

## Notice of Local Traffic Committee Meeting

A Local Traffic Committee Meeting will be held in the Ballina Shire Committee Room, 40 Cherry Street, Ballina on **Wednesday 10 June 2020 commencing at 10.00 am.** 

## Business

- 1. Attendance & Apologies
- 2. Minutes of Previous Meeting
- 3. Deputations by Members of Public or Councillors
- 4. Summary Report Recent Decisions of Council in Response to LTC Recommendations
- 5. Items to be Referred to Council
- 6. Items to be Referred to the General Manager's Delegate
- 7. Items for Traffic Engineering Advice
- 8. Information of the Committee
- 9. Regulatory Matters on Classified Roads (GM's Delegate)
- 10. Items Without Notice
- 11. Next Meeting

John Treman

John Truman Group Manager Civil Services

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## **Table of Contents**

1.	Attendance & Apologies	1
2.	Minutes of Previous Meeting	1
3.	Deputations by Members of Public or Councillors	1
4.	<ul> <li>Summary Report - Recent Decisions of Council in Response to LTC</li> <li>Recommendations</li></ul>	2 2
5.	Items to be Referred to Council	4
6.	Items Referred to General Manager's Delegate 6.1 Proposed Timed Parking Zone - Southern Cross Drive, North Ballina	5
	<ul> <li>Ballina Says No to Domestic Violence Walk</li> <li>Regulatory Signage - Perry Street, Alstonville</li> <li>1</li> </ul>	8  2
7.	<ul> <li>7.2 Byron Bay Road/Byron Street Intersection, Lennox Head</li> <li>7.3 Wollongbar Sports Fields Access - Elvery Lane</li> <li>7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit</li> <li>7.5 Traffic Issues, Hill Street/Brighton Street/Range Street/Shaws Bay Hotel and Caravan Park Entrances Area (Section B) - Road Safety Audit</li> </ul>	15 18 27 29 38 48
8.	Information for the Committee5 8.1 Schedule of Outstanding Resolutions of the Committee 5	53 53
9.	Regulatory Matters on Classified Roads (GM's Delegate)	58
11.	Items Without Notice	58
12.	Next Meeting	58

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- 1. Attendance & Apologies
- 2. Minutes of Previous Meeting
- 3. Deputations by Members of Public or Councillors

## 1. Attendance & Apologies

## 2. Minutes of Previous Meeting

A copy of the Minutes of the Local Traffic Committee Meeting held on Wednesday 12 February 2020 were distributed with the business paper.

## RECOMMENDATION

That Council confirms the Minutes of the Local Traffic Committee Meeting held on Wednesday 12 February 2020.

## 3. Deputations by Members of Public or Councillors

- 4.1 Decision of Council Meeting 27 February 2020 in Response to Local Traffic Committee Recommendations – Crane Street Ballina, Pedestrian Crossing
- 4. Summary Report Recent Decisions of Council in Response to LTC Recommendations
- 4.1 <u>Decision of Council Meeting 27 February 2020 in Response to Local Traffic</u> <u>Committee Recommendations – Crane Street Ballina, Pedestrian</u> <u>Crossing</u>

## Introduction

The Local Traffic Committee meeting held 11 December 2019 considered the pedestrian crossing counts at the Crane Street pedestrian crossing and recommended:

"That subject to approval by the elected Council, the LTC support the removal of the existing Crane Street crossing east of Martin Street and progress design and installation of a pedestrian refuge or other safe crossing device west of Martin Street."

## Information

The following advice was provided in a report to Council 27 February 2020:

"In reviewing possible pedestrian treatments for Crane Street, west of Martin Street, it was identified that there is insufficient space to support a pedestrian refuge. Buses turning between Martin Street and Crane Street would conflict with a refuge at this location.

The pedestrian refuge would need to be located further to the west to avoid this conflict. However, the volume of pedestrians using the refuge would fall as their path deviation is increased.

Furthermore, Council has recently constructed a pedestrian refuge midblock between Cherry Street and Martin Street making such a refuge redundant.

In addition to the pedestrian refuge located midblock between Cherry and Martin Streets, Council has also constructed a kerb blister extension on Crane Street, west of Martin Street.

This treatment reduces the effective distance of carriageway that pedestrians are required to negotiate when crossing the road, resulting in an improved safety outcome.

A pedestrian refuge already exists at the existing marked pedestrian crossing location on Crane Street, east of Martin Street."

Council Resolved:

## "270220/32 RESOLVED

## 4.1 Decision of Council Meeting 27 February 2020 in Response to Local Traffic Committee Recommendations – Crane Street Ballina, Pedestrian Crossing

- 1. That based on the technical assessment outlined in this report, Council authorises community consultation to be undertaken for the proposed removal of the marked pedestrian crossing located on Crane Street, east of Martin Street.
- 2. The results of the community consultation in point one are to be referred to the Ballina Local Traffic Committee for advice and reported to Council."

The community consultation will commence shortly.

## RECOMMENDATION

Submitted for the Committee's information

## Attachment(s)

Nil

## 5. Items to be Referred to Council

Nil Items

## 6. Items Referred to General Manager's Delegate

## 6.1 Proposed Timed Parking Zone - Southern Cross Drive, North Ballina

## Introduction

A business owner is experiencing access and customer parking difficulties due to other vehicles parking for days, weeks and months on the Southern Cross Drive kerb outside his premises.

## Information

The sides of the section of Southern Cross Drive from Convair Avenue to the airport are mostly either time restricted parking or NO STOPPING zones. This extension of the restricted parking zones from the airport has been done incrementally over a number of years and each time the problem has shifted to just beyond the perimeter of the restricted parking area due to the long-term occupation of these areas by airport related vehicles.

Whilst the west side of Southern Cross Drive north of Convair Avenue is all NO STOPPING zone, the east side has a section of unrestricted parking from near the Council Depot boundary to Convair Avenue. This section is the frontage for a number of factory units.

A business owner from one of these units has advised that vehicles are parking for long durations of days, weeks and months in this section of Southern Cross Drive and that one vehicle, see attachment, has been parked for over six months. As a result, there are often no spaces left on Southern Cross Drive for customer parking. He has requested timed parking on this section of Southern Cross Drive and the north side of Convair Avenue between Southern Cross Drive and De Havilland Crescent so that some on street parking will be available for customers.

## RECOMMENDATION

The Committee support placement of a 4H PARKING zone on the east side of Southern Cross Drive from the southern extent of the existing NO STOPPING ZONE to Convair Avenue and on the north side of Convair Avenue between Southern Cross Drive and De Havilland Crescent.

## Attachment(s)

- 1. Aerial View Southern Cross Drive and Convair Avenue Note NO STOPPING on west side Southern Cross Dr has been extended since this photo was taken
- 2. Long Term Vehicle Parking Southern Cross Drive, Ballina





## 6.2 Ballina Says No to Domestic Violence Walk

## Introduction

A walk is proposed on Friday 27 November 2020 in the Ballina CBD to support Ballina Says No to Domestic Violence Walk, a national day of action to highlight domestic violence.

## Information

Ballina Rotary Club is proposing to hold a walk on Friday 27 November 2020 in the Ballina CBD, to support a national day of action to highlight domestic violence.

The walk will commence at 12.30 pm on Friday 27 November 2020 from the Regatta Avenue car park adjacent Ballina Memorial Swimming Pool.

Matthew Adams from 'Work Force Road Services' will manage the walk and set up road closure signage. A Police car will lead the walk and each intersection is to be manned by SES volunteers.

As the participants pass by each of the road closures Work Force Road Services will have a vehicle following the walkers to collect the signage and reopen the road when deemed safe.

The organisers estimate the walk will take between 30 and 45 minutes to complete and estimate no additional set up/pull down time.

The organisers, Ballina on Richmond Rotary Club, expect to have up to 1500 participants including all 850 students at Ballina Coast High School and 250 students from Ballina Primary School.

Rotary District 9460 will cover Public Liability Insurance.

The Traffic Management Plan is attached.

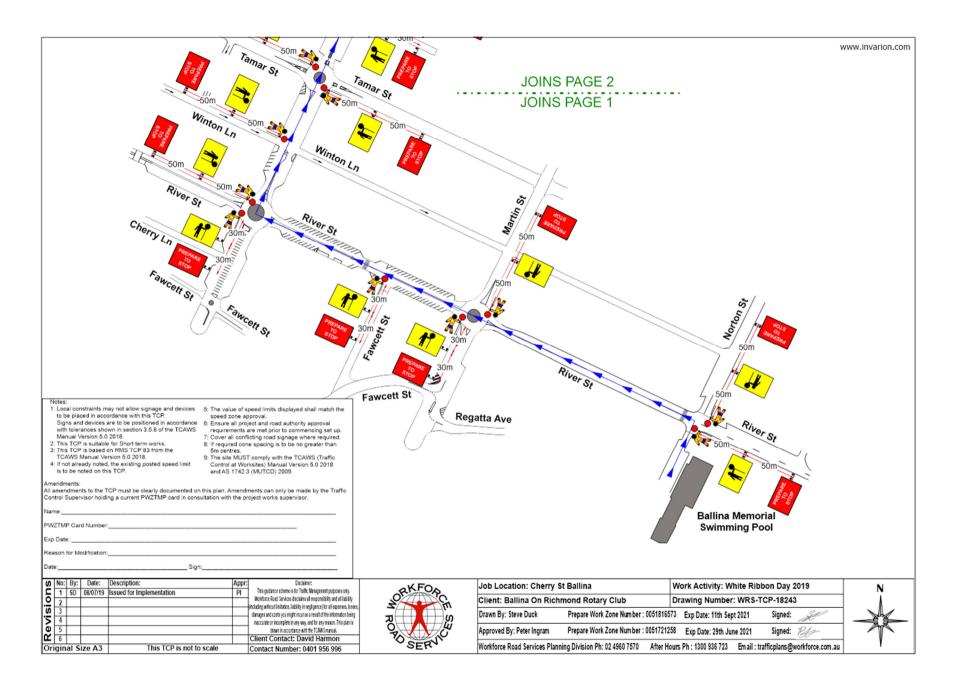
## RECOMMENDATIONS

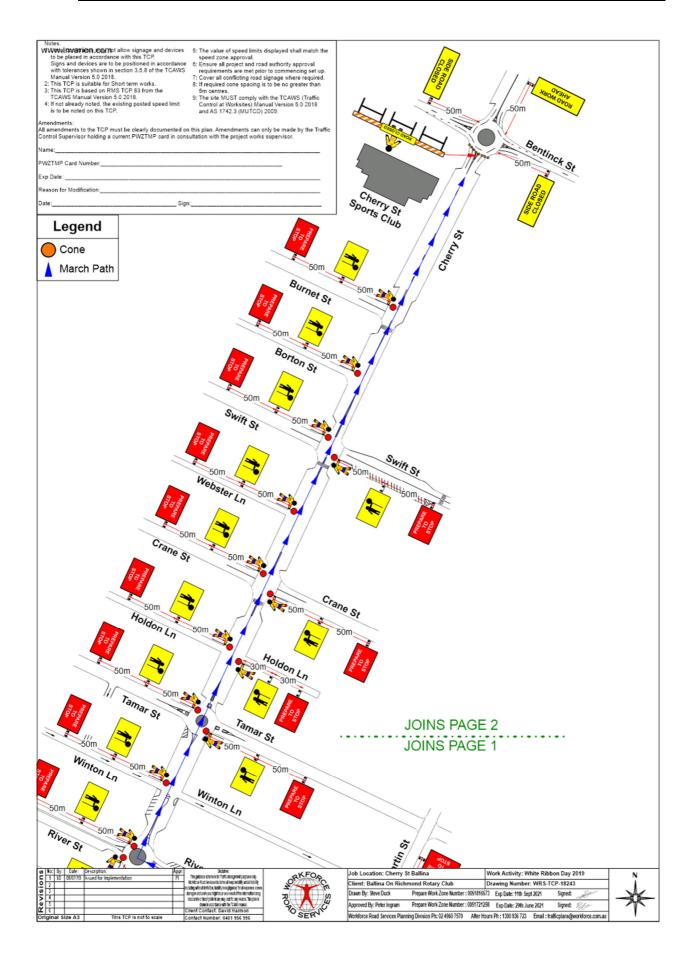
- 1. That the Committee concur with the closure, in accordance with the attached Traffic Management Plans, of Las Balsas Plaza, River Street and Cherry Street, Ballina, on Friday 27 November 2020, from around 12:30 pm until 1:30 pm to facilitate an organised walk of up to 1,500 persons on these streets supporting Ballina Says No to Domestic Violence.
- 2. That the Committee concur with road closures for repetitions of this event in November 2021 and 2022, provided the proposals are substantially the same as for the 2020 event and that applications are accompanied by suitable insurance and Traffic Control Plans.

