



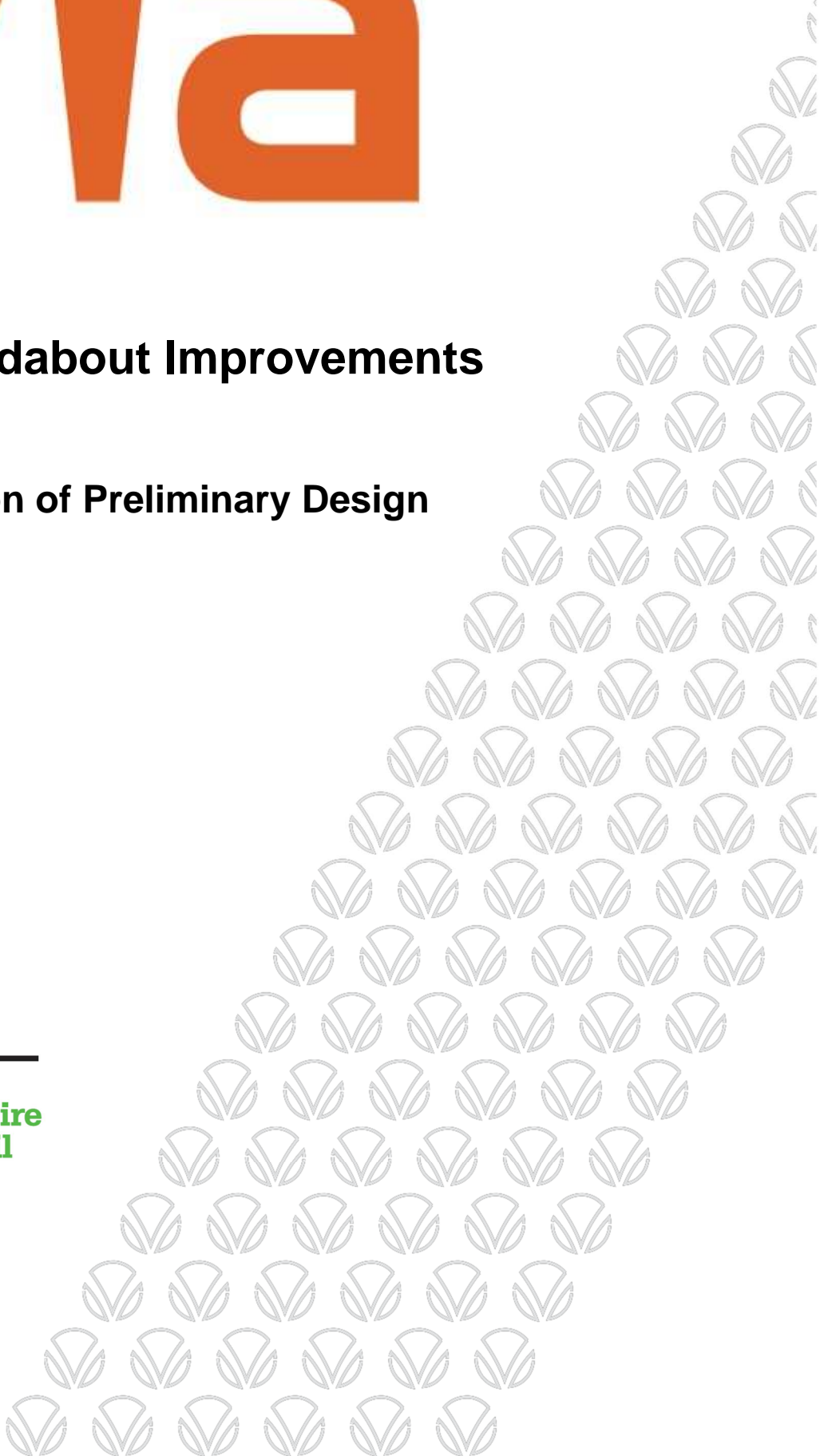
Lowdham Roundabout Improvements

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

in partnership with



SA2222B
June 2020



Lowdham Roundabout Improvements

Stage 1 Road Safety Audit

Prepared for:

Jenny Dames - Project Engineer (Highways)
Via East Midlands

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 capacity improvements to A612/ A6097 Lowdham Roundabout.

