



Transport & Works Act Order (TWAO) Anglia Route GRIP 2 Review

Cambridgeshire Stage1 Road Safety Audit

Report Number 367516/RPT014

Revision A

August 2016



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Network Rail

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1 Introduction

Network Rail is carrying out feasibility studies to explore options for the closure of level crossings throughout Cambridgeshire, as part of their on-going commitment to deliver a safer, more efficient and reliable railway. Mott MacDonald is considering Network Rail's GRIP 0 Solution to enable the closure of level crossings.

This report describes a series of Stage 1 Road Safety Audits carried out on highway works associated with proposed level crossing closures throughout Cambridgeshire. The scheme proposals currently consist of indicative (high level) diversion routes as the result of closures and no formal highway works have been designed at this stage. Therefore this report considers potential road safety problems as a result of the proposed routes and their interaction with the highway. A detailed description of the proposed diversion routes at each location can be read in the respective individual level crossing review reports.

The audits took place at the Birmingham office of Mott MacDonald and consisted of a detailed examination of the submitted documentation and drawings listed in **Appendix A**.

A visit to each site was completed on either Wednesday 20th July 2016 between 11:00 and 14:00, during which the weather was sunny and the road surface was dry or on Tuesday 26th July between 09:30 and 14:00 during which the weather conditions were sunny and the road surface was dry.

It is confirmed that this is a Stage 1 Road Safety Audit and that the audit was undertaken upon completion of the feasibility design. It is also confirmed that the audit was carried out in accordance with the Highways England Departmental Standard HD19/15.

The Audit Team consisted of:

Andrew Coleman BA (Hons), MCHIT, MSoRSA (Team Leader)

Mott MacDonald

T Blaney BSc (Hons), CMILT, MCIHT, MSoRSA (Team Member)

Mott MacDonald

R Collins BA (Hons), MSc (Team Member)

Mott MacDonald

No attempt has been made to comment on the justification of the scheme or the appropriateness of the diversion routes. Consequently the auditors accept no responsibility for the design or construction of the scheme. All of the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Report Response should be completed by the Design Team and kept on file for future reference.

An Audit Brief was submitted to the Audit Team, however, no Personal Injury Collision data was included and has therefore not been reviewed as part of this audit. Traffic flows and speed data were also not available to the Audit Team.

A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT221B) was undertaken in December 2015 on level crossing closure proposals within Cambridgeshire. This included some sites that have been audited on this occasion and sites that have been re-audited due to the development of alternative route options or amendments to the previously audited route. The table below lists the level crossing proposals that have been subject to a stage 1 road safety audit and when the audits were undertaken.

Site	December 2015	August 2016
C02 – Nairns (No 117)		✓
C04 – No 20	✓	✓
C06 – Barrington Road	✓	✓
C07 – No 37	✓	✓
C08 – Ely North Junction (Red and route)		✓
C08 – Ely North Junction (Blue route)		✓
C11 – Furlong Drove	✓	✓
C12 – Silt Drove (Red route)		✓
C12 – Silt Drove (Blue route)		✓
C13 – Middle Drove		✓
C14 – Eastrea Cross Drove	✓	
C15 – Brickyard Drove	✓	
C16 – Prickwillow 1		✓
C17 – Prickwillow 2		✓
C18 – Munceys	✓	

Site	December 2015	July16
C19 – Wicken Road	✓	✓
C20 – Leonards	✓	
C25 – Clayway	✓	✓
C26 – Poplar Drove		✓
C27 Willow Row / Willow Road		✓
C28 – Black Horse Drove		✓
C29 – Cassells	✓	✓
C30 – Westley Road		✓
C31 – Littleport Station		✓
C33 – Jack O'Tell		✓
C34 – Fysons		✓
C35 – Ballast Pit		✓

A Key Plan indicating the location of any identified safety related issues is provided in **Appendix B**.

2 Items Raised at this Stage 1 Audit

This section describes road safety related issues identified by the Audit Team that are associated with the scheme as presented in **Appendix A**.

2.1 C02 – Nairns (No 117)

2.1.1 Problem

Location: A1123 Newmarket Road.

Summary: Risk of vehicle collisions with pedestrians.

