

Final LATM Plan

Bacchus Marsh Local Area Traffic Management Study

V171899

Prepared for
Moorabool Shire Council

13 August 2018



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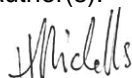
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Executive Summary

Cardno were engaged by Moorabool Shire Council in January 2018 to develop a Local Area Traffic Management (LATM) plan for Stage 1 of the Bacchus Marsh study area. The study is a formal way of addressing community concerns within the study area including, traffic, pedestrian and cyclist related issues within the local streets, whilst reflecting the requirements and expectations of the local community.

The initial consultation process involved the distribution of questionnaire surveys to residents and businesses in the study area in March 2018. A total of 164 responses were received.

Community feedback received from the initial questionnaire survey was analysed together with a detailed existing conditions assessment to develop a Draft LATM plan proposal.

The draft plan was distributed to residents and businesses via a letter drop and an interactive online tool. Residents were also invited to attend community consultation sessions in person and provide additional feedback to the project team. The key traffic and transport issues the draft plan aimed to address included:

- > Pedestrian and cyclist safety along Bennett Street and Young Street near to the shopping centre;
- > Speeding and irresponsible driving issues along Young Street, Masons Lane, Lerderberg Street, George Street and McFarland Street;
- > Speeding along Halletts Way north of Main Street;
- > Turning difficulty complaints into local roads from Halletts Way;
- > Irresponsible driving on Lidgett Street, Shea Street and Anderson Street; and
- > Lack of safe cycling facilities throughout Bacchus Marsh.

Community feedback was an important component of the study, and provided valuable insight to the importance of each treatment for the local area, as well as the benefit each treatment provided. A number of additional measures were subsequently included to address other concerns raised by the community.

Following further investigation, and having regard to the community consultations and feedback conducted during the study, a Final Local Area Traffic Management Plan was prepared as shown below, along with a priority ranking and associated cost for each nominated measure. The treatments outlined within the final plan are to be funded as part of Council's Capital Works Program, when funding becomes available.

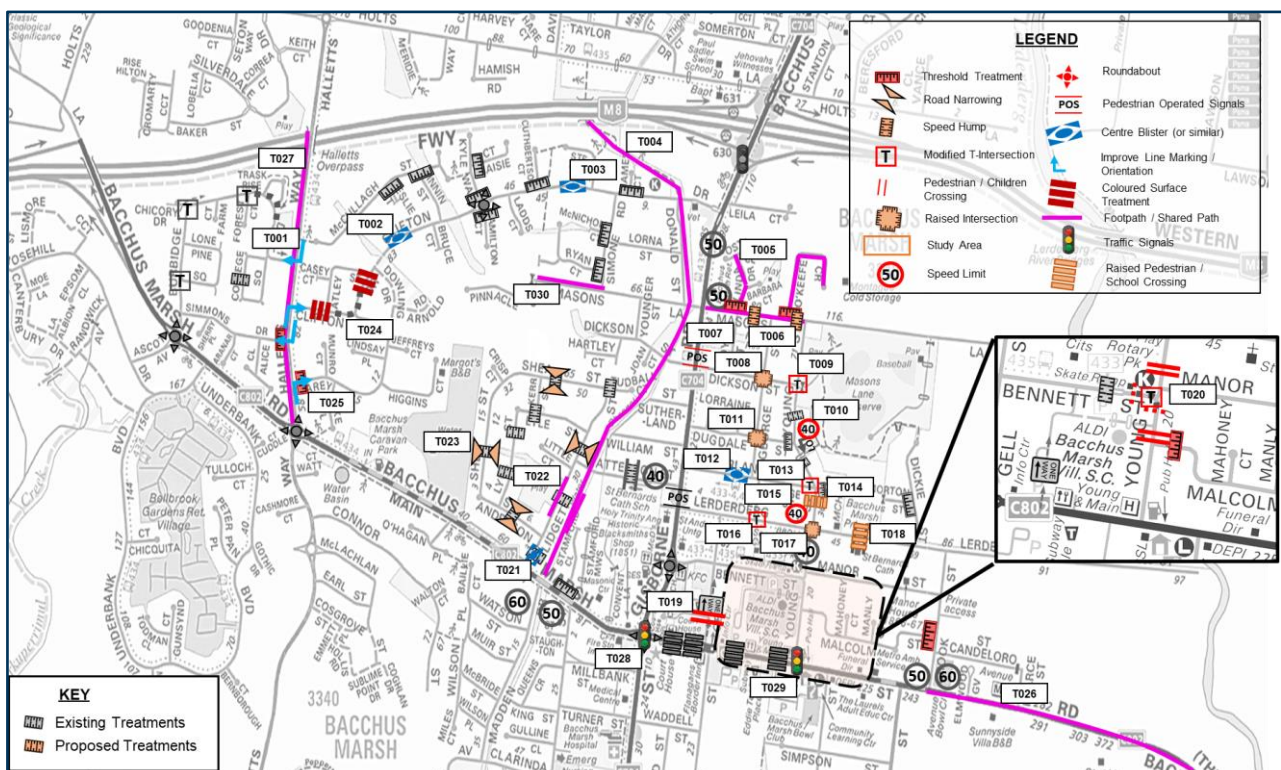


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1 Introduction

Cardno has been engaged by Moorabool Shire Council to undertake a Local Area Traffic Management (LATM) study for the Bacchus Marsh Area. 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.

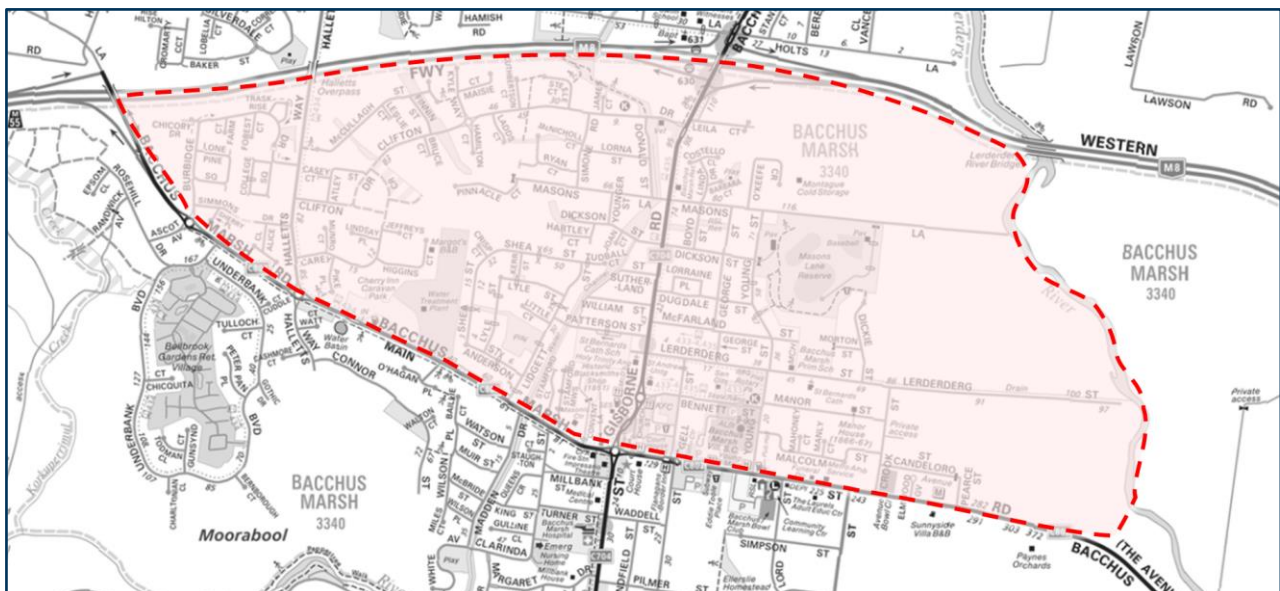
The following report provides a Final LATM Plan to respond to feedback from the community consultation sessions on the Draft LATM Plan. This report should be read in conjunction with the Existing Conditions Assessment (Document Reference V171899REP002F01) and the Draft LATM Plan (Document Reference V171899REP003F01).

In the course of preparing the Final LATM Plan, Cardno has consulted with Moorabool Shire Council to inform the measures proposed.

1.1 Study Area

The study area is bound by the Western Freeway to the north, Main Street / Bacchus Marsh Road to the south, and the Lerderderg River 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 currently implemented in the local area by Council are shown in Figure 1-2.

