



Traffic Engineering – Road Safety Audit

Existing Road Stage

At 150 Lismore Road, Bangalow NSW

On Behalf of Andrew More



About TTM

For 30 years, we've been at the centre of the Australian development and infrastructure industry. Our unique combination of acoustics, data, traffic and waste services is fundamental to the success of any architectural or development project.

We have over 50 staff, with an unrivalled depth of experience. Our industry knowledge, technical expertise and commercial insight allow us to deliver an exceptional and reliable service.

T: (07) 5514 8000

F: (07) 5514 8144

E: ttmgc@ttmgroup.com.au



Acoustics



Data



Traffic



Waste

Revision Record

No.	Author	Reviewed/Approved	Description	Date
1.	R V Jones	B Baker	Road Safety Audit Report RevA	13/02/2021
2.	R V Jones	B Baker	Road safety Audit Report RevB	20/05/2021
3.				
4.				
5.				

Contents

1	Introduction	3
1.1	Background	3
1.2	Site Location	3
1.3	Audit Stage	4
1.4	Audit Team and Audit Process	4
1.5	Responding to the Audit Report	4
1.6	Site Inspection	4
1.7	Project Documents Used in the Audit	5
2	Existing Road Environment	6
2.1	Road Network	6
2.2	Crash Data	7
3	Road Safety Audit Findings	8
3.1	Audit Criteria	8
4	Formal Statement	9
4.1	Audit Team Statement	9
Appendix A	Road Safety Audit Findings	10
Appendix B	Indicative Development Site Layout	14
Appendix C	Crash Data (TfNSW)	15

Table Index

Table 2.1: Road Network	6
Table 3.1: Road Safety Audit – Priority Ratings	8

Figure Index

Figure 1-1: Road Safety Audit Location	3
Figure 2-1: Lismore Road / Dudgeons Lane intersection	6
Figure 2-2: Lismore Road / Dudgeons Lane resurfacing works	6
Figure 2-3: Crash Locations (TfNSW data Jan 2015 – Dec 2019)	7

1 Introduction

1.1 Background

TTM Consulting has been engaged by Andrew More to undertake a Road Safety Audit (RSA). TTM understands that Byron Shire Council / TfNSW has requested that an RSA be undertaken. The RSA is an existing stage audit for the existing intersection of Lismore Road / Dudgeons Lane, Bangalow. Vehicles will drive through This existing intersection to access the proposed industrial subdivision. This Road Safety Audit has reviewed the following locations.

- The existing intersection of Lismore Road / Dudgeons Lane, Bangalow.
- The proposed access intersection from Dudgeons Lane.

This report identifies possible safety issues, and these are noted by the audit team using a combination of onsite investigations and a review of background material. Recommendations for potential remedial treatments will be made in response to each safety issue that is raised as part of this audit process.

1.2 Site Location

The location of the design is highlighted in Figure 1-1.