The A1123 Newmarket Road carriageway is narrow and the verge is also narrow due to a steep embankment which is likely to result in pedestrians walking within the carriageway. Vehicle speeds were observed to be high along this section which may give drivers limited time to react to pedestrians within the carriageway, possibly resulting in collisions between vehicles and pedestrians. Alternatively, drivers may swerve to avoid a pedestrian in the carriageway with a risk of head-on vehicle collisions as a result.

Figure 2.1: Narrow carriageway and verge with steep embankment.



Source: Mott MacDonald

Recommendation

It is recommended that a footway is provided for pedestrians. If this cannot be achieved then an alternative route should be identified.

2.2 C04 – No 20

2.2.1 Problem

Location: Station Road.

Summary: Lack of footway for pedestrians.

Diverted pedestrians will be required to continue along Station Road; it is the Audit Team's opinion that existing footway provisions are poor and traffic flow and vehicle speeds were observed to be high. Combined, this increases the risk of collisions between pedestrians and vehicles. The likely desire line along Station Road will be on the western side along an existing verge. This was observed to be undulating and difficult to walk on increasing the risk of trips and falls.

Figure 2.2: Poor pedestrian facilities on Station Road.



Source: Mott MacDonald

Recommendation

It is recommended that the existing footway on the western side of Station Road is extended for the length of the diversion.

2.2.2 Problem

Location: Station Road.

Summary: Lack of footway for pedestrians.

Diverted pedestrians will be required to continue along Station Road; it is the Audit Team's opinion that existing footway provisions are poor and traffic flow and vehicle speeds were observed to be high. This is of particular concern at the point where pedestrians are required to cross Station Road to use the existing footways. This is in close proximity to a blind bend and visibility to the south on the western side is further restricted by an existing lamp column. Combined, this increases the risk of collisions between pedestrians and vehicles.

Figure 2.3: Hazardous crossing locations on Station Road.



Source: Mott MacDonald

Recommendation

It is recommended that the existing footway on the western side of Station Road is extended for the length of the diversion.

2.3 C06 – Barrington Road

The Audit Team did not identify any road safety related issues associated with the scheme.

2.4 C07 – No 37

2.4.1 Problem

Location: London Road.

Summary: Risk of pedestrian conflict with vehicles.

Pedestrians will be diverted along the eastern side of London Road resulting in the need to cross the junction of Shelford Road; this is a wide junction mouth with vehicles turning at speed due to the relaxed radii. Furthermore, there appears to be limited verge width available on the eastern side of London Road south of the railway which may result in pedestrians walking within the carriageway. Both situations increase the risk of collisions between pedestrians and vehicles.

Figure 2.4: Wide junction mouth for pedestrians to cross.



Source: Mott MacDonald

Recommendation

It is recommended that pedestrians continue along the western side of London Road and cross to the east north of the Shelford Road junction. Visibility from the railway bridge is good in both directions with a wide hardstanding on either side, and would be a suitable location for pedestrians to cross.

2.5 C08 – Ely North Junction (Red and Blue routes)

2.5.1 Problem

Location: Queen Adelaide.

Summary: Risk of vehicle collisions with pedestrians.

The red and blue routes both appear to direct pedestrians along an industrial site access road where HGV movements are taking place. HGV drivers may not be aware of pedestrians walking within the site which could result in conflict between vehicles and pedestrians, particularly when crossing the access to the warehousing units where large vehicles will be reversing.

Figure 2.5: Pedestrians directed through industrial site.



Source: Mott MacDonald

Recommendation

It is recommended that a footpath is provided for pedestrians on the eastern side of the access road so that they are segregated from the industrial site traffic. If this cannot be achieved then an alternative route should be identified.

2.6 C11 – Furlong Drove

The Audit Team did not identify any road safety related issues associated with the scheme.

2.7 C12 – Silt Drove (Red route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.8 C12 – Silt Drove (Blue route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.9 C13 – Middle Drove

The Audit Team did not identify any road safety related issues associated with the scheme.

2.10 C16 – Prickwillow 1

The Audit Team did not identify any road safety related issues associated with the scheme.

2.11 C17 – Prickwillow 2

The Audit Team did not identify any road safety related issues associated with the scheme.

2.12 C19 – Wicken Road

The Audit Team did not identify any road safety related issues associated with the scheme.

2.13 C25 – Clayway

2.13.1 Problem

Location: Padnal.

Summary: Risk of pedestrian trip collisions.

The proposed diversion route will likely result in pedestrians crossing Padnal between the accesses to a small residential car park. Full height kerbs are present at this location which may lead to trip type injuries.

