

vectos.

Appendix E

YARNTON, CHERWELL

A44 Woodstock Road, Site Access

Stage 1 Road Safety Audit
Requested by Vectos

October 2020



Road Safety Engineering

Project: Yarnton, Cherwell
A44 Woodstock Road, Site Access

Client: Vectos

Project Sponsor: Oxfordshire County Council

Document: Stage 1 Road Safety Audit

Gateway TSP ref: WP/JS/2010016 RSA1 v1.0

Issue date: 23rd October 2020

Status: Final v1.0

Authorised by: WP

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1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit (RSA) of proposed site accesses and improvements to A44 Woodstock Road and Rutten Lane at Yarnton in Oxfordshire.

1.2 The highway works considered by this Audit comprise;

- site access via a new arm to the west of the existing A44/ Begbroke Hill signalised junction with a new controlled crossing on the southern arm;
- new bus stops between Begbroke Hill and Sandy Lane;
- new flared right turn lane into the site access;
- new Toucan crossing;
- reduced speed limit between Begbroke Hill and Sandy Lane;
- removal of hatching on northbound approach to Rutten Lane to create offside lane; and
- new access and footways on Rutten Lane.

1.3 A44 Woodstock Road is a two-way dual carriageway with clearway restrictions. The carriageway is lit and there are shared cycle facilities on both sides. The speed limit is 50mph. To the north of this link is a roundabout at Fernhill Road/ Springhill Road and to the south is Sandy Lane/ Rutten Lane roundabout. The existing signalised junction at Begbroke Hill is midway along Woodstock Road.

1.4 This Road Safety Audit was carried out by Wendy Palmer and Julian Smith and consisted of a desktop study and a site visit, which was carried out on Wednesday 7th October 2020, between the hours of 12.30 and 14.00 when the weather was fine and the road surface dry. Traffic flows were fair for the time of day, and a number of cyclists were observed to be using the existing cycle facilities.

1.5 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document GG119. The Audit Team is independent of the project design team and has not been involved in the design process in any other capacity. The audit considers only the potential road safety implications of the scheme and has not verified compliance of the design with any other criteria.

- 1.6 The Audit Team has not been made aware of any Departures from Standard. Whilst reference may be made to design standards, this report is not intended to provide a design check.
- 1.7 Recommendations are aimed at addressing the identified potential road safety problems. However, there may be other acceptable ways to overcome a problem, considering wider constraints and opportunities; the Auditors would be pleased to discuss such alternative solutions as appropriate. The recommendations contained herein do not absolve the Designer of his/her responsibilities.

2 ITEMS CONSIDERED BY THIS ROAD SAFETY AUDIT

Document ref.	Rev.	Originator	Title
162751-B01	-	Vectos	Proposed Site Access and Improvements to Woodstock Road (A44)
162751-B01-AT01	-	Vectos	Swept Path Analysis of Proposed Site Access Woodstock Road Junction (large refuse vehicle)
162751-B02	-	Vectos	Proposed Site Access at Rutten Lane General Arrangement and Swept Path Analysis (large refuse vehicle)

Additional/background information provided to the Audit Team

- 2031 Development flows AM and PM
- Collision Data; Jan 2015 to March 2020

3 PREVIOUS ROAD SAFETY AUDIT

3.1 The Audit Team is unaware of any previous road safety audits on these proposals.

4 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

General Matters

4.1 Problem

Excess speed through the junction and roundabout would lead to t-bone and nose to tail collisions

Location: proposed 30mph section

It is proposed to reduce the speed limit from 50 to 30mph between the signalised junction and the Sandy Lane roundabout. The speed limit terminals are located on the exits from the junction and roundabout which would conflict with the speed limits on the side road approaches. This would lead to excess speed through the junction and roundabout leading to t-bone and nose to tail collisions.

Additionally, the length of the 30mph section is approximately 400m which would be difficult to enforce.

Recommendation

Speed limits through the roundabout and signalised junction should be consistent with those on the side roads.

