

Notice of Local Traffic Committee Meeting

A Local Traffic Committee Meeting will be held in the Ballina Shire Committee Room, Cnr Cherry & Tamar Streets, Ballina on **Wednesday 13 August 2014 commencing at 10.00am.**

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

Table of Contents

1.	Attendance & Apologies 1				
2.	Minutes of Previous Meeting 1				
3.	Deputations by Members of Public or Councillors1				
4.	Summary Report - Recent Decisions of Council in Response to LTC Recommendations 4.1 Summary Report – Decisions of Council Meeting 24 July 2014 in Response to Local Traffic Committee Recommendations				
5.	5.1 Request for Closure of Kingsford Smith Drive for Ballina Prawn	4 4			
6.	 6.2 Review of Committee Report on Request for Time Limited Parking Parking - South Street, Alstonville 6.3 Traffic Arrangements - Camoola Avenue, Ballina 6.4 Parking and Pedestrian Issues, Southern Cross K-12 School, East Ballina 6.5 Deletion of School Drop Off Pick Up, No Parking Zone - Crane Street, Ballina 2 	7 7 9 3 24 28 30			
7.	 7.1 Access Driveway Sight Distance Restrictions - 64 Cherry Street / 54 Burnet Street, Ballina 7.2 Operation of Marked Foot Crossing - Bugden Avenue, Alstonville 7.3 Request for Disabled Car Parking Space - Fawcett Street, Ballina 7.4 Extension of Parking Time Limit - Tamar Street, Ballina Public Car Parking Areas 7.5 Montwood Drive, Lennox Head - Control of Parking Near Ibis Place Intersection 7.6 Road Safety Review - Ross Lane 7.7 Winton Lane, Ballina - Proposed Re-Configuration of Shared Zone 	4 9			
9.	Regulatory Matters on Classifed Roads (GM's Delegate)				
10.	Items Without Notice121				
11.	Next Meeting121				

- 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 11 June 2014 were distributed with the business paper.

A copy of the Minutes of the Local Traffic Committee Meeting held on Wednesday 25 June 2014 were distributed with the business paper.

RECOMMENDATION

That Council confirms the Minutes of the Local Traffic Committee Meeting held on Wednesday 11 June 2014.

That Council confirms the Minutes of the Local Traffic Committee Meeting held on Wednesday 25 June 2014.

3. Deputations by Members of Public or Councillors

- 4. Summary Report Recent Decisions of Council in Response to LTC Recommendations
- 4.1 <u>Summary Report Decisions of Council Meeting 24 July 2014 in</u> <u>Response to Local Traffic Committee Recommendations</u>

Introduction

The Council meeting of 24 July considered a report on traffic management options at Camoola Avenue, Ballina and a report on the Local Traffic Committee held 11 June 2014.

Information

The following are extracts from the minutes of the Council meeting held 24 July 2014:

Council Meeting Item

"11.2 Traffic Management Options - Camoola Avenue, Ballina 240714/2 RESOLVED

(Cr Sharon Cadwallader/Cr Robyn Hordern)

- 1. That Council adopt option two, as outlined in the report, which includes the following actions:
 - Kerbside parking not permitted south side
 - One way traffic eastbound only
 - Unregulated kerbside parking north side.
- 2. The implementation of this option is to be based on a staged approach, with kerbside parking not permitted on the south side being the first stage.

FOR VOTE - All Councillors voted unanimously.

ABSENT. DID NOT VOTE - Cr Susan Meehan"

Council Meeting Item

- **"11.1 Local Traffic Committee Report June 2014** 240714/24 RESOLVED (Cr Paul Worth/Cr Sharon Cadwallader)
 - 1. That Council notes the contents of this report on the June 2014 Local Traffic Committee meeting.
 - 2. That Council advise the Local Traffic Committee that the community supports the installation of a timed parking zone in South Street, Alstonville and that the Committee review their current decision, with Council's preference being for a two hour timed zone.

FOR VOTE - All Councillors voted unanimously."

The matters raised in the above resolutions are the subject of further reports in this Local Traffic Committee agenda.

RECOMMENDATION

The Committee notes the resolutions of Council in regard to preferred traffic arrangements at Camoola Avenue, Ballina and South Street, Alstonville.