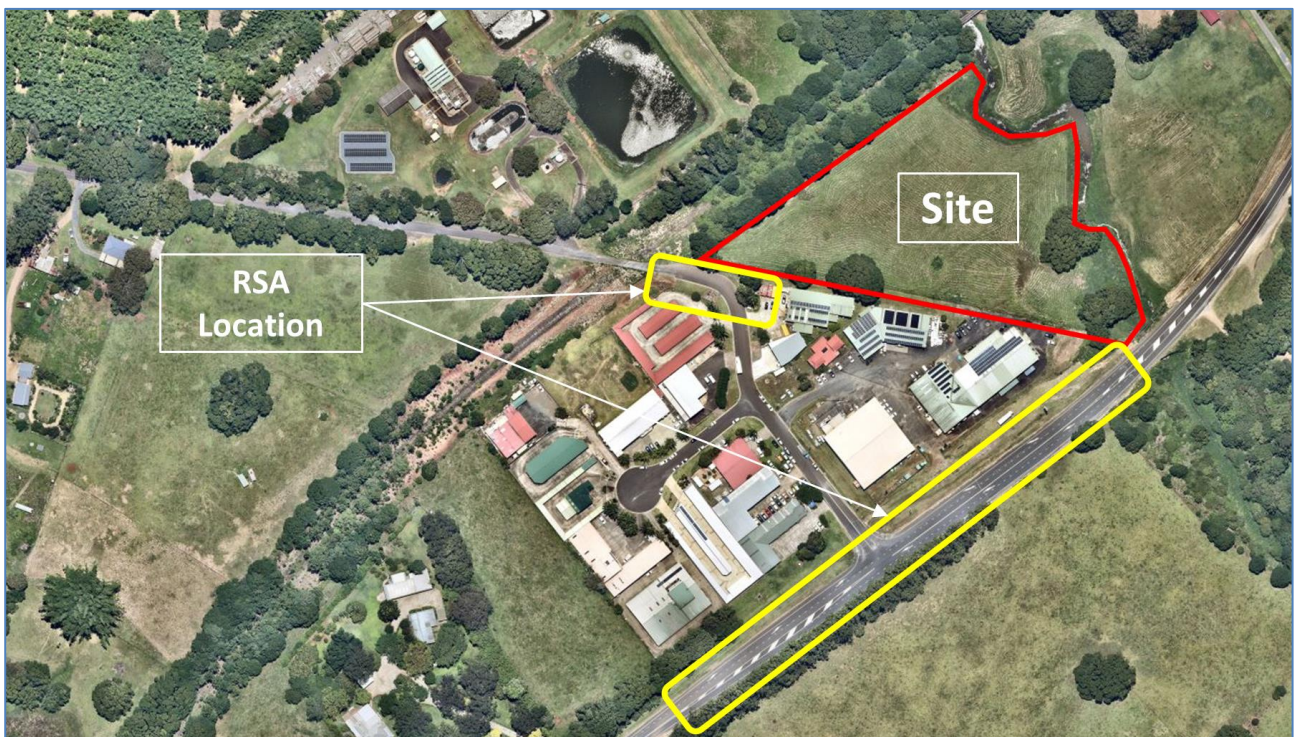


Figure 1-1: Road Safety Audit Location

1.3 Audit Stage

This report results from a existing stage Road Safety Audit, which has been undertaken in accordance with the requirements of Austroads Guide to Road Safety Part 6: Managing Road Safety Audits (2019) and Austroads Guide to Road Safety Part 6A: Implementing Road Safety Audits (2019). The audit report generally follows the format and topics outlined in the Austroads Checklist 6 for Existing Stage Audit.

This audit covers only the study area and has sought to identify potential safety hazards. The auditors would like to point out that no guarantee is made that every deficiency or hazard has been identified. If all recommendations in this report were to be followed, this would not guarantee that the study area is 'safe'; rather, adoption of the recommendations should improve the level of safety at this location.

1.4 Audit Team and Audit Process

The persons undertaking in this road safety audit are:

- Richard V Jones – Level 3 Road Safety Auditor (Lead Auditor); TTM Consulting Pty Ltd
- Brendan Baker – Level 1 Road Safety Auditor, TTM Consulting Pty Ltd
- Ben Williamson – Level 3 Road Safety Auditor, TTM Consulting Pty Ltd

1.5 Responding to the Audit Report

A project manager is under no obligation to accept all the audit recommendations. Also, it is not the role of the auditor to agree to or approve of the project manager's response to the audit. Rather, the audit provides the opportunity to highlight potential problems and have them formally considered by the project manager, in conjunction with all other project considerations.

This formal Road Safety Audit report should be responded to in writing. If any recommendations in this report are rejected by the Project Manager, then in each case reasons for this rejection should be included in the written response. Acceptance of a recommendation may require no further comment, but an explanation of how or when the action will be taken may be useful and should be provided where possible. To assist the project manager with this process, the table of findings and recommendations contains an area for a formal response.

1.6 Site Inspection

A site inspection of the audit area was conducted on Wednesday 5th May 2021. The inspection was conducted in the day (1pm to 2pm) to assess the conditions noted in Austroads. The weather condition during the inspection was dry but cloudy, and the road surface was wet. The inspection was carried out on foot and by car.

