

TRANSPORT AND WORKS ACT 1992

**TRANSPORT AND WORKS (INQUIRIES
PROCEDURE) RULES 2004**

**THE NETWORK RAIL
(SUFFOLK
LEVEL CROSSING REDUCTION)
ORDER**

SUSAN TILBROOK

**REBUTTAL OF
PROOF OF EVIDENCE**

-OF-

**JOHN RUSSELL (ON BEHALF OF THE
RAMBLERS)**

Document Reference	NR/32/4/1
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Contents

1	Introduction	1
2	General Points	2
3	Design Guidance	3
4	Network Rail's Road Safety Audit	6
5	Audit and Assessment of Proposed Closures	8
	Appendices	13
A.	Extract from Inclusive Mobility	14
B.	Extract from HD19/15	15

1 Introduction

- 1.1 This Rebuttal Proof of Evidence has been prepared on behalf of Network Rail to respond to particular matters raised in the Proofs of Evidence submitted on behalf of the following parties which were received by Network Rail on 18 January 2018. This includes the Proof of Evidence of:
 - 1.1.1 The Ramblers (OBJ/36)
 - a) John Russell
- 1.2 It is not intended that this rebuttal proof should address matters that have already been addressed in my Proof of Evidence (NR32/1) or of other witnesses for the Promoter; however, cross references to relevant parts of that evidence are given below, where appropriate. The fact that I have not expressly rebutted a point does not mean that it is accepted.
- 1.3 I believe the facts and opinions stated to be true and that my evidence conforms to the standards and requirements of my professional body.

2 General Points

2.1 Use of Highway Verges

- 2.1.1 *At paragraph 1.11 (1st bullet point) of his evidence, Mr Russell refers to the use of grass verges adjacent to the highway (highway verges) and states that NR have provided no evidence to confirm that all verges to be utilised as part of the alternative routes are within the highway boundary and not 3rd party land adjacent to the highway. Mr Russell includes an example highway boundary plan as an appendix to his proof at OBJ/036/W10/2-1 demonstrating where what appears to be “highway verge” is not part of the adopted highway.*
- 2.1.2 This matter is addressed in my proof at Paragraph 1.14.8. In addition, I note that Mr Russell has not submitted any evidence to demonstrate that any of the highway verges directly affected by the proposals do not form part of the adopted highway (the plan OBJ/036/W10/2-1 relates to a road in Kings Langley, Hertfordshire).
- 2.1.3 *At paragraph 1.11 (2nd bullet point) of his evidence, Mr Russell refers to the fact that the highway authority is able to remove grass verges for widening of the carriageway and he recommends that the Inspector seeks evidence from Network Rail concerning how they intend to secure the retention of grass verges in the long term which are utilised for diverted routes.*
- 2.1.4 This matter is addressed in my proof at Paragraph 1.14.9, where I set out the requirement for pedestrian needs to be considered as part of any future highway improvement scheme, and hence that the linkages between public rights of way and any future proposed use of the highway verge should be assessed through the developers design and road safety audit process on any such future scheme.
- 2.1.5 *At paragraph 1.11 (3rd Bullet point) of his evidence Mr Russell states that he is unable to find evidence from Network Rail concerning how they intend to ensure maintenance of grass verges in the long term which are utilised for diverted routes.*
- 2.1.6 This matter is addressed in my proof at Paragraph 1.14.10.

2.2 Signage

- 2.2.1 *In paragraph 1.14 of his evidence Mr Russell states that the Inspector should seek evidence from Network Rail as to how they intend to sign diversion routes and ensure the long term maintenance of the signs.*
- 2.2.2 I have described the level of design required at this stage of the project in paragraph 1.7.1 of my Proof of Evidence **NR32/1**. Proposals for signing of the proposed diversion routes are set out in the Design Guide **NR12** at paragraphs 2.7.1.1 and 2.7.2.1, however, it should be noted that these proposals are illustrative and the detailed design proposals will be agreed with the Highway Authority.
- 2.2.3 The existing routes over the level crossings cannot be closed until the highway authority has certified completion of the alternative route to their satisfaction. Article 31 of the Order would confer powers on Network Rail to place and maintain traffic signs relating to the construction or operation of the works, in consultation with Suffolk County Council. Any additional maintenance burden on the Highway Authority will be dealt with through a commuted sum payment.