1.3 Proposed LATM Measures

A series of proposed LATM measures was prepared by Cardno to address the main traffic issues identified from the traffic data and community consultation data, in consultation with Council officers. These proposals were previously presented in the Draft LATM Plan, which were central to the community consultation process and crucial to the development of the Final LATM Plan. The Draft LATM Plan measures are shown in Figure 1-3.

Figure 1-2 Existing Traffic Management Measures

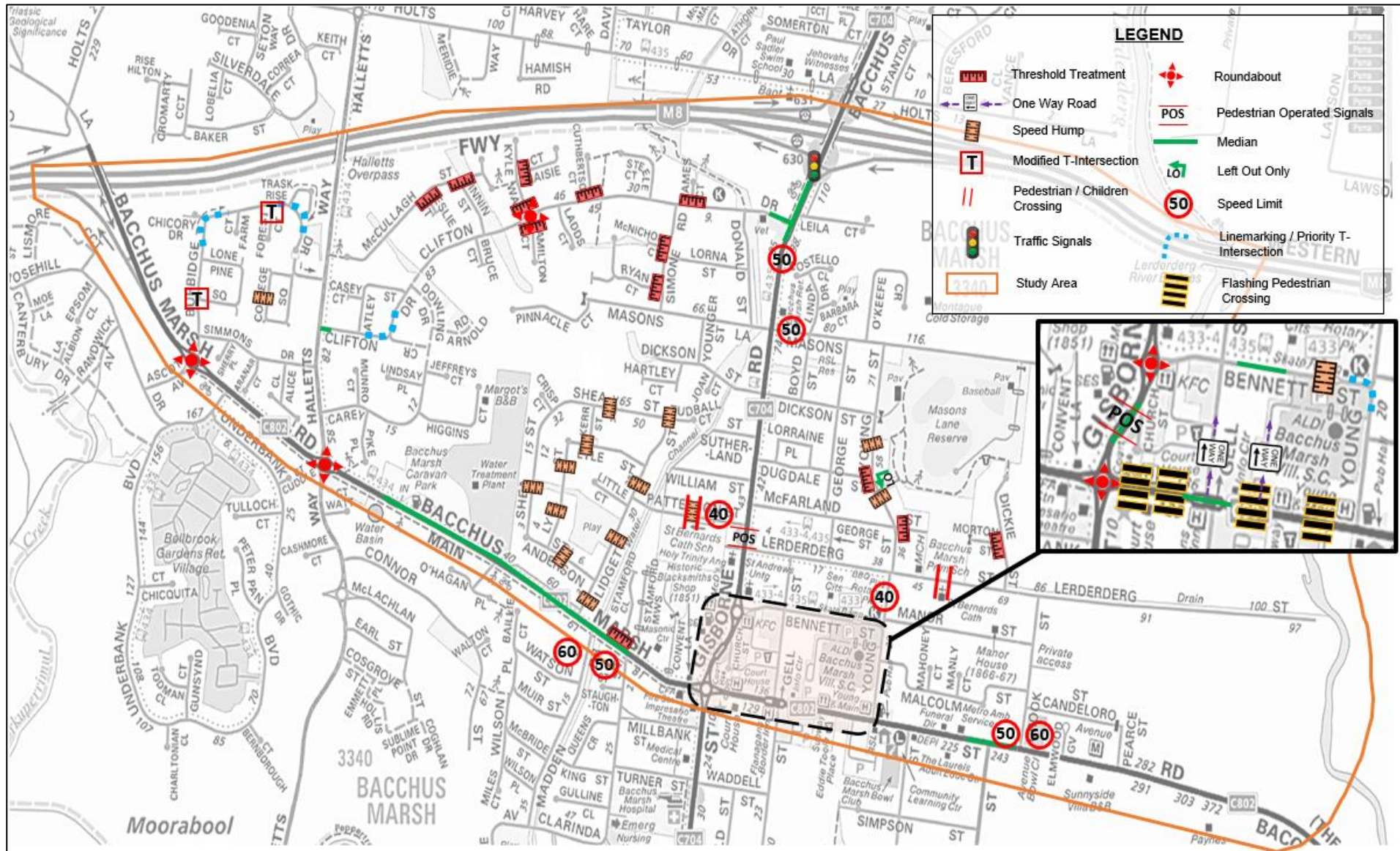
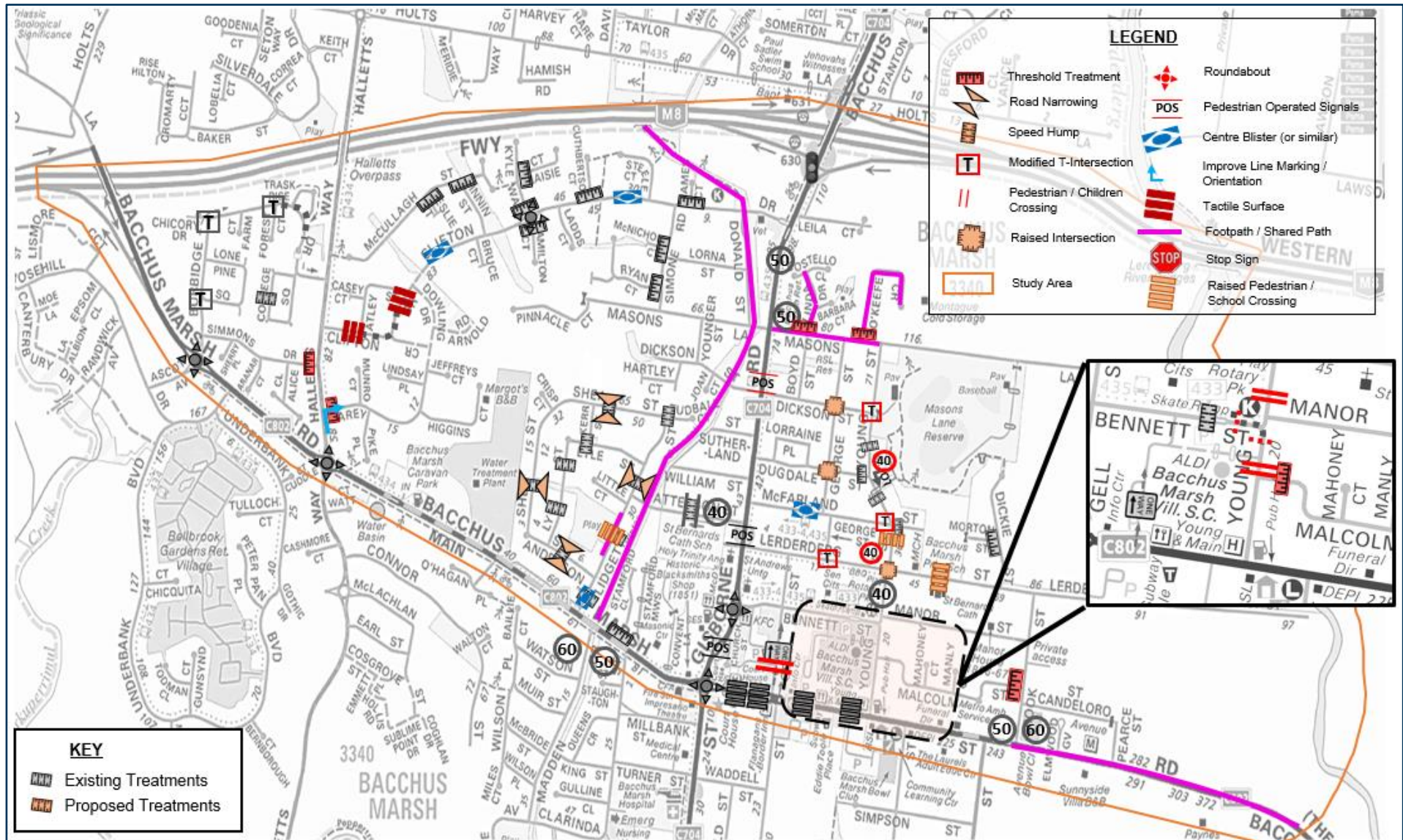


Figure 1-3 Proposed Draft LATM Measures



2 Scope of This Report

2.1 Overview

The Final Local Area Traffic Management (LATM) Plan outlined in the following sections has been informed by Cardno's understanding of the study area as contained within the Existing Conditions Assessment (V171899REP002F01), the Draft LATM Plan (V171899REP003F01) and the findings of the Community Consultation.

The Final LATM Plan provides an overview of the community consultation process for the Draft LATM Plan, and the subsequent revisions to the plan in response to the community feedback.

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 nonetheless considers 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:

- > 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 southern and western borders of the study area.