Attachment(s)

Nil

5. Items to be Referred to Council

5.1 <u>Request for Closure of Kingsford Smith Drive for Ballina Prawn Festival,</u> <u>Saturday 15 November 2014</u>

Introduction

Approval was recommended at the 11 June 2014 Local Traffic Committee Meeting for parking and pedestrian controls for Kingsford Smith Drive and Bentinck Street, Ballina and for the short term closure of the Missingham Bridge (for night fireworks), Saturday 15 November 2014, to facilitate the 2014 Ballina Prawn Festival. Consideration of a request to close Kingsford Smith Drive was deferred to this meeting.

Information

At the 11 June 2014 Local Traffic Committee Meeting it was recommended:

- "1. Approval of the all day parking and pedestrian controls proposed for Kingsford Smith Drive and Bentinck Street on Saturday 15 November 2014 in accordance with the attached Traffic Control Plan.
- 2. Approval of the closure of Missingham Bridge form 8.15 pm to 8.45 pm Saturday 15 November 2014 for the Prawn Festival Fireworks, subject to the closure being conducted in accordance with the submitted traffic control plan.
- 3. Further consultation with the organisers regarding the proposed closure of Kingsford Smith Drive from the Sailing Club car park to the Bentinck Street roundabout from 6.00 am to 10.00 pm on Saturday 15 November 2014."

In relation to the proposed proposed closure of Kingsford Smith Drive, the Chamber of Commerce advise:

"In addition the Chamber seeking the committee's advice with regard to the possible closure of Kingsford Smith Drive from the Sailing Club car park to the Bentinck Street roundabout with a detour set up from Norton Street redirecting traffic toward Bentinck Street.

Ideally the closure would be from 6.00 am to 10.00 pm on Saturday 15 November for the following reasons:

- A Grand opening parade is planned featuring members of the public and floats
- The 2014 festival will see the introduction of the Ballina Mobility Scooter Races (in the tradition of Bangalow Billy Cart Derby) along Kingsford Smith Drive (pending approval)
- Members of the public could cross directly from the Football Fields Car Park across Kingsford Smith to the festival site eliminating the need for a pedestrian crossing across Bentinck (Bunting would still be installed all

5.1 Request for Closure of Kingsford Smith Drive for Ballina Prawn Festival, Saturday 15 November 2014

along Bentinck as per the attached TCP as it was very successful in 2013 in terms of eliminating all verge parking. Volunteers would direct foot traffic)

- In 2013 we received approval from Council to run the Macadamia Castle train along the footpath running parallel to Kingsford Smith Drive. Road closure would allow us to move the train on to the road way alleviating dual use of the footpath
- Cars parking on the grass verge all along Kingsford Smith Drive is a traffic hazard and imposing No Parking signs at a recent event resulted in fines being issued and negative public backlash "

In regard to Recommendation 3 of the Traffic Committee Recommendation 11 June 2014, further consultation took place with Council's Traffic Engineer and The Chamber of Commerce Secretary on 24 June 2014 where further details of the proposed road closure and detour were discussed.

The initially proposed route along Norton Street from River Street to Bentinck Street, then along Bentinck Street to Missingham Bridge (Detour 1 in yellow on attachment) has some issues at the Bentinck/Norton Streets intersection. At this location room for turning movements is restricted by traffic islands and STOP signs on Norton Street may inhibit the increased traffic flow of detoured northbound, right turning traffic. An alternative route was considered utilising a short section of Norton Street, then using Tamar Street, Owen Street and Bentinck Street (Detour 2 in red on attachment). Detour 2 is favoured as it provides for better entry onto Bentinck Street and is more easily controlled by the festival who already need to control pedestrians crossing Bentinck Street (between Owen Street and Missingham Bridge).

It is considered that the closure of Kingsford Smith Drive and associated detour from 6 am until 10 pm on Saturday 15 November 2014 can be satisfactorily implemented subject to submission of a suitable traffic control plan.

RECOMMENDATIONS

- 1. That Council determine if it is in the interest of the community to close Kingsford Smith Drive from 6 am until 10 pm on Saturday 15 November 2014 to facilitate the Ballina Prawn Festival.
- 2. Subject to Council determining the closure is in the community interest, the closure of Kingsford Smith Drive and associated detour from 6 am until 10 pm, Saturday 15 November 2014, is recommended for approval subject to submission of a satisfactory traffic control plan.