## Attachment(s)

1. Ballina Says No to Domestic Violence TCP 1

2. Ballina Says No to Domestic Violence TCP 2





## 6.3 <u>Regulatory Signage - Perry Street, Alstonville</u>

## Introduction

Roadworks in Perry Street, Alstonville are nearing completion necessitating an adjustment to regulatory signage.

## Information

Recent roadworks have formalised the configuration of traffic lanes and parking in the section of Perry Street, Alstonville between the Police Station and Catholic School.

Cars had previously parked on the grassed verge on the east side of Perry Street. The road becomes congested at school pick up and drop off times with an unsafe mix of vehicles and pedestrians.

The current roadworks will provide sealed verges and delineation of road edges with kerbs (see attachment) and seek to formalise and constrain the locations of through traffic, parked cars and pedestrians.

Regulatory signage proposed includes:

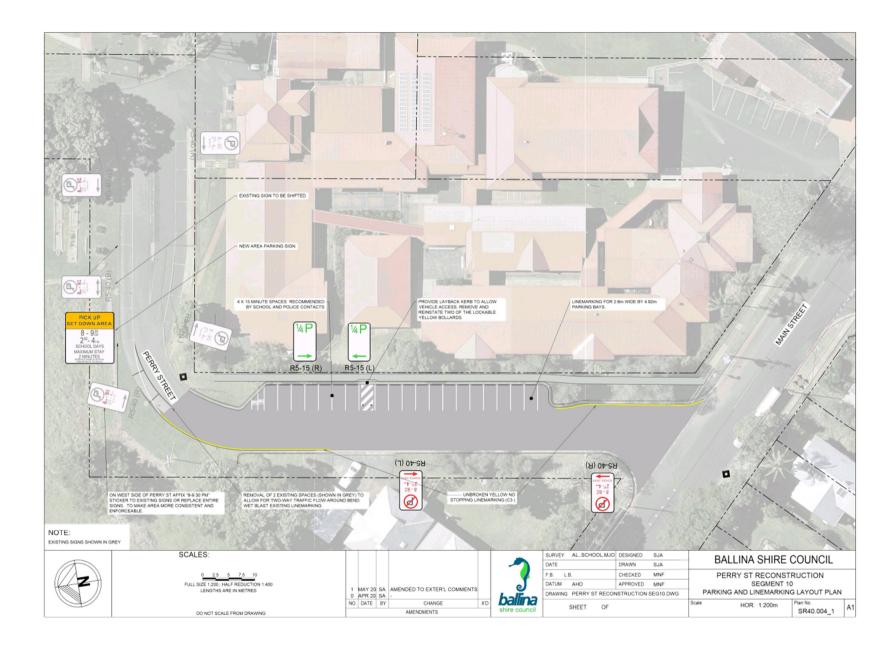
- NO STOPPING Zones depicted by yellow edge lines to free up the traffic flow freely in both directions
- Designation of NO PARKING Zones from 8.00 9.30 am and 2.30 4.00 pm north and east side of the street will be consistent with the south side. This will reduce ambiguity and increase enforceability. Extension of the Zone will free up two-way traffic in peak conditions
- Provision of four 1/4P spaces is requested by the school and local Police to ensure short-term parking is available at all times.

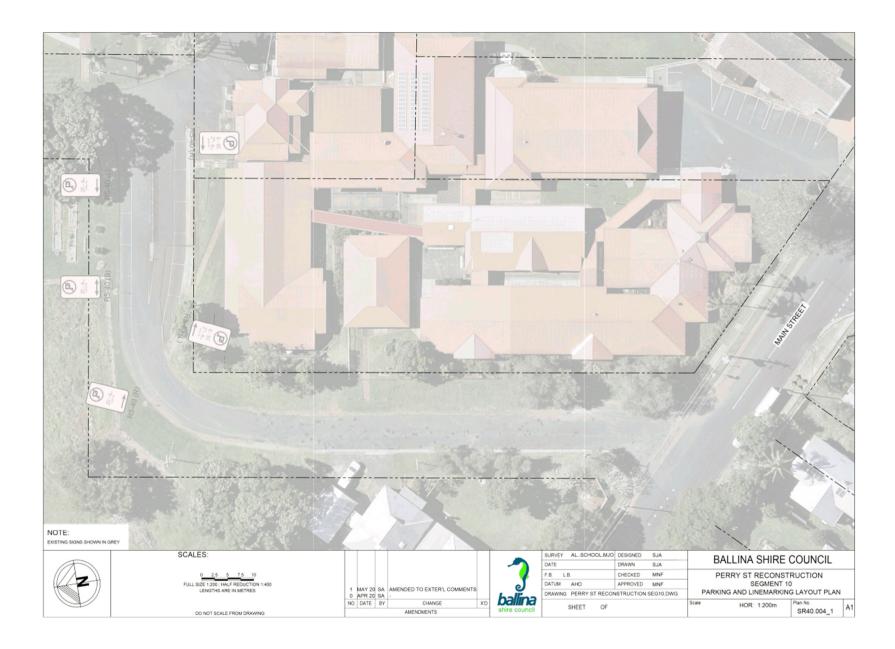
## RECOMMENDATION

The Committee endorse the proposed regulatory signage depicted on the attachment to this report.

## Attachment(s)

- 1. Proposed Signage Perry Street, Alstonville
- 2. Existing Signage Perry Street, Alstonville





## 7.1 Proposed Signalisation - Brunswick Street/River Street Intersection, Ballina

## 7. Items for Traffic Engineering Advice

## 7.1 <u>Proposed Signalisation - Brunswick Street/River Street Intersection,</u> <u>Ballina</u>

## Introduction

A report has been obtained examining the proposed installation of traffic signals at the Brunswick Street/River Street Intersection, Ballina.

## Information

One of the most prevalent issues raised in both written submissions and public information forums during the public exhibition of the River Street Ballina Dual Lane Concept Design late 2019, was the inability of traffic from Brunswick Street (North) to safely turn right to travel westwards at River Street. This turn is extremely difficult to safely execute due to the large and increasing volumes of traffic on River Street that leave insufficient gaps for safe turns from Brunswick Street. Street.

The urban area north of River Street between Fishery Creek and Kerr Street is effectively cut off from travelling to West Ballina and beyond unless lengthy detours are made to signalised intersections on Kerr Street.

Traffic counts at the intersection conducted in November 2017 indicated there was insufficient traffic to meet the RMS minor road warrant for intersection traffic signals. It was proposed to conduct a traffic study to predict if the minor road traffic volumes would increase sufficiently to meet the minor road warrant in the event that signals were installed.

The Committee recommended at the 18 December 2019 meeting:

"The Committee recommended Council engage consultants to conduct traffic modelling to determine if traffic volumes will be sufficient to provide compliance with the RMS warrant for provision of lights at the intersection of River Street and Brunswick Street, Ballina."

Council engaged Bitzios to conduct the study and their report is an attachment to this agenda.

The study concluded:

## 6. Conclusion

The findings of this study are summarised and outlined below.

#### Pedestrian Safety

- The nearest controlled crossing to the subject intersection across River Street is the signalised intersection at Kerr Street, located 450 metres east of the subject intersection.
- Alternatively, pedestrians may utilise the pedestrian refuge east of River Street. However, this may not be as safe as pedestrians have to cross three lanes of highvolume 60 km/h traffic. It was observed during the site visit that there are no adequate gaps in traffic for the refuge to be used.

#### VKT Savings

- The detour routes are at least a kilometre longer than a direct right turn from Brunswick Street north to River Street westbound.
- When all demand from Area North to River Street westbound is redistributed to the right turn from Brunswick Street north to River Street westbound, the VKT savings will be at least 74.2 and 60.2 for AM and PM peaks respectively.

#### Intersection Delays & SIDRA Modelling

- SIDRA modelling shows high delays in the Brunswick Street approaches at the subject intersection. Delays were confirmed during the site visit.
- The artificially low right turn volumes from Brunswick Street north to River Street westbound, despite demands from Area North to River Street westbound, suggest that drivers are avoiding the right turn by travelling along other detour routes
- The detour routes were proven to be utilised by these drivers based on relatively
  longer travel times recorded by the OD surveys. However, the proportions of volumes
  using each detour route cannot be determined due to the lack of OD data east of Kerr
  Street.
- Similarly, the artificially low right turn volumes from Brunswick Street south to River Street eastbound, despite demands from Area South to Kerr Street or River Street eastbound, suggest that drivers are avoiding by right turn by travelling via Camoola Avenue.
- SIDRA modelling analysis shows that if the intersection is signalised, the average delays in Brunswick Street approaches will be improved to an acceptable level. However, if the layout is unchanged, the eastern approach will have a high average delay and 95<sup>th</sup> percentile queues in the PM peak.
- If the intersection is upgraded with additional lanes on River Street and road widening
  with extended turn lanes at Brunswick Street, delays on Brunswick Street approaches
  are further improved, and delays on the eastern approach will be improved to an
  acceptable level.

#### Warrants Assessment

- The subject intersection satisfies three of the four criteria of the signal warrant. The
  intersection does not satisfy the minor road flow criteria, which states that the minor
  road (Brunswick Street) has to exceed 100 vehicles/hour in one direction for four onehour periods of an average day.
- Even with redistributed traffic resulting from the signalising of the subject intersection, Brunswick Street northern and southern approach volumes do not exceed 100 vehicles per hour.
- With traffic growth of 9% applied for the next 10 years, only one of the one-hour period satisfies the requirement, still falling short of the minor road flow criterion.
- Despite one of the warrant criteria not satisfied, other factors such as pedestrian safety, VKT savings, intersection delays and SIDRA modelling must be considered when assessing the merits of signalising the intersection.

In conclusion, retaining the intersection in its current layout will only worsen the intersection performance. By signalising and upgrading the intersection, the performance will significantly improve without bringing significant delays to River Street traffic. Additionally, vehicles from Area North will no longer have to travel detour routes to access River Street westbound. A signalised intersection with crossing will also provide safer pedestrian crossing points between Area North and Area South.

## 7.1 Proposed Signalisation - Brunswick Street/River Street Intersection, Ballina

Whilst the study did not find the intersection would fully meet the RMS warrant for signalisation of the Brunswick Street/River Street intersection, it nevertheless provides robust support for an application for signalisation.

The intersection is contained within Stage 4 of the River Street Dual Lane project scheduled for construction in 2021/22. It would be preferable to include the signalisation in that construction Stage.

## RECOMMENDATION

Council submit an application, supported by the Bitzios report, to Transport NSW requesting approval of the installation of traffic signals at the Brunswick Street/River Street intersection.

## Attachment(s)

1. Brunswick Street/River Street, Ballina - Traffic Signal Warrants Study (Under separate cover)

## Introduction

Following concerns raised by the public, media and local Member of Parliament about the safety of this intersection, a Road Safety Audit (RSA) of the intersection has recently been completed.

## Information

Observations of traffic behaviour at the intersection over a number of years have identified substantial queuing on the Byron Street leg, particularly in the am peak. The majority of queued vehicles have been observed indicating right turn intentions with a minority indicating left turn intentions.

During the am peak the traffic volumes in both directions on Byron Bay Road are high and the Byron Street queuing is an indication of insufficient gaps being available for traffic turning right from Byron Street. The left turn from Byron Street is far less inhibited in terms of safe gaps in traffic, however left turning vehicles are often trapped behind right turning vehicles. It has also been observed that a portion of right turning vehicles from Byron Street make this manoeuvre when there is insufficient gap to do so safely. It is presumed this is to some extent caused by driver frustration with queue delay times and inability to identify timely occurrence of safe gaps in the Byron Bay Road traffic stream.