3 Design Guidance

3.1 Rural Road Safety

- 3.1.1 *In paragraph 2.4 of his evidence Mr Russell states “these sets of statistics show that the interaction between pedestrians and motorised transport, either road or rail, results in a risk of serious injury or fatality for pedestrians. The significantly higher number of pedestrians killed and seriously injured on rural roads compared to at rail level crossings will be in part due to the higher number of pedestrians walking on rural roads and the longer distances walked compared to crossing railway lines.”*
- 3.1.2 *In paragraph 2.5 of his evidence Mr Russell states that these statistics “suggests that, at current levels of use, pedestrian crossings of railway lines do not in themselves represent a higher risk of accident to pedestrians than pedestrians walking in rural roads. Indeed the 2017 RoSPA factsheet suggests pedestrians are more at risk of accident when walking along rather than crossing rural roads. This can be partly explained by the fact that pedestrians stop and look when crossing a road and therefore have a greater awareness of their surroundings.”*
- 3.1.3 In response, the safety risk at level crossings cannot be directly compared to road safety as there is no accepted methodology for comparing the relative risk. The Road Safety Audit process (as set out in the Design Manual for Roads and Bridges, Volume 5, Section 2, HD19/15) is accepted procedure for assessing road safety for highway improvement schemes. Suffolk County Council, in their role as the highway authority, have not raised any issues with using the road safety audit procedure for assessing road safety on the project.

3.2 Influence of Traffic Volume

- 3.2.1 *In paragraph 2.8 of his evidence Mr Russell states that “research has been undertaken in recent years by the organisation “Living Streets” into the appropriateness of this average speed. This research identified that there were ranges of pedestrian speeds between 0.54m/s and 1.31m/s. These equate to speeds of 1.9kph (1.2mph) and 4.7kph (2.9mph) respectively.”*
- 3.2.2 *In Paragraph 2.9 of his evidence Mr Russell states that “given the range of possible pedestrian walking speeds, for the purposes of my evidence I have applied the average 1.2m/s walking speed advised in highway design guidance. For consistency I have applied this speed to all distances irrespective of surfacing or gradient.” In paragraphs 2.10 and 2.11 of his proof, Mr Russell uses this speed of walking to calculate some examples of the numbers of vehicles that might pass a pedestrian over a certain distance of road walking based on assumed traffic volumes.*
- 3.2.3 In response, it should be noted that the slowest in the range of walking speeds referred to in the “Living Streets” document was recorded for women over 80 years old. The project has used an average walking pace of 2.5mph, as set out in guidance on the Ramblers’ Association website, to carry out the assessments of the proposed routes which utilise the rural footpath network. This is slightly slower than the walking pace assumed by Mr Russell of 1.2m/s, which equates to 2.68mph. The walking rate of 2.5mph has been used to calculate approximate average times that it would take to walk the additional distances stated in the crossing specific evidence in Section 2 of my proof **NR32/1**. I would note that for instances where the diversions are solely within urban environments using tarmacked footways, Chartered Institution of Highways and Transportation (CIHT) guidance for Providing for Journeys on Foot (an extract from this

guidance is appended to my Proof of Evidence, **NR32/2 at Tab 15**) indicates a walking rate of 1.4m/s (approximately 3 miles/hour) for people without mobility difficulties

3.2.4 The census surveys (Core document **NR25**) classify type of foot traffic using the crossings as:

- Adults
- Accompanied Children
- Unaccompanied Children
- Elderly
- Impaired
- Wheelchair
- Pushchair/Pram
- Mobility Scooter
- Railway Personnel

3.2.5 Any person who could be identifiable as being over 60 would be classified as elderly. If they are not completely visible, they would be identifiable by speed of walking or if they are struggling to cross. If they are using a walking stick or other apparatus they would be counted as Impaired instead.

3.2.6 If the census data for a particular crossing showed a high percentage of elderly or impaired users it may be appropriate to calculate walking times using a slower walking pace, however, this has not been the case at any of the level crossings in Suffolk.

