

FINAL LATM PLAN DARLEY, BACCHUS MARSH

LOCAL AREA TRAFFIC MANAGEMENT STUDY



FINAL LATM PLAN DARLEY, BACCHUS MARSH

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1 INTRODUCTION

SALT has been engaged by Moorabool Shire Council to undertake a Local Area Traffic Management (LATM) study for the Darley Township (Stage 4 of the LATM study for the greater Bacchus Marsh township). The study is being undertaken in response to increased population growth and traffic volumes, 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 Report (reference: 20454TREP01F01) and the Draft LATM Plan (reference: 20454TREP03F02).

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

1.1 STUDY AREA

The study area is located in the Darley township and is bounded by Albert Street, Halletts Way, Ramsay Crescent in the south; Lerderderg River and the Bacchus Marsh Golf Club in the east; Pamela Court and Augusta Place in the north; and Manning Boulevard in the west. The extent of the study area is generally shown in **Figure 1**.



Figure 1 Study area shown on Melway (map reference: 327:H11)

Sections of Albert Street and Halletts Way were reviewed as part of the previous stage, Stage 3, of the Bacchus Marsh LATM Study. The previously proposed LATM measures and SALT's new proposed LATM measures will be discussed in this report.

1.2 EXISTING LATM MEASURES

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



Figure 2 Existing LATM measures implemented within the study area

1.3 PREVIOUSLY PROPOSED TREATMENTS

The previous stage of the Bacchus Marsh LATM Study, Stage 3, included Albert Street and Halletts Way in its study area.

As part of the previous investigations, it was concluded that modifications to the Nelson Street / Albert Street roundabout and the Albert Street / Halletts Way / Links Road roundabout were appropriate LATM treatments. Raised treatments were also proposed at the intersection of Dundas Street / Albert Street and Bourke Street / Albert Street.

For Halletts Way, as previously mentioned, modifications were proposed to the roundabout intersection with Links Road and Albert Street. Additionally, a 50 km/h speed limit was proposed along Halletts Way.



The previously proposed treatments are shown in Figure 3.

Figure 3 Stage 3 proposed LATM treatments

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Since the conclusion of the previous study, the proposed treatments on Albert Street have not yet been implemented (at the time of this report).

For Halletts Way, the speed limit of 50 km/h has been implemented at the time of this report.

1.4 PROPOSED LATM TREATMENTS

A series of LATM treatments was proposed by SALT, in conjunction with Council officers, to address the main traffic issues identified from the traffic data and community consultation data. These proposals were presented previously in the Draft LATM Plan, which was central to the community consultation process and crucial to the development of the Final LATM Plan.

The proposed Draft LATM Plan is shown in **Figure 4** and the final LATM plan is presented in Figure 5.



Figure 4 Draft proposed LATM treatments





FINAL LATM PLAN DARLEY, BACCHUS MARSH INTRODUCTION

Figure 5 Final proposed LATM treatments

2 SCOPE OF THIS REPORT

2.1 OVERVIEW

The Local Area Traffic Management (LATM) measures proposed in the following sections are informed by SALT's understanding of the study area as set out within the existing conditions assessment (20454TREP01F01 – Existing Conditions Report) 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 Department of Transport (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. In any case, there are no arterial roads within this LATM study area.

Similarly, although car parking issues can be highlighted by an 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 COMPLIMENTARY PROJECTS

The Bacchus Marsh Aqualink North and Lerderderg Track projects will improve pedestrian connections through part of the study area and will include traffic calming measures at points where they cross the local road network.

3 COMMUNITY CONSULTATION

3.1 OVERVIEW

The draft LATM plan was hosted on the Moorabool Shire Council website and local residents were able to view the draft plan and provide feedback on the proposed treatments via an interactive map and survey. This allowed residents to nominate whether they supported, partly supported, or object to the treatments and their locations. Residents were also asked to indicate the priority of the treatment on a five-point scale, from one being 'not urgent' and five being 'should be installed immediately'.

