

Barossa Valley Way – Hermann Thumm Drive, Lyndoch

Road **Safety** Audit



August 2017



Barossa Valley Way - Hermann Thumm Drive Road Safety Audit



Prepared By

Ian Bishop
Traffic Engineer

Date 24/03/17

T: 08 8202 4703
E: ibishop@raa.com.au

Approved By

Charles Mountain
Senior Manager Road Safety

Date

T: 08 8202 4568
E: CMountain@raa.com.au

Contents

1	Introduction	4
1.1	Introduction	4
1.2	About the Road Safety Audit	4
1.3	Road Safety Audit Team	5
1.4	Background	6
2	Site Investigation	7
3	Audit Findings	7
3.1	Hermann Thumm Drive	7
3.2	Barossa Valley Way	9
4	Summary & Recommendations	11
5	Concluding Statement	12

1 Introduction

1.1 Introduction

A fatal crash occurred at the intersection of Barossa Valley Way and Hermann Thumm Drive in January 2017. In response to the crash, RAA undertook a formal Road Safety audit having identified potential and elemental issues from pictures published in the press.

This report details the road safety audit and provides recommendations for the consideration of the Department for Planning, Transport and Infrastructure (DPTI) and Barossa Council.

1.2 About the Road Safety Audit

A road safety audit is a formal examination of an existing or proposed road or intersection, by an independent and qualified multidisciplinary team. The purpose of the audit is to identify risks and hazards that may result in a collision and provide broad recommendations that will reduce the probability and/or consequence of a collision occurring.

The audit is conducted in accordance with the *Austroads Guide to Road Safety, Part 6: Road Safety Audit*, which defines a multi-stage review process for the audit, and incorporates the following stages:

- Feasibility / Concept Design
- Preliminary Design
- Detailed Design
- Construction (Road Works)
- Pre-Opening to Traffic
- Existing Road Audits

The Road Safety Audit undertaken at the intersection of Barossa Valley Way and Hermann Thumm Drive is classed as an existing road audit.

1.3 Road Safety Audit Team

The road safety audit team comprised of the following members of staff:



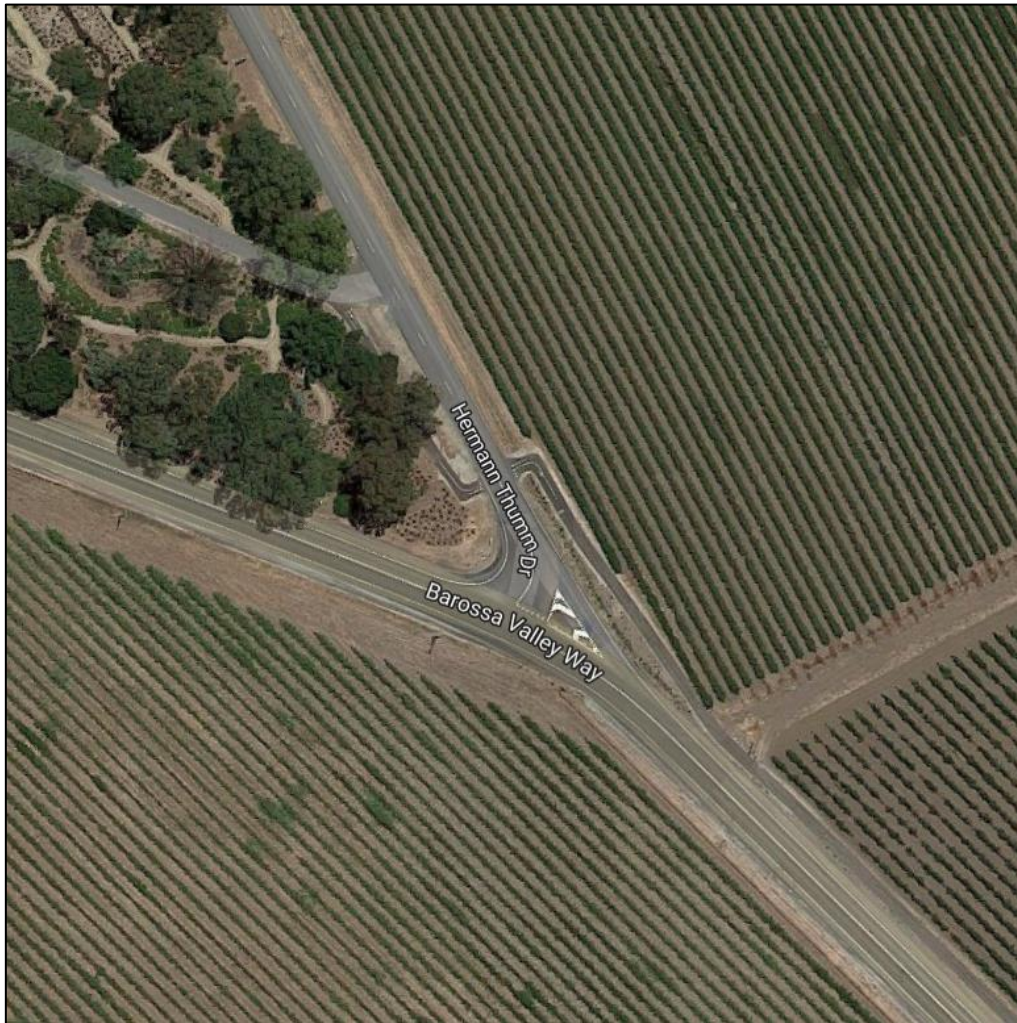
Ian Bishop is a Traffic Engineer at RAA. He is an accredited road safety auditor and is also certified as a Vericom 4000 operator. He has over 10 years' experience in Civil & Traffic Engineering including highways, intersection design and modelling, road safety mass action treatments and the design and implementation of local area traffic management.



Charles Mountain is the Senior Manager – Road Safety at RAA. He has extensive experience in transport, traffic and road safety. Prior to joining RAA he had over 25 years' experience in local government managing a wide variety of traffic, access and parking issues. He has qualifications in engineering, business management and is a qualified road safety auditor.

1.4 Background

The intersection of Barossa Valley Way and Hermann Thumm Drive (Figure 1) is located approximately 1.7km northwest of Lyndoch. The intersection is a legacy Y intersection that has been modified in an attempt to form a T intersection although traffic turning south from Hermann Thumm Drive may use the slip lane which connects to Barossa Valley Way at an acute angle.



Source: Google Maps

Figure 1 – Intersection of Barossa Valley Way and Hermann Thumm Drive

Prior to the fatal crash in January 2017, only one other crash has occurred in the previous five year period. In 2012 a rear end crash occurred at the intersection which resulted in only property damage to the vehicles involved.

2 Site Investigation

RAA undertook the Road Safety Audit on 8th February 2017 at 10:00. Weather at the time of the assessment was fine.

3 Audit Findings

3.1 Hermann Thumm Drive

- a) Lack of perception of the intersection – On approach to the intersection, the road appears to continue to the left. Give Way signs and line marking have not been provided for motorists turning left, to head south on Barossa Valley Way. While a T intersection warning sign has been provided, the Give Way sign for motorists turning right is barely visible on approach. As a result there is a high risk that motorists will fail to Give Way to traffic on Barossa Valley Way, particularly when turning left, significantly increasing the crash risk.

It is recommended that a Give Way sign is provided for left turn vehicles and the size of the signs increased to R2-1B.



Figure 2 – Hermann Thumm Drive approach to the intersection.



Figure 3 – Absence of Give Way signs and line marking for vehicles turning left.

- b) Confusing visual cues – the Chevron Alignment Markers (CAMs) on the east side of Hermann Thumm drive are visible to those approaching the intersection and may cause confusion when interpreted in conjunction with the visual bend to the right, approaching the Give Way line.

It is recommended that the sign placement is reviewed to assess the angle of view to the motorist. If necessary, apply louvres so that the signs are only visible to motorists travelling on Barossa Valley Way.



Figure 4 – CAMs appear to direct traffic right when vehicles are required to Give Way.

3.2 Barossa Valley Way

- a) Missing Chevron Alignment Markers Southbound – On approach to the curve, there appears to be Chevron Alignment Markers (CAMs) missing from the curve. This may reduce the conspicuity of the curve and warning that the curve is substandard. It is recommended that the position and number of CAMs is reviewed against the requirements in AS1742.2.



Figure 5 – Chevron alignment markers appear to be missing, particularly to the right, at the position of the 4WD vehicle.

- b) Conflicting signage – Approaching the intersection northbound, there is a conflicting message between the CAMs and the sight board. The predominant risk on approach is the substandard curve, so the CAMs should take precedent. The sight board is prescribed in AS 1742.2 for use opposite T intersections on high speed roads. It is therefore recommended that the sight board is removed.



Figure 6 – Conflicting messages created by the combination of CAMS and sight board. Note sign clutter, removing unnecessary signs where possible will enhance core warning signs.

- c) Pavement surface deterioration – on the northbound approach to the intersection, pavement is showing signs of deterioration. Broken pavement and loose material may reduce skid resistance. It is recommended that pavement remediation is undertaken to improve the surface.



Figure 7 – Pavement deterioration.

4 Summary & Recommendations

The road safety audit at the intersection of Barossa Valley Way and Hermann Thumm Drive has identified safety issues and sought to provide recommendations, a summary of which is provided in Table 1 below. Suggested priorities have also been included, where 1 is high priority and 3 is low priority. A further table is provided in Appendix A to enable the road authority to respond to the audit.

Table 1 – Summary of Recommendations

Item No.	Risk / Hazard Description	Recommendation	Priority
3.1 – Hermann Thumm Drive			
a	Lack of perception of intersection – Give Way Signs and line marking missing for left turn movements.	<ul style="list-style-type: none"> ▪ Install Give Way signs and lines. ▪ Increase Give Way sign size at the intersection. 	1
b	Confusing visual cues – CAMS visible to motorists approaching the intersection from Hermann Thumm Drive.	<ul style="list-style-type: none"> ▪ Check placement and rotation of CAMS ▪ Apply louvres if required. 	2
3.2 – Barossa Valley Way			
a	Missing CAMs in the southbound direction.	<ul style="list-style-type: none"> ▪ Check provision against requirements of AS1742.2. ▪ Install additional CAMs. 	2
b	Interpretation conflict between CAMS and sight board.	<ul style="list-style-type: none"> ▪ Remove sight board. 	2
c	Pavement deterioration	<ul style="list-style-type: none"> ▪ Undertake pavement rehabilitation. 	2

5 Concluding Statement

This road safety audit has been conducted by the audit team through an on-site inspection for the purposes of identifying infrastructure and/or environmental issues that may present safety risks for road users.

The identified issues have been noted in this report and the accompanying recommendations have been submitted for the consideration of the road authority.

_____/____/____
Ian Bishop
Traffic Engineer
Lead Auditor

_____/____/____
Charles Mountain
Senior Manager Road Safety
Auditor