3.3 Separation Distance

3.3.1 *In paragraphs 2.17 and 2.18 of his evidence Mr Russell states “the separation distance is the distance between the edge of where vehicles are travelling and the path along which pedestrians are walking. There is no definitive guidance on what is an acceptable distance. Notwithstanding this, it is noted that a distance of 450-500mm between the edge of carriageway and street furniture is usually allowed for in highway design to avoid vehicle wing mirrors / other protrusions from hitting street furniture. Guidance in Manual for Streets recommends a minimum width of 0.75m to cater for a single pedestrian.*

3.3.2 In response, a minimum set-back of 450mm to street furniture is required to prevent damage by vehicles with a lateral overhang. It should be noted, however, that standard highway design does not require a set-back between the edge of footway and the carriageway. No restrictions are placed on where a pedestrian may walk.

3.3.3 The Manual for Streets makes reference to further guidance given on minimum footway widths in the DfT’s document “Inclusive Mobility”. I attach an extract from “Inclusive Mobility”, in Appendix A of this rebuttal which states that someone who does not use a walking aid can manage to walk along a passage way less than 700mm wide. There is no requirement for a separation distance to carriageways.

3.3.4 *In paragraph 2.19 of his evidence Mr Russell states that “Guidance on the safety of pedestrians working in the carriageway is provided in Chapter 8 of the Traffic Signs Manual (TSM). This requires, where there is an enforced speed limit of 50mph, a minimum distance of 1.2m between the space in which people are walking / working and the live carriageway for safety purposes. Where this is not achievable, TSM Chapter 8 recommends that speed limits should*

be lowered to 40mph or 30 mph and enforced. The absolute minimum separation is stated as 0.5m, which corresponds with the standard highway design approach I refer to above”.

3.3.5 Chapter 8 of the Traffic Signs Manual Traffic relates to Safety Measures and Signs for Road Works and Temporary Situations. It is not a relevant guidance document for the proposals.

3.3.6 *In paragraph 2.20 of his evidence Mr Russell asserts that “this means that where a verge or footway is less than 500mm, a vehicle on the carriageway would not be able to pass a pedestrian safely that was walking along the verge without the risk that the pedestrian would be hit by part of the vehicle”.*

3.3.7 I refer to my responses regarding separation distance at paragraphs 1.5.2 and 1.5.4 above. Based on this, the Road Safety Audits carried out, and the traffic data collected on the alternative routes, I conclude that the routes are suitable.

3.3.8 *In paragraph 2.21 of his evidence Mr Russell states that “highway design guidance recommends a minimum carriageway width of 4.8m where vehicles and pedestrians share the same surface and the vehicles are almost exclusively cars. However, this is based on the assumption that vehicle speeds are low (between 20mph and 30mph) and the volumes are low. Higher speeds would require wider carriageways to cater for two-way vehicular traffic and pedestrian movements. For example a bus and / or lorry requires 3m width (6m for two-way traffic) and a van / horsebox requires 2.4m (4.8m for two-way traffic)”.*

3.3.9 The proposed routes have been assessed in the context of existing road width, available verge width, traffic volumes and speeds, and with cognisance of any issues raised during the Stage 1 Road Safety Audits (RSAs). It is not appropriate to generalise about the appropriate minimum design standards for carriageway widths as each individual crossing proposal and highway environment is different. My proof of evidence, document N32/1 sets out the particular circumstances of each proposal and explains why the proposed routes are suitable.

4 Network Rail's Road Safety Audit

4.1 General

- 4.1.1 *In paragraph 3.3 of his evidence Mr Russell states "should the Inspector consider that the RSA1 is adequate for the purposes of the Order, I would urge the Inspector to recommend that all recommendations arising from the Stage 2 RSA should be binding on NR to implement. Furthermore that the Local Highway Authority should be the project sponsor for and commission the Stage 2 RSAs (at the cost of NR) rather than NR, as the Local Highway Authority will be the statutory organisation responsible for safety on those parts of diversions on public highway once implemented."*
- 4.1.2 In response, the process for carrying out RSAs is set out in HD19/15 (Volume 5, Section 2, Part 2 of the Design Manual for Roads and Bridges or DMRB) and this includes the process for developer-led and third party organisation-led schemes. I attach an extract from HD19/15 that sets out this process at Appendix B to this rebuttal proof.
- 4.1.3 There is no requirement under HD19/5 for the Overseeing Organisation (in this case Suffolk County Council as the Highway Authority) to commission the RSAs and therefore, the developer or third party can commission the RSAs. However, Suffolk County Council must be satisfied that the Road Safety Audit Team are competent to carry out the Audit. CV's for all members of the Audit Team were provided to Suffolk County Council with the RSA brief. No issues have been raised by Suffolk County Council on the competency of the Road Safety Audit team.
- 4.1.4 A Stage 2 RSA will be carried out at completion of detailed design. Under the process set out in HD19/15 any recommendations set out in the Stage 2 RSAs must be either incorporated into the design, included within the constructed scheme or dealt with by means of an Exception Report. An Exception Report is produced for any recommendations in the Road Safety Audit Report that Suffolk County Council proposes should not be implemented. It is appropriate for this process to be followed, and there is no need for the Inspector to make any recommendations from the Stage 2 RSA binding on Network Rail to implement, as it is important for Suffolk County Council to make the final decision on the implementation of the recommendations on their asset.