To assist alleviating this situation Council has proposed to construct the low cost modification providing for separate left and right turn lanes in the Byron Street approach leg. It also proposes to move the hold line forward (with associated extension of painted median) to provide improved sight distance for right turning vehicles. It is anticipated this modified layout will enable relatively free flow for left turning vehicles, reduce queue lengths and delays for right turning vehicles and reduce driver frustration.

Tamara Smith, the Member for Ballina advised by letter dated 16 March 2020:

I wish to bring to your attention my grave concerns regarding the intersection of Byron Bay Road and Byron Street at Lennox Head.

I would be grateful if the committee would consider this matter as urgent. There is a real sense of urgency in the community about this issue and people feel unsafe at having to use the intersection.

I would like to request an update on the application Council has submitted for Black Spot funding in 2020/2021 to be on the next LTC agenda on the 12 April.

I believe it is imperative to be proactive in having improvements made to this site now rather than waiting on a fatality.

Council's response letter is an attachment to this agenda.

Applications for Safer Roads/Black Spot grants are required to conform with guidelines requiring a minimum of three casualty crashes in the NSW CrashLink

database in the preceding five year period. An exception to the three casualty crash requirement is for proactive applications that are backed up by the findings of a Road Safety Audit.

The Byron Bay Road/Byron Street Intersection has only had two casualty crashes in the NSW CrashLink database in the eligible five-year period of 1 July 2014 to 30 June 2019. Accordingly, an RSA would be required for this intersection to be eligible for any NSW Safer Roads/Black Spot funding.

It was decided to conduct an RSA on the intersection that could potentially support a future Safer Roads/Black Spot application for funding and also conduct a Safe System Assessment (SSA) on the proposed minor upgrade to the intersection.

Ardill Payne & Associates were engaged to conduct a RSA and associated Safe System Approach (SSA) assessment of the intersection.

The findings of the RSA were:

	Table 5. Addit Findings		
Number	Description	Risk Rating	
01	Limited Advance Warning of Intersection	Frequency:	Improbable
	There are no 'Side Road Intersection' signs in either approach on	Severity:	Serious
	Byron Bay Road. However, there are green guide signs near the intersection in both approaches.	Risk:	Medium
	There is a risk that drivers may not have sufficient advance warning of the intersection, resulting in confusion at the intersection and increased risk of a crash.		
	Location: Both approaches in Byron Bay Road		
02	Poor Condition of Line Marking	Frequency:	Improbable
	The painted lines and chevrons in the intersection are badly worn	Severity:	Minor
	in places.	Risk:	Low
	Without adequate delineation, there is a risk that drivers will be confused at the intersection, increasing the risk of a crash when changing lanes.		
	Refer to Photo No. 01		
	Location: Intersection		
03	Sight Distances	Frequency:	Occasional
	The physical sight distances are adequate, however sight	Severity:	Serious
	distance, especially looking north from the intersection, can be obstructed by turning vehicles.	Risk:	High
	There is a risk that a driver may not see through traffic behind turning vehicles, and pull out in front of a through travelling vehicle.		
	Refer to Photo No. 02		
	Location: Looking north from intersection		

## Table 5: Audit Findings

04	Change to 50 Speed Zone in Byron Street	Frequency:	Improbable
	Change in speed zone in Byron Street – the '50' pavement marking is barely visible.	Severity: Risk:	Serious Medium
	There is a risk that a driver may not perceive the change in speed zone. Drivers may not reduce speed, which may increase the severity of a crash.	NISK.	Weddin
	Refer to Photo No. 03		
	Location: Byron Street		
05	Visibility of Median in Byron Street	Frequency:	Improbable
	The concrete median is not well contrasted to the bitumen road surface. The kerb edges are not painted white.	Severity: Risk:	Serious Medium
	There is a risk that vehicle could impact the median and the driver lose control, resulting in a collision with a roadside hazard or another vehicle.		
	Refer to Photo No. 04		
	Location: Byron Street		
06	Location of Hold Line	Frequency:	Occasional
	The give way hold line is set well back from the intersection. Drivers sight lines are adversely impacted (obstruction by turning vehicles worsened), and the time to accelerate into gaps in the through traffic is increased.	Severity: Risk:	Serious <mark>High</mark>
	There is a risk that a driver may not see through traffic behind turning vehicles, and pull out in front of a through travelling vehicle.		
	Refer to Photo No. 05		
	Location: Intersection		
07	Lack of Facilities for Pedestrians	Frequency:	Improbable
	There are no facilities (pedestrian refuge or similar) for pedestrians to cross Byron Street at the intersection. There is also no width (shoulder or verge) on the northern side of Byron Street to provide a safe path for pedestrians. Any pedestrians on Byron Street would have to walk on the southern side, and cross at the intersection to head north.	Severity: Risk:	Serious <mark>Medium</mark>
	Without adequate pedestrian facilities, pedestrians may cross the road randomly, increasing the risk of being struck by a vehicle.		
	Refer to Photo No. 06		
	Location: Byron Street		

08	Narrow Eastbound Lane Byron Street	Frequency:	Improbable
	The width of the eastbound lane of Byron Street from the	Severity:	Serious
	intersection east for approx. 80m is constrained by the safety barrier on the left and the median on the right.	Risk:	Medium
	There is a risk that a cyclist on this section of the road could be struck from behind by a vehicle.		
	Refer to Photo No. 06		
	Location: Byron Street, eastbound lane		
09	Traffic Volume and Speed on Byron Bay Road	Frequency:	Improbable
	Traffic volumes on Byron Bay Road during peak periods are high.	Severity:	Serious
	During the site inspection, a high proportion of traffic was observed turning left into and right out of Byron Street. The speed of some through vehicles on Byron Bay Road appeared excessive.	Risk:	Medium
	There is an increased exposure to crashes due to the traffic volumes. There is a risk that the severity of a crash could be increased due to the excessive speed.		

The auditor has also made the following comments regarding both the existing intersection and any future redesign of the intersection:

The following comments relate to the existing intersection:

- Provide advance warning signs ('Side Road Intersection' or similar) in both approaches on Byron Bay Road.
- To improve intersection delineation, repaint intersection line-marking. This should include painting the median kerbs in Byron Street. Replace retro-reflective pavement markers as required.
- Repaint '50' road pavement marking at change of speed zone in Byron Street.
- Consider extending the centre median in Byron Street and moving the hold line west. This would
  improve sight lines for drivers exiting Byron Street and reduce time to enter through traffic
  stream.
- Consider proving a pedestrian refuge in the centre median in Byron Street. This would require
  widening of the median at that location, and provision of appropriate advance warning signs.
- Consider relocating the safety barrier on the northern side of Byron Street to provide a wider clearance between edge of lane and safety barrier.
- Consider removing the left turn lane into Byron Street and changing it to a short taper. This may
  remove the hazard that results from drivers in Byron Street not seeing through vehicles on Byron
  Bay Road passing outside of left turning vehicles. Consideration of this option may require an
  intersection analysis.

The following comments should be considered in any future redesigns of the intersection:

- Consider replacing the intersection with a roundabout. This would reduce speeds at the intersection and reduce exposure to serious crashes. This may require a detailed traffic analysis of the intersection.
- Consider widening Byron Street to provide both a dedicated left turn and right turn lane. This
  would reduce delays at the intersection, particularly for left turning vehicles.
- Consider providing a left turn slip lane in Byron Bay Road for vehicles turning left into Lennox Head (into Byron Street). This would provide separation between turning and through traffic and improve sight lines for drivers exiting Byron Street.

In regard to actions arising from the RSA, the standard suggested treatment approaches of RSAs are:

Risk	Suggested Treatment Approach
Intolerable	Must be corrected
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high.
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.
Low	Should be corrected or the risk reduced, if the treatment cost is low.

Council as the Project Sponsor has the ongoing role arising from the RSA of producing a corrective action program, implementing the program and closing out the corrective action (RMS Guidelines for Road Safety Audit).

There are a number of "Medium" rated risks (signage, linemarking, median visibility) that can be addressed by routine operations of Council's Works Section.

In regard to the "High" rated risks, there are short term practical solutions to "03 Sight Distance" risk suggested by the Auditor by reconfiguring the Byron Bay Road left turn lane and the "06 Location of Hold Line" is already proposed by Council in the minor intersection upgrade.

In regard to pedestrian issues, there is a strategic need to provide a shared path from Lennox Head to the west via Byron Bay Road and Ross Lane to access the proposed CURA B urban release area. Lennox Head will be the local service town for CURA B and will provide shopping, sporting and school facilities and generate associated pedestrian and bicycle traffic. At this time it is likely this shared path connection would be located further north of the subject intersection at the level of Ross Street with a yet to be acquired east west connection to Byron Bay Road and the existing footpath aligned with Cooper Street connecting to Sanctuary Village. Widening of Byron Street to provide better pedestrian access would also be problematic due to the presence of SEPP Coastal wetlands.

Any changes to the speed limit on Byron Bay Road, is a matter that would require referral to Transport NSW the responsible authority for Speed Zone Reviews.

The Auditor has also conducted a Safe Systems Assessment (SSA) of the existing intersection and a design for the minor upgrading of the intersection by Council. The SSA report is an attachment to this agenda.

SSA Matrix Scores are out of a possible 448. The closer the score is to zero, the more the project in question is in alignment with Safe System principles.

The summary and conclusions of the SSA are:

### 7. Summary and Conclusions

A Safe System Assessment (SSA) has been conducted on the Byron Bay Road/Byron Street intersection at Lennox Head. Existing conditions and one concept design have been assessed. The SSA Matrix scores are summarized in the table below:

Option	Score
Existing conditions	200 / 448
Concept Design	184 / 448

It is clear that neither the existing or proposed intersection produces Safe System outcomes. The main FSI crash risks at the intersection are the right turn movements in and out of Byron Street, and the proposed Concept Design does not offer any structural improvement to these turns. Therefore, from the SSA Matrix scores, the proposed Concept Design only makes a marginal improvement to existing conditions.

However, by providing a separate left and right turn lanes in the Byron Street approach leg, left turning vehicles will be less likely to be trapped behind right turning vehicles. This should reduce queuing which will in turn reduce delays and driver frustration. Less frustrated drives are less likely to take risks entering the Byron Bay Road traffic stream.

By moving the hold line forward (closer to the through lane), in association with an extension of a painted median, there will be an improvement in sight distance for right turning vehicles.

The proposed Concept Plan will enable an improved flow for left turning vehicles, and should reduce queue lengths and delays for right turning vehicles, and therefore reduce driver frustration. However, it is difficult to quantify the extent of these improvements, especially during peak periods, and therefore hard to justify any significant improvement in alignment with Safe System objectives.

Further treatment options to improve safety could be selected from the suggested treatments in Section 5 of this report. For example, there remains the potential for fatal and serious injury due crashes involving a vehicle turning right out of Byron Street. Sight distance is still obstructed by vehicles turning left into Byron Street. Safety could be greatly improved by providing a left turn slip lane. Safety at the intersection generally could be improved by reducing the speed limit on Byron Bay Road to 60km/h.

Measures that have the potential to eliminate or come close to eliminating the risk of fatal and serious injury (FSI) crashes could include the construction of a roundabout, or banning right turns into Byron Bay Road at the intersection.

In regards to Council's proposed minor upgrade of the intersection, the SSA indicates that it will provide some Safety Systems benefits by reducing the score from 200 to 184. The RSA comments provide some further guidance on configuring any improvements to the intersection.

As well as providing guidance for Council to carry out required corrective actions to minimise safety risks at the existing intersection, the RSA will also be used by Council to support a proactive application for funding of more substantial improvements to the intersection (eg roundabout) under the NSW Safer Roads/Black Spot program at the end of July 2020 (for funding in 2021/22 and beyond). If such an application is successful it would be unlikely for construction works to be commenced until the 2022/23 year with 2021/22 being needed for preconstruction activities (detailed design and environmental/planning approvals).

Given the lengthy timeframe for these more substantial improvements and uncertainty of a successful funding outcome, there is some merit in still proceeding with the minor intersection upgrade planned by Council, subject to the recommended modifications arising from the RSA/SSA process. These

works are low cost, will deliver significant congestion relief outcomes and provide a measurable safety benefit in terms of the Safe Systems matrix score.

Any further advice from the Committee regarding improvements to the safety of this intersection would be appreciated.

