



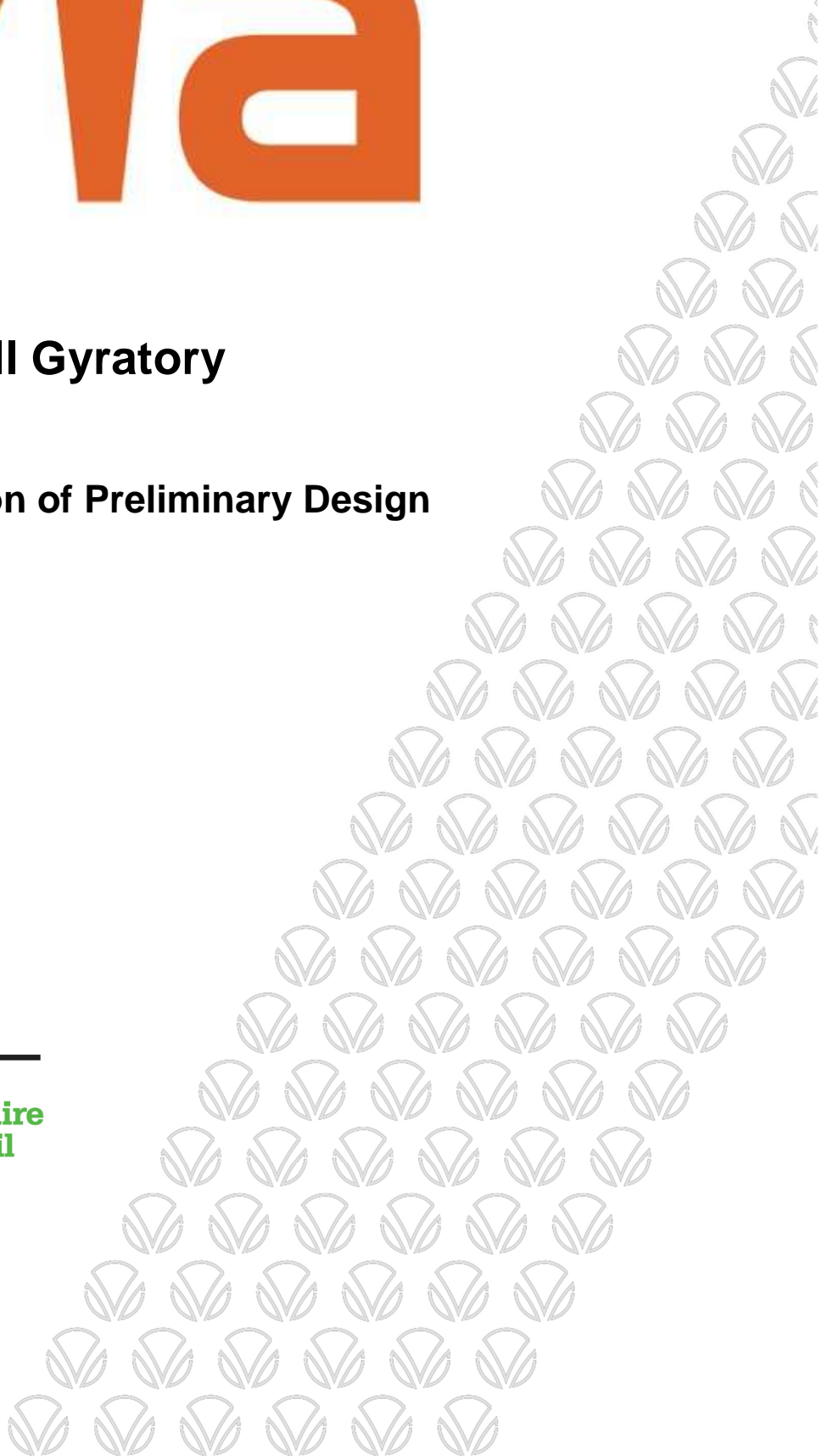
A614 Warren Hill Gyratory

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

in partnership with



SA2288B
Dec 2019





A614 Warren Hill Gyratory

Stage 1 Road Safety Audit

Prepared for:

Barbara Colaceci

EMD Team

Via East Midlands Ltd
Bilsthorpe Business Park, Eakring Road, Bilsthorpe, Nottinghamshire, NG22 8ST

Registered Office: Bilsthorpe Highways Depot, Bilsthorpe Business Park, Eakring Road, Bilsthorpe, Newark NG22 8ST

1. Introduction

1.1 This report results from a Stage 1 Road Safety Audit carried out on improvement of road markings and slight kerblines adjustment at A614 Warren Hill Gyratory.

1.2 The Road Safety Audit has been carried out following a request received from Barbara Colaceci of EMD Team.

1.3 The Road Safety Audit Team membership approved by Suzanne Heydon, Head of Network Management at Via East Midlands, consisted of:

Jacqui Dudley - Audit Team Leader, Via East Midlands
Daniel Carter - Audit Team Member, Via East Midlands

1.4 The Audit Team Leader and Audit Team Member personally hold an internationally recognised Certificate of Competency in Road Safety Audit (Highways England Approved).

1.5 The Road Safety Audit comprised an examination of the following documents provided:

HW20949.005/SK/001 Rev 0 Warren Hill Resurfacing & Lining Option 1

1.6 The Road Safety Audit took place at Trent Bridge House, the Via East Midlands Ltd offices in West Bridgford, Nottingham 18 & 19.12.19. The Audit Team visited the site of the gyratory on 18.12.19 at 10.30a.m. During the site visit the weather was misty and the road surface was damp. The traffic appeared typical for the time of day.

1.7 Site visits were undertaken in accordance with Via Highways Risk Assessment H25 completed for "Safer Highways; Site Visits for Accident Investigations and Road Safety Audits".

1.8 The audit has been carried out in accordance with Nottinghamshire County Council's Road Safety Audit Policy, following the principles of DMRB GG 119. 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.

1.9 Road Safety Audit is only concerned with road safety matters. It does not consider structural safety nor health and safety issues connected with construction, maintenance and operation. At Stage 3, Road Safety Audit is not a check that the scheme has been constructed in accordance with the design.

1.10 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

The accident history at this gyratory has been relatively good in recent years despite the unconventional design of the gyratory. In the period 01.01.16 to 31.08.19 there has been 1 serious & 3 slight reported injury accidents in the 3 ½ year period. The serious accident was not highway related, other factors were involved. The problems raised in this audit need to be evaluated in relation to this relatively good safety history.

3.1 Problem

Location: No reference – Caravan car park/ Baulker Lane.

Summary: Unexpected & inappropriate U turn accidents resulting in driver/rider injury.

Currently northbound drivers on the A614 can access the A6097 (and the A46) via the signed route to the north of the gyratory. In this proposal this movement is not allowed. Consequently, drivers may choose to use the caravan car park to the north of the gyratory or Baulker Lane crossroads to U turn and access the A6097. Neither of the junctions could accommodate an HGV making such a manoeuvre easily. This could lead to shunt type accidents on a relatively high-speed road and subsequent driver/rider injury.



Recommendation

Assess the demand for this movement and provide a suitable alternative route for drivers which is appropriately signed well in advance of the gyratory.

3.2 Problem

Location: A614 northbound merge.

Summary: Late-merging vehicles may collide with each other, go head-on with opposing traffic or create a shunt type accident resulting in driver/rider injury.

Now northbound drivers from the A6097 have to give way and gap seek before joining the A614 northbound stream. In this proposal the A6097 northbound stream have to merge with a faster A614 northbound stream over a relatively short distance. This is an unusual manoeuvre, as offside lane traffic is usually travelling faster and seeks to merge over a specifically designed length for the speed of road. More hesitant drivers will find this a difficult manoeuvre. Failure to merge could result in side swipe accidents, head on collisions or shunt type accidents with subsequent driver/rider injury.

Recommendation

Provide the merge length required for this speed of road and ensure all road markings are laid in a MMA material to ensure road markings are highly visible and do not suffer from early wear and become a maintenance liability. Reduce the vegetation on the gyratory so that following vehicles from the A6097 can see across the gyratory to merging vehicles ahead.

3.3 Problem

Location: A614 northbound proposed hatching in offside lane.

Summary: A614 northbound drivers failing to observe the hatch markings leading to overtaking accidents/side swipe accidents and resulting in driver/rider injury.



Presently, A614 northbound drivers can travel in two lanes until the DWL system north of the gyratory. Drivers may still use the hatched lane to overtake slower moving vehicles in the nearside lane. The slight crest on the A614 may mask a vehicle joining the A614 stream at the merge as this will now be over the crest. This could result in overtaking/side swipe accidents at high speed resulting in driver/rider injury.

Recommendation

Physically reduce the A614 northbound approach to one lane with hard kerbing to prevent overtaking.

3.4 Problem

Location: A614/A6097 northbound gyratory radius.

Summary: A6097 northbound drivers accelerating around the gyratory radius to match merge speeds on the A614 lose control resulting in driver rider injury.

In order for northbound drivers from the A6097 to match the merge speeds on the A614, drivers may accelerate around the gyratory radius. In these proposals the radius of the bend has been tightened by the hatch markings. This could result in bend loss of control accidents and driver/rider injury.

Recommendation

Assess the texture of the road surface on the bend, check SCRIM readings and improve surface texture if necessary.

3.5 Problem

Location: No reference -Throughout the limits of the scheme.

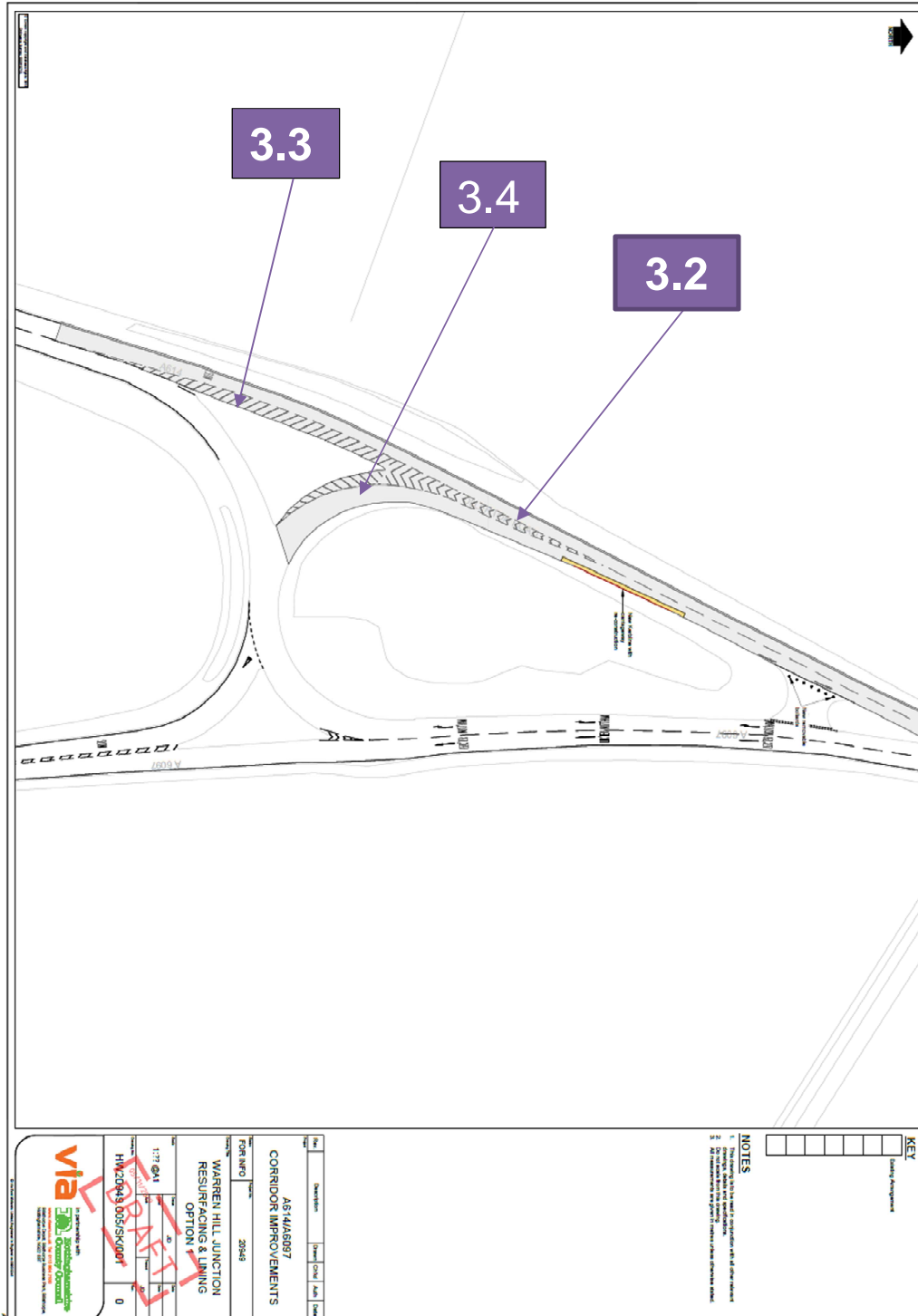
Summary: Increased risk of side swipe/ shunt accidents during the hours of darkness or in poor weather conditions at the merge.

Northbound drivers from the A6097 do not need to Give Way to northbound vehicles on the A614 in these proposals. They now merge with a faster moving stream of vehicles. During the hours of darkness or in poor weather conditions this increases the risk of side swipe/ shunt type accidents if lighting levels are not appropriate.

Recommendation

Undertake a full lighting assessment to assess if lighting levels need improvement. Implement any recommendations made.

4. Reference Locations



5. Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with DMRB GG 119 and Nottinghamshire County Council policy.

Road Safety Audit Team Leader



Jacqui Dudley
Crash Site Investigator / Safety Auditor
Via East Midlands Ltd
Bilsthorpe Business Park
Eakring Road
Bilsthorpe
Nottinghamshire
NG22 8ST

Road Safety Audit Team Member



Daniel Carter
Crash Site Investigator / Safety Auditor
Via East Midlands Ltd
Bilsthorpe Business Park
Eakring Road
Bilsthorpe
Nottinghamshire
NG22 8ST