4.2 Completeness of Data

- 4.2.1 *At paragraph 3.8 of his Proof of Evidence John Russell states that "some non-trunk road RSAs do not comply fully with the HD 19/15 in this respect, which may be reasonable where, for example, the works to be audited are minor in nature. In this case, given the nature of the proposals and the road user groups most likely to be affected, I consider that traffic flows, NMU flows, collision data and road traffic speeds would have assisted the Stage 1 Audit and should therefore have been included within the Brief".*
- 4.2.2 In response, I addressed this matter at paragraph 1.15.8 of my proof and would also state that the proposals were assessed by the wider project team using the information listed (traffic flows, NMU flows, collision data and traffic speeds) as it became available. These details will be included within the Stage 2 RSA brief.
- 4.2.3 It should also be noted that Suffolk County Council have commissioned further Stage 1 RSAs on 4 sites (S23 Higham, S27 Barrells, S31 Mutton Hall and S69 Bacton). The Audit briefs issued

by Suffolk County Council also did not include any of the information listed in paragraph 3.8 of Mr Russell's Proof and the Audit Team from Capital Traffic Management did not raise this as an issue. Therefore, I conclude that the Highway Authority were satisfied that the Stage 1 RSAs could be completed on this basis.

- 4.2.4 *At paragraph 3.9 of his Proof of Evidence John Russell makes reference to Paragraph 2.30 of HD 19/15, which states that; "it is essential that Stage 1 Road Safety Audits consider any road safety issues which may have a bearing on land take, licence or easement before the draft Orders are published or planning consent is applied for". Mr Russell states that he does not consider that this requirement has been satisfied.*
- 4.2.5 The Stage 1 Road Safety Audits were carried out prior to design freeze and preparation of the draft orders for each Level Crossing proposal, in accordance with HD19/15. There are two proposals (S04 Island and S24 Higham Ground Frame) in the draft Order that have been subject to a further Stage 1 RSA following the order application. Paragraph 2.62 HD19/15 sets out a mandatory requirement for RSAs to be repeated if the scheme design materially changes, if there are many minor changes which could together impact on road user safety or if the previous finalised Road Safety Audit for the relevant stage is more than 5 years old. In the case of S04 Island and S24 Higham Ground Frame it was considered appropriate to carry out a further RSA in response to changes made following the second round of consultation even though the changes were minor, and would not therefore have triggered the requirement for reassessment under HD 19/15. However, it must be noted that these minor changes themselves were made prior to the order application and that the scheme design/proposals have not been modified or altered since the application was made.
- 4.2.6 The RSAs carried out for the two crossings (S04 and S24) since order deposition can be found appended to my proof NR32/2 at Tab 13. No problems were identified as part of the RSAs carried out for these sites.
- 4.2.7 Although a TWAO scheme is not expected to be worked up to detailed design before the Order is made, sufficient assessment and design work has been carried out to have confidence that the powers obtained under the order will enable the diversion routes to be implemented.

4.3 **Road Safety Audit Process**

- 4.3.1 *At paragraph 3.14 of his Proof of Evidence John Russell makes a recommendation to the Inspector that the RSA1 reports should not be relied on as they have been checked and approved by people who are members of the design team and therefore not an independent road safety audit. He refers to a copy of his correspondence setting out his concerns.*
- 4.3.2 I have addressed these concerns at paragraph 1.15.11 of my proof and have appended a response that was sent to Mr Russell and to the programme officer to my proof **NR32/2 at tab 16.**

This matter was raised at the Network Rail (Cambridgeshire Level Crossing Reduction) Order Public Inquiry by the Ramblers Association and a note responding to the issues raised was submitted to the inquiry. I am surprised that this information does not appear to have been passed to Mr Russell, given it directly responded to a matter he had raised.