4.2 Problem

Obscured visibility may lead to pedestrians and cyclists being struck

Location: central reserve in vicinity of proposed Toucan

A mature tree and large ADS are located in the vicinity of the proposed Toucan crossing, which may obscure visibility to the signal heads on the central reserve. This may lead to vehicles failing to stop and pedestrians and cyclists being struck.

Recommendation

Clear visibility should be provided to the signal heads on the central reserve.

Local Alignment

4.3 Problem

New offside lane may lead to side swipe collisions

Location: northwest bound approach to Rutten Lane roundabout

It is proposed to convert the northwest bound approach to the Rutten Lane/ Sandy Lane roundabout from one lane to two by removing the hatched offside lane. The existing hatching tapers down from just north of the controlled crossing at Gravel Pits Lane, with an offside merge into one lane in advance of the roundabout. At the point where the hatching begins it appears that there may be a slight narrowing in the carriageway which could lead to side swipe collisions.

Recommendation

Carriageway width should be sufficient to accommodate two running lanes.

Additionally, swept path analysis should be carried out for the circulatory carriageway and northwestbound exit.

4.4 Problem

Proposed bus layby location may lead to side swipe or nose to tail collisions

Location: northbound approach to The Royal Sun PH

It is proposed to install a new bus stop layby on the western side of A44 between the signalised junction and Spring Hill Road roundabout. At this point there is an off-slip to the service road for The Royal Sun PH car park. Locating the bus stop just prior to the off slip could cause confusion and lead to side swipe or nose to tail collisions.

Recommendation

The bus layby should be located further south of the off-slip, keeping the off slip visible to approaching drivers.

Junctions

4.5 Problem

Insufficient carriageway width may lead to loss of control collisions and pedestrians/cyclist being struck

Location: southbound approach to signalised junction

It is proposed to install a separately signalled right turn lane on the southbound approach to the signals to access the new development, with splitter island and 'sheep pen' staggered crossing. The carriageway width is unknown at this point and the audit team is concerned that there may not be sufficient width to provide the signal heads with sufficient clearance from the edge of kerb, and a wide enough staggered 'sheep pen' for pedestrians and cyclists.

Recommendation

Carriageway widths should be sufficient to accommodate the required street furniture and lateral clearances.

The 'sheep pen' staggered island should provide width for pedestrians and cyclists to pass and wait.

Walking, Cycling and Horse Riding

4.6 Problem

Lane drop may lead to pedestrians being struck

Location: southbound approach to new Toucan crossing

It is proposed to install a new Toucan crossing on the southbound approach to the Sandy Lane roundabout, with a lane drop indicated through the crossing. As the signals change to red, drivers in the offside lane may cut in leading to pedestrians or cyclists being struck.

Recommendation

The Toucan crossing should be relocated further north, and the lane drop should only be provided on the exit from the crossing.

4.7 Problem

Lack of intervisibility may lead to pedestrian/ cyclist collisions

Location: cycleway at Rutten Lane

The 4m wide shared link just north of Rutten Lane is adjacent to a residential access, and turns a slight bend with little forward visibility for opposing pedestrians and cyclists. This may lead to cyclists losing control and pedestrians being struck.

Recommendation

Provide suitable visibility splays for users of the shared pedestrian/ cycle path.

4.8 Problem

Cyclists proximity to the edge of carriageway may lead to loss of control collisions

Location: northern end of shared facility; A44 western side

The existing layout at this point has a grass verge separating non-motorised users from the carriageway. Removal of the verge on this 50mph section may be uncomfortable for users and may lead to loss of control collisions caused by passing large vehicles.

Recommendation

The verge strip should be retained.

Traffic Signs, Carriageway Markings and Lighting

- 4.9 The Audit Team raises no concerns at this Stage 1 RSA in respect of road signs, carriageway markings and lighting.

5 AUDIT TEAM STATEMENT

5.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document GG119.