Similarly, although car parking issues can be highlighted by an LATM study, directly fixing parking supply issues cannot generally be achieved as part of an LATM study. However, parking access can be addressed and where possible, car parking provision improvements can sometimes be achieved 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. Particularly, it is understood that these studies and associated projects aim to address congestion along Main Street and Gisborne Road, as well as to address concerns regarding heavy vehicle movements through Bacchus Marsh Town Centre.

Accordingly, it is noted here that this LATM study does not directly address community concerns relating to heavy vehicle movements and traffic congestion along Main Street and Gisborne Road. Rather, this LATM study is complementary to the broader area studies being undertaken, whilst addressing concerns from the community regarding congestion and road safety within the local street network. This study also includes recommendations for advocacy for projects to be undertaken by VicRoads and other authorities responsible for the arterial road network.

3 Community Consultation

3.1 Overview

A letter was delivered to the residences in the study area, detailing the proposed LATM plan. The letters were sent out and made available to the community on Monday 18th June 2018. In addition, an interactive website was created using My Social PinPoint, which provided an interactive map for the community to provide feedback on (web link: <https://msc.mysocialpinpoint.com/latm-stage-1#>)

The letter included a plan detailing the proposed LATM Plan, an update of the first consultation, invitation to two drop-in sessions to provide feedback in person on Tuesday 19th June 2018 and Tuesday 26th June 2018, and a link to the website to provide feedback online.

At the drop in sessions, Council and Cardno representatives provided background information about the LATM Study, the findings and observations, explained the proposed treatments and sought the community's opinions on whether they supported the proposed plan, and if not, which elements of the proposed plan were they not supportive of. During the sessions, community members were asked to place dots on the proposed plan, with red dots representing 'I do not support this treatment' and green dots representing 'I do support this treatment'.

The interactive map provided descriptions of the proposed treatment at each location and the community's opinions were collected by asking whether they supported, partly supported or do not support the treatment and/or its location. Additionally, interactive map users were prompted to indicate the priority ranking of the treatment on a five-point scale, with one being 'not urgent' to five being 'should be installed immediately'.

Responses to the proposed LATM plan were collated in electronic form through the interactive map until Tuesday 3rd July 2018.

Copies of the letter and relevant consultation content are attached in Appendix A.

3.2 Drop in Session Response

Across the two community drop-in sessions, approximately 50 members of the community attended to provide detailed discussion and feedback about the Bacchus Marsh LATM Study. During these sessions, community members were invited to submit individual survey responses and place dots on maps of the Draft LATM Plan.

A total of 31 individual survey responses were received. A summary of the conclusions from discussion points and the individual survey responses is presented below.

3.2.1 Session 1 – Tuesday 19 June 2018

- > The residents were very happy with the suggestion to install threshold treatments on local roads, the proposed additional 40 km/h signs on Young Street, the proposed footpaths on Masons Lane, Barbara Court and O'Keefe Court
- > A number of residents expressed great concern regarding the proposed centre blister treatments along Clifton Drive, with their concern focused on the impacts to vehicular access to residences and the removal of on-street car parking. These residents, a number of whom lived on Clifton Drive in close proximity to the treatments, noted that they own a number of cars, trucks, trailers, caravans and boats that require a large manoeuvring area;
- > Most residents expressed their concerns regarding traffic congestion and high heavy vehicle volumes along Gisborne Road and Bacchus Marsh Road;
- > Most residents expressed their concerns with pedestrian safety at the intersection of Bennett Street and Young Street, and were very happy to see the proposed pedestrian crossings, fencing/landscaping treatments and pram ramps;
- > Some residents expressed concern with turning into and out of local streets to / from Halletts Way (including Carey Crescent, Clifton Drive, Simmons Drive and Burbridge Drive) due to high speed vehicles on Halletts Way; and
- > Some residents expressed safety concerns regarding the existing pedestrian crossings on Main Street, including high speed vehicles and vehicles not yielding to pedestrians.

3.2.2 Session 2 – Tuesday 26 June 2018

- > Similar to the previous session, a number of residents expressed concerns regarding the proposed centre blister treatments on Clifton Drive, specifically regarding vehicle access to properties and the impact to on-street parking opportunities;
- > Most residents again expressed concern regarding traffic congestion and high volumes of heavy vehicles along Gisborne Road and Bacchus Marsh Road;
- > Most residents again expressed their concerns with pedestrian safety at the intersection of Bennett Street and Young Street, and were happy to see the proposed pedestrian upgrades;
- > A number of residents were concerned with the potential impact to Clifton Drive once the connection to Halletts Way is constructed, and queried whether the proposed treatments would address future traffic concerns;
- > Some residents expressed concern regarding the proposed centre blister on McFarland Street, specifically regarding the impact to on-street car parking, and instead proposed a raised intersection at the McFarland Street / George Street intersection;
- > Some residents expressed concerns regarding car parking on Dickie Street, which is associated with the nearby school, and the impact to sight lines at the Dickie Street / Lerderberg Street intersection;
- > A number of residents expressed their support for the proposed pedestrian operated signal across Gisborne Road at Dickson Street; and
- > A number of residents expressed their support for the proposed shared path along the existing open water channel running parallel to Gisborne Road.

3.2.3 Map Responses

During the community workshops, dots were placed on the Draft LATM Plans to record support and non-support for the proposed treatments. A total of 74 responses were received, with 50 responses in support of the treatments and 24 responses against the treatments.

A summary of the map responses is provided in Table 3-1.

Table 3-1 Drop-In Session Map Responses

Treatment	Location	I support this treatment	I do not support this treatment	% Support
Threshold Treatment	Carey Crescent	0	0	-
	Simmons Drive	0	0	-
	Linda Drive	0	0	-
	O'Keefe Crescent	0	0	-
	Malcolm Street West	3	0	100%
	Malcolm Street East	1	0	100%
Right Turn Lane	Carey Crescent	1	1	50%
Surface Treatment	Clifton Drive	3	0	100%
Centre Blister	Clifton Drive West	2	1	67%
	Clifton Drive East	3	4	43%
	Lidgett Street	0	0	-
	McFarland Street	1	0	100%
Shared Path	Drainage Channel	5	0	100%
	Bacchus Marsh Road	0	0	-
Footpath	Masons Lane / Linda Drive / O'Keefe Crescent	2	0	100%
	Lidgett Street	0	0	-

Treatment	Location	I support this treatment	I do not support this treatment	% Support
Raised Intersection	Dickson Street/George Street	1	0	100%
	Dugdale Street/George Street	1	0	100%
	Lerderderg Street/Young Street	1	0	100%
Modified T-Intersection	Dickson Street/Young Street	1	1	50%
	McFarland Street/Young Street	1	1	50%
	Lerderderg Street/George Street	2	1	67%
Raised Pedestrian Crossing	Young Street/McFarland Street	2	0	100%
	Lerderderg Street	1	2	33%
	Lidgett Street	0	0	-
Pedestrian Crossing	Gell Street	1	0	100%
	Young Street/Malcolm Street	1	0	100%
	Young Street/Manor Street	3	0	100%
Pedestrian Operated Signal	Gisborne Road/Dickson Street	7	1	88%
Road Narrowing	Anderson Street	0	0	-
	Shear Street South	0	0	-
	Shear Street North	0	0	-
	Lidgett Street	0	0	-
40 km/h Speed Limit	Young Street North	2	0	100%
	Young Street South	0	0	-
Pram Ramp Crossing	Bennett Street/Young Street	5	1	83%

Overall, the treatments with the highest number of supportive and non-supportive dots were:

> Supportive:

- The Pedestrian Operated Signal across Gisborne Road at Dickson Street (7 supportive dots);
- The Shared Path along the water channel (5 supportive dots); and
- The pram ramp crossings at Bennett Street / Young Street (5 supportive dots);

> Non-supportive:

- The Centre Blister on Clifton Drive near Steele Court (4 non-supportive dots);
- The raised pedestrian crossing on Lerderderg Street (2 non-supportive dots);

Notably, the centre blister treatment on Clifton Drive near Steele Court and the raised crossing on Lerderderg Street were the only treatments to receive more non-supportive dots than supportive dots.

There were also a number of locations / issues that were not directly addressed within the Draft LATM Plan. These issues were raised via the map activity as follows:

- > The intersection of Bacchus Marsh Road and Young Street (difficult to turn right into / out of Young Street) (2 non-supportive dots); and
- > Lack of Keep Clear linemarking along Gisborne Road at Lerderderg Street southbound, generally noted as an unsafe intersection (2 non-supportive dots);

3.3 Online Interactive Map Response

The online interactive map recorded a total of 135 responses across 48 individual users. This level of response is lower than the initial consultation phase, which received a total of 164 responses.