## RECOMMENDATIONS

- 1. The Committee provide any further advice for minimising safety risks at the intersection.
- 2. In response to the Road Safety Audit and Safe Systems Assessment, Council proceed with producing and implementing an appropriate corrective action program. This may include requesting Transport NSW to conduct a speed zone review on Byron Bay Road between The Coast Road and Ross Lane.
- 3. Council proceed with the planned minor upgrade to the intersection with appropriate design modifications to incorporate the findings of the Road Safety Audit
- 4. Council use the Road Safety Audit and Safe Systems Approach reports to support a Safer Roads/Black Spot funding application of more substantial improvements (such as a roundabout) to the intersection.

## Attachment(s)

- 1. Byron Bay Road/Byron Street Intersection Road Safety Audit (Under separate cover)
- 2. Byron Bay Road/Byron Street, Lennox Head Safe Systems Assessment (Under separate cover)
- 3. Council Response to Tamara Smith MP

enquiries refer John Truman in reply please quote Doc No: 20/22155



20 May 2020

Tamara Smith MP Member for Ballina <u>ballina@parliament.nsw.gov.au</u>

Dear Tamara

#### Re: Safety Improvements – Intersection of Byron Street and Byron Bay Road

Thank you for your letter regarding safety improvements for the intersection of Byron Street and Byron Bay Road.

I am pleased to confirm the Council's draft Delivery Program and Operational Plan includes funding in 20/21 to upgrade this intersection. The draft Delivery Program and Operational Plan is currently on exhibition for public comment.

These works will involve the construction of separate left and right turn lanes from Byron Street onto Byron Bay Road. The provision of the extra lane, which will be in effect the left turn lane, will reduce queuing at the intersection. We are hopeful this reduction in congestion will reduce the accident risk at the intersection as wait times will be reduced and there will be more opportunities, and therefore better choices, for the turning traffic to enter the traffic flow on Byron Bay Road.

In preparing to implement the proposed works, Council has commissioned a Road Safety Audit to be completed for this intersection. We use safety audits to inform our final decisions in respect of the design and scope of works for a projects like this to ensure we achieve the desired improvements in safety. Therefore the final design may have some modifications to what I have described above.

In response to your question about Safer Roads Funding, to be eligible for funding under this program, a site must have three casualty crashes on the NSW Crash Link Database in the five year rolling period prior to the application being submitted. The intersection of Byron Street and Byron Bay Road has had no casualty crashes since 2014 recorded on the database and is therefore not eligible for funding.

Council has a very successful history in respect of Safer Roads or Black Spot Funding applications. Each year we follow a process which commences with a review of the Crash Link Database to identify potential eligible sites. The next step is to develop costed concept designs. This is important as to be successful under this program it is necessary to achieve positive benefit cost ratios. Therefore our design process involves the development of a solution that has a cost estimate relevant to the estimated savings from future accidents avoided.

A review of our records for the last few years indicates we have been successful with applications for the following projects:

40 cherry street, po box 450, ballina nsw 2478 t 1300 864 444 e council@ballina.nsw gov.au w ballina.nsw gov.au abn 539 29 887 369 Page 2 Tamara Smith MP 20 May 2020

Year	Project	Grant
2015/16	River St (Tweed and Brunswick Sts)	\$ 398,662
2015/16	Teven Road	\$ 888,450
2015/16	Angels Beach Dr/Links Ave Intersection	\$ 913,582
2015/16	Angels Beach Drive Alignment	\$ 980,820
2016/17	Byron Bay Rd/Ross Lane Intersection	\$1,957,350
2016/17	Ross Lane	\$ 787,100
2016/17	Coast Rd/Skennars Head Rd Intersection	\$1,998,095
2017/18	Byron Bay Rd Alignment	\$1,992,363
2018/19	Fox/Cherry Street Intersection	\$ 888,195
2020/21	Byron Bay Rd/Ross Lane	\$3,527,360
2020/21	Bentinck St/Kerr St Traffic Signals	\$ 807,000
2020/21	Tamarind Dr/Tintenbar Rd Intersection	\$ 606,518

This program represents a \$15,745,495 investment in priority works within the Shire. It is pleasing that in response to this targeted investment, in general our crash rates are declining across the Shire notwithstanding increasing traffic volumes.

I have read comments attributed to you about priorities under this program and I note your letter refers to the need to improve the subject intersection before there is another accident. From our perspective, the Safer Roads program operates very effectively because it determines the priority for allocation on an evidence basis and uses the benefit cost analysis to determine an upgrade response that is valued in relation to the issue to be solved. However, it is also our position that local councils need substantial increases in financial assistance from the Federal and NSW Governments for road infrastructure investment.

The funds the Council is able to allocate to its roads program from rates and general purpose grants are typically expended on maintenance and renewal activities only. This means the only opportunities the Council has to upgrade its road network is through grant programs, such as Safer Roads, or from developer contributions. The issue we encounter with developer contributions is the State Government's cap on contributions means the cost of the required works exceeds the expected revenues from our Development Contributions Plan.

Obviously, increasing the money available in the Safer Roads program would assist and could possibly reduce the eligibility criteria for grants under the program.

In response to your request for the Local Traffic Committee to consider our approach for Safer Road funding for this intersection, I have included a copy of your letter and this response for the Committee's information in the agenda for the next meeting.

Please contact me if you would like to discuss this response.

Yours faithfully

John Treman

John Truman Director Civil Services Division

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## 7.3 Wollongbar Sports Fields Access - Elvery Lane

## 7.3 Wollongbar Sports Fields Access - Elvery Lane

## Introduction

Alstonville Police have requested traffic calming on Elvery Lane, the access to the Wollongbar Sports Fields that connects to Pearces Creek Road.

## Information

The Alstonville Police have advised by email:

"A second complaint I am receiving from people using the road through the sports fields to walk through is the amount of speeding vehicles using it as a short court to and from Pearces Creek Rd into Wollongbar. It can be quite dangerous on a couple of the blind corners and the crest with walkers/joggers using the road to walk on. Perhaps 1 or 2 strategically placed speed humps might help please the locals and reduce the risk of someone being hit."

## RECOMMENDATION

The Committee's advice is requested.

## Attachment(s)

1. Aerial View - Wollongbar Sports Fields



## 7.4 <u>Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina</u> (Section A) – Road Safety Audit

## Introduction

Following concerns raised about traffic and speed limit issues in the Hill Street/Pine Avenue/The Coast Road section of road between Missingham Bridge and the 80 kph speed zone north of Suvla Street, the Committee recommended obtaining a road safety audit (RSA) which was recently completed.

## Information

At the 12 February 2020 meeting, the Committee considered concerns from a resident:

"I would like to draw your attention to the safety issues arising from the lack of separation between vehicle and pedestrian traffic on Pine Avenue and Hill Street East Ballina. The section I am referring to is between the Suvla Street and Crompton Drive intersections.

Extensive road works were completed some years ago that resulted in the formed footpath being constructed hard against the southbound traffic lane. With the development north of Ballina this road is extremely busy especially during the morning and afternoon 'peak' periods and weekends. The speed limit on this road is still 60km an hour which seems excessive when cars, trucks and buses are passing pedestrians only separated by the width of the gutter.

I appreciate that this is not a straight forward problem to fix. Because there is no parking lane or allocation on this section of road a large percentage of the gutter length is layback to allow vehicle access to the residential properties. This precludes the use of a physical barrier such as guard rails to separate vehicles and pedestrians as we have on Missingham bridge and adjacent to the Crompton Drive intersection.

I am confident that this is not the first time this issue has been raised and the original risk assessments associated with the road construction would have identified this design as having significant safety implications for pedestrians. I would ask you to urgently consider a reduction in the speed limit while other measures such as traffic calming and speed limit enforcement are evaluated."

The Committee recommended a Road Safety Audit be obtained to examine the safety of this area.

GeoLink were engaged to conduct the RSA and an associated Safe Systems Assessment (SSA) for both this area being Section A - The Coast Road/Pine Avenue/Hill Street between the Missingham Bridge and the 80kph zone change north of Suvla Street and associated intersections.

# 7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit

The RSA and SSA for Section A are attachments to this report.

SECTION A - The Coast Road/Pine Avenue/Hill Street Between Missingham Bridge and 80kph Zone North of Suvla Street



## RSA Section A Findings are:

Audit findings	Risk Ranking
1.0 GEOMETRY	
1.1 Vehicles queuing to turn right into Brighton Street Several eastbound vehicles were observed queuing to turn right into Brighton Street from Hill Street. Eastbound through traffic was required to use the auxiliary lane to pass these vehicles. The auxiliary lane appeared somewhat short given the number of vehicles observed in the through lane waiting for a gap in the oncoming traffic to allow a right turn, and it is expected the volumes of traffic for all manoeuvres in the area would be greater during peak summer periods. Vehicles travelling eastbound at 60 km/h off Missingham Bridge, rounding the left-hand bend may not perceive the stopped vehicles ahead in the through lane and may rear-end vehicles queued to turn right. It is recommended that consideration be given to reconfiguration of this intersection in	Occasional Limited Low
conjunction with the area to the east of Brighton Street.	
<b>1.2</b> Property access on the south side of Hill Street / Pine Avenue The existing geometry on Hill Street (cross section and vertical curves) between Compton Drive and Manly Street makes it difficult for vehicles to access properties on the south side of Hill Street / Pine Avenue. Residents will need to reverse into oncoming traffic with limited sight distance.	Probable Minor
There is a risk that through traffic will collide with residents/visitors access the existing driveways within this portion of the audit area. The resulting crash may be a rear-end or a head on collision.	High
Refer to 3.2, 3.3 and 5.2 for recommendations that will mitigate this risk.	

# 7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit

<b>1.3 Shared bus zone and left turn lane</b> The bus zone on Hill Street between Brighton Street and Compton Drive is also used as the left urn lane for westbound traffic turning from Hill Street into Brighton Street. Vehicles wanting to urn left here while a bus is standing in the bus zone will either need to wait in the Hill Street hrough lane (potentially resulting in a rear-end collision) or turn in front of the bus (potentially resulting in the bus colliding with the passenger side of the turning vehicle). Refer 1.1 for recommendations that will mitigate this risk.	Occasiona Minor Medium
This may result in a broadside crash between the vehicle leaving Brighton Street and through- raffic travelling west past the stopped bus.	Improbable Serious Medium
Refer 1.1 for recommendations that will mitigate this risk.	
1.5 Hill Street / Compton Drive intersection The Hill Street / Compton Drive intersection allows right turn into Compton Drive and left turn out of Compton Drive (with a stop sign). Due to the geometry at the intersection, left turns from Hill Street into Compton Drive and right turns out of Compton Drive are prohibited. There is a risk that vehicles waiting to turn into or out of Compton Drive will be struck by vehicles ravelling westbound (downhill) on Hill Street. The risk is increased for the vehicles turning left out of Compton Drive due to the angle of the intersection forcing drivers to look backwards to check for oncoming traffic. The risk is further increased during the winter months when the morning sun prevents a clear view of westbound traffic for motorists turning into or out of Compton Drive. The resulting collision would be a broadside crash.	Occasiona Serious High

along this stretch of road. There is a risk that any errant vehicle will collide with oncoming vehicles/pedestrians/cyclists,	Serious High
<b>1.7 Narrow carriageway on Hill Street</b> The carriageway and verges on Hill Street between Compton Drive and Manly Street feel narrow from the perspective of a motorist. The presence of a 1.5-2.0 m high retaining wall less than a metre from the edge of the travel lane (kerb lip) of the eastbound lane and a footpath immediately behind the kerb of the westbound lane does not provide much (if any) room for error	Occasional
It is recommended that investigations be made into the possibility of relocating this bus stop.	
1.6 Bus obscuring view for motorists existing Coogee Street A bus stopped in the bus zone on Pine Avenue immediately east of Coogee Street would obscure the view of westbound traffic from motorists wishing to turn right out of Coogee Street. This may result in a broadside crash between the right-turning vehicle and westbound through traffic.	Occasional Limited

 2.1 On-street parking

 There is no space available on Hill Street, Pine Avenue or The Coast for on-street parking.

 This is particularly problematic between Compton Drive and Manly Street, given the number of dwellings and unit developments on the southern side of Hill Street, none of which appear to provide any on-site visitor parking. Cars were observed parking on the footpath, reducing the walkway area for pedestrians and cyclists.
 Occasional Minor

 There is a risk that vehicles parked on the footpath will damage property or strike a pedestrian using the footpath.
 Low

 It is recommended that consideration be given to installing signage to prohibit parking on the verge/footpath on the southern side of Pine Avenue.
 Provide approximation of the parking on the verge/footpath on the southern side of Pine Avenue.