Attachment(s)

1. Ballina Prawn Festival Detour Options

5.1 Request for Closure of Kingsford Smith Drive for Ballina Prawn Festival, Saturday 15 November 2014



6. Items Referred to General Manager's Delegate

6.1 Request for Road Closure - Ballina Country Music Festival 2014

Introduction

An application has been received from the Ballina Coastal Country Music Festival to close River Street between Moon Street and Cherry Street and Cherry Street between River Street and Fawcett Street from 6.00am to 6.00pm on Saturday 4 October 2014.

Information

The organisers advise the "event is a not for profit free country music festival held in Ballina CBD with road closures between Moon Street and Cherry Street roundabout to Fawcett Street (Saturday 0600/1800). Within this precinct a temporary performance stage provides entertainment from 10.00am to 5.00pm. Market stalls, children's activities and entertainment along with novelty street performers and buskers complete the scene. Musical performance is also staged at licenced venues within Ballina CBD and elsewhere in Ballina's licenced venues." The event is to be similar to the events that have been conducted for the past three years.

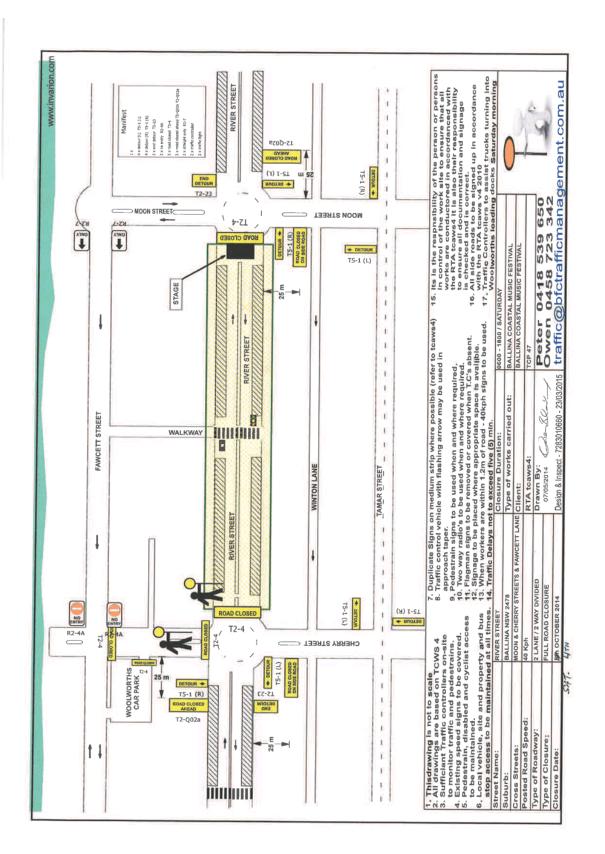
The road closure is proposed for Saturday 4 October 2014. Setup will commence at 6.00am and pack down will commence at 5:00pm with road closures removed by 6.00pm. Details of the road closure are shown on the attached Traffic Control Plan

RECOMMENDATIONS

The road closures required for the Ballina Coastal Country Music Festival be approved, subject to the event being held in accordance with Traffic Control Plan attached to this report.

Attachment(s)

1. Traffic Control Plan - 2014 Ballina Coastal Country Music Festival



6.2 <u>Review of Committee Report on Request for Time Limited Parking</u> <u>Parking - South Street, Alstonville</u>

Introduction

The issue of time limited parking at South Street, Alstonville was considered by the Committee 11 June 2014. Council resolved 24 July 2014 that the Committee review its recommendation.

Information

On 11 June 2014 the Committee recommended:

- "1. It is recommended this location be monitored and rangers be requested to enforce the No Stopping zone outside the bakery. But no action be taken on altering the parking arrangements in South Street at this time.
- 2. A request be made to Council's Engineering Works Section for the section of redundant lay back kerb in front of the shopping centre be replaced by vertical kerb."

In regard to Item 1 above, on 24 July 2014, Council resolved:

"That Council advise the Local Traffic Committee that the community supports the installation of a timed parking zone in South Street Alstonville and that the Committee review their current decision, with Council's preference being for a two hour timed zone."

A copy of the report on this matter to the 11 June 2014 Traffic Committee is an attachment to this report.

RECOMMENDATION

The Committee review its recommendation regarding timed parking at South Street, Alstonville.

Attachment(s)

- 1. LTC Report 11 June 2014 Request for Time Limited Parking South Street, Alstonville
- 2. Aerial Photograph Attachment to LTC 11 June 2014 Report Request for Time Limited Parking South Street, Alstonville

"6.7 <u>Request for Time Limited Parking Parking - South Street, Alstonville</u>

Introduction

Concerns have been raised regarding the unavailability of on-street parking in South Street Alstonville between Bugden Avenue and Commercial Road due to all day parking by employees of adjacent businesses. Timed parking restrictions have been requested.