A summary of the community's responses to the proposed LATM treatments is presented in Table 3-2.

Table 3-2 Online Interactive Map Responses

Treatment Type	Location	Responses					Average Priority Ranking
		Support	Partly Support	Don't Support	Total	% Support	
40 km/hr Speed Limit	Young Street	7	1	1	9	78%	4
Centre Blister	Clifton Drive West	2	0	0	2	100%	4
	Clifton Drive East	4	0	0	4	100%	3
	Lidgett Street	1	0	0	1	100%	4
	McFarland Street	0	0	1	1	0%	1
Footpath	Lidgett Street	1	0	0	1	100%	5
	Masons Lane / Linda Drive / O'Keefe Crescent	6	0	0	6	100%	4
Modified T Intersection	George Street / Lerderberg Street	4	0	0	4	100%	3
	Young Street / McFarland Street	1	1	0	2	50%	2
	Young Street / Dickson Street	2	0	0	2	100%	3
Pedestrian Crossing	Gell Street	4	0	0	4	100%	4
	Young Street / Manor Street	4	0	0	4	100%	4
Pedestrian Operated Signal	Dickson Street / Gisborne Road	6	1	2	9	67%	4
Pram Ramps	Young Street / Bennett Street	4	0	1	5	80%	3
Raised Crossing	Lidgett Street	1	0	0	1	100%	3
	Young Street / McFarland Street	2	0	0	2	100%	4
Raised Intersection	Dickson Street / George Street	3	0	0	3	100%	3
	Dugdale Street / George Street	4	0	0	4	100%	3
	Lerderberg Street / Young Street	1	2	0	3	33%	3
Right Turn Lane	Halletts Way / Carey Crescent	3	0	0	3	100%	3
Road Narrowing	Lidgett Street / Shea Street	4	0	0	4	100%	3
Shared Path	Drainage Channel	6	1	0	7	86%	4
	Main Street	3	0	0	3	100%	4
Surface Treatments	Clifton Drive	2	2	0	4	50%	3
Threshold Treatments	Various	5	1	3	9	56%	2

As indicated in the above table, most of the proposed treatments received favourable responses with 21 of the 25 treatments (that received responses) receiving over 50% support. As expected, some of the treatments received less than favourable responses such as the raised crossing on Lerderberg Street and the proposed centre blister on McFarland Street.

The priority rankings for the proposed treatments were varied, with 11 of 25 treatments receiving a priority ranking of four or above (the treatment is considered extremely urgent), 11 treatments receiving a ranking of three (the treatment is considered moderately urgent), and three treatments receiving a ranking of two or less (the treatment is not considered urgent).

3.4 Review of Community Responses

The responses from the community for each of the proposed LATM treatment that were considered a high priority, a low priority, were notably supported, notably not supported, or were not included in the Draft LATM Plan, are detailed further in Table 3-3. This information is based on the responses to the community consultation sessions, the online interactive map and other related correspondence.

Table 3-3 Detailed Community Feedback Summary

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Centre Blister Clifton Drive West	67%	100%	4	<p>"We have quite a few cars that need to park and I believe [the centre blister] would really restrict our space."</p> <p>"We will have great difficulty with access if there is a blister"</p> <p>"Blister would be good... to slow down before Cuthbertson Court."</p>	<p>Overall, there is a notable level of opposition as recorded in the community workshops.</p> <p>Initial community concerns regarding potential future speeding issues were again reflected in discussions with the community.</p> <p>Whilst it is acknowledged that the community has significant concern regarding the treatment, it is recommended that appropriately-designed centre blisters are incorporated into the Final LATM Plan as a high priority for the following reasons:</p>
Centre Blister Clifton Drive East	43%	100%	3		<ul style="list-style-type: none"> ▪ Clifton Drive has a 10.5 metre wide carriageway, which will comfortably accommodate a centre blister treatment with some minimal impact to car parking; ▪ The treatments will be designed to accommodate larger vehicles and vehicles with trailers; ▪ The treatments will not have any impact to properties along Clifton Drive; and ▪ The treatments will discourage use of Clifton Drive as a through-route upon its connection to Halletts Way.

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Footpath Masons Lane, Linda Drive and O'Keefe Crescent	100%	100%	4	<p>"Footpath on Barbara Court: tick"</p> <p>"Footpaths should be a standard for all streets."</p>	<p>Overall, there is a strong level of support for providing footpaths on Masons Lane, Linda Drive and O'Keefe Crescent.</p> <p>Based on the Pedestrian Path Recommendation Guiding Principles within the Hike and Bike Strategy, the footpath along Masons Lane is considered a high priority for the following reasons:</p> <ul style="list-style-type: none"> ▪ The area provides connectivity to Gisborne Road, Masons Lane Reserve, and Bacchus Marsh Retirement Living; ▪ The path would service a wide catchment of pedestrians; ▪ Masons Lane does not currently provide a safe pedestrian environment – a footpath would significantly improve pedestrian safety and amenity; ▪ This is a relatively short section of path that is considered a missing link in the pedestrian network; and ▪ The project (at a conceptual level) is relatively simple with reasonably level terrain and minimal obstructions. <p>Given the immediate benefits that a footpath on Masons Lane can provide, it is recommended that this treatment be incorporated into the Final LATM Plan as a high priority.</p> <p>The remaining footpath treatments along Linda Drive and O'Keefe Crescent do not provide the above benefits, and as such are not considered high-priority treatments.</p>
Modified T-Intersection Young Street / McFarland Street	50%	50%	2	<p>"This intersection is very wide, confusing and dangerous"</p> <p>"There is not sufficient line of sight to the end of McFarland Street and many pedestrians cross the road here."</p> <p>"Will this prevent people turning right from McFarland Street? If so I do not support this."</p>	<p>There is some support and some opposition for the proposed treatment at this intersection.</p> <p>Given the existing intersection layout presents a confusing road environment, it is recommended that this treatment be incorporated into the Final LATM Plan as a medium priority.</p>
Modified T Intersection George Street / Lerderberg Street	67%	100%	3	<p>"This intersection is so dangerous. This should be a priority."</p>	<p>Overall, there is a high level of support for a treatment at this intersection.</p> <p>Given the level of support and existing concerns regarding high vehicle speeds along Lerderberg Street, it is recommended that this treatment be incorporated into the Final LATM Plan as a medium priority treatment.</p>

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Pedestrian Operated Signal Dickson Street / Gisborne Road	88%	67%	4	<p>"Gisborne Road has congestion issues, which are not being addressed by this draft, and you're adding a pedestrian crossing to it?"</p> <p>"Nothing in this brief IMPROVES flow of traffic on Gisborne Rd! This inhibits it further"</p> <p>"Would prefer traffic lights on Dickson Street to incorporate pedestrian crossing either side of lights. Proposed change will make it more difficult to make a right hand turn from Dickson Street onto Gisborne Road heading north.</p>	<p>Overall, whilst there is considerable support for this treatment, there is also opposition as community members are concerned that this treatment will further worsen congestion on Gisborne Road.</p> <p>It is acknowledged that an additional signal controlled pedestrian crossing on Gisborne Road will delay traffic. However, given the benefits that will be provided for pedestrian safety and connectivity across Gisborne Road, it is recommended that this treatment be incorporated into the Final LATM Plan as a medium priority treatment, and that Council advocate to VicRoads to install this treatment.</p>
Pram Ramps and Pedestrian Safety Improvements Young Street / Bennett Street	83%	80%	3	<p>"You have taken a dangerous intersection, and added more risk by involving pedestrian crossings. This intersection is already dangerous involving motor vehicles. The intersection requires modification before adding pedestrian crossings"</p> <p>"I have concerns about the Young Street – Bennett Street corner as I have seen cars driving up Young Street and not stopping at that corner."</p>	<p>Overall, there is a high level of support for pedestrian pram ramps at this corner, in order to improve pedestrian safety.</p> <p>It is also noted that several community members had anecdotal evidence of vehicles travelling north on Young Street and not yielding for vehicles on Bennett Street. Accordingly, it is recommended that an additional modified T intersection treatment is added at the Young Street / Bennett Street that requires vehicles travelling north on Young Street to slow and yield to eastbound / southbound traffic. This treatment should be incorporated into the Final LATM Plan as a high priority treatment.</p> <p>Regarding the pedestrian safety improvements, it is recommended that this treatment package be incorporated into the Final LATM Plan as a high priority treatment.</p>
Raised Crossing Lidgett Street	-	100%	3	"Minimal requirement for a 'school crossing' on Lidgett Street"	<p>Minimal feedback was received on the raised crossing at Lidgett Street, and the feedback that was received indicates there is a very low number of pedestrians that require access across Lidgett Street to the park area. Accordingly, it is recommended that this treatment be removed from the Final LATM Plan.</p>