5 Audit and Assessment of Proposed Closures

5.1 Site S23 — Higham

- 5.1.1 *At paragraph 4.24 of his Proof of Evidence John Russell states that “due to the lack of continuous verge on the section of the proposed diversion route on Higham Road (contrary to NR’s claim) pedestrians will need to walk part of this section of the diversion route within the carriageway including the Higham Road crossing of the railway line. This would be detrimental to pedestrian safety”.*
- 5.1.2 In response, the existing verges on Higham Road are currently used as linkages between the PROW network in the area. There have been no recorded accidents on Higham Road in the 5 year period 2011 to 2016 or since. A pedestrian is likely to be on the Higham Road section of the route (from the southern end of Footpath 01 Higham to the junction of Higham Road with the A14 slip road) for 7.5 minutes (based on a distance of 480m) during which time they could expect to be passed by 9 vehicles based on the traffic count data as set out at paragraph 2.14.41 of my proof **NR32/1**.
- 5.1.3 It is considered that there is verge available along the full route, although pedestrians may need to cross the road to make use of the opposite verge in certain locations. The frequency and speed of passing traffic allows plenty of opportunity to cross safely.
- 5.1.4 There is sufficient verge adjacent to the northbound carriageway across the railway bridge for use by a pedestrian. Some pedestrians may choose to walk in the road, but it is considered that there is good visibility on each approach to the bridge to allow pedestrians sufficient time to step into the verge.
- 5.1.5 This assessment of the suitability of the route is confirmed through the stage 1 RSA which did not identify any safety problems on this section of the route.
- 5.1.6 *At paragraph 4.23 of his Proof of Evidence John Russell states that “no mitigation is proposed to facilitate safe crossing of the A14 westbound on-slip / Higham Road at the location proposed by NR. Given that the crossing requires pedestrians to be aware of traffic travelling in four different directions at a busy highway interchange compared to the existing situation of traffic approaching from a single direction, I would expect the risk of pedestrian —vehicle collisions to increase to the detriment of pedestrian safety”.*
- 5.1.7 In response, I note that Mr Russell makes an assumption that pedestrians will cross the A14 slip road at the point where Footpath 01 Higham meets the slip road, only needing to cross traffic travelling in a single direction. It should be noted that, although the A14 central reserve vehicle restraint system is laid out to accommodate a pedestrian crossing point, there is no ongoing PROW route shown on the Definitive Map immediately to the north of the A14 boundary at this point. Therefore, in the current situation, where no prescribed public rights of way are provided to link to the north end of footpath 01 Higham, pedestrians are faced with two choices. The first choice is to use the existing verges on the slip road and Higham Road to walk to the overbridge on Coalpit Lane in order to cross the A14 and continue onwards on the local PROW network. Alternatively, they are faced with crossing the A14 at grade, which involves crossing 4 lanes of

high volumes of fast moving traffic to walk up the exit slip road to access the PROW network at the junction with Coalpit Lane.

- 5.1.8 It is considered that the proposed route on Higham Road and the provision of the new footway within the highway verge will provide pedestrians with improved access to the ongoing routes to the north of the A14. The Stage 1 RSA identified the potential for the risk of pedestrian trip type accidents at the junction of Coalpit Lane and Higham Road with the recommendation for the installation of a dropped kerb crossing point at this location to guide pedestrians to cross in the safest crossing location. This can be provided as part of the detailed design proposals subject to the approval of the Highway Authority.