1.2 The Road Safety Audit has been carried out following a request received from Jenny Dames on 05/06/20.

1.3 The Road Safety Audit Team membership approved by Kendra Hourd, Service Manager (Safer Highways) at Via East Midlands, consisted of:

Daniel Carter - Audit Team Leader, Via East Midlands
Phil Gow - 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:

20949 GEN L006 SK 009 P01

1.6 The Road Safety Audit did not take place at Trent Bridge House, the Via East Midlands Ltd offices in West Bridgford due to covid restrictions. The Audit team member visited the site of the roundabout on 09/06/20 at 11:00. During the site visit the weather was fine and the road surface was dry. Traffic flows were light for the time of day with no queues probably due to the national lockdown of the Covid19 Pandemic.

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** This section describes any outstanding safety related issues identified in the previous Stage 1 Road Safety Audit (SA2222A 16/10/2018) that this Audit Team feels have not been addressed.
- 2.2** Item 3.1 identified in the previous audit remains outstanding. For completeness, the issue has been re-raised in this report as item 3.1.
- 2.3** Item 3.2 identified in the previous audit remains partially outstanding. For completeness, the issue has been re-raised in this report as item 3.2.

3. Items raised at this Stage 1 Audit

3.1 Problem

Location: 3.1 – A612 westbound exit from the roundabout.

Summary: Side swipe collisions or head on collisions with opposing traffic.

There are two lanes shown on the A612 WB exit from the roundabout with a very short merge. Drivers of vehicles in the offside lane who try and merge at the end of the two lanes may collide with vehicles in the nearside lane or may collide head on with opposing vehicles, or those waiting to turn right into the service road. Vehicle occupants could be injured.

Recommendation

Capacity over safety will be required in the decision process but does this arm need 2 lanes capacity from Lowdham towards Burton Joyce. If this merge is only being provided for the Entry Arm on Lowdham side of A612 it should be removed. This entry arm could be signed for Left turn only (n/s) and ahead/right (o/s) so that two vehicle merge on the opposing arm is removed.

3.2 Problem

Location: 3.2 – A612 eastbound exit from the roundabout.

Summary: Side swipe collisions at roundabout exit.

All the roundabout entries have 2 ahead lanes and all the exits have 2 lanes, except for the A612 eastbound. Drivers on the A612 eastbound may mistakenly travel ahead in the offside right turn lane, side swipe collisions could occur with vehicles in the nearside lane if they try and exit the roundabout at the same time, as there is only one lane on the exit. This is likely to become more of a problem as the road markings become worn.

Recommendation

At detailed design add hatch lines on this exit to strengthen that it is a single lane.

3.3 Problem

Location: 3.3 – Tighter parts of roundabout.

Summary: Vehicle loss of control due to sharp radii on roundabout causing side swipe accidents.

The proposed roundabout isn't round which means at points of the oval shape the angle tightens which doesn't allow a smooth transition. Drivers will have to adjust their steering wheel mid manoeuvre which can catch drivers out especially when negotiating at speed. A driver could lose control of the vehicle which could lead to hitting another object on or off the carriageway. A more common scenario is a driver just doesn't get their vehicle into lane due to the unusual shape and enters another lane causing a side swipe accident with another vehicle. With this being a route heavily used by HGVs large vehicles will find it the most difficult and could enter more than one lane regularly. Any collision between vehicles could lead to accidents for vehicle occupants.

Recommendation

A standard round roundabout would be the safest option. If this oval option is pursued, then it should be shown at stage 2 RSA that vehicles can circulate within their own lanes. The road surface should be brought up to a very good level of grip and maintained regularly to help any loss of control incidents. This could be frequent due to the level of HGV polishing of the road surface.

3.4 Problem

Location: 3.4 – Private service road.

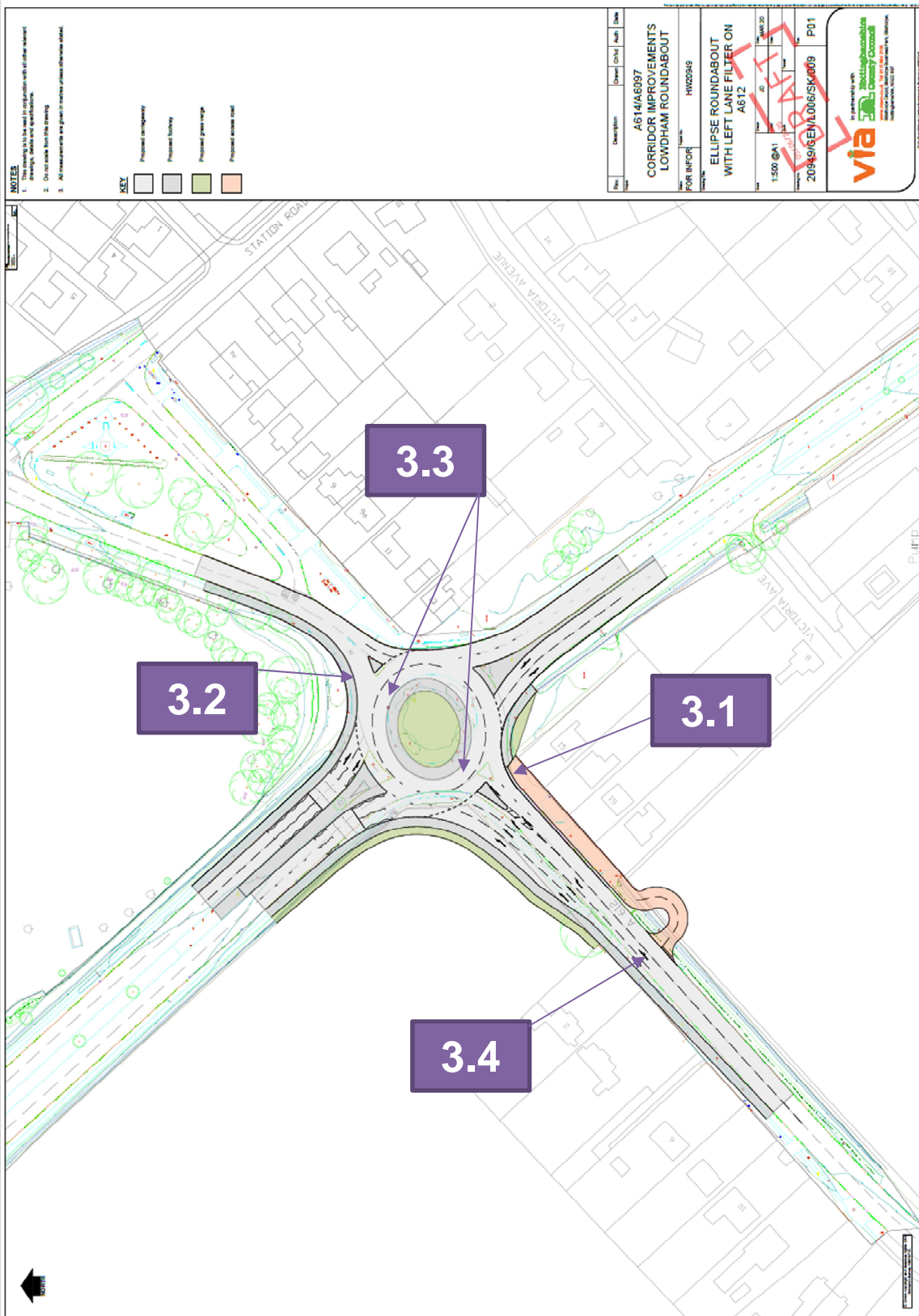
Summary: Turning right in right turn could be seen as for roundabout and be shunted.

In order to get three lanes on the SW entry arm (Burton Joyce) the lane widening occurs before the new service road with lane markings added where vehicles would need to turn right into the service road. This could cause confusion for drivers following a vehicle ahead intending to turn into the service road. It could look to the following driver as though the vehicle ahead is intending to turn right at the roundabout. When the right turner stops the vehicle being could shunt them causing injury to vehicle occupants.

Recommendation

The service road should join the main road at a point past the lane divergence. Another potential option could be to have a left turn in only at the service road forcing drivers to circulate the roundabout rather than turn right. This is not likely going to be wanted by the residents and the left turn in needs to be made strong with kerb lines and physical restriction such as a splitter island so that drivers aren't tempted to disregard a right turn ban.

4. Reference Locations



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



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

Road Safety Audit Team Member



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