Audit Team Leader

Wendy Palmer
MCIHT, MSoRSA, HE Cert Comp
Road Safety Engineer

Sign 

Date: 12th October 2020

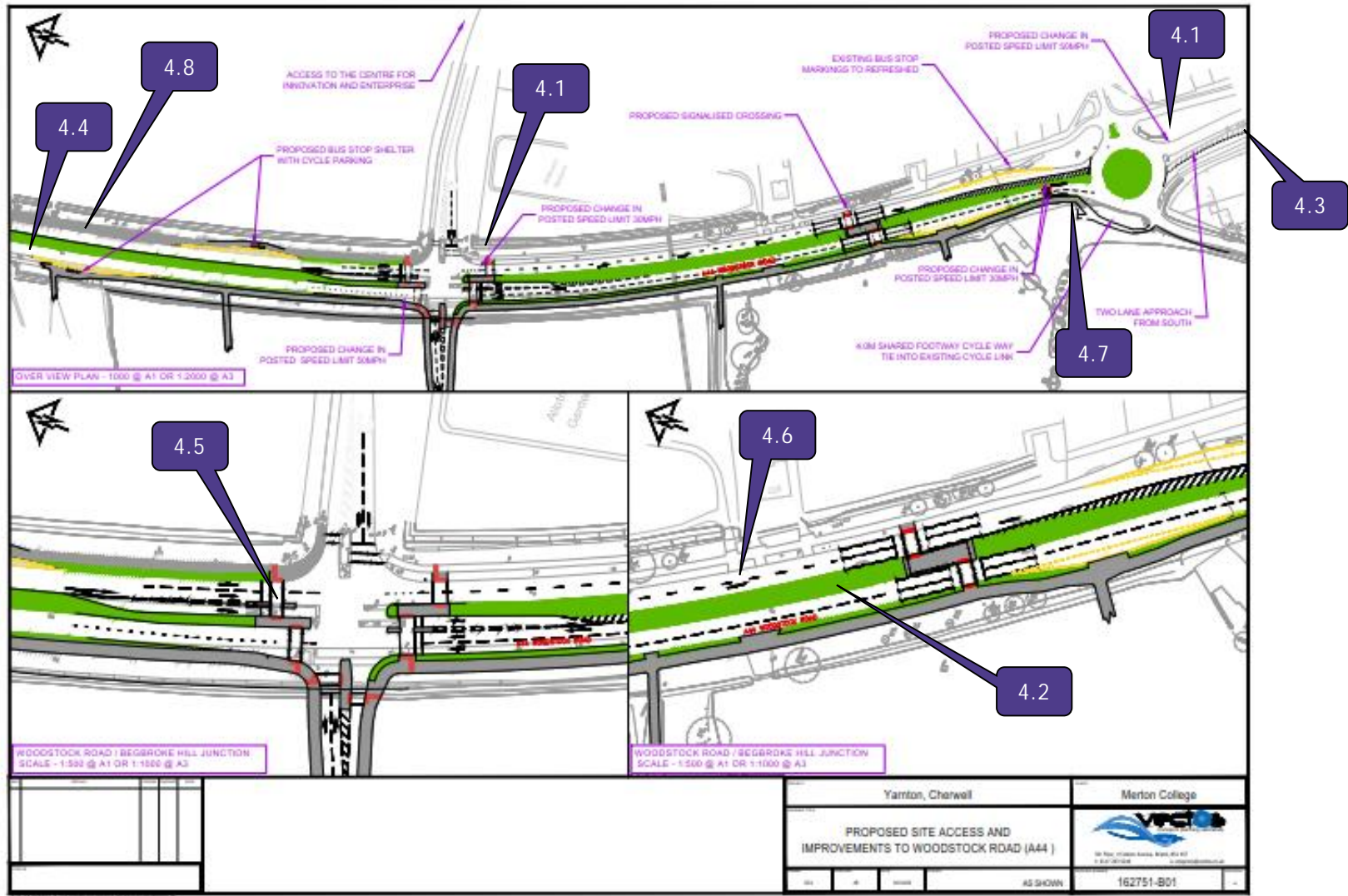
Audit Team Member(s)