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Raised Intersection Lerderderg Street / Young Street	100%	33%	3	<p>"It's a crossroad intersection involving two roads that carry a lot of school traffic and buses. Raising the intersection only half solves the problem."</p> <p>"Could lead to very slow and cumbersome movement along Lerderderg St"</p>	<p>There is a varied level of support for this treatment, mainly due to the potential impact to ease of driving along Lerderderg Street and the potential impact on buses at this intersection.</p> <p>However, it is evident that a treatment is required at this intersection, due to the large width of Lerderderg Street and the presence of a cross-intersection with George Street. It is also noted that the purpose of the treatment is to slow traffic movements - the commentary mentioning slow and cumbersome movements is justified, however this is not considered a negative aspect of the treatment.</p> <p>To further improve safety at this intersection, pedestrian crossings have been proposed across all four legs of the intersection.</p> <p>Accordingly, it is recommended that this treatment be incorporated into the Final LATM Plan as a medium priority treatment.</p>
Right Turn Lane Halletts Way / Carey Crescent	50%	100%	3	<p>"Already I am concerned about the increased traffic on Halletts Way. How will I be able, at that speed, (60 km/h) to do a right hand turn from Burbridge Drive / College Square into Halletts Way? A roundabout would be a safe help."</p> <p>"Wondering and concerned about entering and exiting Clifton Drive safely."</p>	<p>There is notable support for introducing a right turn lane on Halletts Way at the intersection with Carey Crescent to improve safety for right turning vehicles.</p> <p>However, during the community workshops further feedback was provided regarding unsafe right turns from Halletts Way into Clifton Drive, Simmons Drive and Burbridge Drive.</p> <p>Given that the carriageway width along Halletts Way is considered adequate to accommodate right turn lanes at these intersections, it is recommended that right turn lanes for Carey Crescent, Clifton Drive, Burbridge Drive and Simmons Drive be incorporated into the Final LATM Plan as medium priority treatments, subject to more detailed traffic impact analysis.</p>
Shared Path Drainage Channel	100%	86%	4	<p>"Anything that increases the availability of cycleways and walking tracks in the area are a great addition."</p>	<p>There is a substantial level of support for the proposed shared path along the drainage channel, which was reflected in the community workshops and in the online interactive map responses.</p> <p>Accordingly, it is recommended that this treatment be incorporated into the Final LATM Plan as a medium priority treatment.</p>

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Shared Path Halletts Way	-	-	-	-	<p>Based on the existing walking and cycling network connections, there is potential to provide a shared path connection along Halletts Way that connects from Main Street to Grey Street, where it connects with the existing shared path on Halletts Way.</p> <p>Providing this connection would facilitate a future link to the existing shared path on Halletts Way further south of Main Street.</p> <p>Accordingly, it is recommended that a shared path is incorporated into the Final LATM Plan as a medium priority treatment.</p>
Masons Lane	-	-	-	<p>"Why do you not have speed humps, a raised intersection or traffic islands on Masons Lane? My children ride their bicycles up and down masons lane and continually risk their lives in doing so. You have many speed humps within the area and as per your new Draft, you plan to add more. So why not Masons Lane?"</p> <p>"The intersection of Young St and Masons lane is dangerous as drivers often travel very fast from the eastern end of Mason's and the drivers at Young St cannot see them coming over the slope of the hill."</p>	<p>The traffic issues raised on Masons Lane were not addressed within the Draft LATM Plan, as these issues were not raised during the first stage of community consultation.</p> <p>Following further discussions with the community and re-assessing the existing conditions along Masons Lane, it is recommended that two new treatments are incorporated into the Final LATM Plan as follows:</p> <ul style="list-style-type: none"> ▪ A flat-top hump on Masons Lane between Boyd Street and George Street, in front of 82 Masons Lane; ▪ A flat-top hump on Masons Lane between O'Keefe Crescent and Young Street, in front of 96 and 98 Masons Lane; and ▪ A side road junction advisory sign (Sign No. W2-4) on Masons Lane east of Young Street facing east, to warn westbound traffic on approach to Young Street. <p>These treatments will slow traffic, thereby improving pedestrian and cyclist safety, discourage 'rat-running' from Gisborne Road to Main Street via Masons Lane, and warn drivers along Masons Lane of potential traffic movements into and out of Young Street.</p>

Treatment	Level of Support		Priority	Community Comments	Comments/Recommendation
	Community Workshops	Online Interactive Map			
Signalised Intersection Main Street / Gisborne Road	-	-	-	-	<p>The traffic issues raised at the intersection of Main Street / Gisborne Road were not addressed within the Draft LATM Plan as arterial road treatments are typically excluded from LATM plans and projects.</p> <p>However in this instance, it is understood that a proposal is currently under consideration by VicRoads to upgrade the intersection of Main Street / Gisborne Road to a signalised intersection. Based on the existing traffic conditions along Main Street / Gisborne Road (congestion and conflicting vehicle / pedestrian movements), and the pedestrian safety improvements provided by a signalised intersection it is recommended that this treatment is incorporated into the Final LATM Plan to allow Council to advocate more strongly to VicRoads for this upgrade.</p>
Signalised Intersection Young Street / Main Street	-	-	-	"Traffic lights need to be installed at the corner of Young & Main Street"	<p>The traffic issues raised at the intersection of Main Street / Young Street were not addressed within the Draft LATM Plan as arterial road treatments are typically excluded from LATM plans and projects.</p> <p>However, following further discussions with the community and Council, and re-assessing the existing conditions along Young Street and Main Street, it is recommended that a signalised intersection at the intersection of Young Street / Main Street be incorporated into the Final LATM Plan as a high priority treatment, to facilitate Council to advocate to VicRoads for the intersection upgrade.</p> <p>This treatment would improve safety by providing controlled turns into and out of Young Street, and a controlled pedestrian crossing.</p>

4 Recommended Final Local Area Traffic Management Plan

4.1 Detailed of the Final LATM Plan

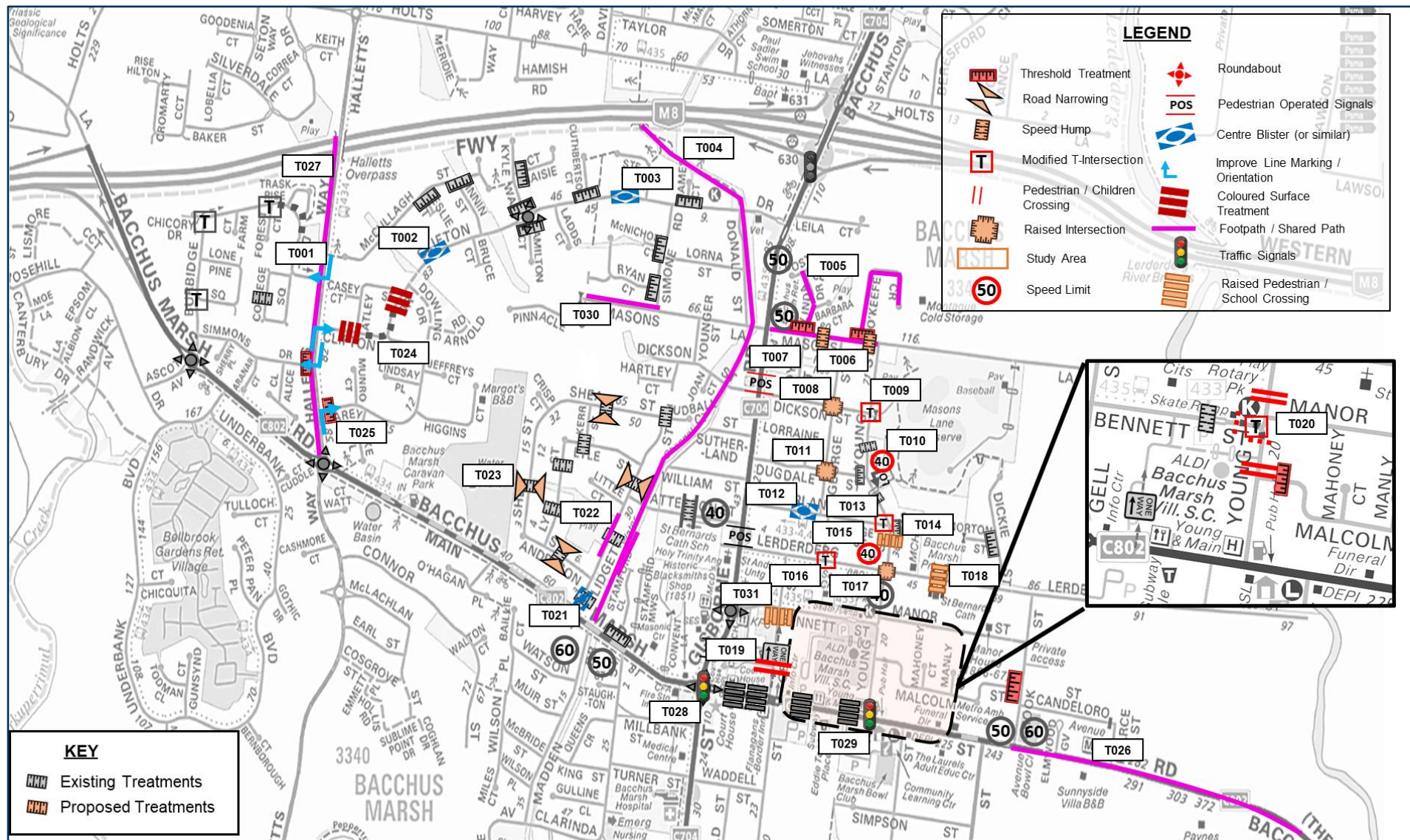
Based on the extensive community consultation, recommendations of Council and further investigations undertaken, the following adjustments to the LATM Plan have been made:

- > Raised Crossing at Lidgett Street: The raised crossing proposed in the Draft LATM Plan is to be removed;
- > Raised Intersection at Lerderberg Street / Young Street: The raised intersection at Lerderberg Street / Young Street is to include pedestrian crossings across all legs of the intersection;
- > Modified T Intersection at Young Street / Bennett Street intersection: The existing modified T intersection at the Young Street / Bennett Street intersection is to be upgraded;
- > Masons Lane Footpath: The Final LATM Plan is to incorporate a footpath on Masons Lane west of Simone Road, to link the existing footpaths on Pinnacle Court and Masons Lane east of Simone Road;
- > Right Turn Lanes from Halletts Way: Right turn lanes from Halletts Way into Clifton Drive, Burbridge Drive and Simmons Drive are to be included in the Final LATM Plan subject to further traffic impact analysis;
- > Shared Path on Halletts Way: A shared path from Main Street to Grey Street is to be included within the Final LATM Plan;
- > Raised Pedestrian Crossing on Gell Street: A raised pedestrian crossing across Gell Street at the intersection with Bennett Street;
- > Signalised Intersection at Main Street / Gisborne Road: The intersection of Main Street / Gisborne Road is currently under consideration by VicRoads to be upgraded to a signalised intersection, and as such is to be incorporated into the Final LATM Plan to facilitate Council to advocate for the upgrade;
- > Signalised Intersection at Main Street / Young Street: Council is to advocate for the upgrade of the intersection of Main Street / Young Street to a signalised intersection; and
- > Masons Lane Traffic Improvements: The Final LATM Plan is to include two (2) flat top humps and a side road intersection advisory sign on Masons Lane near Young Street.

4.2 Final LATM Plan

The recommended plan is shown in Figure 4-1. A detailed version can be seen in Appendix B.

Figure 4-1 Final Local Area Traffic Management Plan



4.3 Overview of Treatments

The following section represents an overview of the more complex treatments and provides example images for these treatments.

4.3.1 Centre Blister

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 4-2 provides an example of a centre blister LATM treatment.

Figure 4-2 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.

4.3.2 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 4-3 shows an example of a modified T-intersection treatment.

Figure 4-3 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.

4.3.3 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 4-4 presents an example of a typical speed hump treatment.

Figure 4-4 Speed Hump



Advantages of road 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 road 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.

4.3.4 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 4-5 presents an example of a raised intersection treatment.

Figure 4-5 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.

4.3.5 Surface Treatment / Threshold 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 4-6 presents an example of a threshold treatment.

Figure 4-6 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.

4.3.6 Road Narrowing / Kerb Outstands

Road narrowing treatments involve narrowing the width of a road in a specific location to reduce vehicle speeds, improve delineation of road areas and minimise pedestrian crossing distances. Road narrowing is typically achieved by extending the kerb into the roadway via the use of kerb outstands, which can be used for landscaping. Figure 4-7 shows an example of a road narrowing treatment.

Figure 4-7 Road Narrowing Treatment



Advantages of Road Narrowing Treatments

- > Reduce vehicle speeds;
- > Relatively low cost;
- > Opportunities for landscaping;
- > Relatively minimal impact for emergency vehicles; and
- > Significantly less disruptive than alternative LATM treatments.

Disadvantages of Threshold Treatments

- > Reduce parking supply;
- > Difficult to accommodate bicycle lanes;
- > Introduce squeeze points for cyclists; and
- > May increase congestion on high volume streets.

4.4 Cost Estimates & Treatment Priority List

Table 4-1 outlines the indicative treatment cost and priority of the Final LATM Plan. The estimated costs are indicative only, and have been prepared to assist in developing an implementation plan. The installation costs of traffic management can vary considerably and largely depend on the extent and design of devices. The main components that typically influence construction costs are the materials used, need for kerb reconstruction, impact on existing drainage, telecommunications pits, and discovery of other underground services e.g. gas, water, possible relocation of power poles, and degree and type of landscaping.

In the case of these works, while staging the construction of works is generally necessary due to funding constraints, the staging of works needs careful consideration to minimise the interim impact of treatments on surrounding streets.

In staging the works, Council should have regard to the following considerations:

- > The benefits should be immediate and obvious to residents. The staging should appear logical to residents to ensure acceptance of plan;
- > Locations where crash problems have been identified should be given a priority;
- > Maximum effort should be made to avoid transferring traffic impacts, regardless of their duration;
- > Installation should be delayed for treatments which may not be required or may need to be modified depending on the effects of earlier stages; and
- > Possible cost savings from grouping devices into a single stage or focusing on one location should be considered, where possible.

The priority of each treatment has been derived using a number of factors to create a priority ranking tool. Factors were allocated a score between 0 and 2, resulting in a priority score for each treatment out of 10 (with 10 representing the highest priority). This was combined with the second community consultation regarding the timing of the treatment, to determine a recommended time of implementation for each treatment where:

- > **High** – Should be actioned in the short term (1 – 2 years)
- > **Medium** – Should be actioned in a medium-term (2 – 5 years)
- > **Low** – Should be actioned in the long-term (5+ years)

The key factors and its ranking criteria are outlined below:

1. Cost – The cost of each treatment has been approximated based on the cost of construction / implementation only, and thus provides a general assessment of the cost comparison between each treatment. Given the approximated costs the treatments were given a cost score as follows:
 - > A score of 0 was given for any treatment costing more than \$200,000;
 - > A score of 0.5 was given for any treatment costing between \$50,000 and \$200,000;
 - > A score of 1.0 was given for any treatment costing between \$20,000 and \$50,000;
 - > A score of 1.5 was given for any treatment costing between \$10,000 and \$20,000; and
 - > A score of 2.0 was given for any treatment costing less than \$10,000.

2. Importance – The importance of each treatment was based on the community's priority ranking received via the online interactive map.
3. Volume – The score for volume was assessed similarly to cost. For locations where traffic volumes were unknown, volumes were projected from known nearby traffic volumes. The volume score was determined as follows:
 - > A score of 0.5 was given at locations with volumes less than 5,000 vpd;
 - > A score of 1.0 was given at locations with volumes between 5,000 and 10,000 vpd;
 - > A score of 1.5 was given at locations with volumes between 10,000 and 20,000 vpd; and
 - > A score of 2.0 was given at locations with volumes greater than 20,000 vpd.
4. Speed / Safety – The score for speed / safety aspects of each treatment was assessed based on the existing speed and safety issues at the location of each treatment. As such, locations where safety was flagged as a serious issue in combination with high speeds were given a high score, and locations where speed and/or safety were not a major concern were given a lower score. All scores were assessed with consideration to the impact the proposed treatment would have in addressing speed and/or safety concerns.
5. Overall community feedback – The score for community feedback was assessed based on the overall community discussions and survey results regarding each treatment and issue that had been collated through the entire LATM study. The score was weighted towards the level of support received in the community workshops and online interactive map responses. At locations where a small number of responses were received, additional consideration was given to written feedback.

Table 4-1 Treatment Priority and Cost Summary Table

ID	Treatment	Location	Cost (Estimate Only)	Score	Priority
T001	Right Turn Lanes	Halletts Way at Burbridge Drive, Simmons Drive, Clifton Drive and Carey Crescent	\$6,000.00	7.5	High
T002	Centre Blister	Clifton Drive	\$20,000.00	6.7	Medium
T003	Centre Blister	Clifton Drive	\$20,000.00	5.9	Medium
T004	Shared Path	Drainage Channel	\$135,000*	5.9	Medium
T005	Footpaths	Masons Lane, Linda Drive and O'Keefe Crescent	\$112,000.00	6.0	Medium
T006	Flat Top Humps	Masons Lane	\$32,000.00	5.5	Medium
T007	Pedestrian Operated Signal	Dickson Street/Gisborne Road	\$250,000.00	7.0	High
T008	Raised Intersection	Dickson Street / George Street	\$18,000.00	7.5	High
T009	Modified T Intersection	Dickson Street / Young Street	\$15,000.00	6.5	Medium
T010	40 km/h Speed Limit	Young Street	\$500.00	7.3	High
T011	Raised Intersection	Dugdale Street / George Street	\$18,000.00	7.5	High
T012	Centre Blister	McFarland Street	\$20,000.00	4.5	Medium
T013	Modified T Intersection	McFarland Street / Young Street	\$15,000.00	5.5	Medium
T014	Raised Pedestrian Crossing	Young Street	\$24,000.00	7.5	High
T015	40 km/h Speed Limit	Young Street	\$500.00	7.3	High
T016	Modified T Intersection	Lerderderg Street / George Street	\$15,000.00	6.7	Medium
T017	Raised Intersection	Lerderderg Street / Young Street	\$18,000.00	6.8	Medium
T018	Raised Pedestrian Crossing	Lerderderg Street	\$24,000.00	3.7	Low
T019	Pedestrian Crossing	Gell Street	\$16,000.00	7.0	Medium
T020	Pedestrian Safety Treatments	Bennett Street / Young Street	\$38,000.00	7.6	High
T021	Centre Blister	Lidgett Street	\$20,000.00	7.0	Medium
T022	Footpath	Lidgett Street	\$9,000.00	7.5	High
T023	Road Narrowing	Anderson Street, Shea Street and Lidgett Street	\$20,000.00	6.0	Medium
T024	Surface Treatments	Clifton Drive	\$8,000.00	6.0	Medium
T025	Threshold Treatments	Simmons Drive, Carey Crescent, Linda Drive, O'Keefe Crescent, Malcolm Street	\$24,000.00	4.7	Medium
T026	Shared Path	Main Street	\$72,000.00	6.5	Medium
T027	Shared Path	Halletts Way	\$100,000.00	4.0	Medium
T028	Signalised Intersection	Main Street / Gisborne Road	\$1,500,000.00	6.0	Medium
T029	Signalised Intersection	Main Street / Young Street	\$500,000.00	6.0	Medium
T030	Footpath	Masons Lane	\$18,000.00	4.0	Medium
T031	Raised Pedestrian Crossing	Gell Street	\$16,000.00	4.0	Medium

*Cost estimate does not include costs associated with replacing existing drainage infrastructure.

Please refer to Appendix C for additional information regarding these cost estimates.

5 Summary and Conclusions

The objective of this study was 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.

The LATM Study involved extensive consultation with the local community to identify local traffic issues and possible improvements, in conjunction with engineering investigations. Other components of the study have included the collection of traffic volume and speed information, as well as investigation of publically available crash data.

The community consultation component of the study included two (2) rounds of community engagement via letter drop surveys, an online interactive map and two community workshops, in order to understand the community's thoughts regarding necessary areas for improvement, as well as the suitability of proposed treatments.

Information collected from the various consultation media was used in conjunction with data obtained from surveys and bodies such as VicRoads to provide the basis for formulating traffic management recommendations for Bacchus Marsh.

The key issues identified in the study generally related to traffic concerns such as heavy vehicle volumes, pedestrian and cyclist safety, traffic speed, irresponsible driving and traffic volumes.

Based on the preceding assessment undertaken by Cardno and community feedback on the proposed Local Area Traffic Management Plan, the next steps are as follows:

- > The traffic treatments programs are to be listed in the Capital Work's Program to obtain funding from the Council;
- > Council will distribute a letter to the local community advising of the outcomes of the study and including the adopted Final Local Area Traffic Management Plan;
- > The implementation of traffic management measures will commence in the next 1-2 years. The order of implementation will be based off available funding, resource availability and the priority order outlined within this Final LATM Plan;
- > Where necessary, Council will consult with property owners abutting the device locations at the design stage regarding exact locations and design; and
- > Following installation, Council will continue to monitor safety and performance, to ensure that any effects caused by the imposed LATM measures are discovered and mitigated against.

Bacchus Marsh Local Area Traffic
Management Study

APPENDIX

A

COMMUNITY CONSULTATION MATERIALS



Local Area Traffic Management Study

Bacchus Marsh

We have reviewed over 250 responses from the community during the first stage of consultation of the Local Area Traffic Management Study in Bacchus Marsh.

The comments, combined with data and information provided by an independent traffic engineering consultant, have been translated into a series of proposed treatments that aim to address the key traffic issues raised.

We now invite the community to provide feedback on the proposed treatments during the second stage of consultation.

Visit msc.mysocialpinpoint.com/latm-stage-2 to provide your feedback online until 3 July 2018, or join us at one of our drop in information sessions to find out more:

Drop in session 1

Tuesday 19 June 2018

4:00pm – 7:00pm

Lerderderg Library, Bacchus Marsh

Drop in session 2

Tuesday 26 June 2018

4:00pm – 7:00pm

Lerderderg Library, Bacchus Marsh

If you have any further queries or require further information in relation to the above, please contact Hugo Nicholls on (03) 8415 7777 or Council's Customer Service on (03) 5366 7100.



Local Area Traffic Management Study

Bacchus Marsh

Thank you for attending a drop-in session. If you have any general feedback that you would like to submit, please fill out the following survey.

Name: _____

Address: _____

Phone: _____

Email: _____

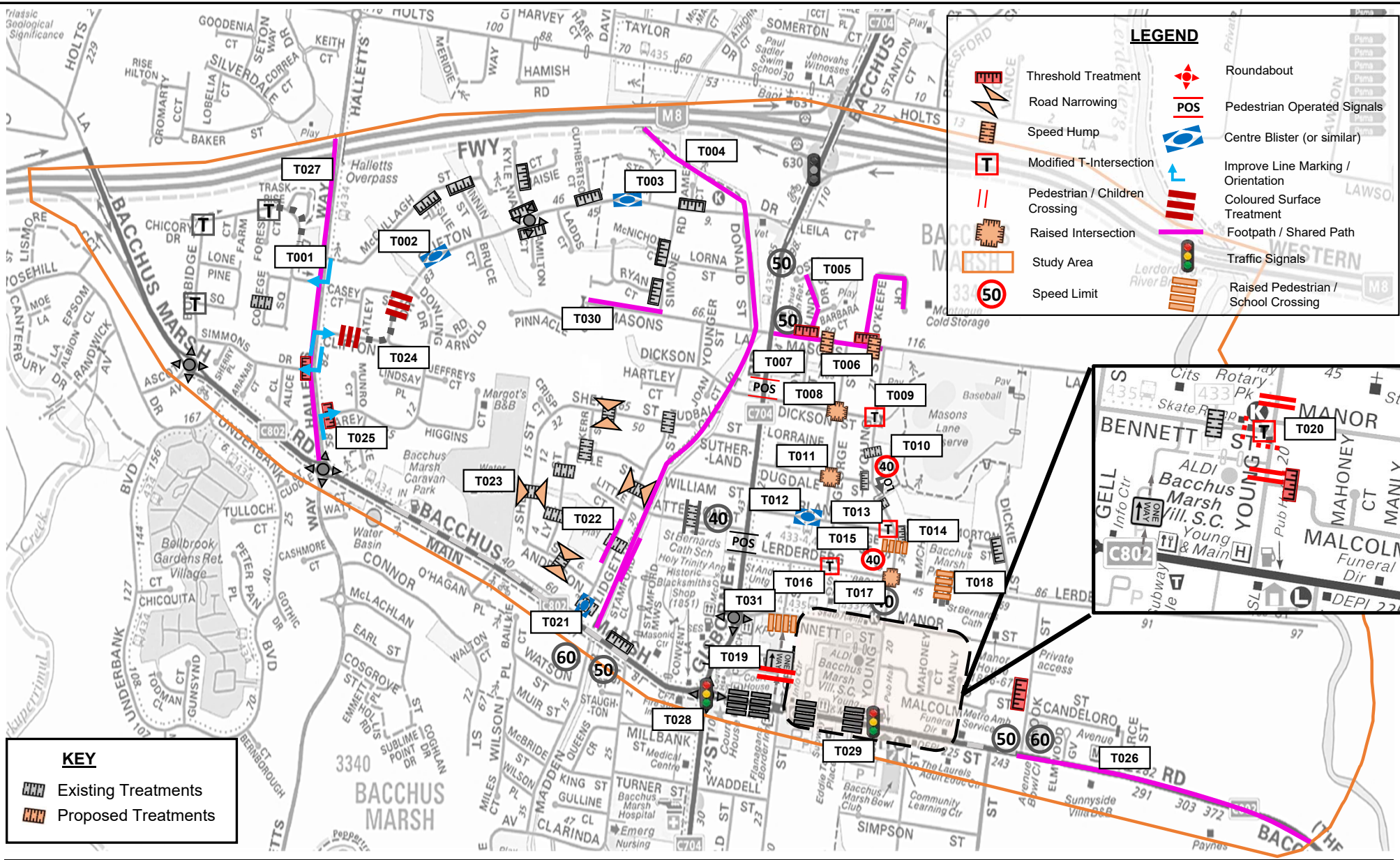
Do you have any general feedback for the Bacchus Marsh LATM Study?

Bacchus Marsh Local Area Traffic
Management Study

APPENDIX

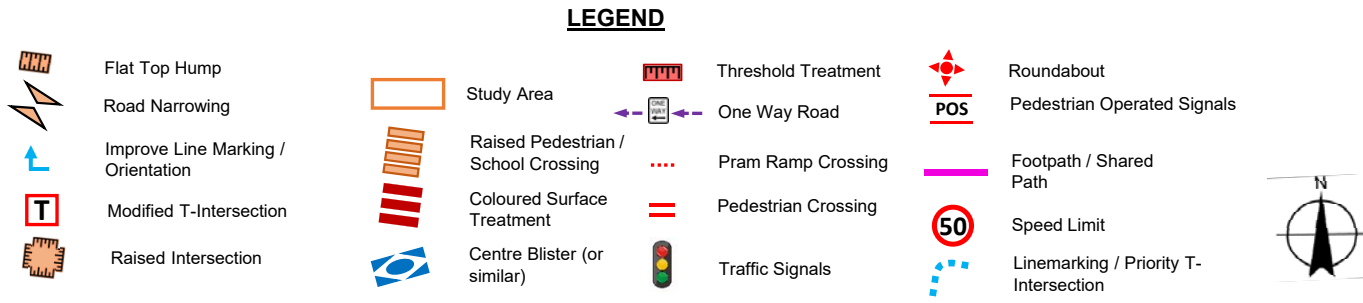
B

FINAL LATM PLAN



Final Local Area Traffic Management Plan 13/08/2018

Bacchus Marsh
Local Area Traffic Management Study
Stage 1



Bacchus Marsh Local Area Traffic
Management Study

APPENDIX

C

COST ESTIMATES AND PRIORITY RANKING

Appendix C: Cost Estimates & Priority Ranking

Treatment ID	Treatment	Location	Cost (Estimate Only)	Importance	Volume (vpd)	Speed / Safety	Community Feedback (% of support)	Cost Score (2)	Importance Score (2)	Volume Score (2)	Speed / Safety Score (2)	Community Feedback Score (2)	Total Score (10)	Priority
T001	Right Turn Lanes	Halletts Way at Burbridge Drive, Simmons Drive, Clifton Drive and Carey Crescent	\$ 6,000.00	3	7600	3	75.00%	2	1.5	1	1.5	1.5	7.5	High
T002	Centre Blister	Clifton Drive	\$ 20,000.00	4	2000	2	84.00%	1.5	2	0.5	1	1.68	6.68	Medium
T003	Centre Blister	Clifton Drive	\$ 20,000.00	3	2000	2	72.00%	1.5	1.5	0.5	1	1.44	5.94	Medium
T004	Shared Path	Drainage Channel	\$135,000 (excl. drainage works)	4	0	3	93.00%	0	2	0.5	1.5	1.86	5.86	Medium
T005	Footpaths	Masons Lane, Linda Drive and O’Keefe Crescent	\$ 112,000.00	4	0	2	100.00%	0.5	2	0.5	1	2	6	Medium
T006	Flat Top Humps	Masons Lane	\$ 32,000.00	0	350	4	100.00%	1	0	0.5	2	2	5.5	Medium
T007	Pedestrian Operated Signal	Dickson Street/Gisborne Road	\$ 250,000.00	4	25000	3	78.00%	0	2	2	1.5	1.56	7.06	High
T008	Raised Intersection	Dickson Street / George Street	\$ 18,000.00	3	300	4	100.00%	1.5	1.5	0.5	2	2	7.5	High
T009	Modified T Intersection	Dickson Street / Young Street	\$ 15,000.00	3	2000	3	75.00%	1.5	1.5	0.5	1.5	1.5	6.5	Medium
T010	40 km/h Speed Limit	Young Street	\$ 500.00	4	2000	2	89.00%	2	2	0.5	1	1.78	7.28	High
T011	Raised Intersection	Dugdale Street / George Street	\$ 18,000.00	3	300	4	100.00%	1.5	1.5	0.5	2	2	7.5	High
T012	Centre Blister	McFarland Street	\$ 20,000.00	1	500	2	50.00%	1.5	0.5	0.5	1	1	4.5	Medium
T013	Modified T Intersection	McFarland Street / Young Street	\$ 15,000.00	2	2000	3	50.00%	1.5	1	0.5	1.5	1	5.5	Medium
T014	Raised Pedestrian Crossing	Young Street	\$ 24,000.00	4	2000	4	100.00%	1	2	0.5	2	2	7.5	High
T015	40 km/h Speed Limit	Young Street	\$ 500.00	4	2000	2	89.00%	2	2	0.5	1	1.78	7.28	High
T016	Modified T Intersection	Lerderderg Street / George Street	\$ 15,000.00	3	1200	3	84.00%	1.5	1.5	0.5	1.5	1.68	6.68	Medium
T017	Raised Intersection	Lerderderg Street / Young Street	\$ 18,000.00	3	1200	4	67.00%	1.5	1.5	0.5	2	1.34	6.84	Medium
T018	Raised Pedestrian Crossing	Lerderderg Street	\$ 24,000.00	0	1100	3	33.00%	1	0	0.5	1.5	0.66	3.66	Low
T019	Pedestrian Crossing	Gell Street	\$ 16,000.00	4	50	2	100.00%	1.5	2	0.5	1	2	7	Medium
T020	Pedestrian Safety Treatments and Modified T Intersection	Bennett Street / Young Street	\$ 38,000.00	4	7500	4	82.00%	1	2	1	2	1.64	7.64	High
T021	Centre Blister	Lidgett Street	\$ 20,000.00	4	1300	2	100.00%	1.5	2	0.5	1	2	7	Medium
T022	Footpath	Lidgett Street	\$ 9,000.00	4	0	2	100.00%	2	2	0.5	1	2	7.5	High
T023	Road Narrowing	Anderson Street, Shea Street and Lidgett Street	\$ 20,000.00	3	1300	1	100.00%	1.5	1.5	0.5	0.5	2	6	Medium
T024	Surface Treatments	Clifton Drive	\$ 8,000.00	3	2000	1	75.00%	2	1.5	0.5	0.5	1.5	6	Medium
T025	Threshold Treatments	Simmons Drive, Carey Crescent, Linda Drive, O’Keefe Crescent, Malcolm Street (west), Malcolm Street (east)	\$ 24,000.00	2	500	1	86.00%	1	1	0.5	0.5	1.72	4.72	Medium
T026	Shared Path	Main Street	\$ 72,000.00	4	0	3	100.00%	0.5	2	0.5	1.5	2	6.5	Medium
T027	Shared Path	Halletts Way	\$ 100,000.00	2	7600	3	1.00%	0.5	1	1	1.5	0.02	4.02	Medium
T028	Signalised Intersection	Main Street / Gisborne Road	\$ 1,500,000.00	4	25000	4	1.00%	0	2	2	2	0.02	6.02	Medium
T029	Signalised Intersection	Main Street / Young Street	\$ 500,000.00	4	25000	4	1.00%	0	2	2	2	0.02	6.02	Medium
T030	Footpath	Masons Lane	\$ 18,000.00	2	350	2	1.00%	1.5	1	0.5	1	0.02	4.02	Medium
T031	Raised Pedestrian Crossing	Gell Street	\$ 16,000.00	2	50	2	1.00%	1.5	1	0.5	1	0.02	4.02	Medium