1.7 Project Documents Used in the Audit

The following project documents were used in conducting the audit:

- TPS Traffic Engineering Assessment (20 May 2021)

The Traffic Engineering Assessment states that the expected peak hour trips generated by the proposed industrial subdivision would be in the region of 25 to 30 trips. This would equate to only an additional trip every 2 minutes at the intersection during the peak hour.

1.8 Recommendations from Previous Audits

No previous Road Safety Audit have been carried out in relation to this section of the project.

2 Existing Road Environment

2.1 Road Network

The Road Safety Audit was carried out in the area that covers the following roads and their classification.

The classifications of these roads are as follows:

Table 2.1: Road Network

Road	Speed Limit	Lanes	Classification	Management
Lismore Road	80 km/h	2 (undivided 9m wide)	State Road	TfNSW
Dudgeons Lane	unrestricted	2 (undivided 9m wide)	Rural	BSC

The existing Lismore Road / Dudgeons Lane intersection is shown in Figure 2-1



Figure 2-1: Lismore Road / Dudgeons Lane intersection

It was noted during the site inspection that the intersection of Lismore Road / Dudgeons Lane has recently been resurfaced, with line marking still to be carried out.



Figure 2-2: Lismore Road / Dudgeons Lane resurfacing works

2.2 Crash Data

Crash data for the past 5 years were obtained from TfNSW Centre for Road Safety (Crash Map) website Figure 2-3, where the following intersections were obtained:

- Lismore Road / Dudgeons Lane
- Dudgeons Lanes / Site Access

There was one (non-casualty) crash at the Lismore road / Dudgeons Lanes intersection (2015 – therefore six years ago), where a driver turning right side swiped another vehicle. No crashes were recorded for the Dudgeons Lane / Site Access location.

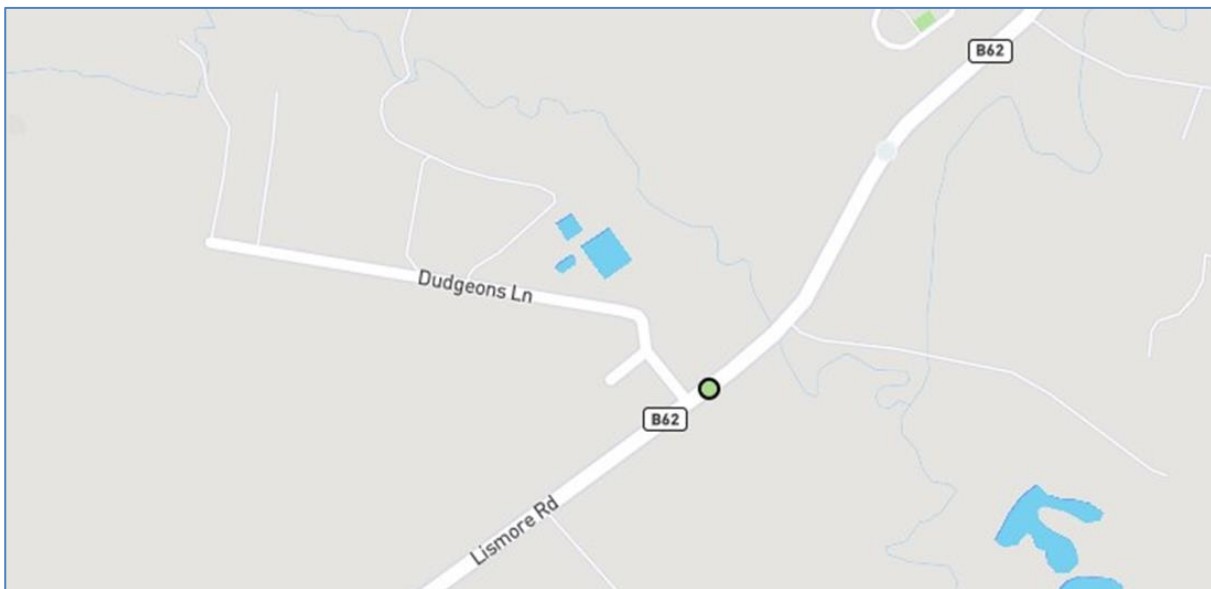


Figure 2-3: Crash Locations (TfNSW data Jan 2015 – Dec 2019)