5.2 **Sites S24 — Higham Ground Frame**

- 5.2.1 *At paragraph 4.34 of his Proof of Evidence John Russell states that “for people approaching from the south on Footpath 006 the diversion would take them to a point on Coalpit Lane just south of the railway line that is approximately 155m from the junction of the A14 westbound on-slip / Higham Road, A14 westbound off-slip and Coalpit Lane. To reach the same point following the proposed diversion, a pedestrian would be required to walk an additional 1.2km approximately: a total diversion route distance of approximately 1.355km as opposed to 0.155km following the direct route along Coalpit Lane”.*
- 5.2.2 *At paragraphs 4.35 and 4.36 of his Proof of Evidence John Russell suggests that pedestrians are more likely to walk on Coalpit Lane as it is a more direct route. He also notes that the stage 1 RSA identified Coalpit Lane as presenting a high risk of collision between pedestrians and motorists due to the lack of suitable verges.*
- 5.2.3 In response, Mr Russell is incorrect in his assumption that pedestrians will be able to access Coalpit Lane at a point 155m to the south of the slip road junction. The proposed field edge footpath route runs east to west and parallel to the railway before turning to the south (again in field edge) to run parallel to Coalpit Lane on the east side of a field edge ditch to a point opposite Footpath 005 Higham. At this point a proposed footpath bridge allows pedestrians to exit the field opposite Footpath 005 Higham, crossing directly over Coalpit Lane to continue onwards on Footpath 005 Higham.
- 5.2.4 It is considered that pedestrians are far less likely to turn back on themselves at this point to walk north along Coalpit Lane, as there will be an obvious route directly opposite them continuing on to Footpath 005 Higham. Whilst the proposed ongoing diversion route is not as direct as using Coalpit Lane, as it forms part of a leisure walk it is considered acceptable.
- 5.2.5 The other points raised by Mr Russell to this crossing are common with S23 Higham and I refer to my responses in section 5.1 regarding those points

5.3 **Site S27 – Barrells and S28 – Grove Farm**

- 5.3.1 *At paragraphs 4.59 and 4.60 of his Proof of Evidence John Russell implies that vehicles cross on the bridge on Barrells Road, driving on the grass verges to pass.*
- 5.3.2 In response, I would suggest that it is highly unlikely that two vehicles can cross on this structure. The existing verges are relatively high and this would restrict most cars/LGVs from

mounting them. The overrun noted by Mr Russell is more likely caused by the occasional large vehicle.

- 5.3.3 *At paragraph 4.63 of his Proof of Evidence John Russell states "I therefore consider that it is more likely that there will be two-way traffic over the bridge as a consequence of NR's proposed mitigation than were no mitigation provided. In either case (mitigated or not mitigated) there is a risk of collision between pedestrians (who have been diverted from the existing public rights of way network) and motorists".*
- 5.3.4 In response, the traffic count data recorded an average 2 way daily flow of traffic of 83 vehicles on Barrells Road, which would equate to one vehicle approximately every 12 minutes using the road. Although no traffic data was collected on the bridge to the east of Grove Farm, it is anticipated that traffic volumes and speeds will be similar due to the location and road alignment. Based on this data it is considered unlikely that the low number of users diverted from the level crossings would encounter two vehicles crossing on the bridges. I set out my assessment of forward visibility at Barrell's Road bridge at paragraph 2.16.38 of my proof **NR32/1**. The proposed measures to clear vegetation are intended to enable all pedestrians to step into a position of safety if they happen to cross the bridges at the same time as a vehicle. However, they are outline proposals and will be subject to detailed design, a Stage 2 RSA and agreement with the Highway Authority.
- 5.4 **Site S31 – Mutton Hall**
- 5.4.1 *At paragraph 4.77 of his Proof of Evidence John Russell raises the issue of the status of Footpath 020 Wetherden on the ground stating "I acknowledge that it is not the responsibility of NR to maintain free and unobstructed access to the PROW network. However I am surprised that NR is proposing a diversion route that is clearly impassable on the ground without making comment regarding the impassability of the diversion route that they are proposing or how it could be made passable. I consider it reasonable that NR should identify and deliver measures to ensure that this section of Footpath 020 Wetherden is passable and will remain passable in the future. This is because the closure of level crossing S31 will result in an intensification of use of this section of Footpath 020 Wetherden compared to its use in the absence of NRs proposal to close level crossing S31."*
- 5.4.2 In response, Network Rail's proposals link into the existing PROW network, which is the responsibility of Suffolk County Council to maintain. Suffolk County Council have not raised the current obstructed status of the definitive route as an issue. There is a permissive path providing access to Footpath 020 Wetherden at present and if this route became unavailable, Suffolk County Council would have a duty to take measures to remove obstructions from the definitive route.
- 5.4.3 *At paragraph 4.78 of his Proof of Evidence John Russell raises the issue of forward visibility. He states that "actual forward visibility from a pedestrian standing at the north-western corner of the railway bridge looking northwards is approximately 77m" and goes on to assess that "this level of forward visibility is commensurate with a design speed of between 50kph and 60kph (31mph — 37.5mph)" as set out in TD9/93. He states that "in the absence of vehicle speed data, my conclusion is that the visibility between pedestrians walking in the carriageway at Kates Lane railway bridge and vehicles approaching from the north is significantly less than the desirable minimum for highway safety. As a consequence there is an increased risk of pedestrian and vehicle collisions due to drivers not seeing pedestrians walking in the carriageway in sufficient time."*