Information

The section of South Street being considered extends from a T junction on Bugden Avenue (Old Bruxner Highway) eastwards to a cross intersection with Commercial Road. The Alstonville Showground is located across Commercial Road.

There are currently No Stopping zones on the north west, north east and south east corners of this section of South Street. The No Stopping zones near the Commercial Road intersection are in place because of a median strip at the intersection and insufficient remnant lane width if vehicles park in the vicinity of the median.

The No Stopping zone on the north west corner of South Street is to ensure adequate lane width for traffic turning into South Street from Bugden Avenue. (See attached aerial photo, note yellow arrows indicate extent of No Stopping Zones and not the direction of traffic flow). This No Stopping zone is adjacent to a bakery business that occupies the western end of an adjacent small shopping centre.

Observations

The site was inspected on 4 separate occasions during business hours. On these occasions the majority, but not all, of the available on-street spaces in this section of South Street were occupied by parked cars. On most occasions there were also a number of vacant car parking spaces available in Bugden Avenue, a short distance away. Saturation parking was observed in Bugden Avenue at peak school times, but this was generally for a short time duration only.

The major traffic issue observed in South Street was illegal parking by eastbound cars entering South Street and parking in the No Stopping zone in front of the bakery. This behaviour impedes the entrance to South Street from Bugden Avenue and could lead to accidents if cars turning into South Street need to stop quickly due to the unexpected blockage by cars in the No Stopping zone.

A redundant lay back kerb crossing was also observed in front of the shopping centre. The layback kerb may inhibit some usage of this section for parking and should be replaced with vertical kerb.

6.2 Review of Committee Report on Request for Time Limited Parking Parking - South Street, Alstonville

One of the business owners in the shopping centre was consulted about the introduction of time limited parking and advised that 2 hour parking was not supported because it would disadvantage their business because customer's appointments can exceed 2 hours. There is conflicting advice from another member of the community who advises that:

"I also have discussed the problem with the three business on South St. (bakery, hairdresser and child day care centre) and they fully support parking that is controlled by time. This would allow their customers at most times easier access to a parking spot and also reduce the risk of illegal parking."

Yet another member of the community has advised:

"The corner has always been a problem and is terrible at 3.20 to 3.40 pm with the school kids leaving as well as the pre-school parents double parking etc. To be honest, it's bedlam with parents parking everywhere illegally and then taking off in front of others. The main reason that there are not many accidents is that the traffic is going reasonably slowly. The buses are also coming at that time. The 'lolly-pop' lady slows down the traffic and makes it safe for the kids to cross. She is fantastic at her job. The rangers and staff there at that time would allow them to see what happens and enforce any illegal parking. I think the two hours along some parts of South Street would help and maybe 15 mins right in front of the bakery."

Conclusion

Whilst there is seen to be a need by some members of the community for 2 hour timed parking in this section of South street, observations have not supported the contention that the area is generally fully parked out.

RECOMMENDATIONS

- 1. It is recommended this location be monitored and rangers be requested to enforce the No Stopping zone outside the bakery. But no action be taken on altering the parking arrangements in South Street at this time.
- 2. A request be made to Council's Engineering Works Section for the section of redundant lay back kerb in front of the shopping centre be replaced by vertical kerb.

Attachment(s)

1. South Street, Alstonville Aerial Photo"



Review of Committee Report on Request for Time Limited Parking Parking - South Street, Alstonville

South Street Alstonville - Note yellow arrows indicate extent of No Stopping Zones, not direction of traffic flow.

6.2

6.3 Traffic Arrangements - Camoola Avenue, Ballina

Introduction

Camoola Avenue is a narrow residential street that provides access and parking for adjacent residents and a through route for residential areas further west. Being adjacent to the Ballina CBD, traffic flows are influenced by nearby commercial land uses. A significant development is proposed and approved in adjacent Kerr Street, and if this is built it is likely to cause additional traffic and parking pressure on Camoola Avenue.

A number of Camoola Avenue residents have expressed a desire for local traffic arrangements to be reviewed. In response to this, Council has prepared an options report and after consultation with local residents has adopted Option 2 being provide:

- One way traffic eastbound only
- Unregulated kerbside parking north side
- Kerbside parking not permitted south side
- Implement in stages with prohibition of south side parking as first stage.

