



Road Safety Audit (RSA)

Response Report

This template can be used by any design organisation completing a Road Safety Audit Response Report on behalf of Central Bedfordshire Council. This template is our equivalent of Appendix F found in Highways England document GG 119. Other template versions will be accepted, however please make sure that all information included in this template is included in any equivalent version used.

Project details

Scheme name:	Proposed Zebra Crossing – High Street, Sandy
RSA reference number:	8704
Audit stage:	Combined Stage 1/2 Road Safety Audit
Scheme address:	High Street, Sandy

Prepared by:

Name:	Vinny Vinovan
Job title:	Senior Engineer
Design organisation:	Ringway Jacobs
Signature:	V Vinovan
Date:	04/02/2022

Approved by:

Name:	Sanjay Patel
Job title:	RJ Central Beds Framework Manager/Senior Associate Director
Design organisation:	Jacobs
Signature:	<i>Sanjay Patel</i>
Date:	04/02/2022

Key personnel:

Overseeing organisation Project Sponsor:	Lisa Wright
RSA team members:	Matthew Elliston & Mark Hemingway



Road safety audit decision log

Problem number:	4.2
Location:	Eastbound and westbound approaches to the Zebra Crossing.
Summary:	Risk of failure to stop / overshoot type incidents leading to on-crossing collisions due to inadequate skid resistance associated with the existing carriageway pavement.
Description:	No detail is provided on the pavement construction and surfacing material. It is assumed that the road pavement on either side of the crossing is to remain as existing. The skid resistance of this previous 'non-event' section is unknown. There is a risk of failure to stop / overshoot type incidents, potentially leading to on-crossing collisions, due to inadequate skid resistance within the newly created braking / deceleration zone on the approaches to the crossing.
Auditor's recommendation:	It is recommended that the skid resistance levels are measured and, where appropriate, surfacing of suitable PSV is provided commensurate with the approach to a controlled (Zebra) crossing facility.

Design organisation response:	Agree – A high PSV surfacing (68 PSV) are added on either side of the proposed crossing to the current proposal. Refer to enclosed drawing CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree
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Agreed RSA action:	Surfacing to take place as per Revision A on enclosed drawing CBC-234912-000-001.
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Problem number:	4.3
Location:	North side of proposed Zebra crossing point.
Summary:	Risk that road users may fail to see the Belisha Beacon on the north side of the crossing due to its location at the rear of the footway, resulting in sudden braking / on-crossing collisions.
Description:	The proposed Belisha beacon on the north side of the crossing is detailed as being towards the rear of the northern footway. No detail

	is provided on the mounting arrangement for the beacon (i.e. cantilevered / bracketed). A beacon mounted on a pole at the rear of the footway may be inconspicuous to approaching road users given the offset from the edge of carriageway. This could result in sudden braking and/or on-crossing type collisions.
Auditor's recommendation:	It is recommended that the Belisha beacon on the north side of the crossing is suitably bracketed or cantilevered from the post at the rear of the footway to ensure forward visibility to the beacon is afforded for approaching road users.

Design organisation response:	Agree –The Street light layout includes suitably brackets and cantilevered from the posts to improve visibility. Refer to enclosed street light layout drawing number CBC-21-234912-1300-001.
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Overseeing organisation response:	Agree designers' response.
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Agreed RSA action:	Revised Lighting to be installed as per street light layout drawing number CBC-21-234912-1300-001.
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Problem number:	4.4
Location:	South side of proposed Zebra crossing point.
Summary:	Risk of road user loss of control collisions and/or pedestrian slip / fall type incidents associated with inadequate drainage on the southern side of the proposed crossing / crossing carpet.
Description:	Evidence of the formation of standing water / ponding was noted during the site visit on the southern side of the existing uncontrolled crossing point, indicating a potential drainage issue. Inadequate drainage provision can lead to the formation of standing water within the carriageway and/or pedestrian waiting. Areas of ponding within the carriageway increase the risk of loss of control / aquaplaning type collisions (potentially with secondary on-crossing type collisions). Additionally, should standing water form within the pedestrian waiting areas (i.e. within the tactile paving extents), crossing users may be



	susceptible to slip / fall type injury. The risk may be exacerbated during periods of heavy rain, inclement weather and/or icy conditions.
Auditor's recommendation:	It is recommended that the local drainage is reviewed by a drainage engineer and that, where appropriate, levels are adjusted and/or drainage detail revised accordingly to eliminate the issue of standing water within the carriageway or pedestrian waiting areas.