Responses to the proposed LATM plan were collected via the interactive map until 5:00pm Sunday 1 August.

A virtual drop-in community consultation was also held on 16 September 2021, where residents could ask questions and discuss the recommendations.

3.2 DROP IN SESSION RESPONSE

The drop in community consultation had only one member of the community attend. The concerns raised during this session revolved around the provision of footpaths, particularly on Cairns Drive and the impact this would have on landscaping across the public verge. It was discussed that it hadn't yet been decided what side of the road the footpaths would be constructed, and that landscaping occurring on the verge is technically on Council owned land so would need to be removed for the installation of footpaths.

3.3 ONLINE INTERACTIVE MAP RESPONSES

The online interactive map recorded a total of 47 responses by 34 individual users. A summary of the community's responses to the proposed LATM treatments is provided in **Table 1**.

Table 1 Online Interactive Map Responses

Treatment Type	Location	Responses				% Support	Average Priority
		Support	Partly Support	Object	Total		Kanking
Speed Humps	Cairns Drive	2	0	3	5	40%	2.6

Treatment Type	Location	Responses				%	Average Priority	
		Support	Partly Support	Object	Total	Support	капкіну	
	Dundas Street	2	0	0	2	100%	5	
	Fitzroy Street	3	0	0	3	100%	4.33	
	Horder Crescent	0	0	3	3	0%	1	
	Links Road	1	0	4	5	20%	1.8	
	Manning Boulevard	1	0	0	1	100%	5	
	Robertsons Road	0	0	3	3	0%	1	
Centre Blister	Albert Street	0	0	1	1	0%	1	
Isianus	Halletts Way	3	1	1	5	80%	4	
	Links Road	2	0	4	6	33%	2.33	
	Manning Boulevard	0	0	1	1	0%	1	
Footpath	Cairns Drive	2	0	0	2	100%	4	
	Links Road	2	0	0	2	100%	4.5	
	Robertsons Road	0	1	2	3	33%	1.33	

As indicated in the above table, there is a variety of responses received from the community. A total of 14 treatments/locations received feedback from the community, 6 of these received a support rate over 50%, and 4 were objected only.

The priority rankings are quite varied, with a total of 6 treatments receiving a ranking of four or more (the treatment is considered urgent). The remaining 8 treatments all received an average ranking of less than three (the treatment is not considered urgent).

3.4 OTHER NON-LATM COMMENTS

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In addition to the comments received relating to the LATM measures, several other comments or concerns were received that are considered to be worthy of further investigation for other safety and operation related project, including:

 It was requested that speed humps be provided on Nelson Street to slow down traffic. A traffic calming device will be provided where The Aqualink will cross Nelson Street. This will likely be a wombat crossing with appropriate signage and will act to slow vehicles and improve safety, and will respond to the request.

- Albert Street between Cain Street and Fitzroy Street was recognised as an area of high speed travel by two residents who requested/suggested measures be implemented in this section of road. The LATM study for the area to the south (Stage 3) proposes a traffic calming treatment in this area; and
- Footpaths have been requested in additional streets, such as Links Road and Horder Crescent to improve pedestrian safety, especially for school children and parents with prams. In some instances, responses that were opposed to speed humps were in support of additional footpaths.



3.5 REVIEW OF COMMUNITY RESPONSES The responses from the community for each of the proposed treatments that received feedback are detailed further in Table 2 . This includes comments from community W members, as well as a response to how the comment may or may not be accommodated by the LATM plan. Table 2 Detailed Community Feedback Summary								
Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation	_ΕΥ, BA UNITY			
Proposed Speed Humps on Cairns Drive	40%	2.6	"I am opposed to the installation of speed humps in Cairns Drive and Horder Crescent. Where is the factual evidence that this action is warranted?" "I have been driving & walking this street for 22 years and see no justification whatsover for this treatment. A speed hump will increase traffic noise, local pollution and driver distraction." "1. Slows down Emergency Service vehicles 2. Increased air pollution 3. Increased noise levels 4. Cause inconvenient issues, ie. for bicycle riders 5. Decreased property values due to the above points & aesthetic reasons"	Surveys indicate speeding is prevalent in the area. Past LATM studies have indicated this as well. Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Cairns Drive. This is in part owing to the road environment on Cairns Drive being conducive to high speeds. Existing traffic speed data on Cairns Drive has confirmed that speeding is an issue, with a tube count survey from 2021, conducted south of Grantleigh Drive, revealing an 85th percentile speed of 60.2 km/h. It is considered that appropriately designed speed humps and traffic control devices will not unduly slow emergency vehicles or create problems for people on bicycles.	FINAL LATM PLAN DARI			
Proposed Speed Humps on Dundas Street	100%	5	"As a resident of Darley for 59 years (35 years in Victoria St) my quality of life has been negatively affected by the over development and significant increase in traffic through Dundas and Victoria St. Frequently cars drive at excessive speed in the area. Had enough!"	Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Dundas and Fitzroy Streets. This is in part owing to the road environment on these streets being conducive to high speeds. These concerns are supported by the tube count surveys conducted in 2021 which reveal 85th percentile speeds of 52.2 km/hr and 60.6 km/hr on Dundas Street and Fitzroy Street, respectively. These streets have a speed limit of 50 km/hr.				

Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation
Proposed Speed Humps on Fitzroy Street	100%	4.33	None	Speed humps on Fitzroy Street (and Dundas Street) could be replaced by raised intersection treatments at appropriately spaced intersections, as discussed in the presentation of the draft LATM to Moorabool Council.
Proposed Speed Humps on Horder Crescent	0%	1	"As a resident of Horder Crescent, I have concerns about the additional noise associated with speed humps (braking, accelerating, etc). I feel they would not deter hoons", as they would continue to drive at excessive speed and create even more noise. Footpaths in Horder Crescent are much more of a priority." "Not required. There is no significant traffic problem in Darley. This is a waste of money and a disruption to traffic for no material benefit."	Residents complained about hooning, and surveys showed speeding occurs. Speed humps are an effective measure to controlling speeding and hooning behaviour, effectively slowing traffic. Footpaths would be beneficial on Horder Street and should be considered, however there may be other areas where footpaths are a higher priority.
Proposed Speed Humps on Links Road	20%	1.8	"As previously stated, no major speeding issue. Provide a footpath for pedestrians past the gold club. Not to mention the increased wear and tear to my cars (sic) suspension components. Speed bumps should NOT be a on a main road." " I don't agree with speed humps needed, this is a main road, not a side street!" "No need. Already a slow road"	Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Links Road. This is in part owing to the road environment being conducive to high speeds. Existing traffic speed data on Links Road has confirmed that speeding is an issue, with multiple tube count surveys revealing 85th percentile speeds between 6 km/h and 19 km/h over the speed limit (which is 50 km/h). Further community concerns were raised about pedestrian safety and the lack of pedestrian facilities such as footpaths, considering that Links Road is a regular travel path for bus route 435.
Proposed Speed Humps on Manning Boulevard	100%	5	None	None

Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation
Proposed Speed Humps on Robertsons Road	0%	1	"What level of noise pollution will be coming from vehicles that travel over these speed humps? (specifically at night) (Also Large Bus route). Also, the 2 in Robertsons rd are dangerous as a vehicle or child riding a bike when hit at normal speed due to the falling road condition will result in death or serious injury if the person looses (sic) control of their vehicle. Will Moorabool Shire except (sic) the risk and on-costs in the event of such a (sic) accident when at the Coroners Court?" "1. Slows down Emergency Service vehicles 2. Increased air pollution 3. Increased noise levels 4. Cause inconvenient issues, ie. for bicycle riders 5. Decreased property values due to the above points & aesthetic reasons" "1 dont (sic) agree with aggressive speed humps in Robertsons rd - they are needed at the bottom - where younger drivers tend to go faster. This will impact the noise levels, most houses have the master bedroom at the front -so it will effect (sic) the quality of sleep. Young and old will find it hard to navigate speed humps whilst trying to manage this challenging steep road. I object to speed humps being put on Robertsons road. This will also do long term damage to cars and the public transport that travels down this road."	Speed humps will be designed in accordance with applicable standards and guidelines to ensure appropriate position and operation. It is considered that appropriately designed speed humps and traffic control devices will not unduly slow emergency vehicles or create problems for people on bicycles. Speed humps are an effective measure to controlling speeding and hooning behaviour, effectively slowing traffic.
Proposed Centre Blister Islands on Albert Street	0%	1	"Principal road. Will just cause traffic and headache"	Surveys indicate speeding on Albert Street. Past LATM studies indicate this as well

Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation
Proposed Centre Blister Islands on Hallets Way	80%	4	"No need. Alright a tight road"	Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Halletts Way. This is in part owing to the road environment on Halletts Way being conducive to high speeds. A tube count on Halletts Way recorded an 85th percentile speed of 64.1 km/hr, validating community concerns of speeding, considering Halletts Way is subject to a speed limit of 50 km/hr.
Proposed Centre Blister Islands on Links Road	33%	2.33	"Already enough traffic on sides of road. Will lead to more parked cars getting hit" "There is no speeding issue down this road. No devices need to be put in. If anything, get pedestrians OFF the road by providing a footpath. I find the most dangerous thing is people walking along the road!" "A lot of cars are parked along this road so I'm concerned how they would fit" "There are no footpaths on Links Road, and it is already dangerous to walk there"	Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Links Road. This is in part owing to the road environment being conducive to high speeds. Existing traffic speed data on Links Road has confirmed that speeding is an issue, with multiple tube count surveys revealing 85th percentile speeds between 6 km/h and 19 km/h over the speed limit (which is 50 km/h). Further community concerns were raised about pedestrian safety and the lack of pedestrian facilities such as footpaths, considering that Links Road is a regular travel path for bus route 435.
Proposed Centre Blister Islands on Manning Boulevard	0%	1	"I do not want this in front of my property, or in our beautiful Blvd for the following reasons. *It would Impact our Ability to access our driveway safely and effectively. *It will create Havoc for Trucks who already have trouble climbing the hill, * The proposal to put it at a point where Trucks are needing to gain momentum to climb the steep hill does NOT seem well thought out. *Therefore This will impact us Residents from a noise pollution point , whereby Trucks & Cars which once drove by in seconds will now be required to gear down to slowly make their way through, then gear up and accelerate to climb the hill again or the flip side whereby	Multiple community concerns were raised about speeding/hooning and other irresponsible driver behaviour issues on Manning Boulevard. This is in part owing to the road environment being conducive to high speeds. Existing traffic speed data on Manning Boulevard has confirmed that speeding is an issue, with multiple tube count surveys revealing 85th percentile speeds between 4 km/h and 12 km/h over the speed limit (which is 50 km/h).

Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation		
			they will be gearing down the hill perhaps with the truck exhaust brakes which can be very loud however required for such a steep descend.*I believe these Blisters will have a negative impact on the Value of the homes in the street .*They could also become Dangerous intersections whereby you have residents or vehicles arriving at residents, slowing down on a steep hill where others will be increasing speed to climb the hill. *We believe they will create more issues than whatever it is the council are attempting to correct/fix/stop???? *The funds for this could be spent on far better resources. *These Blisters, I am sure have their place and are useful on flat roads, however driving up and down this road every day sometimes several times a day, we find that we do not support the Proposed Installation of these Blisters or anything of the sort. * We are interested to learn why the Shire have thought this necessary."	Locations would be confirmed prior to installation to ensure property access is not impacted		
Proposed Footpath on Cairns Drive	100%	4	None	A footpath on here has been proposed as part of the Moorabool Hike and Bike Strategy.		
Proposed Footpath on Links Road	100%	4.5	None	A footpath on here has been proposed as part of the Moorabool Hike and Bike Strategy.		
Proposed Footpath on Robertsons Road	33% 1.33 "There is no clear indication as to which side of roadwa this proposed footpath is going to be. There is considerabl amount of significantly established trees as well a infrastructure (power lines, street lights) in place als Removing the trees/gardenbeds will detrimentally impact the aesthetic of the street (which is one of the las remaining NICE areas). If a footpath is to be created, pleas		"There is no clear indication as to which side of roadway this proposed footpath is going to be. There is considerable amount of significantly established trees as well as infrastructure (power lines, street lights) in place also. Removing the trees/gardenbeds will detrimentally impact the aesthetic of the street (which is one of the last remaining NICE areas). If a footpath is to be created, please	 y A footpath on here has been proposed as part of the Moorabool Hike and Bike Strategy. S The exact location of footpaths has not been confirmed, and will require additional investigation. Footpaths will not be constructed on private land and instead will be provided on the public verge owned by Council. 		

Treatment	Level of Support	Priority	Community Comments	Comments/Recommendation
			consider parking ban on one side of street and creating an on-road foot/bike shared area. Robertsons is 10m wide, which would facilitate this easily (provided 3m clearance for through traffic each way, and 2.1m for parking on one side (the rest for on-road shared path)"	
			"Decrease aesthetics of The Elms Estate which was designed with extra wide, smooth roads with houses on large blocks and no front fences. Current "nature strips" are incorporated into property landscaping. Installation of footpaths will have a negative impact on existing landscaping and may encourage homeowners to install front fences for privacy, which will alter the appearance of the Estate."	



4 **RECOMMENDED FINAL LATM PLAN** 4.1 ADJUSTMENTS FROM DRAFT LATM PLAN

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

- Replace the two speed humps on Dundas Street to two raised intersection treatments at the intersection of Dundas Street / Victoria Street, and at the intersection of Dundas Street / Conn Court; and
- Replace the two speed humps on Fitzroy Street to two raised intersection treatments at the intersection of Fitzroy Street / Napier Street, and at the intersection of Fitzroy Street / Tate Street.

4.2 DETAILED MAP OF FINAL LATM PLAN

The recommended plan in shown in Figure 6. A detailed version can be seen in APPENDIX 2.



Figure 6 Final Local Area Traffic Management Plan

4.3 OVERVIEW OF TYPES OF LATM TREATMENTS PROPOSED

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

The following sections comprise descriptions of several LATM treatments that are considered appropriate for the urban/semi-regional context of the section of the Darley township that the study area is located in. The sections will also provide the respective advantages and disadvantages of each treatment.

It is noted that these treatments may be considered individually or in combination with one another and that on long stretches of road, it is best to implement a number of treatments to maintain the same profile throughout. Further the location of a particular treatment, and indeed the type of treatment (to an extent) may change subject to collection of feature and level survey data, functional design and detailed design investigations.



4.3.1 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 7 provides an example of a centre blister LATM treatment.



Figure 7 Example of centre blister island (from Nearmap aerial photography)

Advantages:

- 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:

- 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 appropriate 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 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.

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Figure 8 provides an example of a speed hump.



Figure 8 Example of a speed hump (from Nearmap aerial photography)

Advantages:

- 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:

- Traffic noise may increase just before and just 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.

4.3.3 RAISED INTERSECTION

A raised intersection treatment is a section of roadway approximately 90mm to 100mm high covering an intersection between two roadways. They are ramped up from the normal street level with the platform extending over more than a standard car length (at least 6m but typically more).

Figure 9 provides an example of a raised intersection.





Figure 9 Example of a raised intersection (from NearMap aerial photography)

Advantages:

- 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:

- Traffic noise may increase just before and just 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;
- May adversely affect access for buses, commercial vehicles and emergency vehicles; amd
- Require care that ramp markings are not confused with intersection control markings.

4.4 COST ESTIMATES AND TREATMENT PRIORITY LIST

Table 3 outlines the indicative treatment cost and priority of the Final LATM Plan. The estimate 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, as well as drainage, grading and services conditions. The main components that can 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 can be actioned in a medium term (2 5 years)
- Low can be actioned in the long term (5+ years)

The key factors and its ranking criteria are outlined below:

1. <u>Cost</u>

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. <u>Volume</u>

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 was 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. At locations where no community feedback was provided, it was assumed that the treatment is fully supported by the community.

Treatment ID	Treatment type	Location	Cost (estimate only)	Total Score	Priority	Timeframe
T018	Wombat Crossing	Albert Street	\$26,000.00	9.0	High	1-2 years
T017	Wombat Crossing	Hallets Way	\$26,000.00	8.0	High	1-2 years
T004	Speed Humps	Manning Boulevard	\$9,000.00	7.5	High	1-2 years
T020	Raised Intersection	Fitzroy Street	\$44,000.00	7.2	High	1-2 years
T007	Centre Blister Islands	Hallets Way	\$28,000.00	7.2	High	1-2 years
T010	Centre Blister Islands	Swans Road	\$28,000.00	7.0	Medium	2-5 years
T013	Footpaths	Links Road	\$147,000.00	6.8	Medium	2-5 years
T012	Footpaths	Cairns Drive	\$79,000.00	6.6	Medium	2-5 years
T015	Wombat Crossing	Manning Boulevard	\$26,000.00	6.5	Medium	2-5 years
T019	Raised Intersection	Dundas Street	\$44,000.00	6.5	Medium	2-5 years
T011	Centre Blister Islands	Ramsay Crescent	\$28,000.00	6.0	Medium	2-5 years
T016	Wombat Crossing	Ramsay Crescent	\$26,000.00	6.0	Medium	2-5 years
T001	Speed Humps	Cairns Drive	\$18,000.00	5.8	Medium	2-5 years
T006	Centre Blister Islands	Albert Street	\$28,000.00	5.4	Medium	2-5 years
T003	Speed Humps	Links Road	\$18,000.00	5.1	Medium	2-5 years
T008	Centre Blister Islands	Links Road	\$28,000.00	5.1	Medium	2-5 years
T002	Speed Humps	Horder Crescent	\$18,000.00	3.4	Low	5+ years

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Table 3 Treatment priority and cost summary table

Treatment ID	Treatment type	Location	Cost (estimate only)	Total Score	Priority	Timeframe
T005	Speed Humps	Robertsons Road	\$18,000.00	2.9	Low	5+ years
T009	Centre Blister Islands	Manning Boulevard	\$28,000.00	2.9	Low	5+ years
T014	Footpaths	Robertsons Road	\$69,100.00	2.7	Low	5+ years

*Cost estimates do not include costs associated with replacing existing drainage infrastructure.

Please refer to APPENDIX 3 for additional information regarding the priority ranking and cost estimates of these treatments.

5 SUMMARY AND CONCLUSIONS

The objective of this study was to prepare a Local Area Traffic Management (LATM) plan for the Bacchus Marsh Darley Area, which addresses the main traffic issues in the area and reflects the requirements and expectations of the 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 included the collection of traffic volume and traffic speed data, as well as an investigation of crash data,

The community consultation component of the study included an online interactive map and community workshops in order to understand the community's thoughts regarding necessary areas for improvement and opinions on proposed treatments.

The key issues identified in the study generally related to traffic concerns such as high speeds and irresponsible driving, as well as pedestrian safety in the area.

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

- The traffic treatment 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, 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.

APPENDIX 1 COMMUNITY CONSULTATION MATERIALS







As a key action identified in the Integrated Transport Strategy, Moorabool Shire Council is undertaking a Local Area Traffic Management (LATM) study within a precinct of Darley in order to manage the traffic impacts and road safety on local roads within the area. A review of the traffic, parking and safety issues within the area is being undertaken to assist with the study and community participation is essential in identifying and addressing issues of this nature.

As such, Council is seeking resident's input regarding traffic issues.

The LATM study will examine the existing traffic, parking and road safety issues, together with information received from residents, discussions with officers and the collection of traffic volume and speed data. Council is seeking feedback from the Darley community on traffic and parking issues, including:

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

Residents are strongly encouraged to complete the community questionnaire and add feedback to the Social Pinpoint interactive map. Feedback will assist Council in identifying the key traffic issues within the area, as well as validating some of the issues previously raised so that an effective traffic management scheme can be developed.



Get Involved

Share your thoughts and ideas on existing local traffic issues in Darley via the Social Pinpoint Interactive Map

View Project Map

APPENDIX 2 FINAL LATM PLAN





APPENDIX 3 COST ESTIMATES AND PRIORITY RANKING





COST ESTIMATES AND PRIORITIES

Treatment	Treatment Type	Location	Cost	Importance	Volume	Speed/Safet	Community	Cost Score	Importance	Volume	Speed/Safety	Community	Total Score	Priority
ID			(Estimate		(vpd)	у	Feedback	(2)	Score (2)	Score (2)	Score (2)	Feedback	(10)	
			Only)									Score (2)		
T018	Wombat Crossing	Albert Street	\$26,000.00	5	23684	4	100%	1	2.0	2	2	2.0	9.0	High
T017	Wombat Crossing	Hallets Way	\$26,000.00	5	8328	4	100%	1	2.0	1	2	2.0	8.0	High
T004	Speed Humps	Manning Boulevard	\$9,000.00	5	2500	2	100%	2	2.0	0.5	1	2.0	7.5	High
T020	Raised Intersection	Fitzroy Street	\$44,000.00	4.33	6677	3	100%	1	1.7	1	1.5	2.0	7.2	High
T007	Centre Blister Islands	Hallets Way	\$28,000.00	4	8328	4	80%	1	1.6	1	2	1.6	7.2	High
T010	Centre Blister Islands	Swans Road	\$28,000.00	5	2500	3	100%	1	2.0	0.5	1.5	2.0	7.0	Medium
T013	Footpaths	Links Road	\$147,000.00	4.5	7500	3	100%	0.5	1.8	1	1.5	2.0	6.8	Medium
T012	Footpaths	Cairns Drive	\$79,000.00	4	4310	4	100%	0.5	1.6	0.5	2	2.0	6.6	Medium
T015	Wombat Crossing	Manning Boulevard	\$26,000.00	5	2500	2	100%	1	2.0	0.5	1	2.0	6.5	Medium
T019	Raised Intersection	Dundas Street	\$44,000.00	5	1611	2	100%	1	2.0	0.5	1	2.0	6.5	Medium
T011	Centre Blister Islands	Ramsay Crescent	\$28,000.00	5	2500	1	100%	1	2.0	0.5	0.5	2.0	6.0	Medium
T016	Wombat Crossing	Ramsay Crescent	\$26,000.00	5	2500	1	100%	1	2.0	0.5	0.5	2.0	6.0	Medium
T001	Speed Humps	Cairns Drive	\$18,000.00	2.6	4310	4	40%	1.5	1.0	0.5	2	0.8	5.8	Medium
T006	Centre Blister Islands	Albert Street	\$28,000.00	1	23684	4	0%	1	0.4	2	2	0.0	5.4	Medium
T003	Speed Humps	Links Road	\$18,000.00	1.8	7500	3	20%	1.5	0.7	1	1.5	0.4	5.1	Medium
T008	Centre Blister Islands	Links Road	\$28,000.00	2.33	7500	3	33%	1	0.9	1	1.5	0.7	5.1	Medium
T002	Speed Humps	Horder Crescent	\$18,000.00	1	2147	2	0%	1.5	0.4	0.5	1	0.0	3.4	Low
T005	Speed Humps	Robertsons Road	\$18,000.00	1	1273	1	0%	1.5	0.4	0.5	0.5	0.0	2.9	Low
T009	Centre Blister Islands	Manning Boulevard	\$28,000.00	1	2500	2	0%	1	0.4	0.5	1	0.0	2.9	Low
T014	Footpaths	Robertsons Road	\$69,100.00	1.33	1273	1	33%	0.5	0.5	0.5	0.5	0.7	2.7	Low

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