safety Audit Team Leader

Personal Information

Personal Information

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