Design organisation response:	Agree – The levels at the considered section are proposed to be raised and the kerbs are proposed to be relayed at 6mm upstand. Refer to enclosed drawing CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree with the revised levels. The resurfacing with covers the effected gully.
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Agreed RSA action:	<p>Install with amended levels as per Drainage Drawing CBC-234912-000-001 – Revision A.</p> <p>This main road is part of subject gritting route will be gritted in line with Winter Service Plan.</p> <p>CBC will continue to monitor the area following the schemes implementation as part of the cyclic inspection regime.</p>
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Problem number:	4.7
Location:	Ivel Road junction with B1042 High Street.
Summary:	Proximity of crossing to junction increases the risk of on-crossing type collisions.
Description:	The proposed crossing is located immediately west of the junction with Ivel Road (west). Left turning road users emerging from Ivel Road (west) will be looking to their right in order to join the High Street and head west. There is a risk that as the left-turning road user emerges from the give way line, they may fail to see / react to crossing users either on the crossing carpet or waiting to cross. Siting a controlled crossing in such close proximity to a junction increases the risk of on-crossing type collisions.





Auditor's recommendation:	It is recommended that the Zebra crossing location is moved further west along B1042 High Street away from the junction (a corresponding extension of the existing raised table is likely to be required).
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Design organisation response:	<p>Disagree – According to LTN 2/95 (paragraph 2.1.1.1), a crossing can be 5m away from the uncontrolled junctions. The proposed crossing is around 5.2m away from the adjacent junction.</p> <p>This problem is also discussed with Matthew Elliston (Road Safety Engineer) and agreed to keep in the proposed location as per the proposal since the crossing is 5.2m away from the junction.</p> <p>Currently, there is an uncontrolled crossing and school patrol at the location. Also, the location is the desired line for the pedestrians and school children, therefore moving the crossing as recommended by the audit is not required.</p>
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Overseeing organisation response:	<p>CBC agree with the Designers response and note the further discussion with Matthew Elliston (Road Safety Engineer) from the Audit Team.</p> <p>The crossing is 5.2 metres away from the junction on existing raised feature that is not being moved. In addition to the crossing being on the raised feature it is also located within a 20mph speed limit. It is also noted that the traffic flow from Ivel Road is very low as there is No through traffic from this road.</p> <p>The proposed location is on the existing pedestrian desire line, where there is an existing uncontrolled crossing and school crossing patrol currently in operation.</p>
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Agreed RSA action:	Install Zebra in proposed location on the existing raised table.
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Problem number:	4.10
Location:	B1042 eastbound approach (west of proposed Zebra crossing).
Summary:	Risk of sudden braking post-opening due to absence of temporary signage.





Description:	Under the scheme proposals, temporary signage “New Zebra Crossing Ahead” (permitted variant of TSRGD Diagram No.7014) is provided on the B1042 westbound approach, St Swithun’s Way and Ivel Road (all east of the proposed crossing location. No such temporary signage is detailed on the B1042 High Street eastbound approach. Road users approaching from the west, particularly those familiar with the existing layout, may not expect to encounter a controlled crossing point at this location. The absence of advanced temporary signing could result in sudden braking, failure to stop and/or on-crossing type collisions.
Auditor’s recommendation:	It is recommended that temporary signing to TSRGD Diagram No.7014. (“New Zebra Crossing Ahead”) is also deployed on B1042 (High Street) an appropriate distance west of the crossing to inform eastbound road users of the facility