Figure 2.6: Padnal looking north.



Source: Mott MacDonald

Recommendation

It is recommended that a crossing point is provided on Padnal featuring dropped kerbs and tactile paving.

2.14 C26 – Poplar Drove

2.14.1 Problem

Location: A10.

Summary: Risk of vehicle collisions with pedestrians.

No footways are present along this section of the A10 and although there is a relatively flat wide verge there are a number of signs placed within the verge which could force pedestrians into the carriageway. The A10 is a primary route and vehicle speeds and traffic flows were observed to be high which may give drivers limited time to react to pedestrians within the carriageway and could result in conflict between pedestrians and vehicles. Furthermore, should a pedestrian trip or slip and fall in the carriageway there is a risk of vehicle strikes and serious injuries.

Figure 2.7: Lack of footway along A10.



Source: Mott MacDonald

Recommendation

It is recommended that a footway is provided for pedestrians.

2.15 C27 Willow Row / Willow Road

2.15.1 Problem

Location: A10.

Summary: Risk of vehicle collisions with pedestrians.

No footways are present along this section of the A10 and although there is a relatively flat wide verge there are a number of signs placed within the verge which could force pedestrians into the carriageway. The A10 is a primary route and vehicle speeds and traffic flows were observed to be high which may give drivers limited time to react to pedestrians within the carriageway and could result in conflict between pedestrians and vehicles. Furthermore, should a pedestrian trip or slip and fall in the carriageway there is a risk of vehicle strikes and serious injuries.

Figure 2.8: Lack of footway along A10.



Source: Mott MacDonald

Recommendation

It is recommended that a footway is provided for pedestrians.

2.16 C28 – Black Horse Drove

The Audit Team did not identify any road safety related issues associated with the scheme.

2.17 C29 – Cassells

The Audit Team did not identify any road safety related issues associated with the scheme.

2.18 C30 – Westley Road

The Audit Team did not identify any road safety related issues associated with the scheme.

2.19 C31 – Littleport Station

The Audit Team did not identify any road safety related issues associated with the scheme.

2.20 C33 – Jack O'Tell

The Audit Team did not identify any road safety related issues associated with the scheme.

2.21 C34 – Fysons

The Audit Team did not identify any road safety related issues associated with the scheme.

2.22 C35 – Ballast Pit

The Audit Team did not identify any road safety related issues associated with the scheme.

3 Audit Team Statement

We certify that this audit has been carried out in accordance with the Highways England Departmental Standard HD 19/15.

Audit Team Leader

A J Coleman BA (Hons), MCIHT, MSoRSA

Signed:



Date: 8th August 2016

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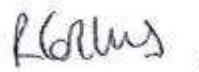
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Date: 8th August 2016

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Appendices

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Appendix A. List of Submitted Documents

Table A.1: Drawings

Drawing	Rev	Title
MMD-367515-C02-GEN-002	P3	Nairns (No 117)
MMD-367515-C04-GEN-002	P3	No 20
MMD-367515-C06-GEN-002	P3	Barrington Road
MMD-367515-C07-GEN-002	P3	No. 37
MMD-367515-C08-GEN-002	P3	Ely North Junction
MMD-367515-C11-GEN-002	P3	Furlong Drove
MMD-367515-C12-GEN-002	P3	Silt Drove
MMD-367515-C13-GEN-002	P3	Middle Drove
MMD-367515-C16-GEN-002	P3	Prickwillow 1
MMD-367515-C17-GEN-002	P3	Prickwillow 2
MMD-367515-C19-GEN-002	P3	Wicken Road
MMD-367515-C25-GEN-002	P3	Clayway
MMD-367515-C26-GEN-002	P3	Poplar Drove
MMD-367515-C27-GEN-002	P3	Willow Road
MMD-367515-C28-GEN-002	P3	Black Horse Drove
MMD-367515-C29-GEN-002	P3	Cassells
MMD-367515-C30-GEN-002	P3	Westley Road
MMD-367515-C31-GEN-002	P3	Littleport Station
MMD-367515-C33-GEN-002	P3	Jack O'Tell
MMD-367515-C34-GEN-002	P3	Fysons
MMD-367515-C35-GEN-002	P3	Ballast Pit

Source: Mott MacDonald, Sheffield

Appendix B. Key Plans