- 5.4.4 In response, as set out at paragraph 2.19.17 of my proof **NR32/1**, the 85th percentile speed of vehicles recorded during the traffic count was 37.7mph (60.7kph) and the mean speed was 33.3mph (53.6kph). Table 3 of TD 9/93 requires a desirable minimum stopping sight distance of 90m or one step below desirable minimum of 70m for a design speed of 60kph. Therefore, this means that the visibility available (approximately 77m) is within the acceptable range as set out in TD 9/93.
- 5.5 **Site S69 - Bacton**
- 5.5.1 *At paragraph 4.95 of his Proof of Evidence John Russell highlights the risk of vehicle to pedestrian collisions on Broad Road identified by the road safety auditors:*
- “the standard of verge varies along Broad Road with a minimal verge in places and several sections where vegetation is overgrown restricting the available width for pedestrians. This is likely to result in pedestrians walking within the carriageway. Traffic speeds were observed to be high particularly on the straight section and towards the southern end of Broad Road there is a sharp bend which may restrict forward visibility of pedestrians in the carriageway. These factors could result in collisions between vehicles and pedestrians.*
- It is recommended that a suitable footway is provided to enable pedestrians to continue along Broad Road without walking within the carriageway.”*
- 5.5.2 In response, the road safety audit comments referred to by Mr Russell related to earlier options that included verge walking along a much longer stretch of Broad Road between Pound Hill and the point where Footpath 014 Bacton meets the B1113 to the south. These options (green and blue) can be seen on the Round 1 consultation plan that can be found appended to my proof **NR32/2 at Tab 2 on page 103**. It is considered that the RSA issues pertained to the southern section of the Broad Road route shown.
- 5.5.3 The project amended the proposals following the Stage 1 RSA and the combined proposals for S13 Fords Green and S69 Bacton have reduced this length to the northern section of Broad Road only. I explain this in my proof **NR32/1** at paragraphs 2.8.40, 2.8.41 and 2.8.42.
- 5.5.4 The proposed route along Broad Road, utilising existing highway verges, currently provides the linkage between Footpath 013 Bacton and Footpath 004 Cotton to the north east. The verges also currently provide pedestrian access between the properties along this section of Broad Road and the amenities and facilities in Bacton Village via Pound Hill. As the route is used in this context at the moment it is considered that the route is suitable for use by any diverted users of Bacton level crossing.
- 5.5.5 It is accepted that vegetation overgrowth along the property frontages is causing an obstruction to the highway by reducing the available verge width in some locations but this can be dealt with through initial cutback and regular maintenance.
- 5.5.6 *At paragraph 4.99 of his Proof of Evidence John Russell states that “the mitigation measures include the intention by NR to delineate a safe space for pedestrians crossing the bridge by use of a white line. However this is only a safe space if motorists comply with the intention of the white lines and take up a central position in the bridge. I consider it more likely that motorists will keep to the left in order to reduce the risk of colliding with on-coming cars. The use of a white line would not prevent motorists from doing this either by reason of imposing a legal sanction or physically. At paragraph 4.100 of his proof he goes on to state “I therefore consider that there remains an increased risk of pedestrian and vehicle collisions due to drivers not seeing pedestrians walking in the carriageway in sufficient time.”*

- 5.5.7 In response, it is considered that the proposed measures improve the current pedestrian provision through the underbridge, which will benefit many local residents in Bacton. However, it should be noted that the proposed works are outline proposals only and will be subject to detailed design, a Stage 2 RSA and agreement with the Highway Authority.