Design organisation response:	Agree – A “New Zebra Crossing Ahead” sign (TSRGD No 7014) is added at west of the proposed zebra crossing in front of property number 45 (on existing lamp post). Refer to enclosed drawing CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree designers’ response.
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Agreed RSA action:	Install additional sign as per drawing CBC-234912-000-001 – Revision C.
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Problem number:	4.11
Location:	Proposed location of Zebra crossing.
Summary:	Risk of on-crossing collisions associated with inadequate illumination of the crossing carpet.
Description:	Zebrite beacons are to be installed at the crossing location. Note 9 of Drawing No. CBC-234912-000-001 Rev.0 (General Arrangement) states: “Refer to Lighting Layout and other relevant street lighting design documents for more detail”. Whilst lighting column (ref L.C. 12) is noted within southern footway, west of the proposed crossing, no detail of the lighting layout or information pertaining to street lighting (e.g. contours) has been provided within the material for review. There





	is a risk that inadequate street lighting could result in on-crossing type collisions in low-light conditions, poor visibility and/or during the hours of darkness.
Auditor's recommendation:	It is recommended that a lighting assessment is undertaken, and/or the design is reviewed by a street lighting engineer to ensure the crossing carpet is adequately illuminated, and lighting levels comply with the County standards for such a crossing facility. The lighting design should be forwarded to the Audit Team for review.

Design organisation response:	Agree – The street lighting design for the scheme is now completed and refer to enclosed drawing CBC-21-234912-1300-001.
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Overseeing organisation response:	Street lighting design has been completed and is Agreed
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Agreed RSA action:	Revised Lighting to be installed as per street light layout drawing number CBC-21-234912-1300-001.
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Problem number:	4.12
Location:	Eastern end of scheme – location of Road Sign TS4.
Summary:	Vegetation within the southern verge (located in private land) is obscuring the existing sign / location of proposed TS4.
Description:	Vegetation is currently obscuring the existing School sign (to TSRGD Diagram No.545). Under the scheme proposals the existing 'Patrol' subplate (also obscured) is to be replaced with a 'School' subplate. Obscuration of the proposed sign may result in road users failing to see / process the information conveyed and so unexpectedly encounter the hazard described by the sign. This could lead to sudden braking and/or collision with pedestrians (school children).
Auditor's recommendation:	It is recommended that the vegetation is cut-back / removed to afford unobscured forward visibility to the proposed road sign (liaison with landowners / property owners may be required).



Design organisation response:	Agree – The client (Lisa Wright) to contact the property owner (property number 48) to cut back the overhanging vegetation and instruct the owner to regularly maintain the vegetation.
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Overseeing organisation response:	Request has been sent to instruct the removal of the vegetation that is obstructing the signage and for this to be maintained
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Agreed RSA action:	CBC to confirm the vegetation has been removed by the property owner and if not carry out the removal by the Highways Area Team.
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Problem number:	5.1 – ADDITIONAL COMMENTS RAISED DURING THE COMBINED STAGE 1&2 RSA
Location:	
Summary:	
Description:	
Auditor’s recommendation:	Some of the existing sign faces (notably to TSRGD Diagram No.545) are faded and in poor condition. These sign faces are to be retained under the scheme proposals (TS3 & TS4), with only subplates being revised/replaced. It is suggested that the main sign faces are replaced to enhance their conspicuity to approaching road users. In addition, it is noted that TS3 is to be located coincident with the narrowest part of the footway within this section. The existing sign has rotated about the post, possibly as a result of impact / buffeting effects from adjacent traffic flows and minimal lateral clearance to the carriageway edge. It is suggested that the location of this sign is reviewed and relocated to alleviate the risk of the signface being struck by passing LGV/PCV/deliveries.