#### 3.0 SIGNAGE AND LINEMARKING

<ul> <li>3.1 Linemarking appeared to be non-reflective</li> <li>The linemarking within the audit area appeared to be non-reflective during the night audit.</li> <li>Further, the right turn arrows for the CHR into Compton Drive were faded.</li> <li>Ill-defined lane and movement definition can result in crashes if motorists are unclear where they should be within the road carriageway.</li> <li>It is recommended that linemarking be refreshed and maintained as required.</li> </ul>	Improbable Minor Low
3.2 Concealed Driveways Ahead - westbound The Concealed Driveways Ahead sign on Pine Avenue advising westbound traffic of the presence of driveways up ahead on Hill Street is in poor condition and non-reflective. Motorists not anticipating the possibility of vehicles slowing to enter a driveway or reversing out of a driveway may collided with these vehicles It is recommended that this sign be cleaned and/or replaced, as appropriate.	Occasional Minor <mark>Medium</mark>
3.3 Concealed Driveways Ahead - eastbound There is no Concealed Driveways Ahead sign on Hill Street advising eastbound traffic of the presence of driveways. Although the driveways are all on the southern side of Hill Street, residents access the driveways may approach and stop in the eastbound lane. Similarly, residents leaving their driveways may reverse into the eastbound lane if they intent on travelling eastwards. It is recommended that this sign be installed in an appropriate location for eastbound traffic.	Occasional Minor <mark>Medium</mark>
3.4 Shared path sign at Brighton Street The Shared Path / End sign on the south eastern corner of the Hill Street / Brighton Street intersection appears to have been hit by a vehicle and is leaning into the shared path. It is recommended this sign be repaired as required.	Comment only

#### 4.0 PEDESTRIANS AND CYCLISTS

<ul> <li>4.1 Minimal streetlighting near Park Street / Brighton Street intersection Minimal street lighting was observed on Hill Street between the Park Street / Brighton Street intersection and the Compton Drive intersection. Given that this area is very popular with pedestrians and includes take away shops and a pub open beyond daylight hours, there is a risk that motorists may strike a pedestrian crossing the street after dark.</li> <li>It is recommended that consideration be given to engaging a streetlighting expert to assess the area for compliance with best practices.</li> </ul>	Occasional Serious High
<ul> <li>4.2 Shared paths Although the area is very popular with pedestrians and cyclists, particularly the western end of the site, the majority of the footpaths are not wide enough to be shared pedestrian and cyclist facilities. There is a risk that a cyclist may collide with a pedestrian attempting to share the available footpath space, or a pedestrian/cyclist may trip over an obstacle on the path. It is recommended that consideration be given to improving the shared path network east and cyclist provide the shared path network east and cyclist provide the space.</li></ul>	Occasional Minor Medium
<ul> <li>4.3 Obstacles within walkway area</li> <li>The concrete path fronting the dwellings and unit developments on the south side of Hill Street between Compton Drive and Manly Street is 'shared' with parked vehicles and wheelie bins, further narrowing the walkway area. The concrete surface itself is narrow and undulating, partially due to the frequency of service pit lids and driveway crossings.</li> </ul>	Occasional Limited
There is a risk that pedestrians or cyclists using the path will trip over one of the hazards. Refer 2.1 and 4.2 for recommendations that may mitigate this risk.	Low

# 7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit

Street / Brighton Street. However, there is a sha with the shared path running along the south sid observed crossing Hill Street at various locations Serpentine (many more so during peak summer It is apparent that the desire lines and convenier up Hill Street to the existing pedestrian refuge. A crossing away from the refuge and may strike a	s between Park / Brighton street and The periods). nce for many pedestrians does not extend north Aotorists would not expect pedestrians to be pedestrian while travelling at 60 km/h.	Occasiona Serious High
Refer 1.1 and 5.2 for recommendations that will	mitigate this risk.	
4.5 Guard rail protection There is a timber board affixed to the rear of the the Hill Street / Compton Drive intersection, adja prevent cyclists from incurring an injury if they w guardrail. However, the board appears to be insi- be non-compliant with current Australian Standa It is recommended that the intention of this fixtur additional safely risk, specifically for cyclists.	acent to the shared path. This is presumably to ere to collide with the unprotected rear of the ufficient to achieve this goal and is presumed to irds for shared paths and cycleways.	Comment only
5.0 OTHER		
5.1 Vegetation reducing intersection sight dis	stance ogee Street intersection partly obscures view of out of Coogee Street.	Improbable

5.2 Speed environment The current speed zone of 60 km/h is at odds with the existing land use, being residential with high volume of pedestrians and cyclists (with no grade-separation or dedicated crossings). The existing 60 km/h speed zone creates an environment whereby the priority is given to the efficiency of the through traffic. However, the area includes a number of intersections – some with limited sight distance – driveways to access dwellings and unit developments, commercia enterprises, popular beach/picnic/recreational activity destinations. The 60 km/h speed of through traffic increases the severity of any crash when compared to the standard 50 km/h urban speed zone. Further, it suggests that the primary function is through traffic the bacenet which was not shown of the bacenet.	l
traffic movement, which was not observed to be the case. The 60 km/h speed zone presents a risk that motorists will not anticipate the prevalence of	Probable Minor
pedestrians, cyclists, turning vehicles (at intersections and driveways), buses etc. that frequen the area.	
It is recommended that consideration be given to applying for a speed zone reduction for the fi length of the audit area to provide a 50 km/h speed zone.	ull
It is noted that if the speed zone drops form 60 km/h to 50 km/h, the risk ranking for a number other audit findings will be affected due to the reduced likelihood of a collision and/or the reduced severity of collision, as follows:	of
<ul> <li>1.2 would drop from HIGH to MEDIUM (<i>Probable</i> to <i>Occasional</i>)</li> <li>1.5 could drop from HIGH to MEDIUM if speed limits were obeyed (<i>Serious</i> to <i>Minor</i>)</li> <li>1.7 would also drop from HIGH to MEDIUM (<i>Serious</i> to <i>Minor</i>)</li> <li>3.2, 3.3, 4.4, and 5.1 and 3.3 would also improve, but no change in rating</li> </ul>	

The auditor has made the following recommendations in regard to Section A.

Audit finding	Recommendations
1.1, 1.3, 1.4, 4.4	Consider reconfiguration of the Hill Street / Park Street / Brighton Street intersection in conjunction with the area to the east of Brighton Street (refer to RSA for Section B, GeoLINK, 2020).
<b>1.2</b> , 3.2, 3.3	Clean and/or replace the 'Concealed Driveways Ahead' sign on Pine Avenue (westbound traffic) and install a similar sign appropriately located on Hill Street for eastbound traffic.
<b>1.2</b> , <b>1.5</b> , <b>1.7</b> , <b>3.2</b> , <b>3.3</b> , <b>4.4</b> , <b>5.2</b>	Apply for a speed zone reduction to provide a 50 km/h zone for the full length of the audit area.
1.6	Investigate relocating the bust stop on Pine Avenue immediately east of Coogee Street.
2.1, 4.3	Install signage to prohibit parking on the verge/footpath on the southern side of Pine Avenue.
3.1	Refresh and maintain linemarking.
3.4	Repair Shared Path sign on the south eastern corner of the Hill / Brighton Street intersection.
4.1	Engage a streetlighting expert to assess the area for compliance with best practices.
<b>4.2</b> , <b>4.3</b>	Improve shared path networks east and south of Compton Drive.
4.5	Consider the intention and appropriateness of the timber board fixed to the rear of the guard rail on the south west corner of the Hill Street / Compton Drive intersection and check compliance against current relevant standards.
5.1	Monitor and maintain all roadside vegetation to ensure signage is visible and intersection sight distance is maximised.

#### Table 5.1 Recommendations for client consideration to improve road safety

Note that audit findings are colour coded according to the risk ranking determined in Section 4: Low, Medium, High

In regard to actions arising from the RSA, the standard suggested treatment approaches of RSAs are:

Frequency	Description
Intolerable	Must be corrected
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate but not high
Low	Should be corrected or the risk reduced, if the treatment cost is low

Council as the Project Sponsor has the ongoing role arising from the RSA of producing a corrective action program, implementing the program and closing out the corrective action (RMS Guidelines for Road Safety Audit).

Except for 4.1 (street lighting Park/Brighton intersection), the Auditor suggests the remaining "High" rated risks (1.2 property access to Hill Street, 1.5 Compton Drive intersection, 1.7 narrow carriageway on Hill Street, 4.4 pedestrians crossing Hill St, 5.2 speed environment) can be addressed to some extent by a speed limit reduction on full length of the audited area. This is a matter that

### 7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit

would require referral to Transport NSW the responsible authority for Speed Zone Reviews.

Item 4.1 will initially require the engagement of a street lighting expert to assess the area.

A number of "Medium" and "Low" rated risks can be addressed by routine operations of Council's Works Section, however other "Medium" rated risks will require further detailed investigation to determine appropriate corrective actions.

Reconfiguring the Hill Street/Park/Street/Brighton Street intersection is a substantial task that could be the subject of a proactive Safer Roads/Black Spot funding application.

The Auditor has also conducted a Safe Systems Assessment (SSA) of the existing road and with the road upgraded in accordance with actions proposed in the RSA. The SSA report is an attachment to this agenda.

SSA Matrix Scores are out of a possible 448. The closer the score is to zero, the more the project in question is in alignment with Safe System principles.

The matrix outcomes and conclusions of the SSA are:

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclist
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4
Crash Likelihood	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Crash Severity	3/4	3/4	3/4	3/4	4/4	4/4	3/4
Product	18 / 64	18 / 64	18 / 64	18 / 64	48 / 64	48 / 64	18 / 64

Table 2.2 Safe System Assessment Matrix – Existing

Total SSAF Score = 186 / 448

Additional SS Component	Comment
Road users	High volume of all road user groups.     Road users likely to be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Frequently changing carriageway cross section.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for families with young children.     Pedestrians observed crossing illegally.     Confusing layout and unclear priorities east of Hill Street / Brighton Street intersection.     Special road users may include travellers – unfamiliar with the area and likely to be unpredictable.
Vehicles	Very low percentage of heavy vehicles.     Existing roadway in good condition, except east of Hill Street / Brighton Street, where roadway is in very poor condition.     Parking areas informal and confusing.     Through vehicles observed treating the area as a 'main road'. 60 km/h speed zone potentially sending wrong message to road users.
Post-crash care	Single lane each way, narrow carriageway (esp. between Compton Drive and Manly Street), thus difficult for emergency vehicles to access.     Hospital and ambulance/freipolice stations all located in Ballina (2-5km travel distance).     Westpac Life Saver Rescue Helicopter operates in the area.     VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.

# 7.4 Traffic Issues, Hill Street/Pine Avenue/The Coast Road, East Ballina (Section A) – Road Safety Audit

Table 2.3 Safe Sy	System Assessment Matrix – Upgraded to implement accepted actions						
	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclist
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4
Crash Likelihood	3/4	3/4	<b>2</b> / 4	<b>2</b> / 4	<b>2</b> / 4	<mark>2</mark> / 4	2/4
Crash Severity	<b>2</b> / 4	<b>2</b> / 4	2/4	2/4	4/4	3/4	3/4
Product	<b>12</b> / 64	<b>12</b> / 64	<mark>8</mark> / 64	<mark>8</mark> / 64	<b>32</b> / 64	<b>24</b> / 64	<b>12</b> / 64

Total SSAF Score = 108 / 448

Additional SS Component	Comment
Road users	High volume of all road user groups.     Road users likely to be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Improved road environment due to reconfiguration of Hill Street and intersections between Missingham Bridge and Compton Drive, particularly     formalising the area east of the Hill Street and Street intersection.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for families with young children.     Pedestrians observed crossing illegally. However, improvements to pedestrian connectivity and facilities encourage better behaviour.     Special road users may include travellers – unfamiliar with the area and likely to be unpredictable.     Reduced Speed zone improves safety by reducing livelihood and/or severity of some crash types.
Vehicles	Very low percentage of heavy vehicles.     Existing roadway in good condition, esp. following future upgrade works.     Parking areas formalised and improved.     50 km/h zone more appropriate for adjacent land uses and high pedestrian activity area. Gives message to road users that it is a local road.
Post-crash care	Single Iane each way, narrow carriageway (esp. between Compton Drive and Manly Street), thus difficult for emergency vehicles to access     Hospital and ambulance/fire/police stations all located in Ballina (2-Skm travel distance).     Westpace Life Saver Rescue Helicopter operates in the area.     VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.