Information

At the meeting held 12 June 2013, the Traffic Committee recommended:

"The Committee note the Council's intention to conduct a community consultation in respect of the opportunities to improve the traffic management in Camoola Avenue."

An options brochure was prepared and letter dropped to residents. After consideration of resident's responses and a staff report on the matter, Council resolved on 24 July 2014:

- "1. That Council adopt option two, as outlined in the report, which includes the following actions:
 - Kerbside parking not permitted south side
 - One way traffic eastbound only
 - Unregulated kerbside parking north side.
- 2. The implementation of this option is to be based on a staged approach, with kerbside parking not permitted on the south side being the first stage."

A copy of the report to Council and plans of the options (except Option 1, the status quo) are attachments to this report.

The preferred Option 2 consists of:

One way traffic eastbound only. Unregulated kerbside parking north side, kerbside parking not permitted south side.

The report to Council advised in relation to Option 2:

"This option maintains a reasonable level of kerbside parking, provides for efficient one way traffic flow and assists pedestrians by keeping parked vehicles off the south side of the road and adjacent footpath.

The major disadvantage is the difficulty for eastbound traffic to the area on River Street to turn right at Tweed or Brunswick Street (as access via the Kerr Street traffic lights would no longer be an option). These turns can be quite difficult due to heavy traffic volumes on River Street resulting in few available safe gaps for right turns and the absence of protected right turn lanes.

The right turn for eastbound traffic on River Street into Tweed and/or Brunswick Street could be improved by the provision of a protected right turn lane at one of these locations. This may involve considerable expenditure if concrete pavement widening is needed to support the reconfigured through traffic lane(s), although it is possible the existing shoulder pavement may be able to provide an adequate level of service for a reasonable period of time."

and

"Council's engineering design staff have recently prepared concept designs for this section of River Street to ensure the Town Entry Project is implemented with future traffic needs in mind. This design provides for the provision of four traffic lanes and appropriate intersection treatments.

Design staff also examined whether it was possible to provide an inexpensive right hand protection option now through adjustments to line marking. However this option is not recommended due to the lane merging that occurs near this intersection.

Adding the additional right turn lane potentially adds to the risks by creating potential confusion with the number of conflicting traffic movements that would be occurring at this point. It is therefore preferred to install the right turn lane at the same time the convergence issues are removed by the implementation of four through traffic lanes at this location. "

RECOMMENDATIONS

That in regard to Camoola Avenue, Ballina:

- 1. The south side be a "No Stopping Zone".
- 2. Traffic be regulated to "One Way" eastbound only.
- 3. That Item 1 above be implemented first, and be followed by the implementation of Item 2.

Attachment(s)

- 1. Report to Council 24 July 2014 Traffic Management Options Camoola Avenue, Ballina
- 2. Aerial Photograph Traffic Mangement Options Camoola Avenue, Ballina

Delivery Program	Asset Management	
Objective	To assess traffic management options for Camoo Street in response to concerns raised by loc residents.	

Background

Camoola Avenue is a narrow residential street that provides access and parking for adjacent residents and a through route for residential areas further west. Being adjacent to the Ballina CBD, traffic flows are influenced by nearby commercial land uses. A significant development is proposed and approved in adjacent Kerr Street, and if this is built it is likely to cause additional traffic and parking pressure on Camoola Avenue.

A number of Camoola Avenue residents have expressed a desire for local traffic arrangements to be reviewed. In response to this, the Local Traffic Committee recommended that Council consult with local residents to assess a number of traffic management options.

This report discusses the outcomes of the feedback and assessment.

Key Issues

- Traffic and parking management in the Camoola Avenue locality
- Amenity and safety of local residents and road users

Information

As well as its local access function, Camoola Avenue is a connection for the traffic catchment south of River Street and west of Kerr Street. The traffic signals at the River Street/Kerr Street intersection provide an entry and exit phase for traffic to and from this catchment.

The intersections serving the catchment further west on River Street operate under give way control where right turns are difficult given River Street's traffic volume of over 23,000 vehicles per day.

The Camoola Avenue road reserve is ten metres wide and with a trafficable road pavement between lay back kerb and gutters of six metres width. The verge and footpath area on either side is around two metres wide. The southern footpath is concrete, but the north side is mostly grass surface. There are many access driveways on both sides of the street.

Vehicles parallel park on the sides of Camoola Avenue and can constrict traffic flows, and at times vehicles park partly on the verge and interfere with pedestrian travel paths.

Parked vehicles limit accessibility for two way traffic and at times restrict the avenue down to one effective travel lane.

The intersection of Camoola Avenue and Kerr Street can become congested with parking from visitors to the adjacent restaurant. Residents are concerned that this situation may be worsened through further development, however it is noted these issues were assessed in determining the application for that particular development.

Suggested Traffic Management Options

In response to suggestions of residents, Council staff have developed a number of traffic management options, including an assessment of an option to change to a one way street.

Option	Advantages	Disadvantages	Comments	
option	Option	•	Comments	
No change. No regulation of kerbside parking. Two way traffic.	Preserves choice of traffic to use	If kerbside parking fully utilised it is likely to be staggered and can effectively reduce Camoola Avenue to one trafficable lane. There can be uncertainty which direction has right of way. Uncertainty of directional right of way can lead to congestion and stoppages.	Traffic flow is impeded and could lead to unacceptable congestion and stoppages as traffic volumes increase over future years.	
	Option	Two		
One way traffic eastbound only. Unregulated kerbside parking north side. Kerbside parking not permitted south side	Provides traffic with clear, high capacity eastbound lane. Still enables vehicles to park on one side of Camoola Avenue. Traffic can exit local area via green phase at Kerr Street signals. Westbound traffic can enter local area via left turn from River Street, west of Kerr Street.	Parking choice lost on south side. Entry into Camoola Avenue and local area beyond, via Kerr Street signals not possible. Local traffic circulation choice reduced. May require provision of protected right turn facility on River St to enter Tweed or Brunswick St	Provides balance between the needs of through traffic and parking needs of local residents. Ensures south side kept clear of parked vehicles that may block pedestrian path.	
Option Three				
Two way traffic. Kerbside parking not	Two way uninhibited traffic flow has best traffic	All kerbside parking lost in Camoola Avenue	The best solution for providing through traffic	

These options are discussed in the following table.

6.3 Traffic Arrangements - Camoola Avenue, Ballina

Option	Advantages	Disadvantages	Comments
permitted on any side	flow capacity. Preserves choice of traffic to use Camoola Avenue in both directions.	May lead to an increase in future traffic using Camoola Avenue and absence of parked vehicles will facilitate higher speeds.	flow, but comes at the cost of losing all kerbside parking and thus severely disadvantages local residents.
	Option		
Two way traffic. Staggered kerbside parking controlled at prescribed locations by signage on either side.	Preserves choice of traffic to use Camoola Avenue in both directions Provides some parking opportunities on both sides	Loss of significant number of parking spaces Staggered parking areas, if fully utilised will effectively reduce Camoola Avenue to one trafficable lane. There may be uncertainty which direction has right of way Uncertainty of directional right of way may lead to congestion and stoppages. Staggered parking signage may be confusing	May impede traffic flow and could lead to unacceptable congestion and stoppages as traffic volumes increase over future years.
	Option	Five	
Option 5 One way traffic east bound only. Staggered kerbside parking controlled at prescribed locations by signage on either side.	Provides clear, but staggered	Loss of significant number of parking spaces either side Staggered eastbound lane has lower traffic flow capacity than Option 2. Staggered parking signage may be confusing Local traffic circulation choice reduced	Will provide no more kerbside parking than Option 2, but its through traffic capacity will be compromised by the staggered flow path and may lead to congestion and stoppages as traffic volumes increase over future years.

West bound one way options were not considered. The reason for this is this option would require right turn access onto River Street for residents wanting to travel to the CBD or Kerr St and beyond.

Sustainability Considerations

- Environment
 - Not Applicable
- Social

Improved traffic management systems support better road safety and local amenity outcomes.

• Economic

Optimised traffic management systems support the movement of people and goods which can assist in efficient production, tourism attraction an economic development generally.

Legal / Resource / Financial Implications

Implementation of restricted parking and or one way traffic will require compliance with delegations from the RMS, with referral to and the concurrence of the Local Traffic Committee.

There are resource and financial implications for provision of signage for implementation of restricted parking and/or one way traffic.

There could be significant resource and financial implications if a protected right turn for eastbound traffic from River Street into Tweed Street or Brunswick Street is to be implemented.