Design organisation response:	Agree – The existing signs (at locations TS3 & TS4) are removed and renewed with new signs. The sign TS3 is relocated on other side of the road to improve lateral clearance and visibility. Refer to enclosed drawing CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree designers' response.
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Agreed RSA action:	Install revised signage as per drawing CBC-234912-000-001 – Revision C.
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Problem number:	5.2 – ADDITIONAL COMMENTS RAISED DURING THE COMBINED STAGE 1&2 RSA
Location:	
Summary:	
Description:	
Auditor's recommendation:	Flashing Belisha beacons associated with the proposed Zebra crossing may promote objection from local residents on the basis of light pollution. It is suggested that suitable cowls are attached to the beacons to shield the light dispersion from adjacent private dwellings.

Design organisation response:	Agree – The proposal includes shroud/cowls for the beacons. Refer to enclosed drawing numbers CBC-21-234912-1300-001 and CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree designers' response.
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Agreed RSA action:	Install revised beacons as per drawing numbers CBC-21-234912-1300-001 and CBC-234912-000-001 – Revision C.
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Problem number:	5.3 – ADDITIONAL COMMENTS RAISED DURING THE COMBINED STAGE 1&2 RSA
Location:	



Summary:	
Description:	
Auditor's recommendation:	It is suggested that arrow subplates, handed appropriately, are added to the temporary signage (to TSRGD Diagram No.7014) deployed on St Swithun's Way and Ivel Road (TS6 & TS5, respectively) to indicate the location (direction) of the new Zebra crossing.

Design organisation response:	Agree – The signs TS5 & TS6 are modified and include arrows. Refer to enclosed drawing CBC-234912-000-001 – Revision C.
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Overseeing organisation response:	Agree designers' response.
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Agreed RSA action:	Install revised signage as per drawing CBC-234912-000-001 – Revision C.
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Problem number:	5.4 – ADDITIONAL COMMENTS RAISED DURING THE COMBINED STAGE 1&2 RSA
Location:	
Summary:	
Description:	
Auditor's recommendation:	Carriageway depressions (settlement cracking) is noted around an existing road gully west of the proposed crossing point on the southern side of the B1042. There is also evidence that the gully may be blocked. It is suggested the gully is cleaned and the carriageway defects repaired as part of the scheme.

Design organisation response:	Agree – The cracking will be repaired as part of the scheme surfacing works (refer to enclosed drawing CBC-234912-000-001 – Revision C) and the gully cleaning works will be carried out as part of the scheme or part of the CBC maintenance work.
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Overseeing organisation response:	Agree designers' response.
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Agreed RSA action:	Resurface as per Drawing CBC-234912-000-001 – Revision C. CBC will continue to monitor the area following the schemes implementation as part of the cyclic inspection regime.
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Problem number:	5.5 – ADDITIONAL COMMENTS RAISED DURING THE COMBINED STAGE 1&2 RSA
Location:	
Summary:	
Description:	
Auditor's recommendation:	As noted in §3.1, no validated personal injury collision data / history was provided for review as part of the Stage 2 RSA submission. It is suggested that 5-year validated collision history records are interrogated to establish the nature of any PICs within the locality of the scheme and so inform the final detailed design (i.e. prior to the construction phase / scheme implementation). Validated collision data should be passed to the Audit Team for independent review.

Design organisation response:	Agree – Currently the CBC client officers are working on a system to get validation data and unfortunately, these data could not be obtained and provided as part of the safety audit response. However, I have enclosed crash map accident data for the location and a record of accidents in the near by area provided by Bedfordshire police.
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Overseeing organisation response:	Accident data provided.
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Agreed RSA action:	Accident data provided.
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Design organisation statement

On behalf of the design organisation, I certify that:	
<ul style="list-style-type: none">The RSA actions identified in response to the road safety problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.	
Name:	Sanjay Patel
Job title:	RJ Central Beds Framework Manager/Senior Associate Director
Design organisation:	Jacobs
Signature:	<i>Sanjay Patel</i>
Date:	04/02/2022

Overseeing organisation statement

On behalf of the overseeing organisation, I certify that:	
<ul style="list-style-type: none">The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; andThe agreed RSA actions will be progressed.	
Name:	Daryl Harvey
Job title:	Head of Highways
Overseeing organisation:	CBC
Signature:	
Date:	18/03/22