## 3. Conclusions

The existing 1.5 km section along Hill Street, Pine Avenue and The Coast Road described herein as Section A is found to be moderately aligned with the Safe System Assessment Framework in accordance with the relevant Austroads road safety guidelines (2019) and the Austroads research report, *Safe System Assessment Framework* (2016).

The existing 1.5 km section of road achieves a SSAF score of 186 out of 448.

The assessment carried out for the proposed upgrade works including the accepted recommendations proposed by the RSA and listed in Table 1.2 RSA findings and accepted actionsTable 1.2 of this report indicates that the proposal will improve the safety of the study area, yielding a score of 108 out of 448, which is considered to be highly aligned with the SSAF.

The SSA confirms that the action recommendations in the RSA will bring about substantial safety improvements in the subject section of Hill Street/Pine Avenue/The Coast Road between Missingham Bridge and the 80 kph zone north of Suvla Street.

#### RECOMMENDATIONS

- 1. The Committee provide any further advice for minimising safety risks on this section of road.
- 2. In response to the Road Safety Audit and Safe Systems Approach reports, Council proceed with producing and implementing an appropriate corrective action program.
- 3. Based on the findings of the Road Safety Audit and Safe Systems Assessment, Council request Transport NSW to conduct a speed zone review on the section of Hill Street/Pine Avenue/The Coast Road between Missingham Bridge and the 80 kph zone north of Suvla Street.
- 4. Council use the Road Safety Audit and Safe Systems Assessment to support a Safer Roads/Black Spot funding application of for upgrading the Hill Street/Park Street/Brighton Street Intersection and elsewhere as may be appropriate on the section of Hill Street/Pine Avenue/The Coast Road between Missingham Bridge and the 80 kph zone north of Suvla Street.

#### Attachment(s)

- 1. Road Safety Audit Section A Hill St, Pine Ave, The Coast Rd (Under separate cover)
- 2. Safe Systems Assessment Section A Hill St, Pine Ave, The Coast Rd (Under separate cover)

#### Introduction

Following concerns raised about traffic and parking issues in the Shaws Bay Hotel/Brighton Street/Range Street area and on the adjacent section of The Coast Road/Pine Avenue/Hill Street, the Committee recommended obtaining a road safety audit (RSA) and this has recently been completed.

#### Information

At the 12 February 2020 meeting, the Committee considered a number of issues from concerned residents

"I am concerned about the parking / number of cars, especially in holiday periods, around the Shaws Bay Kiosk beach area. Has the Council considered at least making some of the parking 4 hourly to stop cars ( who are most likey overflowing from the caravan park) being permanently parked so that day visitors have even less access to parking? I'm also concerned about the erosion that's occurring from 4WDs parking on the grass / sand in the area."

and

"We live down range street and have had many near accidents due to the lack of clarity in regard to parking and the absence of any clear line markings across the whole area causing most visitors to not even realise that it is a road that carries guite a lot of traffic all year. We believe that something must be done as soon as possible to improve the whole area to make it safer for all. At the very least, clear lane markings and traffic separators must be considered asap. Also the corner in front of the coffee shop often gets blocked by vehicles parking on the bend, delivery trucks parked right on the corner for up to 30 mins making it extremely difficult to get in and out of range street. let alone seeing customers of both shops meandering all over the road. It is a recipe for a disaster to happen at some time. I personally am amazed that nothing has happened to cause injury that I am aware of. The road surface is breaking up and has been patched up many times. In reality, the whole area has become an eyesore and a mess. Please consider working with your counterparts responsible for the park area and fix the whole area at the one time."

#### and

"We live down range street and have had many near accidents due to the lack of clarity in regard to parking and the absence of any clear line markings across the whole area causing most visitors to not even realise that it is a road that carries quite a lot of traffic all year. We believe that something must be done as soon as possible to improve the whole area to make it safer for all. At the very least,

clear lane markings and traffic separators must be considered asap. Also the corner in front of the coffee shop often gets blocked by vehicles parking on the bend , delivery trucks parked right on the corner for up to 30 mins making it extremely difficult to get in and out of range street, let alone seeing customers of both shops meandering all over the road. It is a recipe for a disaster to happen at some time. I personally am amazed that nothing has happened to cause injury that I am aware of. The road surface is breaking up and has been patched up many times. In reality, the whole area has become an eyesore and a mess. Please consider working with your counterparts responsible for the park area and fix the whole area at the one time."

#### and

.....

"The access to Brighton Street off Compton Drive has become dangerous as well. I have brought this to the Council attention before. Cars, 4WD's and trucks are coming down Hill Street and NOT turning into Brighton Street but driving straight across the intersection, into what WAS the park. Unfortunately this is now an eroded dust bowl, from all the vehicle traffic and parking. I have nearly been hit by a car doing this and some of our neighbors have told me of similar incidents. At Christmas this last year 2018-19 -I witnessed a young child run out from behind the phone booth, nearly hit by a large 4WD, which came directly off Hill Street. This park needs to be fenced off and a dividing median strip built at the intersection to force drivers to turn in safely, before someone is injured or worse. Some drivers are now also driving into the park, directly of f Hill Street, Mounting the gutter and driving across the footpath to gain access to park their vehicles and then driving back onto Hill Street, again straight over the pathway and gutter. Access off and back onto Hill Street is dangerous, especially with the influx of traffic during peak periods. The roads entering Hill Street are slighty offset to each other, which can cause confusion with drivers turning adjacent east and west off Hill Street at the same time. A roundabout at this intersection would be ideal, and alleviate exit and entry problems at this intersection. Another alternative would be to install a "Left Turn" only sign for traffic entering Hill Street from Brighton Street, with the dividing strip suggested earlier."

The Committee recommended a Road Safety Audit be obtained to examine the safety of this area.

GeoLink were engaged to conduct the RSA and an associated Safe Systems Assessment (SSA) for both this area being Section B - The Hill Street/Park Street/Brighton Street intersection and the area to the east including Range Street, entrances to Shaws Bay Hotel and Caravan Park and associated formal and informal parking areas on sealed and vegetated adjacent areas. The RSA and SSA for Section B are attachments to this report. SECTION B - The Hill Street/Park Street/Brighton Street intersection and the area to the east including Range Street, entrances to Shaws Bay Hotel and Caravan Park and associated formal and informal parking areas on sealed and vegetated adjacent areas



RSA Section B Findings are:

Audit findings	Risk Ranking				
1.0 GEOMETRY					
1.1 Vehicles queuing to turn right into Brighton Street Several vehicles were observed queuing to turn right into Brighton Street from Hill Street. Eastbound through traffic was required to use the auxiliary lane to pass these vehicles. The auxiliary lane appeared somewhat short given the number of vehicles observed in the through lane waiting for a gap in the oncoming traffic to allow a right turn, and it is expected the volumes of traffic for all manoeuvres in the area would be much greater during peak summer periods. Vehicles travelling at 60 km/h off Missingham Bridge, rounding the left-hand bend may not perceive the stopped vehicles ahead in the through lane and may rear-end vehicles queued to turn right.					
t is recommended that consideration be given to reconfiguration of this intersection in conjunction with the area to the east of the Hill Street/Brighton Street intersection, including formalising the Brighton Street intersection, the parking areas north and south of Brighton Street, and the pedestrian and cyclist facilities within the area.					
<b>1.2 Shared bus zone and left turn lane</b> The bus zone on Hill Street between Brighton Street and Compton Drive is also used as the left turn lane from Hill Street into Brighton Street. Vehicles wanting to turn left here while a bus is standing in the bus zone will either need to wait in the Hill Street through lane (potentially resulting in a rear-end collision) or turn in front of the bus (potentially resulting in the bus colliding with the passenger side of the turning vehicle).					
Refer 1.1 for recommendations that will mitigate this risk.					
<b>1.3 Bus obscuring view for motorists exiting Brighton Street Street</b> A bus stopped in the bus zone on Hill Street between Brighton Street and Compton Drive would obscure the view of westbound traffic on Hill Street for motorists wishing to exit Brighton Street. This may result in a broadside crash between the vehicle leaving Park Street and through-traffic travelling west past the stopped bus.					
Refer 1.1 for recommendations that will mitigate this risk.					
1.4 Range Street no through road There are no provisions within Range Street (~75m in length with 9m carriageway width) to allow vehicles to turn around without encroaching on private property (i.e. using one of the driveways to make a three-point turn). It is assumed that garbage collection trucks either reverse in or out of Range Street to collect refuse from the residents' garbage bins. Larger vehicles (garbage/delivery/removalist trucks) unable to make the three-point turn within the space available will be forced to reverse out of the street and there is risk of collision with other vehicles entering Range Street	Improbable Minor Low				
1.5 Intersection of Brighton Street (east-west) and Brighton Street (north-south) In plan view, the geometry of this 'intersection' suggests that the two sections of Brighton Street join with a tee-intersection. However, the linemarking, lack of give-way (or similar) signage and ill-defined edges create a space of confusion, with motorists clearly unsure which movements have right-of-way. This area was observed to operate on an ad-hoc basic, with motorists using eye-contact and hand signals to determine who would proceed with competing movements. During peak times, this area is well known to be chaotic and disorganised. Confusion within a roadway, even at low speeds creates a risk of collisions between motorists who perceive the environment in different ways. It is recommended that this intersection be formalised, including appropriate signage, linemarking and edge restraints ( <i>refer audit finding 1.1</i> ).	Probable Minor <mark>High</mark>				

#### 2.0 PARKING

<b>2.1 Informal / formal parking areas south of the Brighton Street intersection</b> The formal and informal parking area south of the Brighton Street intersection adjacent to the amenities block, shoreline and the Reflections Holiday Park includes areas of unusual angles and dimensions, allowing for the use of some areas (e.g. parking, access or manoeuvring) to be unclear.	Occasional
During peak periods when parking is in high demand, there is a risk that motorists will park in such a way to cause collisions with other motorists attempting to park/unpark or circulate within the area.	<i>Minor</i> Medium
It is recommended that the parking areas be formalised with the aim to maximise parking and safety for motorists and pedestrians (refer audit finding 1.1).	
<ul> <li>2.2 Informal / formal parking areas north of the Brighton Street intersection</li> <li>The formal and informal parking area north of the Brighton Street intersection adjacent to the takeaway shops and Range Street includes areas of unusual angles and dimensions, allowing for the use of some areas (e.g. parking, access or manoeuvring) to be unclear.</li> <li>During peak periods when parking is in high demand, there is a risk that motorists will park in such a way to cause collisions with other motorists attempting to park/unpark or circulate within the area.</li> <li>It is recommended that the parking areas be formalised with the aim to maximise parking and safety for motorists and pedestrians (<i>refer audit finding 1.1</i>).</li> </ul>	Occasional Minor <mark>Medium</mark>
2.3 Parking in Range Street It is noted that residents have complained about service vehicles related to the takeaway food shops park at the end of Range Street while loading/unloading, temporarily blocking passage for other vehicles. This could be a hazard if emergency services were unable to enter/exit Range Street as needed.	Comment only
Reconfiguration of the area is recommended to alleviate this issue.	

#### 3.0 SIGNAGE AND LINEMARKING

<ul> <li>3.1 Lack of signage and linemarking         The area east of the Hill Street / Brighton Street intersection is lacking in signage and         linemarking directing traffic with regard to vehicle paths, movement priorities and parking.         Confusion within a roadway, even at low speeds creates a risk of collisions between motorists         who perceive the environment in different ways.     </li> </ul>	Probable Minor High
Refer 1.1 for recommendations that will mitigate this risk.	
3.2 Shared path sign at Brighton Street The Shared Path / End sign on the south eastern corner of the Hill Street / Brighton Street intersection appears to have been hit by a vehicle and is leaning into the shared path.	Comment only
It is recommended this sign be repaired as required.	

#### 4.0 PEDESTRIANS AND CYCLISTS

# 4.1 Minimal streetlighting near Hill Street / Park Street / Brighton Street intersection Minimal streetlighting was observed on Hill Street between the Park Street / Brighton Street intersection and the Compton Drive intersection. Given that this area is very popular with pedestrians and includes take away shops and a pub open beyond daylight areas, there is a risk that motorists may strike a pedestrian crossing the street after dark. Occasional Serious

It is recommended that consideration be given to engaging a streetlighting expert to assess the area for compliance with best practices.

High

4.2 Unclear pedestrian and cyclist paths Much of the area within Section B is bounded by shared pathways, including a shared path along the Hill Street frontage connecting the area to the Ballina CBD via Missingham Bridge, to Shaws Bay and Lighthouse Beach to the north then east along Compton Drive, and along North Wall south of the audit area. However, there are no formal pedestrian and/or cyclist paths within the central portion of the site providing clear and safe access between the amenities block/beach/holiday park and the Shaws Bay Hotel or the takeaway food shops. Further, several pedestrians were observed to cut across the steep downward grass embankment from the shared path at the corner of Hill Street and Compton Drive to Brighton Street rather than continue along the shared path past the bus stop. The pedestrians 'cutting the corner' were observed to take this route to get to the takeaway shops as well as to access the shared path at the south of the site, heading south east along North Wall. The steep embankment is close to the edge of the concrete path. This section of path is particularly hazardous to cyclists travelling down Hill Street at speed and risk losing control over the embankment. The steep embankment poses a trip hazard to pedestrians. Is it recommended that consideration be given to formalising this route (e.g. with steps and a hand railing), or blocking it off by extending the existing barrier fence further along the shared path. The recommendation to reconfigure the area may also alleviate the hazard.	Occasional Minor <mark>Medium</mark>
<b>4.3 Guard rail protection</b> There is a timber board affixed to the rear of the existing guard rail on the south west corner of the Hill Street / Compton Drive intersection, adjacent to the shared path. This is presumably to prevent cyclists from incurring an injury if they were to collide with the unprotected rear of the guardrail. However, the board appears to be insufficient to achieve this goal and is presumed to be non-compliant with current Australian Standards for shared paths and cycleways. It is recommended that the intention of this fixture be considered to ensure it does not pose an additional safely risk, specifically for cyclists.	Comment only

#### The auditor has made the following recommendations in regard to Section B:

Audit finding	Recommendations
1.1, 1.2, 1.3, 1.5 2.1, 2.2, 2.3, 3.1	Consider reconfiguration of the Hill Street / Park Street / Brighton Street intersection in conjunction with the area to the east of Brighton Street, including formalising the Brighton Street intersection, the parking areas north and south of Brighton Street, and the pedestrian and cyclist facilities within the area.
3.2	Repair Shared Path sign on the south eastern corner of the Hill Street / Brighton Street intersection.
4.1	Engage a streetlighting expert to assess the area for compliance with best practices.
4.2	Formalise a direct pedestrian route down the grassed embankment (e.g. steps) from the Hill Street / Compton Drive intersection to the northern end of Brighton Street (opposite to the takeaway shops). Alternatively, extend the existing pedestrian barrier fencing along the southern side of the shared path around the Hill Street / Compton Drive intersection by approximately 40 m to prevent pedestrians from traversing up/down the steep embankment.
4.3	Consider the intention and appropriateness of the timber board fixed to the rear of the guard rail on the south west corner of the Hill Street / Compton Drive intersection, and inspect all shared path facilities for compliance with current standards.

Table 5.1 Recommendations for client consideration to improve road safety

Note that audit findings are colour coded according to the risk ranking determined in **Section 4**: Low, Medium, High

In regard to actions arising from the RSA, the standard suggested treatment approaches of RSAs are:

Frequency	Description			
Intolerable	Must be corrected			
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high			
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate but not high			
Low	Should be corrected or the risk reduced, if the treatment cost is low			

Council as the Project Sponsor has the ongoing role arising from the RSA of producing a corrective action program, implementing the program and closing out the corrective action (RMS Guidelines for Road Safety Audit).

The "High" risk items 1.5 (Internal Brighton Street intersection) and 3.1 (lack of sinage/linemarking), point to the need to formalise the currently very informal configuration of Brighton St/Hotel/Caravan Park entrances and grassed "parking areas" east of Hill Street. The Auditor has provided a number of indicative options drawings to reconfigure this general area which may assist Council in working through appropriate corrective actions to the Audit findings. Reconfiguration of Section B will be a costly exercise and could be the subject of a proactive Safer Roads/Black Spot funding application.

The Auditor has also conducted a Safe Systems Assessment (SSA) of the existing road and with the road upgraded in accordance with actions proposed in the RSA. The SSA report is an attachment to this agenda.

SSA Matrix Scores are out of a possible 448. The closer the score is to zero, the more the project in question is in alignment with Safe System principles.

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclis
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4
Crash Likelihood	2/4	3/4	3/4	3/4	4/4	4/4	3/4
Crash Severity	2/4	2/4	2/4	2/4	4/4	4/4	3/4
Product	8 / 64	12 / 64	12 / 64	12 / 64	64 / 64	64 / 64	18 / 64

The matrix outcomes and conclusions of the SSA are:

Additional SS Component	Comment
Road users	High volume of all road user groups.     Road users likely to be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for families with young children.     Pedestrians observed crossing illegally.     Confusing layout and unclear priorities east of Hill Street / Brighton Street intersection.     Special road users may include travellers, some with caravans – unfamiliar with the area and likely to be unpredictable.
Vehicles	Very low percentage of heavy vehicles, but some services vehicles associated with take-away food shops and the Shaws Bay Hotel.     Existing roadway in very poor condition.     Parking areas informal and confusing.     Through vehicles observed treating the area as a 'main road'. 60 km/h speed zone potentially sending wrong message to road users.
Post-crash care	Access by emergency vehicles relatively clear with sufficient width available in roadway between the site and CBD, however congestion of the area is often experienced, roads are known by different names and locations are difficult to describe. Hospital and ambulance/file/police stations all located in Ballina (2-2km travel distance).     Westpac Life Saver Rescue Helicopter operates in the area.     VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.

Table 1.3	Safe System Assessment Matrix – Option 1
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	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclist
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4
Crash Likelihood	2/4	3/4	<b>2</b> / 4	<b>2</b> / 4	<b>2</b> / 4	<b>2</b> / 4	2/4
Crash Severity	1/4	<b>2</b> / 4	<b>2</b> / 4	<b>1</b> / 4	3/4	2/4	2/4
Product	<b>4</b> / 64	<b>12</b> / 64	<mark>8</mark> / 64	<b>4</b> / 64	<b>24</b> / 64	<b>16</b> / 64	<mark>8</mark> / 64

Total SSAF Score = 76 / 448

Additional SS Component	Comment
Road users	High volume of all road user groups.     Road users its by be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Improved road environment due to reconfiguration of Hill Street and intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections and reloadsho of bus bay.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for framilies with young children.     Pedestrians observed crossing lilegally. However, improvements to pedestrian connectivity and facilities encourage better behaviour.     Clear layout and priorities at intersections.     Turning lanes at intersection.     Special road users may include travellers, some with caravans – unfamiliar with the area and likely to be unpredictable.
Vehicles	Very low percentage of heavy vehicles, but some services vehicles associated with take-away food shops and the Shaws Bay Hotel.     Existing roadway in good condition (assumed new).     Parking areas formalised and improved, including barriers to no parking areas.     50 km/h zone more appropriate for adjacent land uses and high pedestrian activity area. Gives message to road users that it is a local road.
Post-crash care	<ul> <li>Access by emergency vehicles relatively clear with sufficient width available in roadway between the site and CBD, however congestion of the area is often experienced, roads are known by different names and locations are difficult to describe.</li> <li>Hospital and ambulance/fire/police stations all located in Ballina (2-3km travel distance).</li> <li>Westpac Life Saver Rescue Helicopter operates in the area.</li> <li>VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.</li> </ul>

Table 1.4 Safe System Assessment Matrix – Option 2

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclist
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4
Crash Likelihood	2/4	2/4	<mark>2</mark> /4	<b>1</b> / 4	<b>2</b> / 4	<b>2</b> / 4	2/4
Crash Severity	1/4	1/4	<b>2</b> / 4	<b>1</b> / 4	3/4	2/4	2/4
Product	<mark>4</mark> / 64	<b>4</b> / 64	<mark>8</mark> / 64	<b>2</b> / 64	<b>24</b> / 64	<b>16</b> / 64	<mark>8</mark> / 64

#### Total SSAF Score = 66 / 448

Additional SS Component	Comment
Road users	High volume of all road user groups.     Road users likely to be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Improved road environment due to reconfiguration of Hill Street and intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections and relocation of bus bay.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for families with young children.     Pedestrians observed crossing illegally. However, improvements to pedestrian connectivity and facilities encourage better behaviour.     Clear layout and priorities at intersections.     Roundabout on Hill Street fores straff to to slow down.     Turning lanes at intersection improve efficiency.     Special road users many include travellers, some with caravans – unfamiliar with the area and likely to be unpredictable.
Vehicles	Very low percentage of heavy vehicles, but some services vehicles associated with take-away food shops and the Shaws Bay Hotel.     Existing roadway in good condition (assumed new).     Parking areas formalised and improved. Abundant parking results in less circulating traffic looking for somewhere to park.     S0 km/h zone more appropriate for adjacent land uses and high pedestrian addivity area. Gives message to road users that it is a local road.
Post-crash care	Access by emergency vehicles relatively clear with sufficient width available in roadway between the site and CBD, however congestion of the area is often experienced, roads are known by different names and locations are difficult to describe.     Hospital and ambulance/fire/police stations all located in Ballina (2-3km travel distance).     Westpace Life Saver Rescue Helicopter operates in the area.     VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclists	Motorcyclis	
Road User Exposure	2/4	2/4	2/4	2/4	4/4	4/4	2/4	
Crash Likelihood	2/4	<b>2</b> / 4	1/4	<mark>1</mark> /4	<b>2</b> / 4	<mark>2</mark> /4	2/4	
Crash Severity	1/4	<b>1</b> / 4	1/4	1/4	3/4	<mark>2</mark> /4	2/4	
Product	<b>4</b> / 64	<b>4</b> / 64	<b>2</b> / 64	<b>2</b> / 64	<b>24</b> / 64	<b>16</b> / 64	<mark>8</mark> / 64	
			Total SSAF Sco	ore = <mark>60</mark> / 448				
Additional SS Component	Comment							
	High volume of all road user groups.							

Component	
Road users	High volume of all road user groups.     Road users likely to be alert and compliant due to proximity to roundabout west of Missingham Bridge and roundabout at Angels Beach Drive.     Numerous distractions in roadside environment – signs, advertising, pedestrians etc.     Improved road environment due to reconfiguration of Hill Street and intersections between Missingham Bridge and Compton Drive, particularly formalising the area east of the Hill Street / Brighton Street intersections and relocation of hus bay.     Proximity to Shaws Bay Hotel may result in drunk drivers and/or pedestrians using the road.     Highly popular area for framilies with young children.     Pedestrians observed crossing illegally. However, improvements to pedestrian connectivity and facilities encourage better behaviour.     Clear layout and priorities at intersections.     Roundabout on Hill Street forces traffic to slow down.     Turning lanes at intersection inprove efficiency.     Special road users may include travellers – unfamiliar with the area and likely to be unpredictable.
Vehicles	Very low percentage of heavy vehicles, but some services vehicles associated with take-away food shops and the Shaws Bay Hotel.     Existing roadway in good condition (assumed new).     Parking areas formalised and improved. Abundant parking results in less circulating traffic looking for somewhere to park.     So km/h zone more appropriate for adjacent land uses and high pedestrian activity area. Gives message to road users that it is a local road.
Post-crash care	Access by emergency vehicles relatively clear with sufficient width available in roadway between the site and CBD, however congestion of the area is often experienced, roads are known by different names and locations are difficult to describe.     Hospital and ambulancefine/police stations all locate in Ballina (2-3km travel distance).     Westpac Life Saver Rescue Helicopter operates in the area.     VMS (variable message signs) available for deployment and broadcasts on local radio stations possible to warn road users of an incident.

### 3. Conclusions

The existing area described herein as Section B, comprising the Hill Street / Brighton Street intersection and the roadway area to the east is found to be moderately aligned with the Safe System Assessment Framework in accordance with the relevant Austroads road safety guidelines (2019) and the Austroads research report, Safe System Assessment Framework (2016).

The existing study area described as Section B achieves a SSAF score of 190 out of 448.

The assessment carried out for each of the three reconfiguration options including the accepted recommendations proposed by the RSA and listed in Table 1.1 RSA findings and accepted actionsTable 1.1 of this report indicates that all three options would improve the study area to be highly aligned with the SSAF, with SSAF scores as follows:

- Option 1 76 / 448
- Option 2 66 / 448
- Option 3 60 / 448

The SSA indicates the existing configuration of the subject area with a SSA score of 190 is only moderately aligned with the Safe Ststems Assessment Framework, however the indicative improvement options with scores of 76, 66 and 60 are all highly aligned.

All three indicative improvement options contain elements that could be cherry picked in formulating a response to the safety issues of this area. They also contain alternative parking options that could be considered for compensating for the inevitable loss on informal grass parking areas, if the area is formalised as recommended.

#### RECOMMENDATIONS

- 1. The Committee provide any further advice for minimising safety risks on this section of road.
- 2. In response to the Road Safety Audit, Safe Systems Assessment and indicative improvement option drawings, Council proceed with producing and implementing an appropriate corrective action program.
- 3. Council use the Road Safety Audit and Safe Systems Approach reports to support a Safer Roads/Black Spot funding application of for upgrading of the Hill Street/Brighton Street/Range Street/Hotel, Caravan Park Entrances and associated informal parking areas to a safer more formalised configuration.

#### Attachment(s)

- 1. Road Safety Audit Section B Hill St, Brighton St, Range St, Hotel/Caravan Park Entrances/Informal Parking Areas (Under separate cover)
- 2. Safe Systems Assessment Section B Hill St, Brighton St, Range St, Hotel/Caravan Park Entrances, Informal Parking Areas (Under separate cover)

#### 7.6 Bus Zone Issue - Lennox Head Primary School

#### Introduction

A parent has raised a safety issue at the Lennox Head Primary School Bus Zone in Byron Street.

#### Information

#### A parent at Lennox Head Primary School has raised the following issue:

As a parent of students at Lennox Head Public School and community member, I write to you with deep concerns regarding safety at the front of Lennox Head Public School, in particular the bus zone on Byron Street. While the rapid expansion of the Lennox Head community has caused many issues relating to congestion at the drop off / pick up zones of the school, the bus zone is an extreme hazard that needs to be addressed immediately.

The close proximity of the bus zone to the footpath, with no safety fence / barrier, creates a huge safety risk to students, parents - especially those with small children and the broader community.

When a bus pulls in or leaves the bus zone, pedestrians on the footpath are dangerously close to the moving bus. To add to the risk, the school fence abuts up to the footpath, leaving no room for pedestrians to move away from moving buses. At one point along the path, where the large double gate is located, the footpath slopes down towards the road, adding another safety concern.

Pedestrians are forced to walk on a narrow (and at some points sloping) path, as huge vehicles come and go. This area is very busy before school and immediately after, when the buses are coming and going. The current situation is a recipe for disaster. Large numbers of school children are using this path, many on bikes, skateboards and scooters, creating an extremely dangerous zone.

I have been concerned about this scenario for many years. It was made all the more relevant to me today when my young son (4 years old) lost his balance while riding a scooter along the path as a bus pulled in. Fortunately, he did not fall onto the road but it was very close. If he had have fallen onto the road, I have no doubt he would have fallen under the wheels of the bus. The situation at the bus zone leaves absolutely no room for error. Elderly people, people with disabilities or those using mobility scooters would face the same concerns.

A short-term solution to this problem would be a safety fence to protect pedestrians from accidently stepping into the path of a moving bus. I understand that access still needs to be available to the students boarding/ getting off the bus. A gap in the fence would allow this.

Please consider my concerns. I would welcome the opportunity to discuss this further as I believe the issue requires immediate attention.

#### Council's Road Safety Officer has advised:

"The Principal of Lennox Head Public, forwarded this letter yesterday. The Principal is currently encouraging students to walk their bikes on the narrow sections of footpath (see email).

I suggested we might need to look at pedestrian fencing (similar to BCHS), but that funding would need to be sourced.

During my site observations for the school zone project, I did not see any issues regarding risks near the bus zone. I primarily saw illegal parking in the bus zone in the designated school hours.

#### 7.6 Bus Zone Issue - Lennox Head Primary School

Lennox Public is currently undergoing an upgrade. It has been significantly delayed due to Aboriginal cultural heritage issues on the site. See also Ballina Advocate p.8 which reports on upcoming agenda items for the next Council meeting. They are also in the middle of upgrading the fence near the bus zone. The Principal has also indicated:

"the area they want fenced is actually Byron Street where th bus pulls in.... also need to remember it is a known Aboriginal Heritage area now - we can't simply put up a fence. All kinds of permits need to be sourced - AHIP's which is a detailed process - hence why the school own fence isn't finished."

The low school fence at the bus zone was recently replaced with a high man proof fence (see photo attachments). See also aerial photo of the Bus Zone. There are no accidents recorded in the NSW CrashLink database at this location in the past 5 years.

Given the administrative issues with moving the school fence the most practical solution may be a provision of a pedestrian barrier behind the kerb at the Bus Zone with a gap for bus loading/unloading.

#### RECOMMENDATIONS

The Committee's advice is requested.

#### Attachment(s)

- 1. Lennox Head School Bus Zone New Fence
- 2. Lennox Head School Bus Zone Old Fence
- 3. Lennox Head School Bus Zone Aerial Photo







#### 8. Information for the Committee

#### 8.1 Schedule of Outstanding Resolutions of the Committee

#### Introduction

List of outstanding resolutions from previous meetings of the Local Traffic Committee.

#### Information

#### Meeting Held 12 February 2020

#### 2/20-6.1 Proposed NO PARKING ZONE – Cronulla Street, East Ballina

#### Recommendation

The Committee support placement of a NO PARKING Zone on both sides of Cronulla Street, East Ballina, shown in blue on the attachment to this report, to be operational from 6.00am to 12.00 noon Mondays only.

#### Action to Date

Signage has been ordered, but not installed.

## 2/20-7.1 Traffic Issues – Shaws Bay Hotel/Brighton Street, East Ballina

#### Recommendation

The Committee request Council to undertake a Road Safety Audit of the intersection and internal parking to support a future Safer Roads Funding Nomination.

#### Action to Date

RSA completed, see report elsewhere in this agenda.

#### 2/20-10.1 Request for Speed Limit Review – Pine Avenue

#### Recommendation

The Committee request the Road Safety Audit review from item 7.1 be extended to include the section of Pine Avenue, north of Brighton Street, East Ballina.

#### Action to Date

RSA completed, see report elsewhere in this agenda.

#### Meeting Held 18 December 2019

#### 12/19-7.1 Speed Limit Compliance - East Wardell

#### Recommendation

The Committee endorsed investigation of line marking options and an education campaign to encourage compliance with follow up in twelve months to assess outcomes.

#### Action to Date

Linemarking partially completed. Education campaign – No action yet.

#### 12/19-7.2 Pedestrian Crossings - Crane Street, Ballina

#### Recommendation

That subject to approval by the elected Council, the LTC support the removal of the existing Crane Street crossing east of Martin Street and progress design and installation of a pedestrian refuge or other safe crossing device west of Martin Street.

#### Action to Date

The matter was referred to Council who have resolved to conduct community consultation regarding removal of the pedestrian crossing. See report elsewhere in this agenda.

#### 12/19-7.3 Intersection - River Street / Brunswick Street, Ballina

#### Recommendation

The Committee recommended Council engage consultants to conduct traffic modelling to determine if traffic volumes will be sufficient to provide compliance with the RMS warrant for provision of lights at the intersection of River Street and Brunswick Street, Ballina.

#### Action to Date

Bitzios Consultants were engaged and have completed the study. A report on the study is elsewhere in this agenda.

#### Meeting Held 9 October 2019

#### 10/19-6.3 Extension of Dual Eastbound Lanes, East of Kerr Street -River Street, Ballina

Recommendation

- 1. The Committee support conversion of angle parking on the north side of River Street (between Kerr Street and Grant Street) to parallel parking, as shown on the attachment to this report, to create sufficient width for the provision of dual full length eastbound lanes. Existing time restrictions to remain.
- 2. The Committee support the relocation of the Bus Zone from the Grant to Moon Street section of River Street, Ballina to the location shown on the attachment to this report (west of Grant Street).

#### Action to Date

- 1. A further meeting has taken place with affected businesses and councillors. Plans for a number of other options have being prepared. Parking utilisation surveys of the north side of River Street between Kerr Street and Grant Street were conducted in March 2020. Implementation deferred until after Covid19 lockdown.
- 2. Completed as part of previously temporary relocation for beautification works between Moon and Grant Streets.

### Meeting Held 14 August 2019

#### 08/19-7.1 Review of Pedestrian Crossing Warrants

#### Recommendation

The Committee provide advice to Council in response to the outcomes of this review, which indicate, subject to community consultation, it is preferred to remove the following pedestrian crossings:

- Crossing 12 River Street, Ballina (Mid-block between Grant and Moon Street)
- Crossing 13 River Street, Ballina (Mid-block between Cherry Street and Martin Street).

#### Action to Date

- Crossing 12 Matter finalised by Committee Item 10/19-6.4
- Crossing 13 Council report not yet drafted. As the volumes measured in 2019 were close to complying with the warrant. It was decided to measure again in 2020.

### Meeting Held 12 June 2019

### 2/19-6.3 Proposed One Way Traffic - Regatta Avenue, Ballina

Recommendation

The Committee approve the proposed One Way Traffic (eastbound) proposal and associated signage for the western section of Regatta Avenue, Ballina as shown on the attachment to this report.

#### Action to Date

Implementation is deferred pending completion of associated construction works.

#### 2/19-6.5 St Francis Xavier Catholic Primary School, Proposed Student Drop Off / Pick Up Zone - Martin Street, Ballina

#### Recommendation

- The Committee support a NO PARKING (8 9:30 am and 2:30 – 4pm School Days) student drop off/pick up zone in Martin Street, Ballina adjacent to St Francis Xavier Catholic Primary School as depicted on the attachment to this report.
- 2. Implementation of the zone to be deferred pending provision of funding by the school for necessary road shoulder pavement and sealing works, provision and erection of associated signage.

#### Action to Date

Implementation deferred pending funding and completion of associated construction works.

#### 2/19-10.2 North Creek Road – North of Intersection of North Creek Road & Tamarind Drive, Ballina

#### Recommendation

The Committee notes that a central median (to beyond the Aldi access) offers benefits from a road safety perspective however it is a matter for Council to decide if they wish to consult with business owners and residents should they wish to go down this path..

#### Action to Date

Referred to Council staff for consideration.

#### Meeting Held 10 October 2018

#### 10/18-7.2 Intersection - Tamarind Drive & Tintenbar Road, Tintenbar

#### Recommendation

The Committee recommended Council's design team be requested to investigate options to the intersection layout for consideration by the Committee at a future meeting.

#### Action to Date

Application under the 2020/21 Safer Roads/Blackspot program has been successful. The approved option will realign the T intersection to make Tintenbar Road/Tamarind Drive North the cross of the new T-junction and Tamarind Drive South will be the leg of the new T-junction. This aligns with major/minor leg traffic volumes that have shifted since the Highway was moved from Tamarind Drive.

#### Meeting Held 8 February 2017

# 2/17-7.1 Parking Issues in Lane behind Santa Fe Motel, Between Stewart and Gibbon Streets, Lennox Head

#### Recommendation

The Committee, sharing the concerns of residents, has agreed to monitor and then review the situation following construction of the duplex.

#### Action to Date

The site is being monitored.

#### RECOMMENDATION

The Committee note the information in the report regarding the Schedule of Outstanding Resolutions.

#### Attachment(s)

Nil

- 10 Items Without Notice
- 11 Next Meeting

#### 9. Regulatory Matters on Classified Roads (GM's Delegate)

Nil Items

#### 10. Items Without Notice

#### 11. Next Meeting

Next meeting is scheduled for Wednesday 12 August 2020 and 10.00 am.