Julian Smith
BEng MCIHT MSoRSA
Road Safety Engineer

Signed: 

Date: 12th October 2020

APPENDIX A Location Plan(s)





APPENDIX B

Designer's Response

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Item No.	Audit Team Recommendation	Designer's Response	Audit Team's Further Comments
4.1	Speed limits through the roundabout and signalised junction should be consistent with those on the side roads.	Noted. The design has been updated to show the extension of the 30 mph speed limits on the approaches to Rutten Lane.	Accepted.
4.2	Clear visibility should be provided to the signal heads on the central reserve.	Noted. At the detailed design stage any obstructions to the signal heads will be cleared. It should be noted however that the signal heads on the relocated crossing are designed in accordance with CD 123 of the DMRB. Drawing 162751-B01 shows clear visibility from the position of the driver to the primary signal. Based upon the design speed of 30mph SSD 70m (DMRB)	Accepted.
4.3	Carriageway width should be sufficient to accommodate two running lanes. Additionally, swept path analysis should be carried out for the circulatory carriageway and northwestbound exit.	This was a drafting error. The proposed design does not intend to remove the hatching on the northbound approach of the A44 to Rutten Lane. This has been corrected on the updated drawing.	Accepted.
4.4	The bus layby should be located further south of the off-slip, keeping the off slip visible to approaching drivers.	Noted, but we do not consider this to be necessary. The off-slip is located some 150 metres to the north of the proposed bus stop at a point where the A44 drops to a single lane. Given there is (i) good visibility to this off-slip (ii) good visibility to the bus	Accepted.

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		stop from the proposed traffic signal junction and (iii) taking into account the current road markings, the type of incidences that have been identified by the audit team are not considered likely to occur as a result of the bus stop location.	
4.5	Carriageway widths should be sufficient to accommodate the required street furniture and lateral clearances. The 'sheep pen' staggered island should provide width for pedestrians and cyclists to pass and wait.	The refuge at the staggered crossings has been increased in size to accommodate a design cycle 1.2 m wide by 2.8 m long. The 4 m staggered refuge width allows for guard railing to be installed and a clear waiting area of 3 m has been provided to accommodate cyclists. The revised design accords with DfT Traffic Signs Manual Chapter 6 staggered refuges, Sections - 11.17.1, 11.17.2 and 12.8.3.	Accepted.
4.6	The Toucan crossing should be relocated further north, and the lane drop should only be provided on the exit from the crossing.	The Toucan crossing has been relocated north. See the comments under para. 4.2 with respect to visibility of the signal heads.	Accepted. The 'merge' arrows should be removed on the approach to the crossing.
4.7	Provide suitable visibility splays for users of the shared pedestrian/ cycle path.	The proposed scheme will increase the width of the current pedestrian/cycle path, which will increase the space available for pedestrians and cyclists to use. This will go some way to addressing the comments made about intervisibility, as will the commitment to ensuring vegetation is kept clear within the highway. The updated design	Accepted.

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		incorporates 'SLOW' markings as a further treatment to encourage cyclists to travel at a suitable speed for this environment.	
4.8	The verge strip should be retained.	Noted. This was a drafting error. The hatching on the updated layout shows the existing verge retained.	Accepted.
4.9	n/a	n/a	

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Designer's Statement:

I confirm that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.



.....
Designer: James Bancroft

Date: 23/10/2020

Audit Team Statement:

We agree/~~do not agree~~ [delete as appropriate] with the Designer's Response and our comments are provided above.



.....
Audit Team Leader: Wendy Palmer

Date: 23/10/2020

Highway Authority/Project Sponsor/ Client Organisation Statement:

I accept/~~do not accept~~ the Designer's Response (delete as appropriate)

.....
[Name], on behalf of Highway Authority/Project Sponsor/Client Organisation
(delete as appropriate)

Date: