

## **SPECIAL MEETING OF COUNCIL**

**Notice** is hereby given of a  
Special Meeting of Council to be held at  
Council Chamber, 15 Stead Street, Ballan on  
Monday 17 December 2018,  
commencing at 6:00 p.m.

### **Members:**

Cr. Paul Tatchell (Mayor)	Central Moorabool Ward
Cr. John Keogh (Deputy Mayor)	East Moorabool Ward
Cr. David Edwards	East Moorabool Ward
Cr. Jarrod Bingham	East Moorabool Ward
Cr. Tonia Dudzik	East Moorabool Ward
Cr. Tom Sullivan	West Moorabool Ward
Cr. Pat Toohey	Woodlands Ward

### **Officers:**

Mr. Derek Madden	Chief Executive Officer
Mr. Phil Jeffrey	General Manager Infrastructure
Mr. Satwinder Sandhu	General Manager Growth and Development
Mr. Danny Colgan	General Manager Social & Organisational Development

***Derek Madden***  
***Chief Executive Officer***

## AGENDA

<b>1.</b>	<b>OPENING OF MEETING.....</b>	<b>3</b>
<b>2.</b>	<b>ACKNOWLEDGEMENT TO COUNTRY .....</b>	<b>3</b>
<b>3.</b>	<b>PRESENT.....</b>	<b>3</b>
<b>4.</b>	<b>APOLOGIES .....</b>	<b>3</b>
<b>6.</b>	<b>PRESENTATIONS / DEPUTATIONS.....</b>	<b>6</b>
<b>7.</b>	<b>BUSINESS .....</b>	<b>7</b>
7.1	<i>Bacchus Marsh Local Area Traffic Management Plan; Stage 2.....</i>	<i>7</i>
<b>8.</b>	<b>FURTHER BUSINESS AS ADMITTED BY UNANIMOUS RESOLUTION OF COUNCIL .....</b>	<b>73</b>
<b>9.</b>	<b>CLOSED SESSION OF THE MEETING TO THE PUBLIC .....</b>	<b>74</b>
9.1	<i>Contract C21-2018/2019 - Ormond Rd, Springbank - Pavement Rehabilitation &amp; Widening.....</i>	<i>76</i>
9.2	<i>Contract C32-2018/2019 - Woolpack Rd, Bacchus Marsh - Pavement Rehabilitation &amp; Widening.....</i>	<i>76</i>
9.3	<i>Contract C24-2018/2019 - Main Street, Gordon - Streetscape Upgrade, Stage 1 .....</i>	<i>96</i>
9.4	<i>Contract C16-2018/2019 - Receipt and Processing Waste .....</i>	<i>76</i>
9.5	<i>Contract C17-2018/2019 - Receipt and Processing Recyclables .....</i>	<i>76</i>
9.6	<i>Contract C18-2018/2019 - Receipt and Processing Greenwaste .....</i>	<i>76</i>
9.7	<i>Contract C19-2018/2019 - Collection and Transportation of Kerbside Waste, Recycling and Greenwaste .....</i>	<i>76</i>
9.8	<i>Contract C20-2018/2019 - Management and Operation of Transfer Stations.....</i>	<i>76</i>
<b>10.</b>	<b>MEETING CLOSURE .....</b>	<b>77</b>

**1. OPENING OF MEETING**

**2. ACKNOWLEDGEMENT TO COUNTRY**

**We respectfully acknowledge the traditional owners of this land, their spirits and ancestors.**

**3. PRESENT**

**4. APOLOGIES**

## 5. DISCLOSURE OF CONFLICT OF INTEREST

Under the Local Government Act (1989), the classification of the type of interest giving rise to a conflict is; a direct interest; or an indirect interest (section 77A and 77B). The type of indirect interest specified under Section 78, 78A, 78B, 78C or 78D of the Local Government Act 1989 set out the requirements of a Councillor or member of a Special Committee to disclose any conflicts of interest that the Councillor or member of a Special Committee may have in a matter being or likely to be considered at a meeting of the Council or Committee.

Definitions of the class of the interest are:

- a direct interest
  - (section 77A, 77B)
- an indirect interest (see below)
  - indirect interest by close association (section 78)
  - indirect financial interest (section 78A)
  - indirect interest because of conflicting duty (section 78B)
  - indirect interest because of receipt of gift(s) (section 78C)
  - indirect interest through civil proceedings (section 78D)
  - indirect interest because of impact on residential amenity (section 78E)

### Time for Disclosure of Conflicts of Interest

In addition to the Council protocol relating to disclosure at the beginning of the meeting, section 79 of the Local Government Act 1989 (the Act) requires a Councillor to disclose the details, classification and the nature of the conflict of interest immediately at the beginning of the meeting and/or before consideration or discussion of the Item.

Section 79(6) of the Act states:

While the matter is being considered or any vote is taken in relation to the matter, the Councillor or member of a special committee must:

- (a) leave the room and notify the Mayor or the Chairperson of the special committee that he or she is doing so; and
- (b) remain outside the room and any gallery or other area in view of hearing of the room.

The Councillor is to be notified by the Mayor or Chairperson of the special committee that he or she may return to the room after consideration of the matter and all votes on the matter. There are important reasons for requiring this disclosure immediately before the relevant matter is considered.

- Firstly, members of the public might only be in attendance for part of a meeting and should be able to see that all matters are considered in an appropriately transparent manner.



- Secondly, if conflicts of interest are not disclosed immediately before an item there is a risk that a Councillor who arrives late to a meeting may fail to disclose their conflict of interest and be in breach of the Act.

**6. PRESENTATIONS / DEPUTATIONS**

The Council has made provision in the business of the Ordinary Meetings of the Council for the making of presentations or deputations to Council in relation to matters presented on the agenda for Council consideration.

Presentations or deputations are required to be conducted in accordance with the requirements contained within the **Presentation/Deputations Protocols and Procedural Guidelines**.

Persons wishing to make a presentation or deputation to Council on a matter included in the agenda shall inform Council prior to the meeting by contacting the Chief Executive Officer's office and registering their name and agenda item being spoken to.

At the meeting the Mayor will invite the persons wishing to make a presentation or delegation to address the Council on the agenda item.

The person making the presentation or deputation is to stand and address Council on the item. No debate on the item is permitted between the person making the presentation or delegation and the Council.

A maximum of three minutes per presentation or delegation will be allocated. An extension of time may be granted at the discretion of the Mayor.

Councillors, through the Mayor, may ask the person making the presentation or delegation for clarification of matters presented.

The Mayor may direct that a member of the gallery ceases speaking if the above procedure is not followed.

**List of Persons making Presentations/Deputations other than in relation to a planning item listed on the agenda:**

Item No	Description	Name	Position
-	-	-	-

**List of Persons making Presentations/Deputations to a planning item listed on the agenda:**

Individuals seeking to make a presentation to the Council on a planning item listed on the agenda for consideration at the meeting will be heard by the Council immediately preceding consideration of the Council Officer's report on the planning item.

Item No	Description	Name	Applicant/ Objector
-	-	-	-

## 7. BUSINESS

### 7.1 Bacchus Marsh Local Area Traffic Management Plan; Stage 2

#### Introduction

Author: John Miller  
General Manager: Phil Jeffrey

#### Background

The Bacchus Marsh Integrated Transport Strategy (BMITS) presents the vision for the transport network for Bacchus Marsh. One of the key recommendations of the strategy is to *'introduce the use of Local Area Traffic Management (LATM) studies and refer recommendations to Council's Capital Improvement Program'*.

The preparation of a Local Area Traffic Management (LATM) study within a further precinct of Bacchus Marsh aims to improve traffic management and road safety within the area. The Stage 2 LATM study, funded in the 2018/19 budget, seeks to view traffic management and associated treatments on a precinct basis rather than by individual streets.

At present, Council receives a high volume of traffic related customer enquiries from the community that, due to the lack of such a precinct plan, are considered in isolation. This creates an ad hoc approach to traffic issues and the implementation of traffic management solutions.

The development of the further LATM study will assist in providing a consistent approach to traffic related issues in the local area and also supports key infrastructure objectives from the 2017-21 Council Plan.

The study area for Stage 2 is bound by Main and Fiskin Streets and the Werribee River and Korkuperrimul Creek, as further detailed below.

#### The Study Objectives

The preparation of a LATM study considers both the technical and community aspects and is intended to meet a number of key objectives, with consideration to the likely impact on the surrounding network:

- Provide an integrated approach to managing traffic in local areas across all transport modes, through:
  - Investigating and addressing connectivity and safety along local travel routes;
  - Consideration and integration of local land uses and their specific needs;
  - Use of appropriate and effective traffic calming measures;
  - Making efficient and appropriate use of local on-street car parking provisions;
  - Ensuring that future population growth and transport demand are understood and accounted for; and
  - Defining the function of local streets as appropriate to their surrounding land uses, pedestrian, cycling and traffic volumes, natural features, and connectivity to surrounding areas.

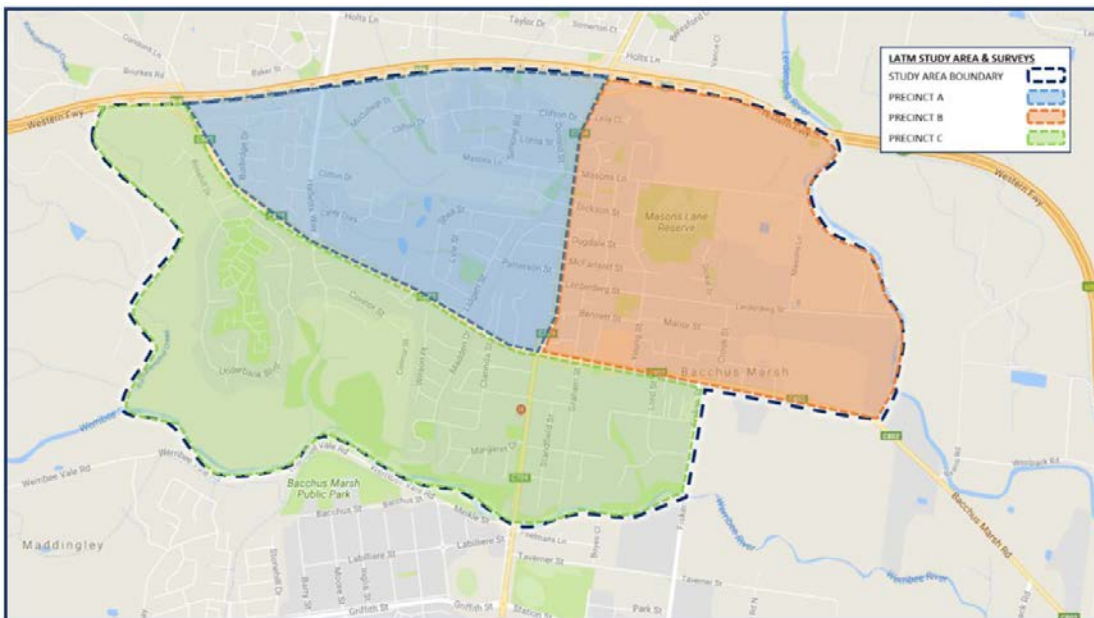
- Reduce traffic volumes and speeds in local streets;
- Increase amenity and improve safety and access for residents, especially pedestrians and cyclists;
- Provide guidance for planners and engineers associated with the design, development and management of residential precincts;
- Ensure that transport issues are addressed in a manner that balances amenity, safety and mobility for all transport modes;
- Improve the environment, economic and social outcomes of the area;
- Identifying future priority projects to be considered for inclusion in Council’s Capital Improvement Program; and
- Ensure the local community are engaged and consulted in the identification of issues and the development of treatments to mitigate these issues.

The LATM Area

The township has been divided into three key areas for the purpose of undertaking LATM studies over the coming years.

LATM Area 1	Darley
LATM Area 2	Bacchus Marsh
LATM Area 3	Maddingley

Area 2 (Bacchus Marsh) will form the focus area for the first LATM studies to be developed and individual precincts have been recommended in order to further stage the development of the studies. Precincts A and B (blue and orange areas below) formed part of the Stage 1 project and Precinct C (green area below) will form part of the current LATM study.



The LATM Process

The following key activities will be undertaken as part of the development of the LATM study:

<b>1. Existing Conditions Assessment</b>	
Initial works: Review of background information pertaining to the study area and other documents that may have an impact on key decisions Preparation of a Project Management Plan and Community Engagement Plan On-site inspections of the study areas to gain a thorough understanding of the existing conditions	Complete
Community consultation letter sent to all households within the study area (1,358) and online survey (electronic and print distribution and use of interactive mapping) relating to traffic issues in the local area. Total responses received 210.	Complete
Collection and analysis of traffic data	Complete
Preparation of an Existing Conditions Assessment Report	Complete
<b>2. Development of Draft LATM Plan</b>	
Preparation of draft concept plans and proposed LATM treatments	Complete
Preparation of draft LATM plan	Complete
Community consultation letter and web survey (electronic and print distribution, and interactive map)	January 2019
Community engagement workshops (2) at Bacchus Marsh	January 2019
<b>3. Finalisation of LATM Plan</b>	
Collation of results of community engagement	February 2019
Final LATM Study Report and Plan	February 2019
Presentation to Council for endorsement	March 2019
Final community consultation letter	March 2019

A copy of the Existing Conditions Assessment (ECA) Report and draft LATM Plan is attached for information.

The ECA Report provides an overview of the project and study methodology, and summarises the key themes arising from the site analysis and feedback during phase 1 of the community consultation. This report has been utilised to develop the draft plan and proposed traffic management treatments.

**Proposal**

The next stage of the project involves presenting the draft plan to the community and providing the opportunity for feedback on the proposed treatments. This phase of consultation will include a second letter to residents within the study area, online engagement including further use of interactive mapping, as well as two face to face community sessions proposed to be held in Bacchus Marsh during January.

It is recommended that Councillors provide in principle endorsement of the attached draft LATM plan for the purpose of phase 2 of the community consultation.

**Policy Implications**

The Council Plan 2017 – 2021 provides as follows:

**Strategic Objective 1:** Providing Good Governance and Leadership  
**Context 1A:** Our Assets and Infrastructure

The proposal is consistent with the Council Plan 2017 – 2021.

**Financial Implications**

The development of a LATM Plan for a precinct of Bacchus Marsh is a funded project, included in the 2017-21 Council Plan. As such there are no financial implications associated with the recommendation within this report.

**Risk & Occupational Health & Safety Issues**

Risk Identifier	Detail of Risk	Risk Rating	Control/s
Financial	Inadequate financial management resulting in insufficient funds to complete the project	Low	Adequate project scope and budget, procurement process, ongoing supervision of project financials
Community expectation	Community expectation of key project outcomes outside of the project scope	Low	Well scoped community consultation process and documentation, clear project objectives documented

## Community Engagement Strategy

Level of Engagement	Stakeholder	Activities	Location	Date	Outcome
Consult & Involve	Residents within the study area	Direct mail out, online and face to face engagement	Various	January 2019	Residents encouraged and supported to provide feedback on key issues and draft documents
Consult & Involve	Wider community	Online and face to face engagement	Various	January 2019	As above
Inform	Residents within the study area	Direct mail out, online engagement	Various	March 2019	Residents advised of the final outcome
Inform	Wider community	Online engagement	Various	March 2019	As above

## Communications and Consultation Strategy

Community participation is an important component of the study to assist in understanding the local issues. Significant community consultation will be undertaken throughout the project, including the following:

- Direct mail outs to the study area
- Community questionnaire (hard copy and electronic)
- Interactive online mapping tool
- Online engagement (Council website and social media pages)
- Community workshops (2) in Bacchus Marsh
- Reports to Council (2)

## Victorian Charter of Human Rights and Responsibilities Act 2006

In developing this report to Council, the officer considered whether the subject matter raised any human rights issues. In particular, whether the scope of any human right established by the Victorian Charter of Human Rights and Responsibilities is in any way limited, restricted or interfered with by the recommendations contained in the report. It is considered that the subject matter does not raise any human rights issues.

## Officer's Declaration of Conflict of Interests

Under section 80C of the Local Government Act 1989 (as amended), officers providing advice to Council must disclose any interests, including the type of interest.

*General Manager – Phil Jeffrey*

In providing this advice to Council as the General Manager, I have no interests to disclose in this report.

*Author – John Miller*

In providing this advice to Council as the Author, I have no interests to disclose in this report.

## Conclusion

To address the traffic impacts of growth in the Bacchus Marsh township, and help inform planning and management of road space usage, a LATM Study has been completed and draft plan developed for precinct C within the town.

It is recommended that Councillors endorse the draft documentation for the purpose of the next phase of community consultation.

## Recommendation:

### That Council:


1. **Endorses, in principle, the draft Bacchus Marsh Local Area Traffic Management Plan (Stage 2) for the purpose of public consultation.**
2. **Requests that a further report be presented to Council on completion of that consultation.**

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## Report Authorisation

### Authorised by:

**Name:** Phil Jeffrey  
**Title:** General Manager Infrastructure  
**Date:** Tuesday, 11 December 2018





# Attachment - Item 7.1a

# Draft LATM Plan

## Bacchus Marsh Local Area Traffic Management Study – Stage 2

V171899



Prepared for  
Moorabool Shire Council

27 November 2018

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### Document Information

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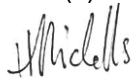


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Effective Date 27/11/2018

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Effective Date 27/11/2018

Approved By:



Matthew Ballard

Principal

Date Approved 22/11/2018

### Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
D03	22/11/18	Draft Report	Joshua Hiscock Hugo Nicholls	Matthew Ballard

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## Table of Contents

1	Introduction	5
1.1	Study Area	5
1.2	Existing LATM Measures	5
2	Scope of Works	7
2.1	Overview	7
2.2	Complementary Projects	7
3	Overview of Potential LATM Treatments	8
3.1	Centre Blister (or similar)	8
3.2	Modified T-Intersection	8
3.3	Speed Hump	9
3.4	Raised Treatment	10
3.5	Left-In / Left-Out	11
3.6	Sharrows	11
3.7	Full Road Closure	12
3.8	Surface Treatment	12
3.9	Other Treatment Options	13
4	Proposed LATM Measures and Recommendations	14
4.1	Key Issues	14
4.2	Objectives	14
4.3	Proposed LATM Treatments	14
4.4	Proposed Treatments	16

## Appendices

- Appendix A** Existing Conditions  
**Appendix B** Draft LATM Measures

## Figures

Figure 1-1	Bacchus Marsh LATM Study Area Map	5
Figure 1-2	Existing Traffic Management Measures	6
Figure 3-1	Centre Blister	8
Figure 3-2	Modified T Intersection	9
Figure 3-3	Speed Hump	9
Figure 3-4	Raised Intersection	10
Figure 3-5	Left-In / Left-Out	11
Figure 3-6	Sharrows	11
Figure 3-7	Full Road Closure	12

Figure 3-8	Threshold Treatment	13
Figure 4-1	Proposed Draft LATM Plan	15
Figure 4-2	Graham Street facing south from Main Street	17
Figure 4-3	Halletts Way facing south	18
Figure 4-4	Fisken Street facing north toward Main Street	18
Figure 4-5	Existing Threshold Treatment on Dugdale Street in Bacchus Marsh	19

DRAFT

# 1 Introduction

Cardno has been engaged by Moorabool Shire Council to undertake a Local Area Traffic Management (LATM) study for Stage 2 of the Bacchus Marsh township. It is understood that the study is being undertaken in response to increased population growth and subsequent traffic congestion, and is in direct response to recommendations within the Bacchus Marsh Integrated Transport Strategy.

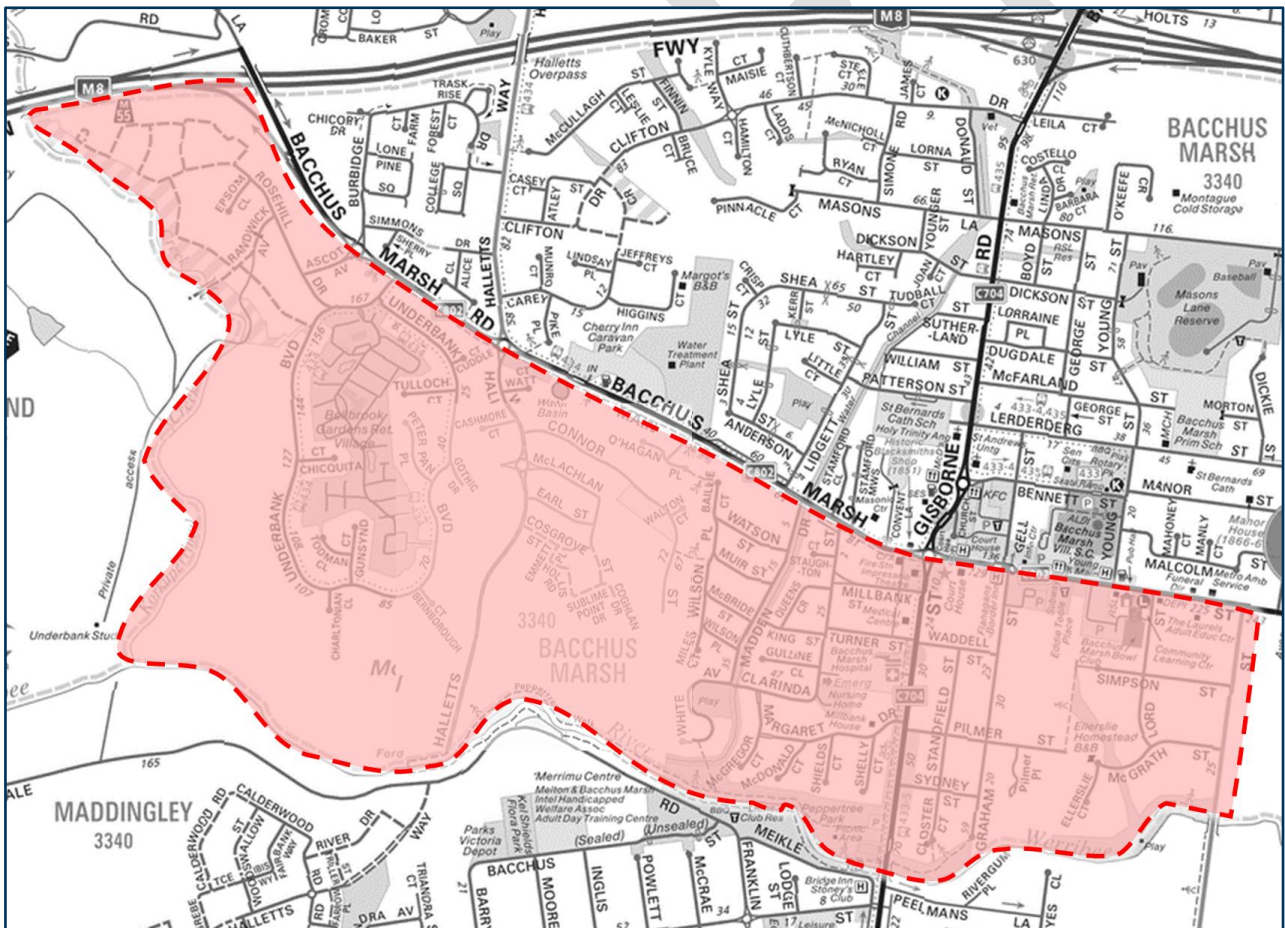
The following report provides a draft LATM plan to address the concerns raised during the first stage of the LATM plan, also conducted by Cardno, which consisted of an existing conditions assessment of the study area (V171899REP006F01). This assessment collated relevant background information, traffic data, community consultation surveys and an on-site investigation, and should be read in conjunction with the Draft LATM plan outlined within this report.

In the course of preparing the Draft LATM plan, Cardno has consulted with Moorabool Shire Council to discuss the measures proposed.

## 1.1 Study Area

The study area is bound by Main Street / Bacchus Marsh Road to the north, the Werribee River to the south, Korkuperrimul Creek to the west, and Fischen Street to the east. The extent of the study area is generally shown in Figure 1-1.

Figure 1-1 Bacchus Marsh LATM Study Area Map

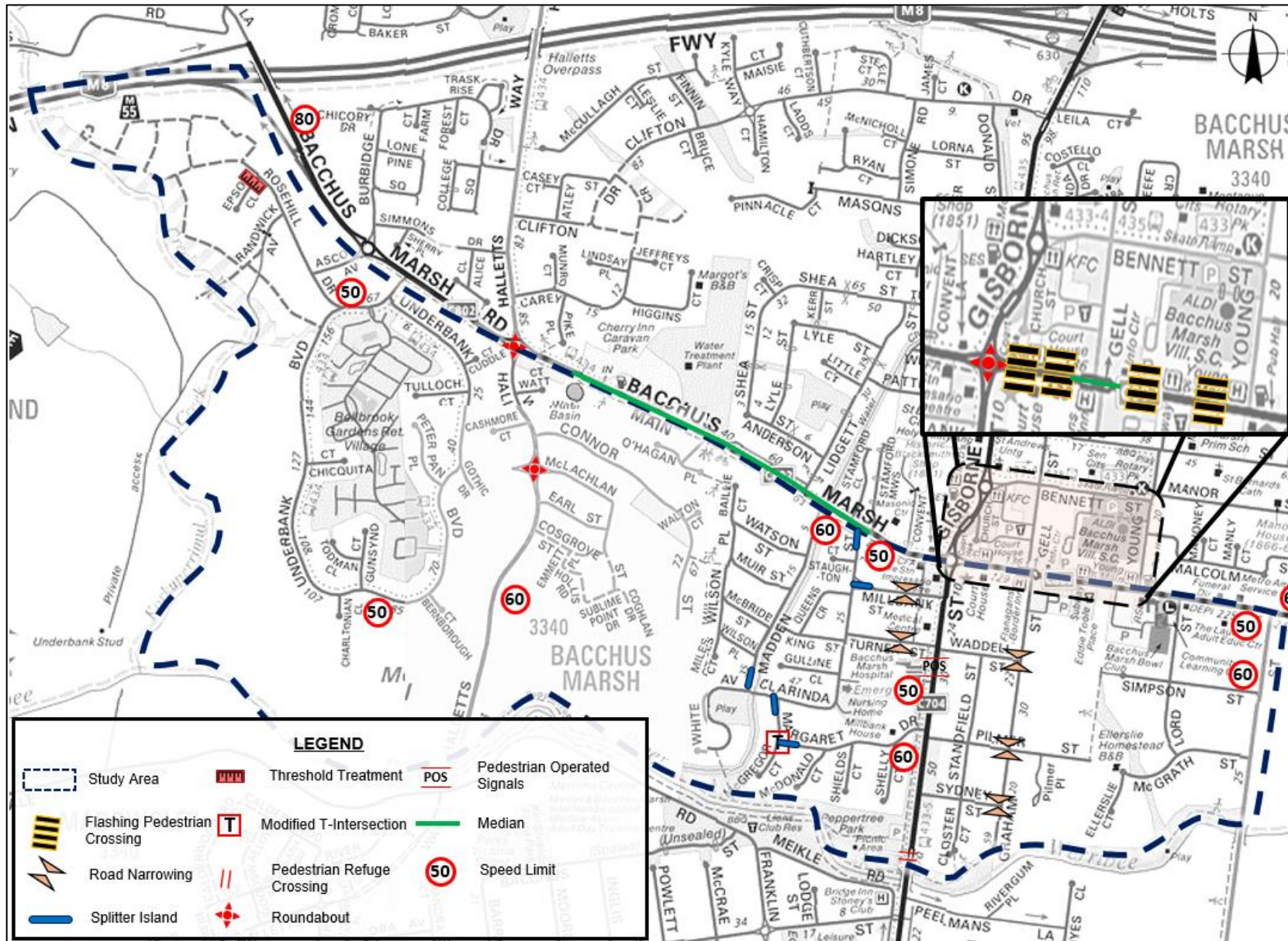


## 1.2 Existing LATM Measures

The existing traffic management devices previously implemented in the local area by Council are shown in Figure 1-2.



Figure 1-2 Existing Traffic Management Measures



## 2 Scope of Works

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### 2.1 Overview

The Local Area Traffic Management (LATM) measures proposed in the following sections are informed by Cardno's understanding of the study area as set out within the Existing Conditions Assessment (V171899REP006F01) and the principles of the Austroads Guide to Local Area Traffic Management.

It is imperative to understand that the scope of an LATM plan cannot directly impose measures on arterial roads managed by VicRoads, as any works associated with maintenance or improvements to these roads cannot be undertaken by Council. However, an LATM plan does consider these roads at all stages and endeavours to accommodate the needs of the local community wherever possible.

Within the study area there are two VicRoads operated roads as follows:

- > Grant Street / Gisborne Road, operating in a north-south direction through the centre of the study area; and
- > Bacchus Marsh Road / Main Street, generally operating in an east-northwest direction on the northern border of the study area.

Similarly, although car parking issues can be highlighted by a LATM study, directly fixing parking supply issues is not the main intent of an LATM study. However, parking access can be addressed and where possible, car parking provision improvements can sometimes be made indirectly.

### 2.2 Complementary Projects

Cardno understands that a number of studies and projects are currently being undertaken by VicRoads, the Victorian Planning Authority and Moorabool Shire Council that aim to address major concerns within the study area relating to traffic congestion and road safety. Significantly, it is understood that these studies and associated projects aim to address congestion along Main Street and Grant Street, as well as address concerns regarding heavy vehicle movements through Bacchus Marsh Town Centre.

Accordingly, it is noted here that this LATM study does not address community concerns relating to heavy vehicle movements and traffic congestion along Main Street and Grant Street. Rather, this LATM study complements the larger studies being undertaken, whilst addressing concerns from the community regarding congestion and road safety within the local street network.



### 3 Overview of Potential LATM Treatments

In order to guide decisions concerning implementation of certain measures, it is important to have thorough understanding of the potential treatments available to address issues such as those raised by the local Bacchus Marsh community, throughout the study area.

The following sections comprise descriptions of several LATM treatments that are considered appropriate for the urban context of Bacchus Marsh, and provides the respective advantages and disadvantages of each treatment.

It is noted that these treatments maybe considered individually or in combination with one other, and that on long stretches of road it is best to implement a number of treatments to maintain the same profile throughout.

#### 3.1 Centre Blister (or similar)

A centre blister is a concrete island positioned at the centreline (median) of a street with a wide oval plan shape that narrows the lanes, diverts the angle of traffic flow into and out of the device, and can be used to provide pedestrians with a refuge. Figure 3-1 provides an example of a centre blister LATM treatment.

Figure 3-1 Centre Blister



#### Advantages of Centre Blisters

- > Reduce vehicle speeds;
- > Prevent drivers from overtaking others;
- > Provide a refuge for pedestrians and cyclists crossing the street;
- > Flexibility in design allows buses and commercial traffic to be accommodated; and
- > Visually enhance the street through landscaping and reduce the 'gun barrel' effect on long straight roads.

#### Disadvantages of Centre Blisters

- > Prohibit or limit access and movement from driveways;
- > Reduce on-street parking adjacent to the islands;
- > Can create a squeeze point for cyclists if not appropriately catered for in the design;
- > May require kerb and footpath realignment in narrow streets;
- > Ineffective at reducing through traffic; and
- > Relatively expensive to install and maintain.

#### 3.2 Modified T-Intersection

Modified T-Intersections are used to affect a change in the vehicle travel path, thereby slowing traffic via deflection of traffic movements and/or reassignment of priority. Figure 3-2 shows an example of a modified T-intersection treatment.

Figure 3-2 Modified T Intersection



#### Advantages of Modified T-Intersections

- > Control traffic movements and improve traffic flow;
- > Reduce vehicle speeds at the treatment point;
- > Facilitate safe pedestrian crossing;
- > Remove/reduce the number of vehicle conflict points;
- > Can lower vehicle speeds along the length of the street when installed in a series; and
- > Can accommodate buses and heavy vehicles.

#### Disadvantages of Modified T-Intersections

- > Relatively expensive devices;
- > Can create squeeze points for cyclists if not appropriately catered for in the design;
- > Reduce the availability of on-street parking opportunities.

### 3.3 Speed Hump

A speed hump is a speed reduction device in the form of a raised curved profile extending across the roadway. Speed humps are typically 70mm to 120mm high, with a total length of three to four metres. Figure 3-3 presents an example of a typical speed hump treatment.

Figure 3-3 Speed Hump



### Advantages of speed humps

- > Significantly reduce vehicle speeds in the vicinity of the device;
- > Can significantly reduce road crashes;
- > Relatively inexpensive to install and maintain;
- > Discourage through traffic;
- > Regulate speeds over the entire length of a street when used in a series; and
- > Can be designed to limit discomfort to cyclists.

### Disadvantages of speed humps

- > Traffic noise may increase just before and after the device due to braking, acceleration and the vertical displacement of vehicles;
- > Can divert traffic to nearby streets without LATM measures;
- > Can be uncomfortable for vehicle passengers and cyclists; and
- > May adversely affect access for buses, commercial vehicles and emergency vehicles.

## 3.4 Raised Treatment

A raised treatment is a raised section of roadway approximately 90mm to 100mm high, ramped up from the normal level of the street with a platform extending over more than a standard car length (at least 6 m but typically more). Raised sections of roadway can be located at mid-block locations, or they can cover an intersection between two roadways. Figure 3-4 presents an example of a raised intersection treatment.

Figure 3-4 Raised Intersection



### Advantages of a Raised Treatment

- > Significantly reduce vehicle speeds in the vicinity of the device;
- > May discourage through traffic;
- > Can be used as a form of threshold treatment;
- > Can highlight the presence of an intersection; and
- > Can regulate speeds over the entire length of the street when used in a series.

### Disadvantages of a Raised Intersection

- > Traffic noise may increase just before and after the device due to braking, acceleration and the vertical displacement of vehicles;
- > Can divert traffic to nearby streets without LATM measures;
- > Can be uncomfortable for vehicle passengers and cyclists; and
- > May adversely affect access for buses, commercial vehicles and emergency vehicles.
- > Require care that ramp markings are not confused with intersection control markings when located at an intersection.

### 3.5 Left-In / Left-Out

A left-in/left-out treatment is typically represented by a raised triangular island at an intersection, which aims to obstruct right turns and through movements to and from the intersection, street or driveway. Figure 3-5 shows an example of a Left-In / Left-Out treatment.

Figure 3-5 Left-In / Left-Out



#### Advantages of Left In / Left Out

- > Reduce the traffic volume;
- > Reduce the number of conflict points;
- > Provide a refuge for pedestrians and cyclists;
- > Reinforce the need for drivers crossing the dividing line to give way; and
- > May enhance the appearance of the street when landscaped.

#### Disadvantages of Left In / Left Out

- > Restrict access to local streets and / or driveways;
- > May create a squeeze point for cyclists;
- > Divert traffic to other local streets without the same restriction; and
- > Drivers may not comply if an appropriately designed median island is not incorporated.

### 3.6 Sharrows

Sharrows are pavement markings consisting of a bicycle symbol and two chevron markings. The intention of sharrows is to position cyclists into the centre of the traffic lane and to encourage them to mix with through traffic, to avoid conflicting with cars and other vehicles at narrow sections of road or squeeze points, such as small roundabouts. Figure 3-6 shows an example of a sharrow treatment at a roundabout.

Figure 3-6 Sharrows





### Advantages of Sharrows

- > Encourage cyclists to ride in a safe road position;
- > Inexpensive to implement and maintain; and
- > Reinforce awareness of cyclists in local street networks.

### Disadvantages of Sharrows

- > No regulations or road rules supporting the use of sharrows in Victoria;
- > May be confusing for drivers and cyclists; and
- > Limited research into the effectiveness of sharrows.

## 3.7 Full Road Closure

A full road closure is the closure of a street to two-way traffic. It serves as a means of eliminating through traffic from a street or simplifying an intersection layout to reduce the possible number of conflict points and the consequent crash risk. Figure 3-7 shows an example of a full road closure.

Figure 3-7 Full Road Closure



### Advantages of a Full Road Closure

- > Reduce traffic volumes;
- > Remove / reduce the number of conflict points when used at an intersection;
- > Increase pedestrian safety;
- > Remove non-local traffic;
- > Can accommodate pedestrian, cyclist and/or bus access; and
- > Provide landscaping opportunities.

### Disadvantages of a Full Road Closure

- > May restrict or reduce accessibility for local residents;
- > May divert traffic to other adjacent local streets without closures, resulting in increased traffic volumes in those streets;
- > May restrict access by emergency services;
- > May increase travel times for some road users; and
- > May reduce the availability of on-street parking.

## 3.8 Surface Treatment

Surface treatments or threshold treatments (when used at an intersection or a driveway) are coloured and/or textured road surface treatments that contrast with the adjacent roadway. Surface treatments aim to alert drivers that they are entering a driving environment that is different from the one they have just left by the use of visual and/or tactile clues. Figure 3-8 presents an example of a threshold treatment.

Figure 3-8 Threshold Treatment



#### **Advantages of Threshold Treatments**

- > Reduce approach speeds to an intersection;
- > Highlight the presence of an intersection;
- > Provide separation between residential areas from areas of non-residential use; and
- > Alert the driver that they are entering into a local area.

#### **Disadvantages of Threshold Treatments**

- > Increase maintenance requirements;
- > Texturing may create stability problems for cyclists, motorcyclists and pedestrians;
- > Turning traffic from and into the low speed local area may be more likely to affect traffic flow on the connecting arterial roads;
- > Vehicle priority may be unclear to pedestrians in some circumstances; and
- > Effectiveness is limited unless complemented by other devices in the street.

### **3.9 Other Treatment Options**

Other treatment options available that have been utilised are more or less self-explanatory, all of the below treatments improve safety of both pedestrians, cyclists and drivers and/or define priority on sections of the roadway. These treatments are:

- > Speed Limit Reductions; and
- > Linemarking changes to improve clarity of communication.

## 4 Proposed LATM Measures and Recommendations

---

A number of proposed LATM measures have been recommended by Cardno to address the main traffic issues identified from the traffic data and community consultation data, in consultation with Council officers.

### 4.1 Key Issues

Issues have been identified through consultation via a community questionnaire survey, site observation and analysis of the existing conditions via tube count surveys and existing traffic data provided by Council. The following 'key issues' were identified to guide the formulation of appropriate recommendations:

- > Heavy vehicles, congestion and vehicle safety on Grant Street;
- > Traffic congestion on Main Street;
- > Traffic speeds and irresponsible driving on Bacchus Marsh Road / Main Street, Halletts Way, Graham Street, Fiskens Street, Margaret Drive and Madden Drive;
- > Traffic safety in local streets and at intersections along Bacchus Marsh Road / Main Street, Grant Street and Halletts Way;
- > Pedestrian facilities on Underbank Boulevard, Closter Court and Bacchus Marsh Road Main Street in the vicinity of the Bacchus Marsh Activity Centre;
- > Cycling facilities along Main Street and throughout the wider Bacchus Marsh Area; and
- > On Street parking on Clarinda Street, Turner Street, Main Street and Waddell Street.

### 4.2 Objectives

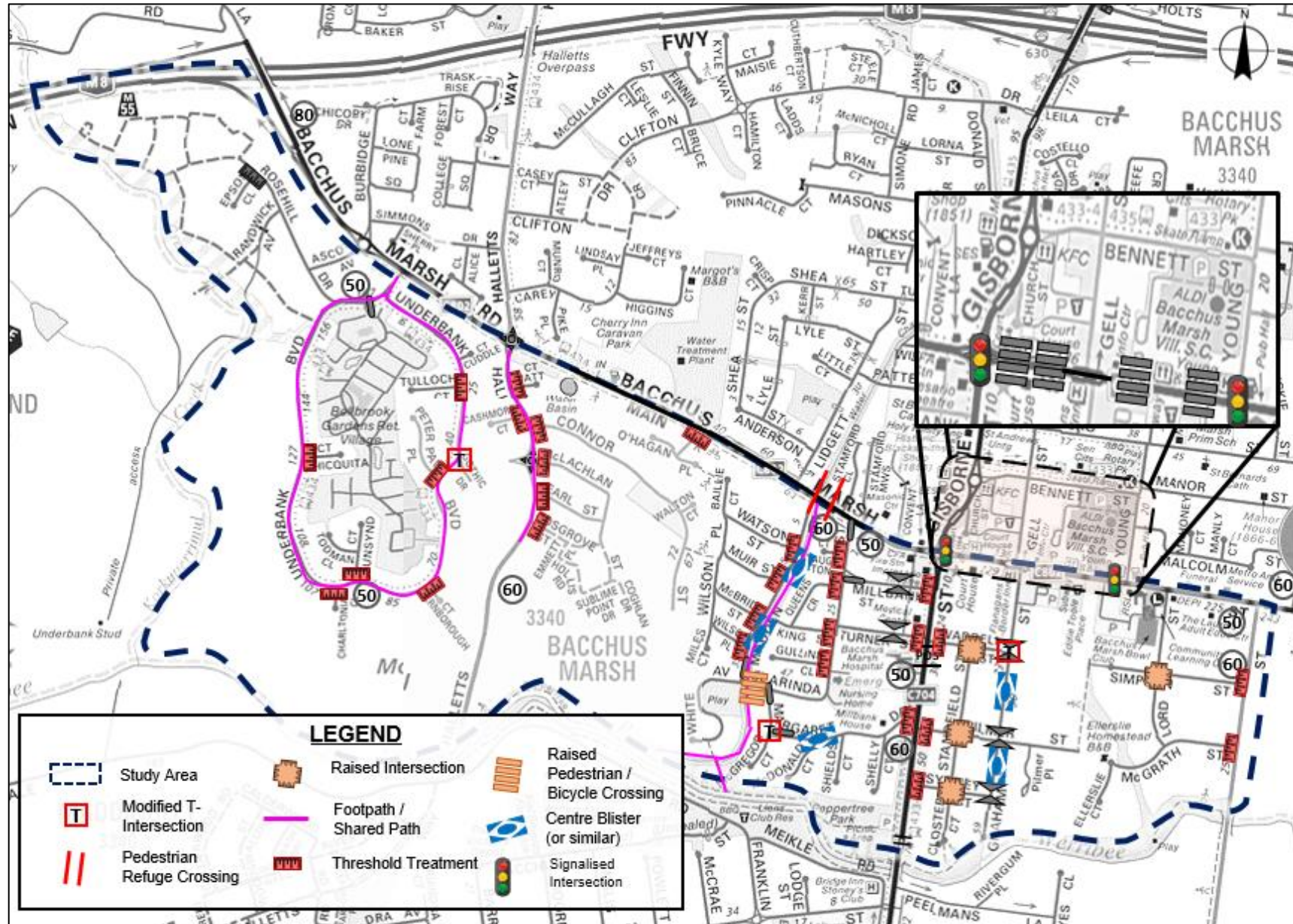
The objectives of the proposed plan are as follows:

- > Facilitate measures to reduce congestion on Main Street and Grant Street;
- > Reduce the potential for conflicts with cyclists, vehicles and pedestrians along key routes and crossings;
- > Maximise the benefits of available funding, with priority given to locations with high crash rates and streets with the greatest level of community concerns;
- > Alleviate congestion on streets throughout the study area by providing smoother and safer connections to arterial infrastructure; and
- > Maintain adequate levels of accessibility for local residents, public transport, businesses and emergency services.

### 4.3 Proposed LATM Treatments

The proposed LATM measures consider a range of traffic management treatments intended to address the key concerns outlined above. The proposed draft LATM is shown in Figure 4-1.

Figure 4-1 Proposed Draft LATM Plan





## 4.4 Proposed Treatments

The following sections provide a summary of all the individual treatments included in the initial traffic management plan:

### 4.4.1 Main Street Signalised Intersections

Proposed as part of the Stage 1 LATM study, two (2) signalised intersections at the intersections of Main Street / Gisborne Road and Main Street / Young Street are included within this stage of the LATM study.

#### *Main Street / Gisborne Road*

It is understood that a signalised intersection upgrade at Main Street / Gisborne Road is currently under consideration by VicRoads, based on the existing traffic conditions along Main Street / Gisborne Road (congestion and conflicting vehicle / pedestrian movements). Despite being an arterial road, this treatment is recommended within the LATM study given the anticipated pedestrian safety improvements.

#### *Main Street / Young Street*

The upgrade of Main Street / Young Street intersection to a signalised intersection was recommended as part of the Stage 1 Final LATM plan as a high priority treatment. Similar to the Gisborne Road intersection, it is considered that a signalised intersection at this location would provide significant pedestrian safety and amenity benefits, as well as providing controlled turns into and out of Young Street.

### 4.4.2 Margaret Drive & Madden Drive

Community consultation and automated tube count (ATC) data both indicated that, Margaret Drive and Madden Drive via a portion of Clarinda Street are used as a rat-run between Grant Street and Main Street, to avoid heavy traffic backing up at the Grant Street / Main Street roundabout. Specifically, 85<sup>th</sup> percentile speeds of 54.0 km/h and 57.2 km/h were recorded on Margaret Drive and Madden Drive respectively.

To address this, it is proposed to implement the following LATM treatments along this stretch of road:

- > Three (3) centre blisters, comprising one (1) on Margaret Drive and two (2) on Madden Drive;
- > A raised pedestrian crossing to the east of Madden Drive on Clarinda Street;
- > Improvements to the existing modified T-intersection on Margaret Drive.

In combination, it is considered that this set of treatments will discourage speeding, improve safety for all transport modes and improve the existing pedestrian and visual amenity along Madden Drive and Margaret Drive.

#### 4.4.3 Graham Street & Abutting Streets

Similarly to the rat-running issue along Margaret Drive and Madden Drive to the west of Grant Street, community consultation and ATC data indicated that Graham Street via Waddell Street, Pilmer Street and Sydney Street, is used as a rat-run for vehicles to avoid congestion backing up on Grant Street from the Main Street roundabout.

ATC data along these streets indicate that speeding is a prevalent issue along Graham Street with 85<sup>th</sup> percentile speeds of 56.9 km/hr recorded between Pilmer Street and Waddell Street.

The draft LATM plan recommends a number of measures within this area to discourage vehicles from rat running and to slow down vehicle speeds along the route. These measures include:

- > Raised intersections at the intersections of:
  - o Waddell Street and Standfield Street;
  - o Pilmer Street and Standfield Street; and
  - o Sydney Street and Standfield Street.
- > Two (2) centre blister treatments on Graham Street between;
  - o Waddell Street and Pilmer Street; and
  - o Pilmer Street and Sydney Street.
- > A modified T-intersection at the intersection of Waddell Street and Graham Street.

Figure 4-2 Graham Street facing south from Main Street



#### 4.4.4 Lord Street

Between Main Street and McGrath Street, Lord Street stretches for almost 400 metres with a generally straight alignment and pavement width in the order of 10 metres. At its mid-point, Lord Street intersects with Simpson Street, with traffic priority provided to Lord Street. The existing intersection treatment comprises a give-way and stop sign to the eastern and western lengths of Simpson Street respectively and faded stop line marking showing right of way to Lord Street.

Under these conditions, it is considered suitable to provide a raised intersection treatment at the intersection of Simpson Street and Lord Street to warn vehicles of the presence of the intersection, improve traffic safety and reduce vehicle speeds within the area.

From the initial community consultation it is understood that Lord Street is also used by local school buses, and as such any installed treatment should consider facilitating this type of vehicle.

#### 4.4.5 Halletts Way & Fisken Street

Halletts Way and Fisken Street are connector streets, meaning that they facilitate considerable traffic volumes travelling north-south through the study area. As such, it is not recommended to implement typical LATM treatments along these stretches of road, particularly as it is likely that this will divert more traffic to Grant Street / Gisborne Road which is already experiencing significant congestion issues.

Nonetheless, the following outlines the issues identified along these routes, and potential solutions which should not affect route choice nor increase traffic on Grant Street.

##### Halletts Way

Community consultation indicated that residents are concerned about incidences of speeding and hooning along Halletts Way, it is noted that this sentiment is shared with the community consultation responses to Stage 1 of the Bacchus Marsh LATM Study to the north of Main Street.

Unfortunately, as Halletts Way has only recently been constructed, the community comments did not indicate a specific location at which speeding and hooning behaviour was an issue.

It is noted that traffic data along the newly completed segment of Halletts Way is yet to be collected and analysed. LATM measures may be recommended for Halletts Way following subsequent data collection and the second stage of community consultation.

Figure 4-3 Halletts Way facing south



##### Fisken Street

Fisken Street is a long, flat and straight road with no speed controls running from Parwan Road in the south to Main Street in the north. Typically, this type of environment is conducive to speeding vehicles. Both community consultation and ATC data indicate that there is a high level of speeding along Fisken Street with 85<sup>th</sup> percentile speeds in the order of 67 km/hr, significantly above the existing speed limit of 60 km/hr.

Possible solutions to reduce speeding issues along Fisken Street may include an education / awareness campaign, speed cameras and enforcement.

It is also noted that the intersection of Fisken Street and Main Street was identified as dangerous, particularly, it appears, due to high heavy vehicle proportions turning into or out of Fisken Street.

Figure 4-4 Fisken Street facing north toward Main Street



#### 4.4.6 Pedestrian / Cyclist Facilities

Throughout the study area a number of locations were identified as having insufficient or inadequate pedestrian and cyclist facilities. The key locations identified were:

##### **Underbank Boulevard**

The Draft LATM proposes to provide footpaths along the length of Underbank Boulevard. Currently no footpaths are provided and this has been raised as a point of frustration and a safety issue for residents in the area, particularly as many of the residents are elderly.

Unable to be determined from initial community consultation, it is possible that the extents of the pedestrian footpath construction could be reduced to a significantly smaller portion of Underbank Boulevard than identified in Figure 4-1. It is anticipated that, perhaps only a footpath from Main Street to the entrance of the retirement village may be required, based on responses in the second round of community consultation providing a greater understanding of the origin and destination of pedestrians in the area.

##### **Water Channel**

Similarly to the LATM recommendations made within Stage 1 of the Bacchus Marsh LATM study, this Draft LATM plan recommends that the land running alongside the water channel east of Madden Drive (south of Main Street) and Lidgett Street (north of Main Street) be utilised for an off-road shared path. If the shared paths to both the north and south of Main Street are implemented, it is recommended to turn the existing median on Main Street into a pedestrian refuge island, in order to form a connection between the two paths running along the water channel.

Overall, it is expected that this path would provide a convenient and safe route for pedestrians and cyclists travelling north-south through or to destinations in Bacchus Marsh (pending treatment of Main Street). It is further noted that this proposed north-south path could be further extended via a bridge over Werribee River to the south in the future.

##### **Halletts Way**

On the northern portion of Halletts Way, it is proposed to connect the share path constructed as part of the Halletts Way extension to Main Street, completing this north-south pedestrian and cyclist route through the study area on Halletts Way.

#### 4.4.7 Threshold Treatments – Throughout Study Area

Threshold Treatments are recommended at a number of locations throughout the study area to provide safer and more amenable streets and intersections. It is considered that the introduction of these threshold treatments will alert drivers that they are entering a residential area and subsequently reduce speeds on associated local streets throughout the study area.

Further, by implementing threshold treatments at a large number of intersections throughout the study area, the treatment may become associated with local streets in the study area and improve the effectiveness of the each individual treatment.

It is recommended to provide threshold treatments at the following locations:

- > Abutting Grant Street (6);
- > Abutting Halletts Way (6);
- > Abutting Underbank Boulevard (6);
- > Abutting Madden Drive (4);
- > Abutting Clarinda Street (4);
- > Abutting Fiskin Street (2); and
- > Abutting Main Street (1).

Figure 4-5 Existing Threshold Treatment on Dugdale Street in Bacchus Marsh



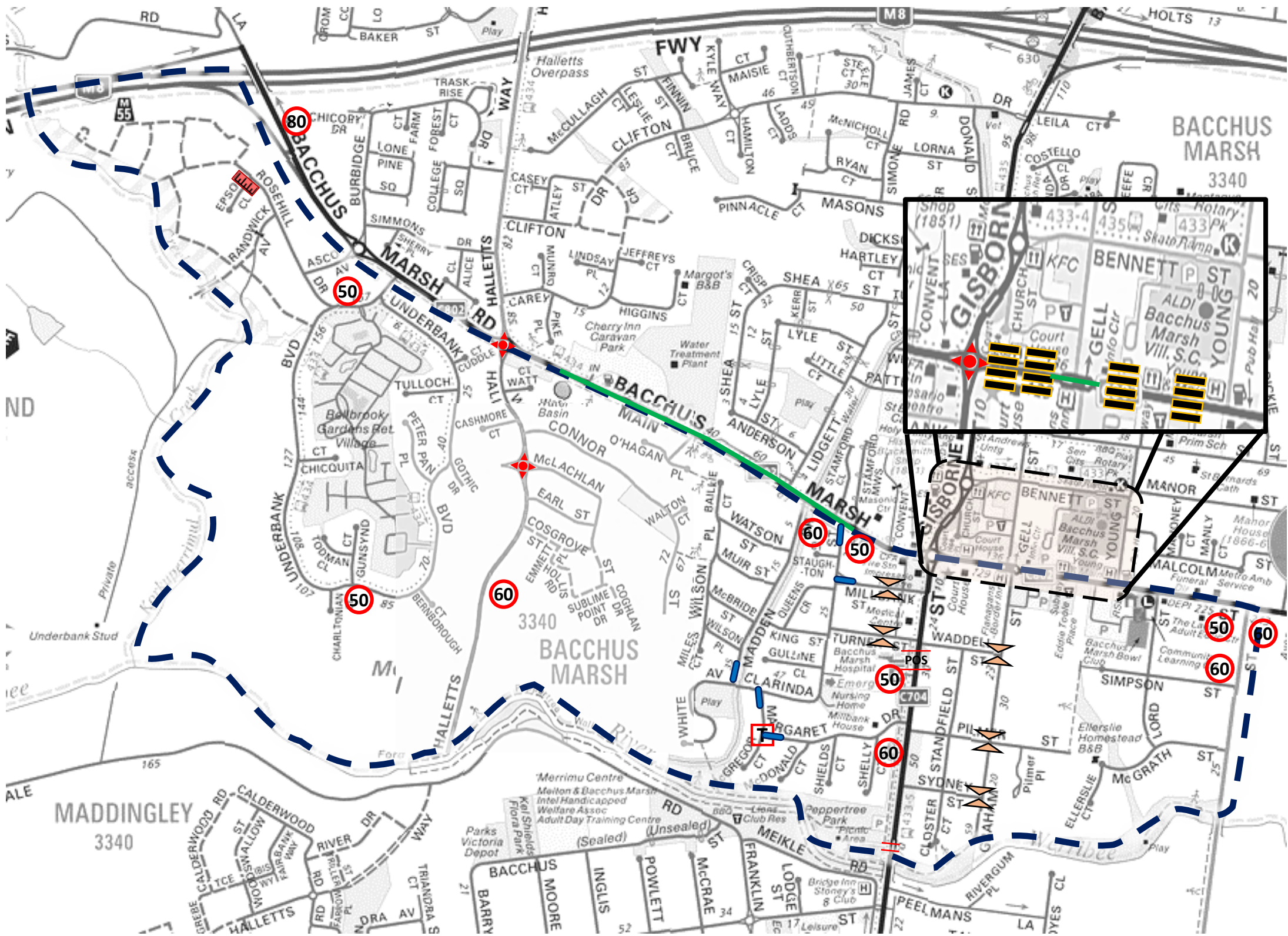
Bacchus Marsh Local Area Traffic  
Management Study – Stage 2

APPENDIX

A

EXISTING CONDITIONS





Existing LATM Measures  
22/11/2018



LEGEND					
	Study Area		Threshold Treatment		Pedestrian Operated Signals
	Flashing Pedestrian Crossing		Modified T-Intersection		Median
	Road Narrowing		Pedestrian Refuge Crossing		Speed Limit
	Splitter Island		Roundabout		

Bacchus Marsh  
Local Area Traffic Management Study – Stage 2

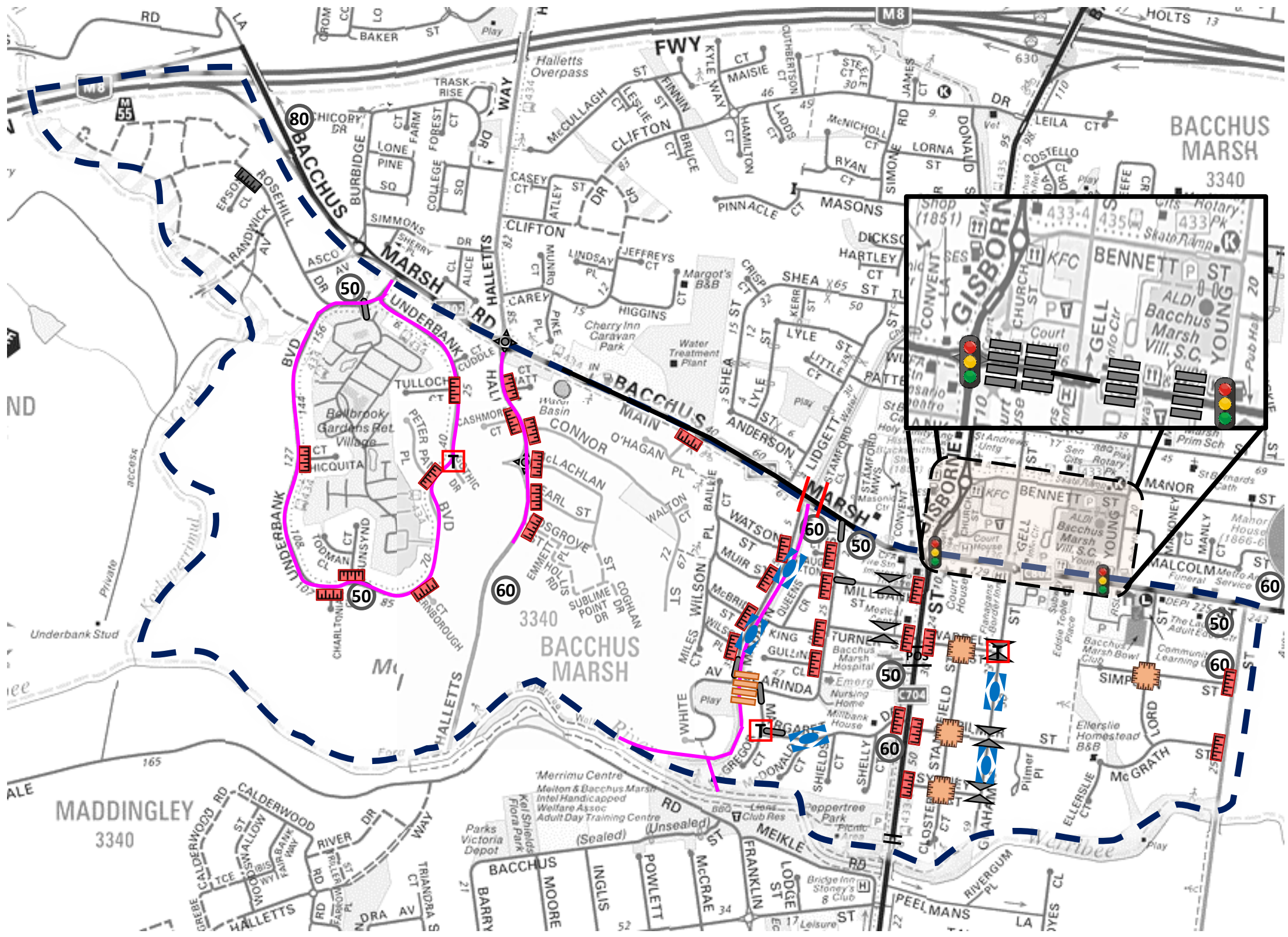
Bacchus Marsh Local Area Traffic  
Management Study – Stage 2

APPENDIX

B

DRAFT LATM MEASURES





Draft LATM Plan  
27/11/2018



Bacchus Marsh  
Local Area Traffic Management Study – Stage 2

LEGEND			
	Study Area		Raised Pedestrian / Bicycle Crossing
	Centre Blister (or similar)		Modified T-Intersection
	Raised Intersection		Footpath / Shared Path
	Pedestrian Refuge Crossing		Signalled Intersection





# Existing Conditions Assessment

## Bacchus Marsh Local Area Traffic Management Study – Stage 2

V171899



Prepared for  
Moorabool Shire Council

29 November 2018

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## Table of Contents

---

1	Introduction	5
	1.1 Study Area	5
2	Study Methodology	6
	2.1 Background Information	6
	2.2 Community Consultation	8
	2.3 Site Investigation	8
3	Existing Conditions	9
	3.1 Land Use	9
	3.2 Road Network Hierarchy	10
	3.3 Sustainable Transport	11
	3.4 Existing Traffic Management	14
	3.5 Existing Traffic Data	16
	3.6 Crash History	17
4	Key Issues Identified	19
	4.1 Community Input	19
	4.2 Engineering Investigations	25
5	Conclusion	30

## Appendices

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**Appendix A** Existing Conditions

**Appendix B** First Community Consultation

## Tables

---

Table 3-1	Moorabool Shire Council Road Hierarchy Definitions	10
Table 3-2	Summary of Existing Council Traffic Data	16
Table 3-3	Crash Statistics Summary	17
Table 3-4	Crash History by DCA Type in the Study Area	18
Table 4-1	Summary of Questionnaire Responses – ‘Your Street’ Nature of Problem	19
Table 4-2	Summary of Questionnaire Responses – ‘Your Street’	20
Table 4-3	Summary of Questionnaire Responses – ‘Other Streets / Issues’	21

## Figures

---

Figure 1-1	Bacchus Marsh LATM Study Area Map	5
Figure 3-1	Planning Scheme Land Use Zones	9
Figure 3-2	Bacchus Marsh Road Network Plan (RMP 2017-2021)	11

Figure 3-3	Existing Public Transport Routes	12
Figure 3-4	Existing Bicycle Routes	13
Figure 3-5	Existing Traffic Management Measures	15
	Summary of Council Data	17
Figure 3-6	Crash Locations	18
Figure 4-1	Online Interactive Survey Pins	23
Figure 4-2	Fisken Street facing north toward Main Street	27
Figure 4-3	Graham Street Intersection facing East on Main Street	28
Figure 4-4	Grant Street facing north towards Turner Street	28
Figure 4-5	Main Street Crossing (West of Graham Street)	29
Figure 4-6	Parking along Clarinda Street	30

# 1 Introduction

Cardno has been engaged by Moorabool Shire Council to undertake a Local Area Traffic Management (LATM) study for Stage 2 of the Bacchus Marsh township. It is understood that the study is being undertaken in response to increased population growth and subsequent traffic congestion, and is in direct response to recommendations within the Bacchus Marsh Integrated Transport Strategy.

The following report outlines a summary of available data to establish the existing traffic and land use conditions within the study area. The data includes an assessment of traffic volume and speed surveys, road crash information and existing traffic management devices used throughout the area. Community input, including responses collated using an online interactive engagement tool and a letter drop survey, has been obtained to provide background and context.

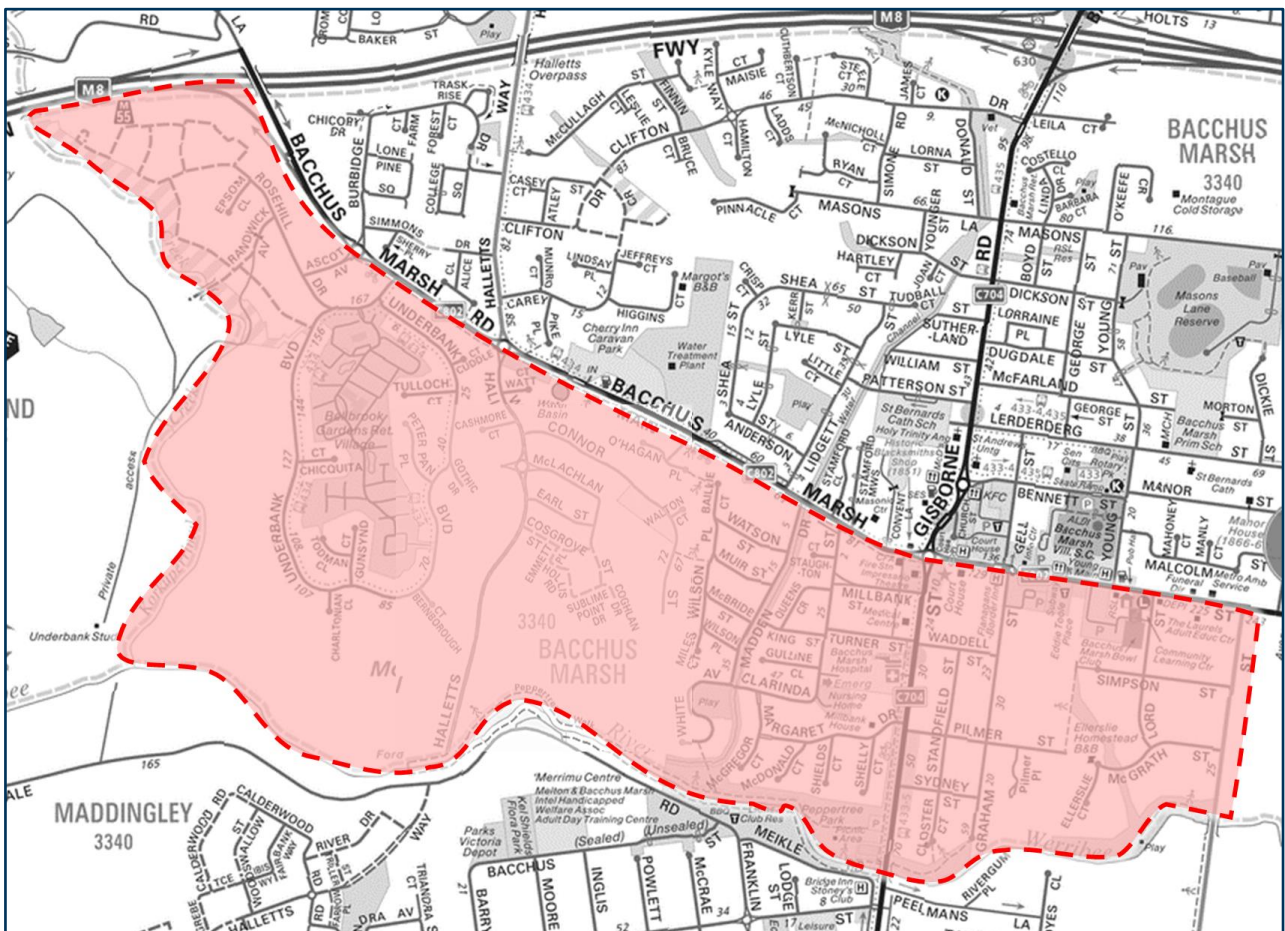
The existing conditions assessment will provide the basis for identifying and quantifying, where possible, traffic problems within the study area and prioritising areas or locations for treatment.

In the course of preparing this assessment, the subject area and its environs have been inspected, relevant traffic data collected and analysed and background documents reviewed.

## 1.1 Study Area

The study area is bound by Main Street / Bacchus Marsh Road to the north, the Werribee River to the south, Korkuperrimul Creek to the west, and Fiskin Street to the east. The extent of the study area is generally shown in Figure 1-1.

Figure 1-1 Bacchus Marsh LATM Study Area Map



## 2 Study Methodology

---

A LATM study is a formal way of addressing traffic, pedestrian and cyclist related issues within the local streets of the study area, whilst reflecting the requirements and expectations of the local community. This has been achieved through a process of extensive existing conditions review and community consultation undertaken by Cardno and Moorabool Shire Council.

The key tasks carried out to determine the existing issues, concerns and opportunities within the study area are outlined below (discussed further in the following sections):

- > A review of relevant background information.
- > Consultation with the community and relevant stakeholders.
- > On-site investigations and familiarisation of the area.
- > Data collection and collation including, but not limited to, volume, speed and crash data.

### 2.1 Background Information

The background documents and information relevant to this LATM study are outlined in the following sections.

#### 2.1.1 Moorabool Shire Council Road Management Plan (2017)

The Road Management Plan 2017-2021 (RMP) is a public document prepared by Moorabool Shire Council to the requirements of the Road Management Act 2004. It establishes a management system for Council to inspect, maintain and repair its public roads based on policy and operational objectives. The RMP generally outlines the levels of service the community can expect, the monitoring process, performance standards, asset management policy framework, and infrastructure hierarchy.

#### 2.1.2 Bacchus Marsh Integrated Transport Strategy (2015)

The Bacchus Marsh Integrated Transport Strategy (BMITS) report was prepared by Council to ensure that a high standard transport network is developed and maintained to accommodate the growing Bacchus Marsh community. From this strategy, the following relevant findings and recommendations are listed below:

- > The need for east facing freeway ramps on Halletts Way (under construction).
- > Construction of pedestrian/cycle bridge on Halletts Way over the Western Freeway.
- > Investigate and implement capacity improvements to Gisborne Road and Grant Street.
- > Construction of an eastern bypass around Bacchus Marsh.
- > The need for a network of connecting bicycle paths.
- > The need for a bus service to all residential areas and activity centres.

#### 2.1.3 Hike and Bike Strategy (2014)

The Hike and Bike Strategy aims to guide Moorabool Shire Council in its decision making for future development, provision and marketing of these networks within the area.

This strategy put forward recommendations for future improvement and development works to increase walking and cycling. Within the study area, the following roads were identified:

- > Main Street.
- > Grant Street.
- > Halletts Way.
- > Margaret Drive.
- > Simpson Street.
- > Fiskens Street.



#### 2.1.4 Bacchus Marsh Activity Centre Structure Plan (2011)

The Bacchus Marsh Activity Centre Structure Plan was implemented to provide a cohesive vision for the Bacchus Marsh Town Centre reflecting the needs of the growing community whilst retaining its distinctive and valued character.

Transport related issues and recommendations include:

- > Improve access and mobility for all.
- > Facilitate public traffic and permeability in and around Bacchus Marsh.
- > Promote safe walking and cycling access to and through the Activity Centre.
- > Promote efficient traffic movement and minimise potential conflicts.
- > Facilitate better connections to public transport within the Activity Centre.
- > Maximise the efficiency of existing vehicle access.

Other recommendations include:

- > Reinforcing the commercial hub role of Main Street.
- > Strengthen Grant Street as the secondary activity core of the Activity Centre.
- > Create a network of safe, interesting and pleasant spaces through the Activity Centre and the surrounding neighbourhood.

#### 2.1.5 Growth Areas Framework Plan (2017)

The Growth Areas Framework Plan (GAFP) identifies areas within Bacchus Marsh and broader strategic work for future residential and employment growth. For areas relevant to the LATM study, the following plans have been identified:

- > Bacchus Marsh Town Centre – Moorabool's primary activity centre for commercial diversity and growth (short to long-term).
- > Bacchus Marsh Neighbourhood – Residential area of natural and increased growth (short to long-term).
- > Bacchus Marsh Irrigation District – State-significant agriculture area (short to long-term).

#### 2.1.6 Housing Bacchus Marsh to 2041 (2015)

The Bacchus Marsh Housing Strategy was commissioned as part the Moorabool 2041 framework, which includes an Urban Growth Strategy, Small Towns Strategy and Housing Strategy.

The Bacchus Marsh Housing Strategy analyses the housing situation within Bacchus Marsh and assesses important issues in addition to supply and demand, including housing mix, lot sizes, affordability and special housing needs.

The analysis conducted shows that the greater portion of residential growth will be in greenfield residential land supply via the identification of new growth areas. It is estimated that there is approximately 20 years of broad hectare supply in the GAFP area.



## 2.2 Community Consultation

A key part of the development of the LATM Plan is engaging the local community to seek views and inputs, and assist with the identification of opportunities and priorities. Consultation with the community is an invaluable way of sourcing local knowledge and plays a major role in the LATM process. Without consultation, any scheme is unlikely to gain community acceptance and may not address residents' and/or business operators' concerns.

Accordingly, the views of all residents living or working within the study area were sought through various forms of consultation to ensure a thorough engagement process. Currently the community has been consulted regarding existing issues and concerns in the study area. The community will also be consulted in future stages of the LATM study to consider proposed LATM measures.

**This initial stage** has involved obtaining feedback from the community on what it considers are the key traffic and transport issues in the study area. The community was kept informed and engaged through the development of the LATM Plan via the following communication measures:

- > A questionnaire survey conducted via an online community engagement software tool.
- > Provision of information from Council's Community Call Log.
- > Advice from council officers from previous meetings with community members.
- > Correspondence from local community groups.

The feedback received from all of these measures has been used to inform the development of the Draft LATM Plan.

## 2.3 Site Investigation

Various site visits were carried out which reviewed all the roads within the study area. Site visits were undertaken to obtain an overall 'feel' for the local road network, and to identify where traffic issues/conflicts may occur.

A site inventory and photographic survey was carried out on each street during the site visit, to assist in formulating the traffic management opportunities and recommendations. Considering the identified areas of localised issues based on the initial community consultation, the site visit observed the following:

- > Environments which are conducive to high speeds.
- > Streets that experience high traffic volumes.
- > Illegal traffic movement / behaviour.
- > Facilities for pedestrians and cyclists.
- > The traffic composition (cars, commercial vehicles).
- > Intersection configurations and safety.
- > Land use composition.

### 3 Existing Conditions

The following section provides a summary of available data used to establish the existing traffic and land use conditions within the study area.

The data includes road crash information and existing traffic management measures. In addition, community responses have been collated and analysed to identify locations within the study area with existing traffic management issues.

The existing conditions data will provide the basis for identifying and quantifying, where possible, traffic problems in the study area and prioritising areas or locations for treatment. A plan of the existing conditions is attached as Appendix A.

#### 3.1 Land Use

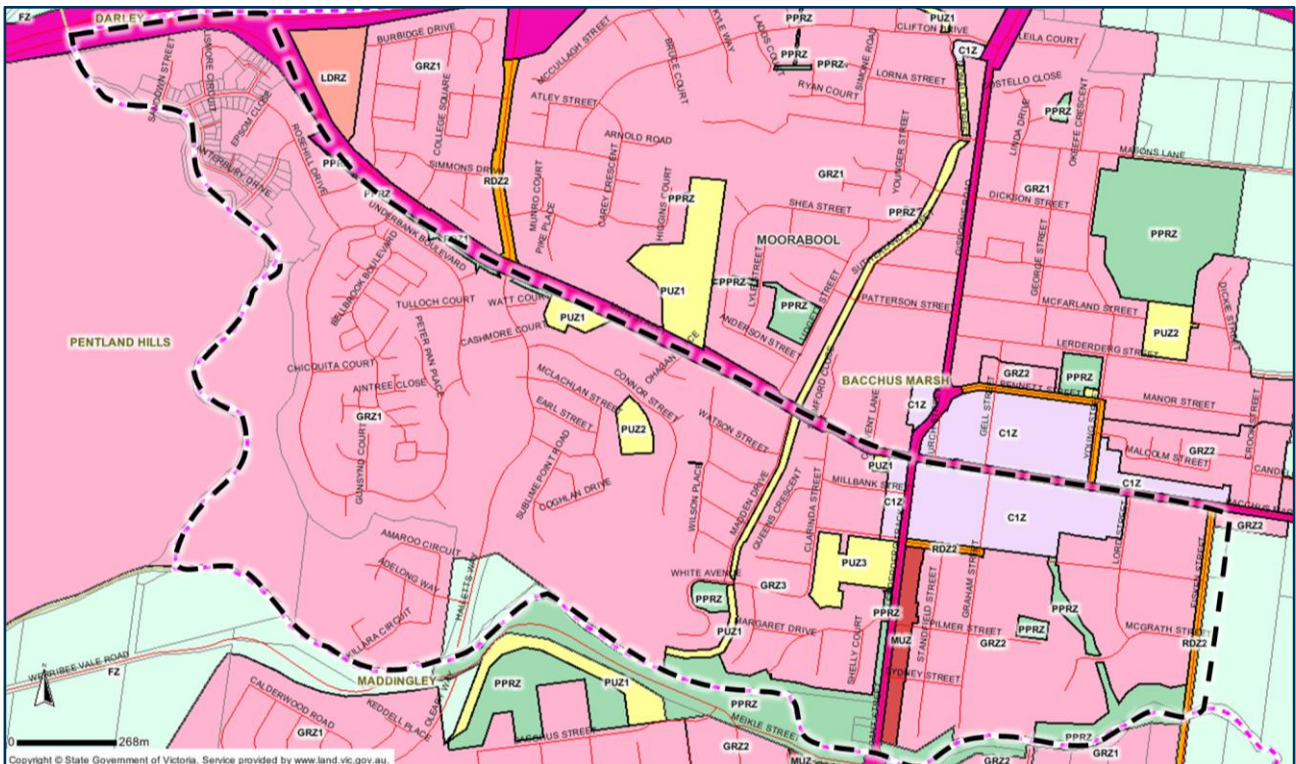
The study area is predominantly residential in nature, with some commercial, public park & recreation, public use and low density residential zoned areas as shown in the Planning Scheme Zone map in Figure 3-1.

Significant land uses in the area include:

- > Bacchus Marsh Activity Centre.
- > Bacchus Marsh Health Services Precinct.
- > Bacchus Marsh Aquatic Centre.
- > Bellbrook Gardens Village.
- > Bacchus Marsh Bowling Club.
- > Clarinda Street Reserve.

Beyond the study area, Bacchus Marsh Railway Station, Bacchus Marsh College and Bacchus Marsh Grammar School are located further to the south. Additionally, it is noted that the route of heavy vehicles from the Bacchus Marsh open cut coal mine located to the south may have implications on the study area.

Figure 3-1 Planning Scheme Land Use Zones



### 3.2 Road Network Hierarchy

All roads under Council’s jurisdiction are classified into a hierarchy, which is outlined in the RMP. The road network hierarchy establishes a framework for the different types of roads within the municipal road network to be categorised and attain distinct order and characteristics in relation to each other. The hierarchy takes into account the road’s specific function, types of users and user numbers.

The Council’s hierarchy classification is divided into six road categories. Table 3-1 summarises Council’s road hierarchy classification as presented in the RMP.

Table 3-1 Moorabool Shire Council Road Hierarchy Definitions

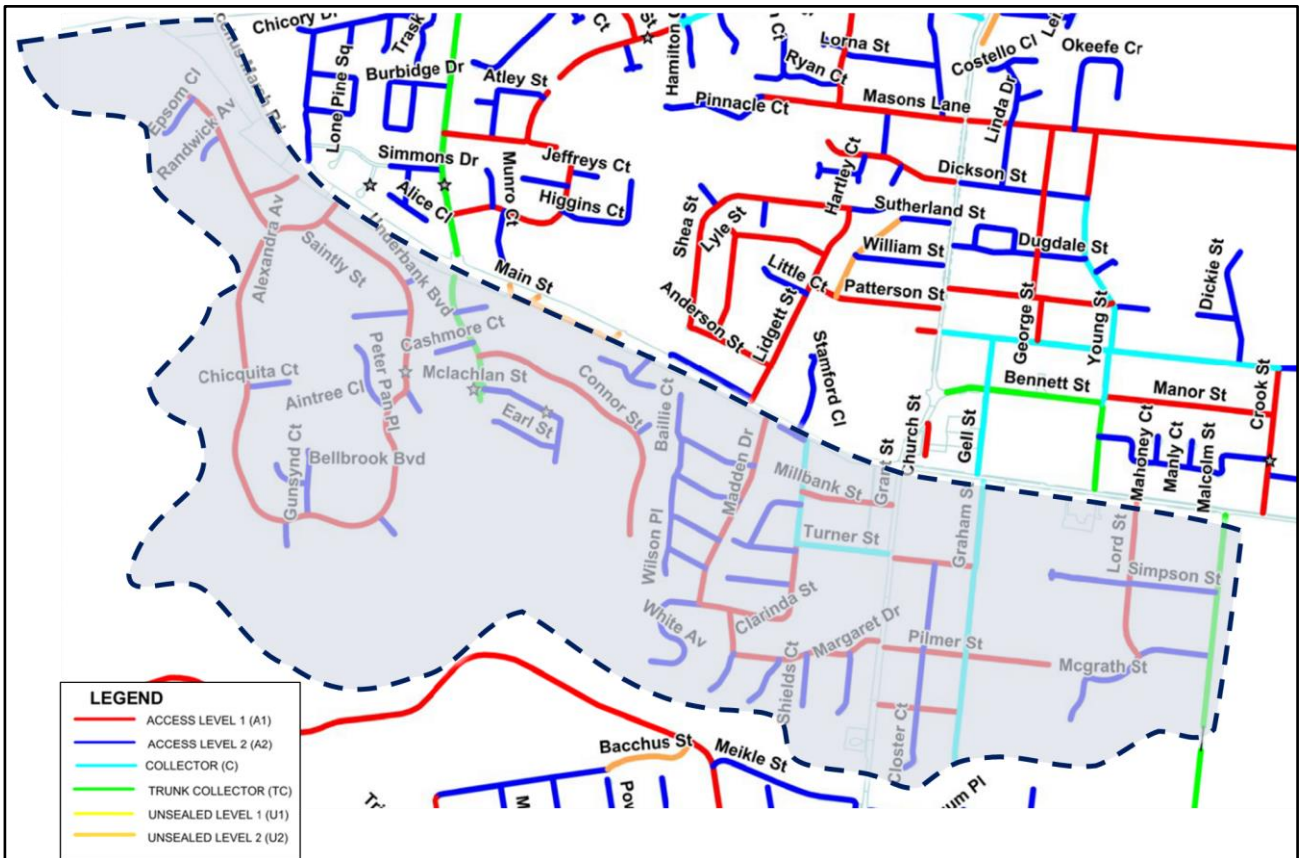
Code	Category	Description (urban)	Annual Average Daily Traffic (AADT)
TC	Trunk Collector	Provides a strategic link between arterial roads, suburbs, commercial areas, major housing areas or a defined destination. Access to tourist facilities or industrial centres and may include regional links. These roads carry the heaviest volumes of traffic and the typical speed limit is between 50 and 80km/h. Is typically defined by Connector Street Level 2 in the Planning Scheme and the IDM.	>3,000
C	Collector	Provides connection into residential areas. These roads carry heavy volumes of traffic and the typical speed limit is between 50 and 60km/h. Is typically defined by Connector Street Level 1 in the Planning Scheme and the IDM.	1,001 – 3,000
A1	Access Level 1	Medium to low traffic volume roads that provide access to local residents or secondary access to commercial areas. Typical speed limit is between 15 and 50km/h. Is typically defined by Access Street Level 1 and 2 in the Planning Scheme and the IDM	201 – 1,000
A2	Access Level 2	Low traffic volume roads and cul de sacs that provide access and secondary access to local residents and property. Typical speed limit is between 15 and 50km/h. Is typically defined by Access Place and Access Lane in the Planning Scheme and the IDM.	<200
U1	Unsealed Level 1	Unsealed roads with a traffic volume greater than 100 vehicles/day that provide access to local residents and property. Typical speed limit is between 15 and 60km/h.	>100
U2	Unsealed Level 2	Low traffic volume unsealed roads that provide access to local residents and property. Typical speed limit is between 15 and 60km/h.	<100

The study area comprises trunk collector roads, collector roads, access roads and some unsealed roads.

Traffic patterns in the local area are characterised by the function of Grant Street, Halletts Way, Main Street and the Western Freeway, which play a significant role in moving traffic from Bacchus Marsh and Maddingley to the Western Freeway and onto the surrounding areas.

Figure 3-2 shows the road hierarchy in relation to the road network within the area.

Figure 3-2 Bacchus Marsh Road Network Plan (RMP 2017-2021)



### 3.3 Sustainable Transport

#### 3.3.1 Public Bus Routes

A number of public bus routes travel along streets within the study area. The locations of these routes are shown in Figure 3-3. These routes all connect to Bacchus Marsh Railway Station to the south of the study area, providing connections to Melbourne and Ballarat.

The following services operate in the local area:

- > **Route 433** operates a service from Hillview Estate to Bacchus Marsh SC via Bacchus Marsh Station. The service operates on Grant Street / Gisborne Road within the Study Area.
- > **Route 434** operates a service between Telford Park and Bacchus Marsh Station via Bellbrook Gardens Village, Underbank Boulevard and Bacchus Marsh SC. The service operates on Bacchus Marsh Road / Main Street and Grant Street / Gisborne Road within the Study Area.
- > **Route 435** operates between Darley to the north of the study area to Bacchus Marsh Station via Bacchus Marsh SC. The service operates on Grant Street / Gisborne Road within the Study Area.



Figure 3-3 Existing Public Transport Routes



### 3.3.2 Pedestrian and Bicycle Connections

Pedestrian connections throughout the study area vary. The majority of streets provide a reasonable level of pedestrian amenity with footpaths on one or both sides of the roadway. However, it is noted that there are no pedestrian facilities at bus stop locations on Halletts Way or along the length of Underbank Boulevard. It is also noted that a number of dead-end streets lack pedestrian facilities.

Some additional challenges highlighted for pedestrian accessibility within the Moorabool Shire Council's Integrated Transport Strategy relevant to the LATM study area are:

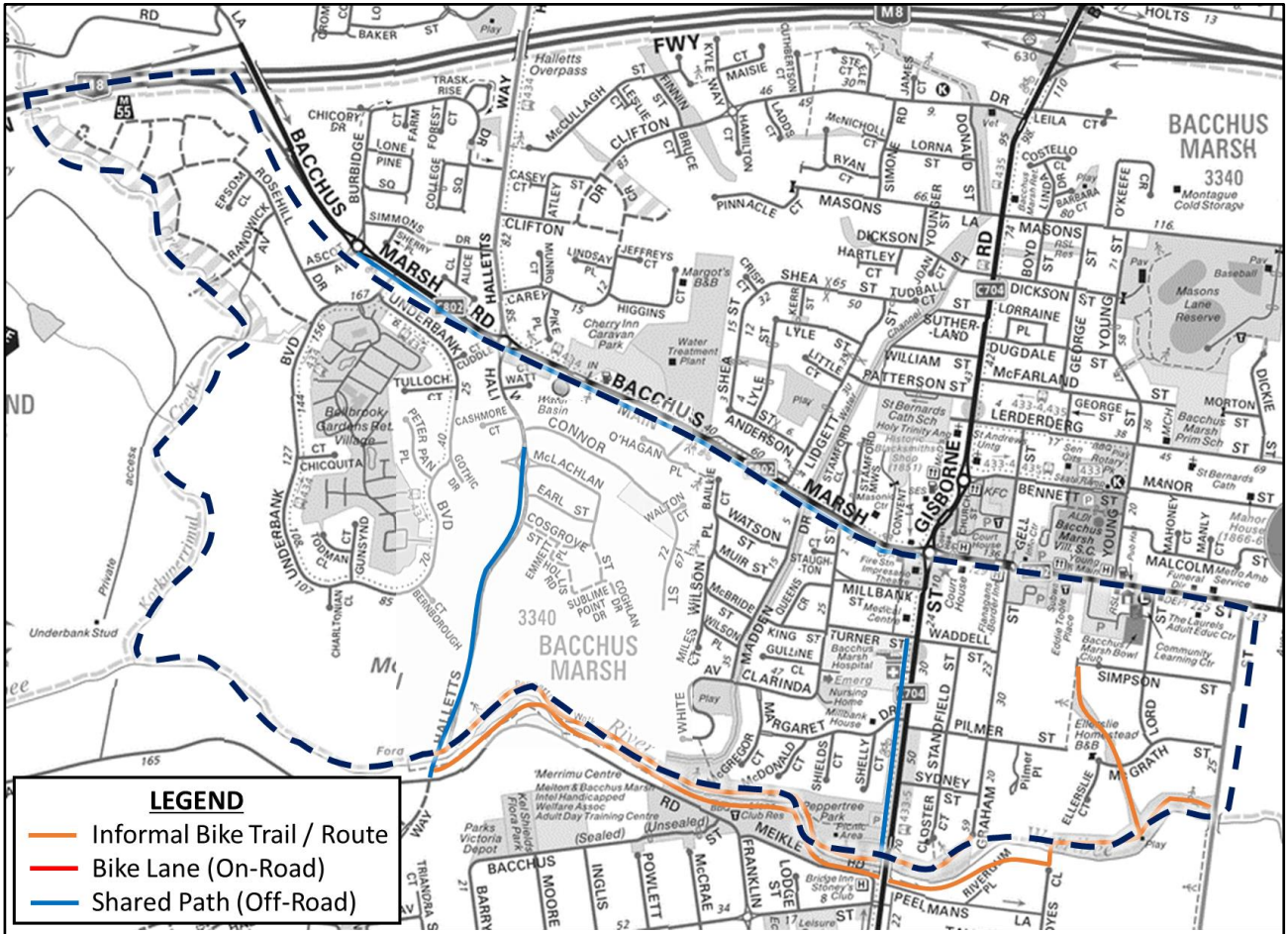
- > Many areas require improvements, such as new footpaths and crossings, upgrades and accessibility measures.
- > Lack of north-south connectivity through the township, exacerbated by limited connectivity across the Western Freeway.
- > Lack of connectivity between key activity areas including the central commercial area, schools, recreation reserves and train station.

Cyclists in Bacchus Marsh generally rely on the network of local streets to travel to various activity centres in the town. Additional connections are provided via an informal off-road bicycle track that runs along Werribee River and Ellerslie Homestead reserve towards the Bacchus Marsh Activity Centre. Formal bicycle facilities are provided in specific areas of Bacchus Marsh, including:

- > Off-road shared paths along Halletts Way between from Mimulus Road to Main Street.
- > On-road bicycle lanes along Underbank Boulevard, and along Main Street between Lidgett Street and Grant Street / Gisborne Road.

Figure 3-4 outlines the bicycle routes within the study area.

Figure 3-4 Existing Bicycle Routes





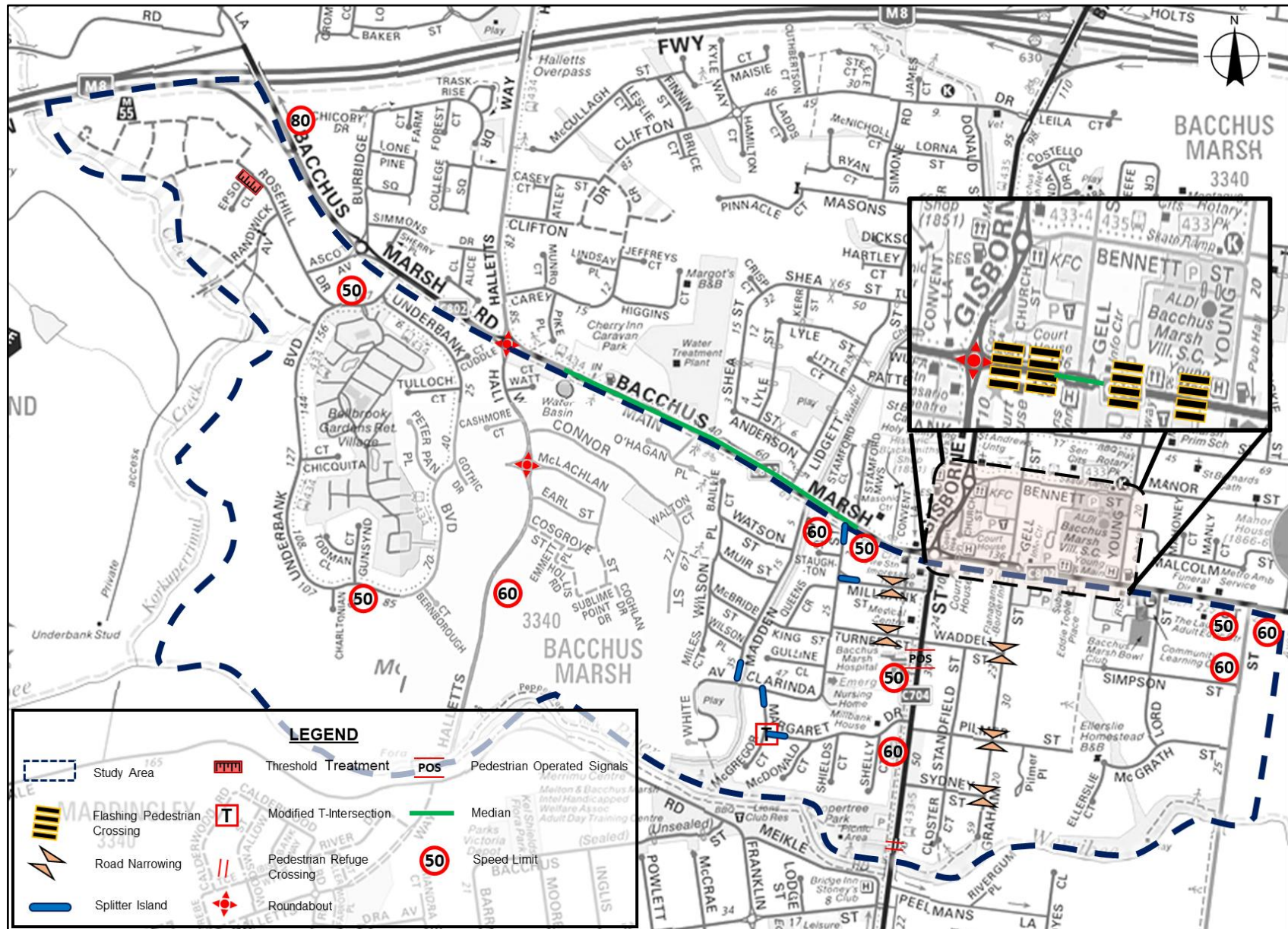
### 3.4 Existing Traffic Management

Existing traffic management devices have previously been implemented in the local area by Council and have generally been installed at isolated sites or on a street-by-street basis. Key traffic management treatments in the area include:

- > Pedestrian operated signals installed on Grant Street near Waddell Street.
- > Roundabouts located at the following intersections:
  - Halletts Way / McLachlan Street.
  - Gisborne Road / Bacchus Marsh Road / Main Street.
  - Bacchus Marsh Road / Halletts Way.
  - Bacchus Marsh Road / Ascot Avenue.
- > Flashing Pedestrian Signals located along Bacchus Marsh Road / Main Street (4).
- > Modified T-Intersection located at the intersection of Margaret Street and McGregor Court.
- > Splitter Islands located at the following intersections:
  - Margaret Street / McGregor Court.
  - Margaret Street / Clarinda Street.
  - Madden Drive / Clarinda Street.
  - Main Street / Clarinda Street.
  - Millbank Street / Clarinda Street.
- > Painted median located along Bacchus Marsh Road.
- > Pedestrian Refuge located on Grant Street near the Bacchus Marsh Aquatic Centre.
- > A Threshold Treatment located on Epsom Court at the intersection with Rosehill Drive.
- > Road Narrowing treatments at the following locations:
  - Turner Street.
  - Millbank Street.
  - Waddell Street at the intersection with Graham Street.
  - Pilmer Street at the intersection with Graham Street.
  - Sydney Street at the intersection with Graham Street.

The existing traffic management throughout the study area is shown in Figure 3-5.

Figure 3-5 Existing Traffic Management Measures



### 3.5 Existing Traffic Data

Existing traffic data from previous studies conducted by Moorabool Shire Council has been collated. These are presented in Table 3-2.

Table 3-2 Summary of Existing Council Traffic Data

Location	Year	AADT	Heavy Vehicle %	85 <sup>th</sup> Percentile Speed (km/hr)
Clarinda Street (East of Madden Drive)	2016	601	3.5%	39.2
Clarinda Street (East of Margaret Drive)	2016	239	4.4%	48.6
Connor Street (East of Halletts Way)	2014	313	4.2%	50.4
Graham Street (South of Main Street)	2013	1482	3.2%	53.6
Graham Street (Between Waddell Street and Pilmer Street)	2012	936	3.3%	56.9
Fisken Street (North of Werribee River)	2016	3652	8.6%	66.2
Halletts Way (South of Main Street)	2014	577	3.1%	50.4
Madden Drive (Between McBride Street and Muir Street)	2013	520	5.0%	57.2
Margaret Drive (West of McDonald Court)	2016	654	6.7%	54.0
McGrath Street (West of Fisken Street)	2014	192	7.3%	49.7
Millbank Street (West of Grant Street)	2013	429	5.5%	52.6
Pilmer Street (East of Grant Street)	2013	427	3.7%	44.3
Sydney Street (West of Graham Street)	2013	518	3.1%	45.4
Turner Street (West of Grant Street)	2013	1168	5.1%	51.1
Underbank Boulevard (10m South of Main Street)	2017	1925	10.0%	34.9
Underbank Boulevard (North of Cuddle Court)	2017	868	10.0%	56.2
Underbank Boulevard (100m North of Chiquita Court)	2014	501	9.2%	57.6
Waddell Street (East of Grant Street)	2013	509	3.9%	43.2
Watson Street (West of Madden Drive)	2014	178	6.2%	32.8

The surveys included speed, classification (in accordance with Austroads 12-bin classification system) and volume by direction, with hourly (15-minute interval) and daily summaries including peak hours identified and reported. The key summary statistics were:

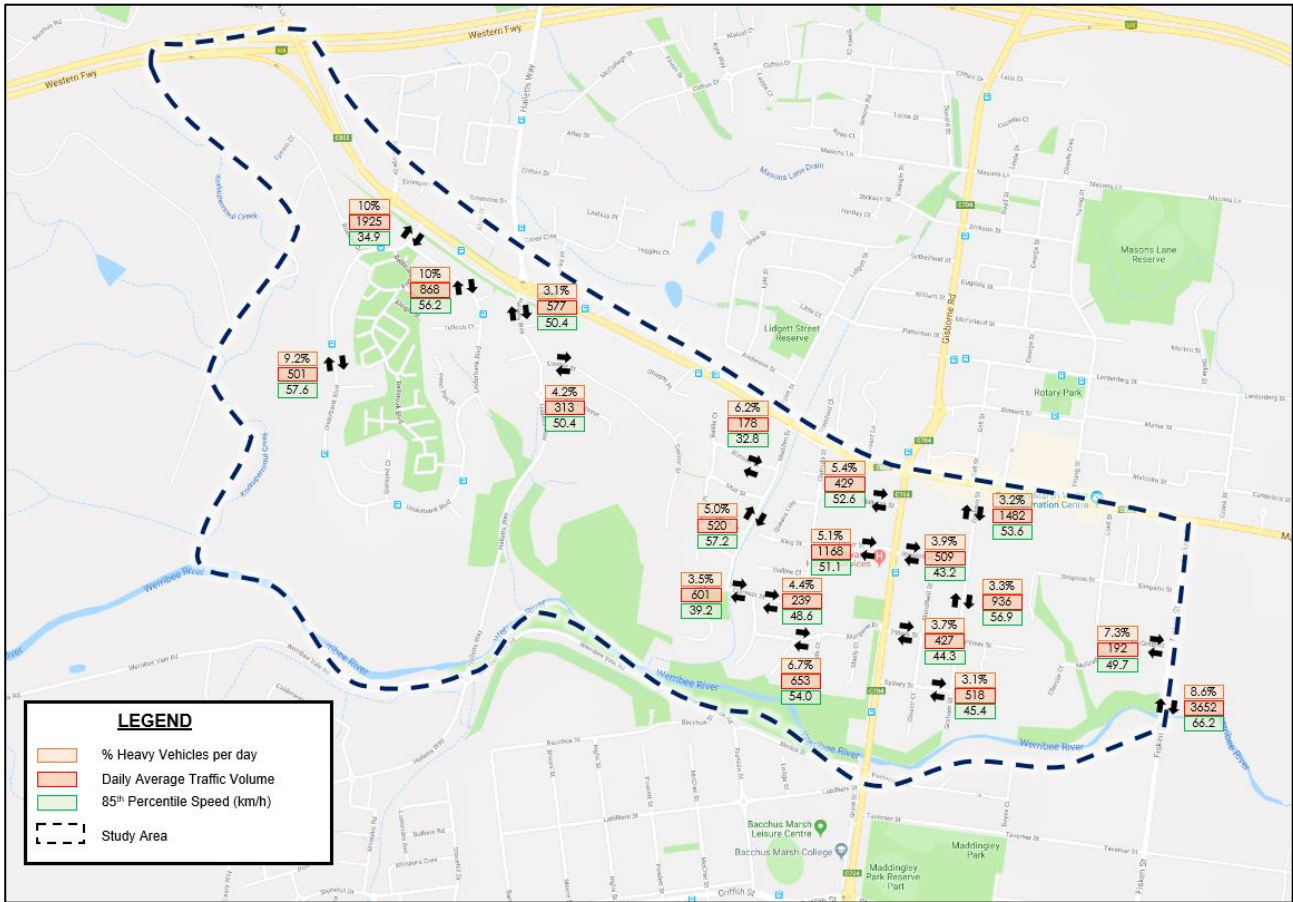
- > Total weekday average volume;
- > AM peak hour average volume;
- > PM peak hour average volume;
- > Average speed;
- > 85<sup>th</sup> percentile speed; and
- > Percentage of heavy vehicles.

0 presents the traffic volumes and the 85<sup>th</sup> percentile speed at all tube counts over the study area.

It is noted that the general speed limit for most of the streets in the study area that are part of the municipal road network is 50 km/h.



Summary of Council Data



### 3.6 Crash History

An assessment of the crash history for the study area was undertaken by analysing crash data for the past five calendar years obtained from VicRoads Road Crash Information database. The database contains all reported casualty crashes, which include the categories of Fatal, Serious Injury and Other Injury crashes. Non-injury or property-damage only crashes are not included in this database.

The categories of crash severity are defined as follows:

- > **Fatal Injury** – one or more persons are killed in the crash, or die within 30 days from injuries sustained in the crash.
- > **Serious Injury** – one or more persons are admitted to hospital as a result of injuries sustained in the crash.
- > **Other Injury** – one or more persons are given medical treatment for injuries sustained in the crash.

The crash data is used to identify ‘accident hot spots’ and provide particular attention to these locations in the development of the LATM. The accidents within the study area, which encompass the most recent five-year period, are shown in Table 3-3 and Figure 3-6.

Table 3-3 Crash Statistics Summary

Severity	Total No. of Accidents	Locations
Fatal	-	-
Serious Injury	4	Main Street (3), Grant Street (1)
Other Injury	18	Main Street (8), Grant Street (6), Clarinda Street (2)

The roads within the area have had 22 recorded crashes during the five-year period ending January 2018. None of the crashes resulted in fatalities, 4 resulted in serious injuries and 16 resulted in other injuries.

Definitions for Classifying Accidents (DCA's) are used to describe crash types by indicating the initial movement of vehicles (and/or pedestrians) involved in a crash. The details of the crash history within the study area by DCA type are summarised in Table 3-4.

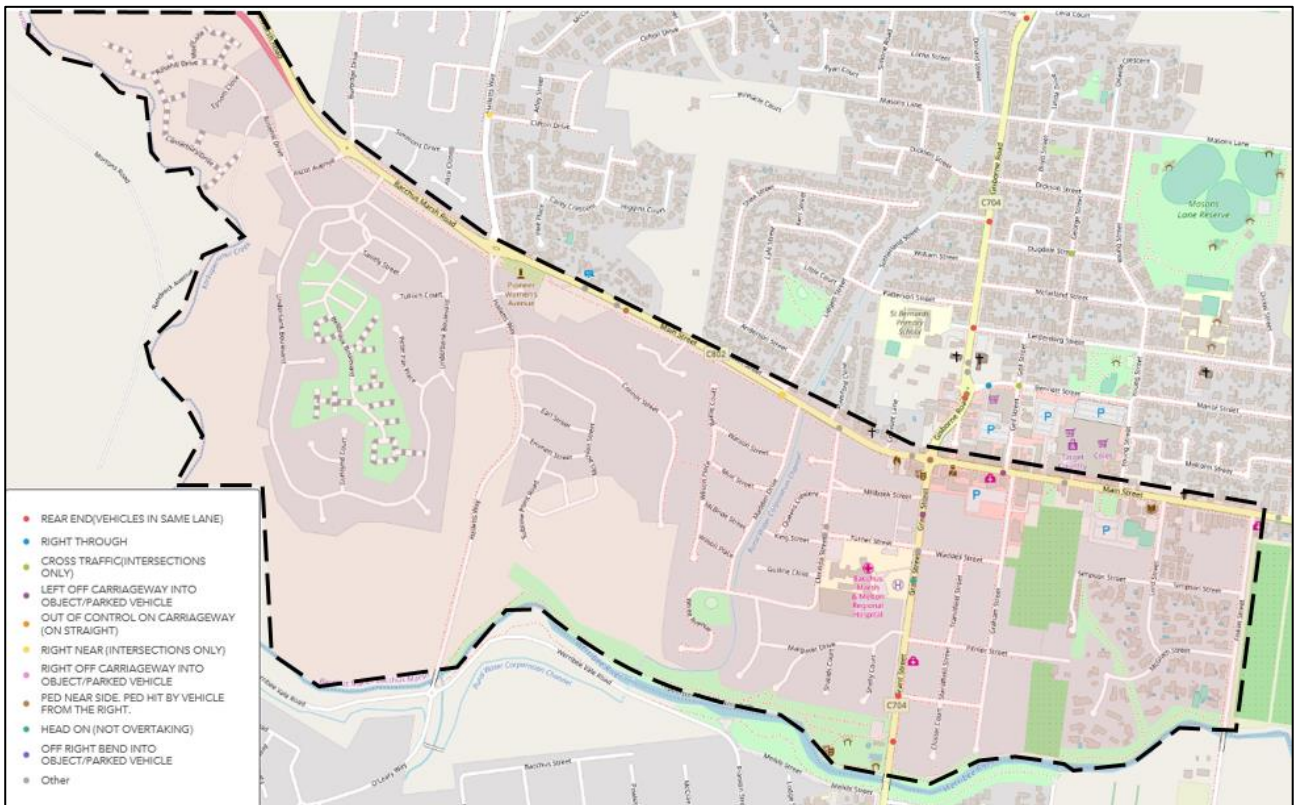
Table 3-4 Crash History by DCA Type in the Study Area

DCA By Crash Types	Fatal	Serious Injury	Other Injury	Total (%)
Pedestrian Related (100-109)	0	0	3	15%
Vehicle From Adjacent Directions (110-119)	0	1	4	25%
Vehicles From Opposing Directions (120-129)	0	0	1	5%
Vehicles From Same Direction (130-139)	0	0	3	15%
Manoeuvring Related (140-149)	0	2	1	15%
Overtaking Related (150-159)	0	0	0	0%
On Path Related (160-169)	0	0	0	0%
Off Road Related On Straight (170-179)	0	0	4	20%
Off Road Related On Curve (180-189)	0	0	0	0%
Passenger And Miscellaneous Related (190-199)	0	1	0	5%
<b>Total</b>	<b>0</b>	<b>4</b>	<b>16</b>	<b>100%</b>

As shown in Figure 3-6, the majority of crashes occurred on the main collector roads, Main Street and Grant Street, running through the study area. Significantly, it is noted that a high proportion of crashes compared to the rest of the study area occurred at a number of intersections along Grant Street, namely at the intersections of Turner Street, Waddell Street and Sydney Street.

Crash Stats also notes whether a driver of any vehicle involved in the crash was under the influence of alcohol. Within the study area, 8 out of the 20 crashes over the last 5 years have involved a driver with alcohol in their system. This represents a high rate of 40%.

Figure 3-6 Crash Locations



## 4 Key Issues Identified

### 4.1 Community Input

The following summarises the traffic issues identified through consultation with the local community as part of this study.

#### 4.1.1 Questionnaire Survey Responses

The local community was invited to respond to a questionnaire survey delivered to residents (including business owners) on the 26<sup>th</sup> of September 2018. The survey sought the community's views on traffic issues within the study area. Particularly the survey prompted the respondents to raise traffic issues within their local street as well as the whole study area, and asked for the details and suggestions on how to overcome these traffic problems.

The survey sought the community's views on a range of traffic issues within their local street as well as the whole study area, and asked for the details and suggestions to overcome these traffic problems.

The extent of the traffic issues the local community were asked to comment on were:

- > Traffic Speed.
- > Traffic Volume.
- > Through Traffic.
- > Truck Traffic.
- > Pedestrian Facilities / Safety.
- > Bicycle Facilities / Safety.
- > Irresponsible Driving (Hooning).

The community was also asked to identify, describe and suggest solutions for any problems they have encountered whilst walking, cycling or driving within the streets of the study area.

The following provides an overview of the information obtained from the questionnaire survey responses. This information provided a basis for identifying the main traffic problems perceived by the local community.

A copy of the community questionnaire survey is provided in Appendix B.

##### 4.1.1.1 Survey Responses – 'Your Street'

A total of 154 responses were received to the Questionnaire Survey.

A summary of the main traffic problems identified by the community within their street is provided in Table 4-1. It is noted that any responses where a respondent did not select a box were recorded as 'Not an Issue'.

Table 4-1 Summary of Questionnaire Responses – 'Your Street' Nature of Problem

Problems Identified	Not an Issue		Minor Issue		Major Issue		Total	
	No.	%	No.	%	No.	%	No.	%
Traffic Speed	69	45%	44	29%	41	27%	154	100%
Traffic Volume	76	49%	29	19%	49	32%	154	100%
Through Traffic	79	51%	24	16%	51	33%	154	100%
Truck Traffic	88	57%	23	15%	43	28%	154	100%
Parking	90	58%	21	14%	43	28%	154	100%
Pedestrian Facilities	81	53%	32	21%	41	27%	154	100%
Bicycle Facilities	100	65%	32	21%	22	14%	154	100%
Irresponsible Driving	81	53%	46	30%	27	18%	154	100%



As can be seen from Table 4-1 the most common issues raised by residents regarding traffic conditions in a given street were:

- > **Traffic Speed Issues:** 27% of responses identified traffic speed as a 'major' issue and 29% of responses identified traffic speed as a 'minor' issue in their street. This represents a proportion of 56% of residents identifying speed as an issue in their street.
- > **Traffic Volume:** 32% of responses identified traffic volume as a 'major' issue and 19% of responses identified traffic volume as a 'minor' issue in their street.
- > **Through Traffic:** 33% of responses identified through traffic as a 'major' issue and 16% of responses identified through traffic as a 'minor' issue in their street.

To provide a more insight into the nature of problems on these streets, the traffic issues brought up by the local community in their streets were analysed on a street-by-street basis. A summary of key streets is provided in Table 4-2.

Table 4-2 Summary of Questionnaire Responses – 'Your Street'

Street	No. Respondents	Nature of Problem							
		Speed	Volume	Through Traffic	HV Traffic	Parking	Pedestrian Facilities	Bicycle Facilities	Hooning / Irresponsible Driving
Clarinda Street	6	67%	83%	67%	17%	100%	66%	33%	50%
Closter Court	4	50%	50%	50%	50%	50%	50%	50%	75%
Graham Street	13	62%	69%	69%	54%	46%	31%	46%	62%
Grant Street	9	67%	89%	56%	100%	67%	67%	56%	33%
Main Street	5	40%	40%	40%	80%	40%	40%	20%	20%
Margaret Drive	6	50%	50%	67%	0%	0%	50%	33%	67%
Millbank Street	6	83%	83%	83%	17%	83%	33%	17%	50%
Pilmer Street	7	71%	43%	57%	29%	43%	57%	43%	43%
Simpson Street	7	57%	43%	29%	43%	29%	29%	29%	86%
Standfield Street	5	40%	40%	40%	20%	40%	0%	0%	20%
Sydney Street	5	60%	40%	60%	60%	60%	60%	60%	40%
Underbank Boulevard	22	64%	18%	27%	36%	27%	82%	59%	59%
Waddell Street	6	100%	100%	83%	67%	100%	83%	50%	83%

#### 4.1.1.2 Survey Responses – ‘Other Issues’

Residents were asked to identify and provide detailed comments to give insight on the nature of problems in other streets within the study area on particular streets. By allowing residents to identify other issues in the area, it helps identify the types of problems that affect the wider community, and not just those located within the street. These traffic issues were analysed on a street-by-street basis and represent the extent that the issues identified within these streets are at the forefront of the community’s agenda. A summary of the responses is provided in Table 4-3.

Table 4-3 Summary of Questionnaire Responses – ‘Other Streets / Issues’

Street	No. of Times Issue Raised							
	Speed	Volume	HV Traffic	Parking	Pedestrian Facilities	Bicycle Facilities	Irresponsible Driving	Traffic Safety (Access)
Clarinda Street	4	2	0	14	0	0	2	2
Closter Court	0	0	0	0	2	0	0	0
Culling Close	0	0	0	3	0	0	0	0
Fisken Street	2	0	2	0	0	0	0	1
Graham Street	16	4	3	0	1	0	1	1
Grant Street	3	38	23	7	7	1	2	2
Halletts Way	7	0	0	0	0	0	3	0
Lord Street	1	0	4	1	0	0	0	1
Main Street	9	11	4	7	15	1	4	3
Margaret Drive	6	0	0	0	3	0	0	4
Pilmer Street	2	0	0	3	0	0	0	1
Standfield Street	0	0	0	1	0	0	0	1
Sydney Street	3	0	0	3	0	0	0	0
Turner Street	2	0	0	5	1	0	0	6
Underbank Boulevard	5	0	1	2	12	0	0	0
Waddell Street	2	0	0	4	0	1	0	3

#### 4.1.1.3 Questionnaire Survey Summary

Based on the survey responses outlined within Table 4-2 and Table 4-3, some of the most common concerns raised by the local community within the study area are:

##### Clarinda Street:

- > Parking availability, particularly due to proximity to Bacchus Marsh and Melton Regional Hospital.

##### Graham Street:

- > Identified as a possible 'rat run' with speeding concerns raised.
- > A number of residents believe that the number of heavy vehicles utilising this street is too high.

##### Grant Street / Gisborne Road:

- > Heavy congestion and noise caused by the volume of traffic and number of heavy vehicles utilising this road.
- > The congestion occurring along this road was considered to affect the abutting local roads along its length. These roads include Waddell Street, Turner Street, Pilmer Street and Margaret Drive, from which residents cited difficulty accessing Grant Street.
- > Congestion concerns also refer to the intersection with Bacchus Marsh Road / Main Street in particular as a catalyst for these issues.

##### Halletts Way:

- > A number of residents raised lighting concerns along the length of Halletts Way (it is understood that this issue is temporary and is likely to be remedied upon planned installation of street lighting).
- > Residents are concerned about the safety of pedestrians and vehicles particularly due to hooning, dangerous and speeding behaviour cited within the area.
- > The general opinion of the recently completed connection of Halletts Way to O'Leary Way differs, with residents believing that it was created as an alternate route to bypass the centre of Bacchus Marsh, or to access the newly constructed developments within this area.

##### Main Street:

- > Congestion and safety concerns were raised by the community for the stretch of road along Main Street in the vicinity of the Bacchus Marsh Activity Centre.
- > Pedestrian safety concerns are exacerbated by 'speeding' behaviour along the section of Main Street east of Gisborne Road. A portion of the community feedback indicated that a 40 km/h speed limit may be supported along this section.
- > To the East of Grant Street, residents cited Lord Street and Fischen Street as dangerous or difficult intersections.

##### Margaret Street:

- > In combination with Madden Drive, identified as potential 'rat run' from Grant Street in order to avoid the Main Street intersection.

##### Turner Street:

- > Parking availability along Turner Street, particularly due to proximity to Bacchus Marsh and Melton Regional Hospital.

##### Underbank Boulevard:

- > Residents in Underbank Boulevard were primarily concerned about the lack of footpaths provided, particularly due to the high proportion of elderly residents within the area.
- > Residents and the wider community are pre-emptively concerned about the potential for Underbank Boulevard to experience speeding, hooning and 'rat running' following the connection of Gothic Drive to Halletts Way.

#### 4.1.2 Social Pinpoint - Online Interactive Survey

As an alternative to responding to the questionnaire survey via letter, the local community was invited to comment on traffic issues within the LATM study area on an online interactive map located at: <https://msc.mysocialpinpoint.com/latm-stage-2#/>

The traffic issues the local community was asked to comment on included:

- > Traffic speed and irresponsible driving.
- > Lack of traffic calming devices / infrastructure.
- > Increased through traffic.
- > Pedestrian / cyclist safety.
- > Parking.
- > Heavy vehicles.

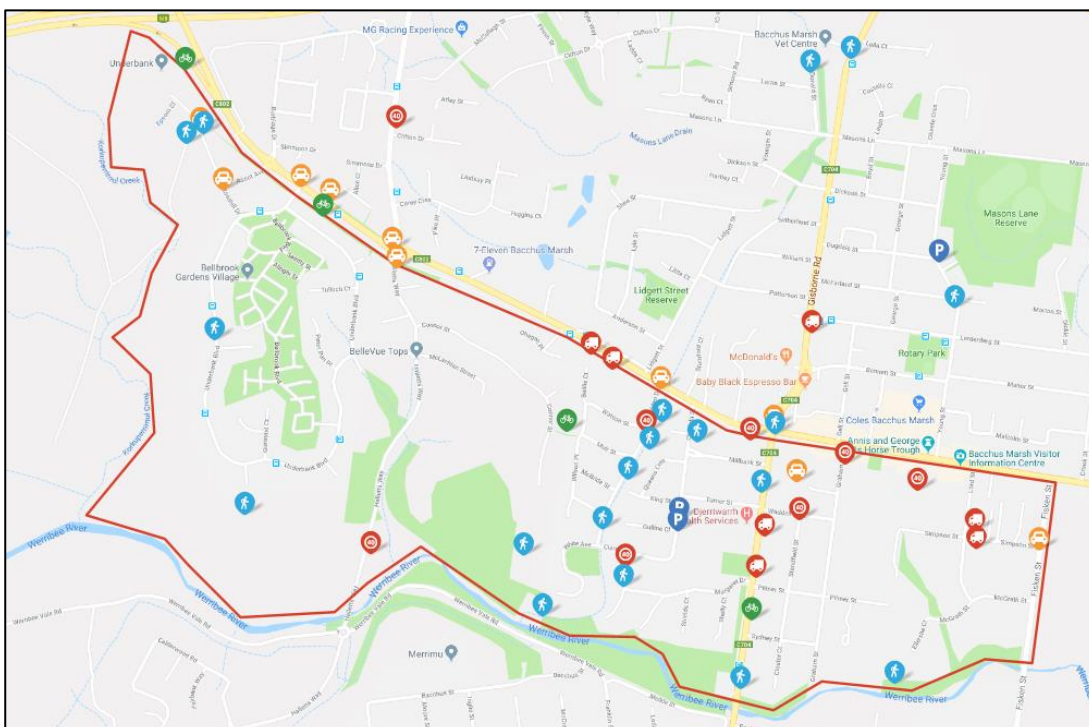
The interactive map invited users to provide feedback on traffic related issues within their neighbourhood, by placing one of six different pins relating to six different key issues and commenting at a location where they were aware of any existing issues. Overall, a total of 45 locations within the study area were identified as having an issue by the community with many receiving additional comments, likes and dislikes at each location. It is noted that a number of pins may relate to the same issue (i.e. congestion along a street may have a number of pins dropped at different locations).

The six pins available to place, and the quantity of each pin placed in the study area, were as follows:

- > Truck traffic issue (6).
- > Traffic Speed / Irresponsible Driving (7).
- > Congestion / Traffic Volume (10).
- > Pedestrian Safety Issue (16).
- > Bicycle Safety Issue (4).
- > Parking Issues (2).

The location of these are outlined in Figure 4-1.

Figure 4-1 Online Interactive Survey Pins



Courtesy of My Social Pinpoint (01/11/2018)

As the online interactive survey had a comparatively low level of respondents per street, it is considered that this survey is supplementary to the questionnaire survey and therefore should not be analysed in isolation. However, the views expressed help to provide a number of a number of specific details related to the traffic issues present within the area.

The key and/or repeated observations made by the respondents to the online interactive survey are outlined as follows:

**Clarinda Street:**

- > Reduced parking availability on Clarinda Street, due to recent renovations to the medical centre reducing the availability of parking spaces on-site.

**Fisken Street:**

- > Feedback indicates that many vehicles use this as a 'rat-run' to avoid Grant Street.
- > Congestion and safety concerns for the intersection between Fisken Street and Main Street.
- > Residents are unhappy that school buses use Fisken Street and Lord Street.

**Graham Street:**

- > Similar to Fisken Street, according to community feedback the intersection of Graham Street and Main Street is dangerous and confusing. Particularly residents indicate that it is easy to turn into the wrong lane.

**Grant Street:**

- > Residents indicate that pedestrian facilities across Grant Street could be improved.
- > Heavy vehicles and congestion along Grant Street was reiterated as a serious issue.
- > According to community feedback, bicycle facilities and routes around Bacchus Marsh are insufficient, and given the volume and speed of traffic the current routes along Grant Street and Main Street are considered to be dangerous.

**Madden Drive:**

- > Many members of the community expressed interest in the provision of a walking / bike path along the length of the water channel supplemented by a bridge across Werribee River.
- > Traffic speed and 'rat running' was identified as a possible issue along Madden Drive and Margaret Street.

**Main Street:**

- > Bicycle facilities particularly to the west of Grant Street are considered dangerous.
- > A number of residents raised concerns regarding noise and vibrations due to heavy vehicles.
- > Sight distance, speeding and honing concerns at the Halletts Way intersection.

**Underbank Boulevard:**

- > Difficulty turning onto Main Street.
- > Responses indicated that the lack of footpaths along the length of Underbank Boulevard, particularly given the elderly residents in area presents a safety hazard.

#### **4.1.3 Summary of Key Issues**

Based on the feedback from the surveys, some of the most common concerns raised by the local community in this section of the survey responses are summarized below:

**Grant Street:**

- > Most of the responses regarding Grant Street reference the congestion caused by the volume of traffic and number of heavy vehicles utilising this road.
- > The congestion occurring along this road was considered to affect the abutting local roads along its length. These roads include Waddell Street, Turner Street, Pilmer Street, Sydney Street and Margaret Drive.

- > Concerns were also noted at the intersection with Bacchus Marsh Road / Main Street, as a possible catalyst for the issues outlined above.

#### Bacchus Marsh Road / Main Street:

- > Safety concerns were raised by the community along Main Street including Graham Street, Fisken Street and Halletts Way.
- > Pedestrian safety concerns are exacerbated by speeding behaviour along the section of Main Street east of Grant Street. The general sentiment within the community feedback was that a 40 km/h speed limit should be instated along this section.
- > To the west of Grant Street, many residents cited speeding and hooning concerns along the length of Bacchus Marsh Road / Main Street. Particularly, residents raised the intersections of Main Street and Halletts Way.
- > General sentiment is that bicycle facilities to the west of Grant Street could be improved, particularly referencing the unpaved shoulder on a road conducive to speeding vehicles.

#### Bus Route / Heavy Vehicles on Local Streets:

- > A number of residents raised their concerns regarding the increasing use of Lord Street and Fisken Street by local school buses.
- > Given the poor operation of Grant Street, 'rat running' by heavy vehicles was noted to impact a number of local streets including Graham Street, Pilmer Street, Margaret Drive and Madden Drive.

#### Underbank Boulevard:

- > Residents living on Underbank Boulevard and the surrounding area are concerned about the lack of pedestrian facilities in the area, particularly given the elderly residents in the area.

#### Parking in the vicinity of Bacchus Marsh Hospital:

- > Parking along Clarinda Street and Turner Street was identified as a serious issue for local residents, with concerns that the current situation appears to be worsening.

## 4.2 Engineering Investigations

Investigation of traffic issues raised by the local community and review of existing traffic and accident data identified a number of issues to be considered in the development of the Traffic Management Plan. These include, but are not limited to:

- > Traffic speeds and irresponsible driving, particularly:
  - Bacchus Marsh Road / Main Street.
  - Halletts Way.
  - Graham Street.
  - Fisken Street.
  - Margaret Drive (rat-running).
  - Madden Drive (rat-running).
- > Traffic safety in local streets and intersections;
  - Main Street / Grant Street.
  - Main Street / Fisken Street.
  - Main Street / Graham Street.
  - Main Street / Halletts Way.
  - Halletts Way.
  - Grant Street / Margaret Drive.
  - Grant Street / Turner Street.
  - Grant Street / Pilmer Street.

- Grant Street / Sydney Street.
- Grant Street / Waddell Street.
- > Congestion on the following streets;
  - Grant Street.
  - Main Street.
- > Pedestrian facilities in the following streets:
  - Bacchus Marsh Road / Main Street.
  - Underbank Boulevard.
  - Closter Court.
- > Cycling facilities in the following streets;
  - Main Street.
  - Throughout the wider area.
- > On-street parking in the following streets;
  - Clarinda Street.
  - Turner Street.
  - Main Street.
  - Waddell Street.

#### 4.2.1 Traffic Speeds and Irresponsible Driving

Traffic speeds and irresponsible driving was raised as a concern throughout this study area at a number of locations. The following provides a description of these issues as they present at each location.

##### 4.2.1.1 Main Street

The general consensus of residents based off the community consultation was that the speed limit along Main Street approaching the Activity Centre from the east is too high. It is noted that this sentiment is strongly shared with Stage 1 of the Bacchus Marsh LATM study.

To the east of Gisborne Road, speed on Main Street was cited as an issue, particularly in the vicinity of the Halletts Way roundabout as it creates a dangerous intersection.

##### 4.2.1.2 Halletts Way

Similar to the Stage 1 LATM study, speeding and inappropriate driving behaviour were raised as concerns on Halletts Way south of Main Street, particularly at the intersection with Main Street where the roundabout facilitates higher speeds, and along the section directly north of the Werribee River.

##### 4.2.1.3 Fiskin Street

Fiskin Street is a long, flat and straight road with no speed controls running from Parwan Road in the south to Main Street in the north. As a result, a number of residents have identified Fiskin Street as prone to speeding by vehicles using this street to avoid congestion along Grant Street.



Figure 4-2 Fisken Street facing north toward Main Street



#### 4.2.1.4 Graham Street

Similar to Fisken Street, Graham Street comprises a wide pavement along a long, straight section of road. Approximately 700 metres in length, it is clear that the absence of speed controls along this length enable drivers to travel at significant speeds. The traffic speed data previously discussed in Section 3.5 supports this, indicating 85<sup>th</sup> percentile speeds above the 60 km/h speed limit.

Particularly, as Graham Street is accessible from Grant Street via Waddell Street, Pilmer Street and Sydney Street, a high number of residents identified Graham Street as a rat-running route to avoid congestion on approach to the Main Street / Grant Street intersection.

#### 4.2.1.5 Margaret Drive / Madden Drive:

The community consultation responses and analysis of traffic data within the area indicated that Margaret Drive and Madden Drive are often used by drivers to avoid congestion at the Grant Street / Main Street intersection. Significantly, supplied Council traffic speed data showed 85<sup>th</sup> percentile speeds of 57.2 km/h along Madden Drive, higher than the default speed limit of 50 km/h.

Approximately 500 metres in length with no existing speed controls, it is considered that both rat running and speeding could be reduced with the implementation of speed controls on Margaret Drive and Madden Drive.

## 4.2.2 Traffic Safety in Local Streets and Intersections

### 4.2.2.1 Main Street

Grant Street, Fisken Street and Graham Street (all intersecting with Main Street) have been highlighted as unsafe intersections.

A review of the area during a site inspection indicated that in general, the existing infrastructure is either worn down or intended to provide little horizontal and vertical deflection, which are typically effective methods of slowing vehicles at critical points.

At Graham Street, community consultation responses indicated that lane delineation is poor and that it can be easy to end up on the wrong side of the road when turning in and out of Graham Street / Main Street.

There is, however, little to no evidence on crash stats suggesting that any of these intersections have a particularly high rate of incidents. Conversely, to the west of Grant Street, there have been six (6) reported crashes in the last 5 years on Main Street.

Figure 4-3 Graham Street Intersection facing East on Main Street



#### 4.2.2.2 Grant Street

Similarly, a number of streets abutting Grant Street were highlighted by the community as unsafe intersections. These intersections include Millbank Street, Waddell Street, Turner Street, Margaret Drive, Pilmer Street and Sydney Street. Community comments indicated that both ingress and egress from these streets can be difficult.

Review of these intersections during site inspection did not indicate any immediately apparent hazards. Instead, it is considered likely that the main hazard is the existing traffic conditions along Grant Street, which notably includes a high proportion of heavy vehicles. It is also noted that parked vehicles may obscure vision of oncoming vehicles.

Review of crash stats data indicated that at least four (4) reported incidents have occurred at these intersections in the last five years.

#### 4.2.3 Congestion

##### 4.2.3.1 Grant Street

Similar to Stage 1 of the LATM Study conducted within the area to the north of Main Street, congestion on Grant Street is a significant issue for the community. It is noted that congestion along Grant Street itself is largely considered a macro issue that is outside the scope of an LATM study, and is currently being considered and addressed via a number of VicRoads and Victorian Planning Authority transport studies.

Figure 4-4 Grant Street facing north towards Turner Street



#### 4.2.3.2 Bacchus Marsh Road / Main Street

The issues raised by the community regarding congestion on Main Street focused around the Grant Street / Gisborne Road intersection. As discussed above, this is largely a macro issue and is not usually considered as an aspect of an LATM study.

#### 4.2.3.3 Other Issues

The issues raised by the community regarding congestion on Main Street were largely due to two areas of the road, the intersection with Gisborne Road and on a number of streets abutting Main Street, namely:

- > Lidgett Street.
- > Crook Street.
- > Fisken Street.
- > Young Street.

The abutting streets appear to be experiencing congestion for a number of reasons including right turning traffic causing queuing / congestion on Main Street and making it difficult to turn onto Main Street from abutting streets (such as Lidgett Street).

During a site inspection, it took approximately 5 minutes to travel from Young Street to enter the Main Street / Gisborne Road intersection, a distance of only 500 metres, which supports the comments from the community.

#### 4.2.4 Pedestrian Facilities

Issues with the provision and quality of pedestrian facilities within the study area were raised by the community at a number of locations. The following outlines a number of significant locations and the issues stressed by the community:

- > Underbank Boulevard: The local community is concerned with the lack of pedestrian footpaths provided along the length of Underbank Boulevard, particularly given the number of elderly residents living in the area. It is noted that a number of trips and falls were reported by residents in their responses.
- > Grant Street / Main Street: Inadequate pedestrian facilities (traffic islands) at this roundabout for the amount of traffic.
- > Main Street: Within the vicinity of the Bacchus Marsh Activity Centre, it is evident from community responses that the pedestrian crossings are inconspicuous and that the local community believes that the existing 50 km/h speed limit along this portion of the roadway is too high.

Figure 4-5 Main Street Crossing (West of Graham Street)



#### 4.2.5 Cycling Facilities

A number of responses from the community consultation indicated that alternative routes that divert bicycle movements from the heavily trafficked roads (Gisborne Road and Main Street) are required to make cycling in the area safer. Generally, it is evident that due to the surrounding environment, cycling is a relatively unattractive mode of transport in the area for most residents.



#### 4.2.6 On-Street Parking

Parking issues within this study area are predominantly focused along the streets surrounding the Bacchus Marsh Medical Centre and adjacent medical facilities. Residents indicated that overflow parking related to this land use affected the following streets:

- > Clarinda Street, operating with generally unrestricted parking at all times.
- > Turner Street, operating with a mixture of 2P and 1P parking from 8:30am to 5:30pm from Monday to Saturday on the northern kerb and 2P parking at all times on the southern kerb.
- > Millbank Street, operating with 2P parking from 8:30am to 5:30pm from Monday to Saturday on the northern kerb; and unrestricted parking on the southern kerb.
- > Waddell Street, operating with 2P parking from 8:30am to 5:30pm from Monday to Saturday on the southern kerb and unrestricted parking at all times on the northern kerb.

Particularly, residents noted the ongoing development and expansions of the hospitals in the area, at the expense of on-site car parking.

Figure 4-6 Parking along Clarinda Street



## 5 Conclusion

The object of this study is to prepare a Local Area Traffic Management (LATM) Plan for the Bacchus Marsh area, which addresses the main traffic issues in the area and reflects the requirements and expectations of the local community.

In this stage, the existing conditions of the study area, including the issues raised by the community have been assessed. This stage required consultation with the local community to identify local traffic issues and possible improvements, in conjunction with engineering investigations undertaken by Cardno.

The key issues identified in the study generally relate to traffic concerns such as traffic congestion, pedestrian safety and parking. Specifically, some of the key issues identified are:

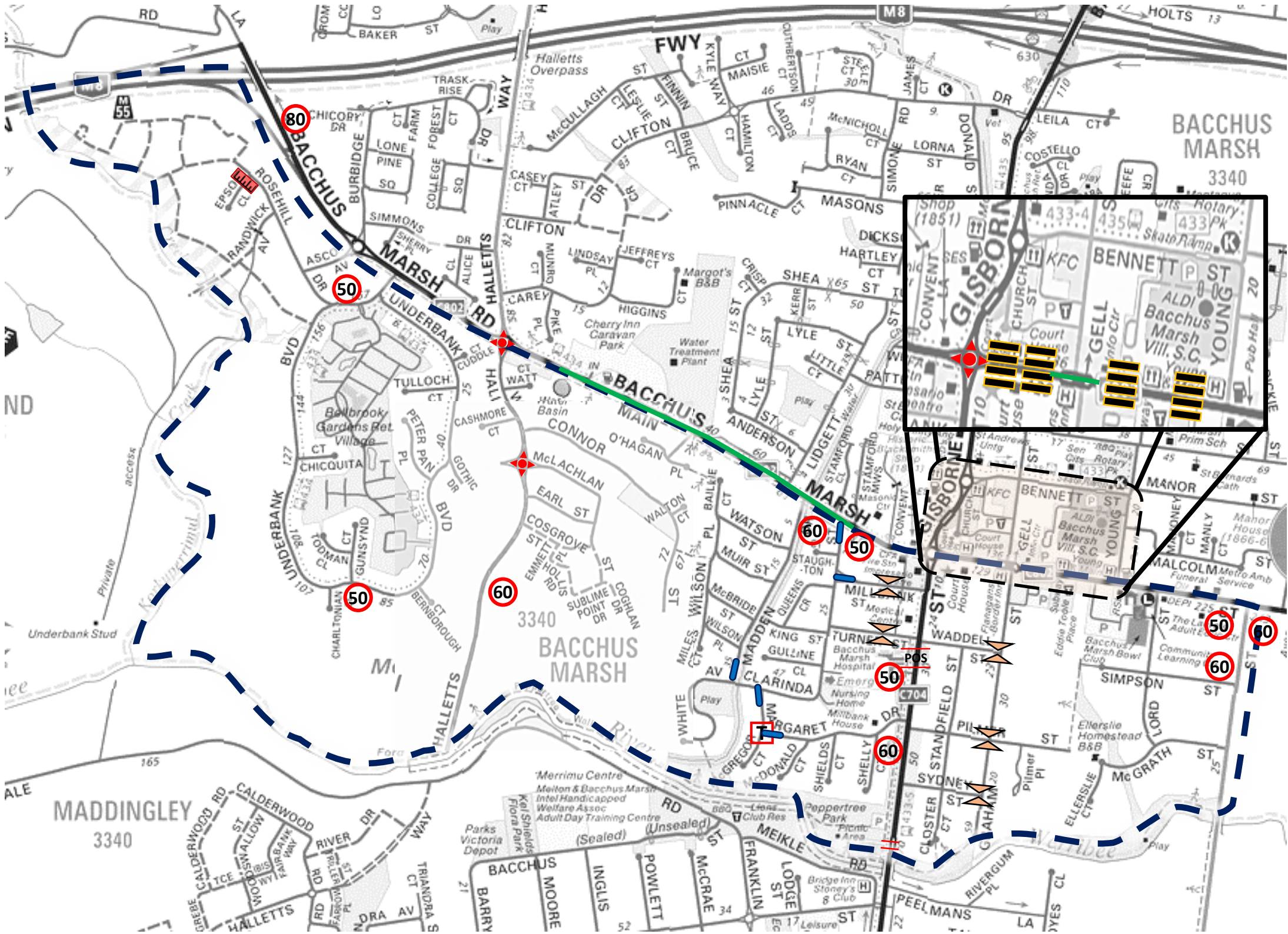
- > Traffic congestion on Grant Street and Main Street causing congestion and creating dangerous intersections.
- > Pedestrian safety along Main Street surrounding the Bacchus Marsh Activity Centre, and pedestrian facilities surrounding Underbank Boulevard.
- > Parking concerns surrounding Bacchus Marsh Hospital and surrounding area, generally anticipated to worsen.

Bacchus Marsh Local Area Traffic  
Management Study – Stage 2

APPENDIX

A

EXISTING CONDITIONS



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Bacchus Marsh Local Area Traffic  
Management Study – Stage 2

APPENDIX

B

FIRST COMMUNITY CONSULTATION

# COMMUNITY QUESTIONNAIRE



## BACCHUS MARSH LOCAL AREA TRAFFIC MANAGEMENT STUDY (STAGE 2)

Please complete and return this questionnaire to Council by 22 October 2018. Please feel free to attach additional sheets if required. Alternatively, you can visit Council's website [www.moorabool.vic.gov.au/consultations](http://www.moorabool.vic.gov.au/consultations) to view project information, complete the survey and add your feedback to the interactive map.

### Contact Details

Name	
Address	
Phone number	

### What are the age groups that reside at this address?

0 – 17 years	18 – 25 years	26 – 45 years	46 – 64 years	65+ years

### Are there any traffic issues in your street?

Street	
--------	--

Please tick one box for each of the issues outlined below.

Issues	Not an issue	Minor issue	Major issue
Traffic speed			
Traffic volume (number of vehicles)			
Through traffic (traffic from other areas)			
Truck/heavy vehicle traffic			
Parking issues			
Pedestrian facilities/safety			
Bicycle facilities/safety			
Irresponsible driving (hooning)			

### Do any of these issues occur at a particular time of day?

Please tick one box for when each of the issues outlined above occur.

Issues	All times	Peak times	Day times	Night times
Traffic speed				
Traffic volume (number of vehicles)				
Through traffic (traffic from other areas)				
Truck/heavy vehicle traffic				
Parking issues				
Pedestrian facilities/safety				
Bicycle facilities/safety				
Irresponsible driving (hooning)				

# COMMUNITY QUESTIONNAIRE



## BACCHUS MARSH LOCAL AREA TRAFFIC MANAGEMENT STUDY (STAGE 2)

Please provide any suggestions to overcome the traffic issues which you have indicated in question 3.

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Have you noticed any traffic issues in other streets within the study area?

Street name	
Traffic issues	
Suggestions to overcome traffic issues	

Do you have any other transport related issues which you have encountered whilst walking, cycling or driving in the streets within the study area?

Location of issue/s	
Description of issue/s	
Suggestions to overcome issue/s	

Please feel free to provide any additional feedback that you feel is relevant to the LATM study area.

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Thank you for taking the time to complete this survey, community participation is essential in identifying and addressing issues of this nature to help inform the preparation of the LATM Plan.

**8. FURTHER BUSINESS AS ADMITTED BY UNANIMOUS RESOLUTION OF COUNCIL**

**9. CLOSED SESSION OF THE MEETING TO THE PUBLIC**

<b>9.1 Contract C21–2018/2019; Ormond Rd, Springbank – Pavement Rehabilitation &amp; Widening.</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Ewen Nevett – Manager, Engineering Services
<b><i>Section 89(2)d - contractual matters</i></b>	

<b>9.2 Contract C32–2018/2019; Woolpack Rd, Bacchus Marsh – Pavement Rehabilitation &amp; Widening.</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Ewen Nevett – Manager, Engineering Services
<b><i>Section 89(2)d - contractual matters</i></b>	

<b>9.3 Contract C24–2018/2019; Main Street, Gordon–Streetscape Upgrade, Stage 1</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Ewen Nevett – Manager, Engineering Services
<b><i>Section 89(2)d - contractual matters</i></b>	

<b>9.4 Contract C16-2018/2019 – Receipt and Processing Waste</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Daniel Smith – Manager, Operations
<b><i>Section 89(2)d - contractual matters</i></b>	

<b>9.5 Contract C17-2018/2019 – Receipt and Processing Recyclables</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Daniel Smith – Manager, Operations
<b><i>Section 89(2)d - contractual matters</i></b>	



<b>9.6 Contract C18-2018/2019 – Receipt and Processing Greenwaste</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Daniel Smith – Manager, Operations
<b>Section 89(2)d - contractual matters</b>	

<b>9.7 Contract C19-2018/2019 – Collection and Transportation of Kerbside Waste, Recycling and Greenwaste</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Daniel Smith – Manager, Operations
<b>Section 89(2)d - contractual matters</b>	

<b>9.8 Contract C20-2018/2019 – Management and Operation of Transfer</b>	
<b>Directorate:</b>	Infrastructure
<b>General Manager:</b>	Phil Jeffrey
<b>Author:</b>	Daniel Smith – Manager, Operation
<b>Section 89(2)d - contractual matters</b>	

**Recommendation:**

That pursuant to the provisions of the Local Government Act 1989, the meeting now be closed to members of the public to enable the meeting to discuss matters, which the Council may, pursuant to the provisions of Section 89(2) of the Local Government Act 1989 (the Act) resolve to be considered in Closed Session, being a matter contemplated by Section 89(2) of the Act, as follows:

- (a) personnel matters;
- (b) the personal hardship of any resident or ratepayer;
- (c) industrial matters;
- (d) contractual matters;
- (e) proposed developments;
- (f) legal advice;
- (g) matters affecting the security of Council property;
- (h) any other matter which the Council or special committee considers would prejudice the Council or any person;
- (i) a resolution to close the meeting to members of the public

Items 9.1 – 9.8 are confidential items  
and therefore not included  
as part of this Agenda.

## **10. MEETING CLOSURE**