Appendices

A.	Extract from Inclusive Mobility	14
B.	Extract from HD19/15	15

A. Extract from Inclusive Mobility

given below are used then the great majority of disabled people will be able to move around buildings and the environment much more easily.

2.2 Mobility impaired and visually impaired people

Someone who does not use a walking aid can manage to walk along a passage way less than **700mm** wide, but just using a walking stick requires greater width than this; a minimum of **750mm**. A person who uses two sticks or crutches, or a walking frame needs a minimum of **900mm**, a blind person using a long cane or with an assistance dog needs **1100mm**. A visually impaired person who is being guided needs a width of **1200mm**. A wheelchair user and an ambulant person side-by-side need **1500mm** width.

Unobstructed height above a pedestrian way is also important, especially for visually impaired people. Generally, this should be a minimum of **2300mm** except on sub-surface station platforms where it should be **3000mm**. Where a sign is suspended over a footway or pedestrian area, for example in a railway station a minimum clearance of **2100mm** is acceptable (**2300mm** on cycleways). Where trees overhang a footway it is advisable to cut them back to at least **3000mm** clear height to allow room for regrowth.

Mobility impaired and visually impaired people

B. Extract from HD19/15

Developer-led and Third Party Organisation-led Schemes

2.54. The design and Road Safety Audit process for developer-led and third party organisation-led Highway Improvement Schemes can vary from the process for Overseeing Organisation promoted Highway Improvement Schemes. Most significantly, the scheme may be designed by an organisation working for the developer or third party organisation rather than an organisation working for the Overseeing Organisation. The developer-led scheme will be submitted for planning approval to the local planning authority and, where there are highway implications, the highway or road authority will be consulted. The following paragraphs provide additional requirements and guidance for all organisations involved in the Road Safety Audit of developer-led and third party organisation led Highway Improvement Schemes.

- 2.55. Where developer-led schemes or third party organisation-led schemes will result in Highway Improvements Schemes (as defined in paragraph 1.20) on the motorway and trunk road network, the contents of this Standard must be followed for all Stages of Road Safety Audit.
- 2.56. The Road Safety Audit Team approval and appointment must follow the process set out in paragraphs 2.70 to 2.75 of this Standard. As with highway or road authority promoted schemes, the Overseeing Organisation responsible for the affected motorway or trunk road is responsible for ensuring that the developer-led or third party scheme complies with the Road Safety Audit procedure as detailed in this Standard.
- 2.57. A Road Safety Audit Brief must be prepared and issued in accordance with paragraphs 2.87 and 2.88 of this Standard for all Road Safety Audit Stages (see Annex E).
- 2.58. The process of issuing and considering the draft Road Safety Audit Report identified in paragraphs 2.102 to 2.106 of this Standard must be followed for both developer-led and third party led schemes for all Road Safety Audit Stages. Once the Road Safety Audit Report has been finalised, the scheme Designer is responsible for producing a Road Safety Audit Response Report in accordance with paragraphs 3.1 and 3.2 of this Standard.
- 2.59. At all Road Safety Audit Stages, recommendations made in the Road Safety Audit Report that impact on the motorway or trunk road network must be either incorporated into the design, included within the constructed scheme or dealt with by means of Exception Report(s) to the satisfaction of the Overseeing Organisation Project Sponsor and Director. In the case of the Stage 1 Road Safety Audit Report (or combined Stage 1 & 2 Road Safety Audit Report), recommendations must be accommodated or Exceptions Reports produced to the satisfaction of the Overseeing Organisation Project Sponsor and Director prior to planning consent being given.
- 2.60. At all stages the Project Sponsor is responsible for the production of any Exception Reports. Typically the Project Sponsor will request that the developer or third party organisation produces the Exception Report(s) on their behalf. The Exception Report(s) must be produced to the satisfaction of the Overseeing Organisation's Project Sponsor and Director, for elements of the scheme on the motorway or trunk road network. The Exceptions Report(s) must be agreed with the Overseeing Organisation's Project Sponsor and Director prior to the scheme progressing to the next stage.
- 2.61. A Stage 1 Road Safety Audit (or combined Stage 1 & 2 Road Safety Audit where there has been no preliminary design) should be undertaken before planning consent is applied for as this demonstrates that the potential for road user safety issues has been addressed.