3 Road Safety Audit Findings

3.1 Audit Criteria

A ranking system for each of the issues has been adopted using the following priority ratings in Table 3.1:

Table 3.1: Road Safety Audit – Priority Ratings

Priority	Risk Ranking	Suggested Treatment Approach
A	High	Highest priority for action from a safety view point
B	Medium	Action needs to be taken from safety view point
C	Low	Action is desirable from a safety view point
D	Comment	An observation which may improve overall performance or safety, Be of wider significance and possibly outside the scope of this RSA, but where action should be considered


It is noted that the priority ranking is based on the subjective assessment of the audit team.


4 Formal Statement


4.1 Audit Team Statement

We, the undersigned, declare that we have reviewed the material and data listed in this report and identified the safety and operational deficiencies outlined in the preceding sections.

It should be noted that while every effort has been made to identify potential safety hazards, no guarantee can be made that every deficiency has been identified. We recommend that points of concern be investigated, and necessary corrective actions are undertaken.

Richard V Jones – Level 3 Road Safety Auditor (Team Leader) 20/05/2021

Brendan Baker – Level 1 Road Safety Auditor..... 20/05/2021

Ben Williamson – Level 3 Road Safety Auditor..... 20/05/2021


Appendix A Road Safety Audit Findings


Reviewer: Richard V Jones (TTM Consulting)


Responder:

Date: 20/05/2021

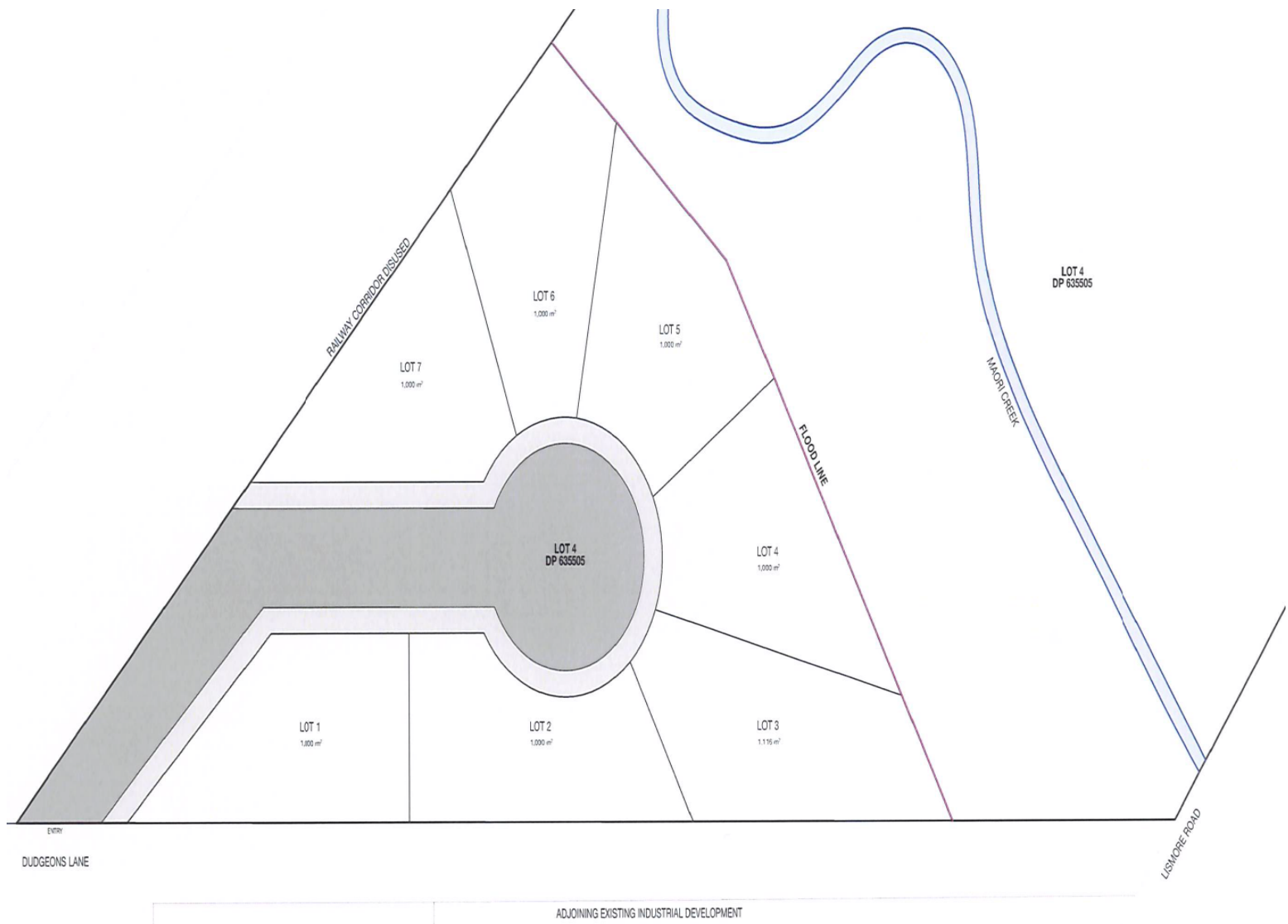
Date:

Item	Audit Findings/Recommendations	Rankings	Client		
			Accept Yes/No	Response	Status
1	<p>The sight distance to the south from Dudgeons Lane along Lismore Road is slightly obscured by a small crest about 180m south of the intersection. The SISD for a 90km/h design speed is 214m, the available distance viewed on site was 185m. The SISD for the 80km/h speed is 181m, which is achieved.</p> <p>There is an increased risk of a side swipe or t-bone crash at this location when vehicles traveling from the south are exceeding the posted 80kmh speed limit, possibly resulting in a serious injury or a fatality.</p>  <p>View from the crest towards the intersection with Dudgeons Lane. (above)</p>	Medium	Yes	There is nothing to address for the purpose of the Planning Proposal. Additional signage can be assessed and installed if required as part of a future development application for the subdivision of the land.	

	 <p>View from Dudgeons Lane southbound towards the crest (above)</p> <p><i>It is recommended that additional warning signs are provided on the approach to the crest warning drivers of this crest and a further warning sign of the side road (with distance marked e.g. 200m).</i></p>				
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--

Item	Audit Findings/Recommendations	Rankings	Client		
			Accept Yes/No	Response	Status
2	<p>Unrestricted parking opposite the proposed intersection, may lead to sideswipes on parked vehicles and could also reduce sight lines for vehicles exiting the proposed development.</p>  <p><i>It is recommended that yellow lines or no parking signs are provided to control parking at this location.</i></p>		Yes	Can be addressed at subdivision stage.	
Item	Audit Findings/Recommendations	Rankings	Client		

Appendix B Indicative Development Site Layout



Appendix C Crash Data (TfNSW)

Crashes Map - Byron

Select your LGA:

Byron

Reporting year

(All)

Degree of crash

(All)

Type of crash

All

Speed limit

(All)

RUM code group

(All)

Type of location group

(All)

Speeding involved in crash

(All)

Fatigue involved in crash

(All)

Road classification

(All)



Degree of crash

■ Fatal
 ■ Serious Injury
 ■ Moderate Injury
 ■ Minor/Other Injury
 ■ Non-casualty (towaway)

Reporting ..	Crash ID	Degree of crash	RUM - code	RUM - description	Type of location	Natural lighting	Longitude	Lattitude	No Killed	No Injured
2015	1080636	Non-casualty (t.	36	Right turn sideswipe	2-way undivided	Daylight	153.510353	-28.698562	-	-