Consultation

A communication outlining the Camoola Avenue traffic management issues and options was letter boxed to Camoola Avenue residents on 11 April 2014 requesting comments and suggestions to be forwarded to Council by 2 May 2014 (refer to the attachment to this report).

A total of 11 written submissions have been received, with one representing residents of six residences on Camoola Avenue.

Three submissions were from residents in adjacent Tweed Street and River Street.

Issues Raised in Submissions

The following is a summary of submissions received.

Submission No.	Property Location	Option No. Preference	Other Comments
1.	Camoola	2 (one way	Parking on footpath blocks
	Ave	east, parking	pedestrians and forces them onto
		north side	street. Need RH turn lane eastbound

6.3 Traffic Arrangements - Camoola Avenue, Ballina

Submission	Property	Option No.	Other Comments
No.	Location	Preference	
		only)	on River St at Brunswick St
2.	Camoola	1 (no change)	Traffic situation acceptable. On
	Ave		occasions speed a problem.
3.	River St,	1, 2 nd choice 3	In 6 years no one has complained
	around	(2 way, no	about cars parked both sides. Issue
	corner from	parking either	blown out of proportion.
	Camoola	side)	
	Ave		
4.	Camoola	5 (one way	
	Ave	east staggered	
		parking)	
5.	Camoola	1	No changes needed. Prevention of
	Ave		parking would encourage speeding
6.	Camoola	2	Speed a problem. Right turn from
	Ave		River St into Tweed St is dangerous,
			needs improvement.
7.	Tweed St,	2	Speed issues, suggests limit & speed
	around		bumps. Stormwater issues.
	corner from		
	Camoola		
	Ave		
8.	Camoola	2 with	Speed limit 30/40 km/h or speed
	Ave	reservations	bumps needed. Parking too close to
			driveways.
9.	Camoola	5, 2 nd choice 2	Speed a problem. Want speed
	Ave		humps
10.	Various	2	Many drivers exceeding speed limit,
Combined	residences		there is a need for speed bumps.
submission	Camoola		
representing	Ave		
6 separate			
residences			
11.	Tweed St,	2	Turn from River St to Tweed St with
	around	-	speeding merging River St traffic is a
	corner from		problem. Protected right turn lanes in
	Camoola		River St to Tweed St or Brunswick St
	Ave		needed.
	1		

Options

1. Option One

No change, the status quo.

2. Option Two

One way traffic eastbound only. Unregulated kerbside parking north side Kerbside parking not permitted south side.

3. Option Three

Two way traffic. Kerbside parking not permitted on any side.

4. Option Four

Two way traffic. Staggered kerbside parking controlled at prescribed locations by signage on either side.

5. Option Five

One way traffic east bound only. Staggered kerbside parking controlled at prescribed locations by signage on either side.

Options Conclusion

The majority of submissions favour Option Two. This option maintains a reasonable level of kerbside parking, provides for efficient one way traffic flow and assists pedestrians by keeping parked vehicles off the south side of the road and adjacent footpath. The major disadvantage is the difficulty for eastbound traffic to the area on River Street to turn right at Tweed or Brunswick Street (as access via the Kerr Street traffic lights would no longer be an option).

These turns can be quite difficult due to heavy traffic volumes on River Street resulting in few available safe gaps for right turns and the absence of protected right turn lanes.

The right turn for eastbound traffic on River Street into Tweed and/or Brunswick Street could be improved by the provision of a protected right turn lane at one of these locations. This may involve considerable expenditure if concrete pavement widening is needed to support the reconfigured through traffic lane(s), although it is possible the existing shoulder pavement may be able to provide an adequate level of service for a reasonable period of time.

There is still significant support for the status quo of leaving Camoola Avenue two lane with no more parking regulation.

A majority of residents considered speeding a problem and favoured speed bumps. Unfortunately speed bumps in residential areas are problematic as they result in consistent noise generation that becomes very annoying for nearby residents, particularly at night. The most efficient form of traffic calming is likely to be the presence of parked cars which effectively narrow the available lane width, causing corresponding speed reduction.

Option Three with no parking will encourage higher vehicle speeds. Options One, Four and Five with staggered parking are likely to produce the most effective traffic calming and associated speed reduction.

While Option Two is supported by the majority of residents who responded and it is considered from a technical perspective to provide some overall benefits, the right turn issues in River Street are considered problematic at this point in time.

Council's engineering design staff have recently prepared concept designs for this section of River Street to ensure the Town Entry Project is implemented with future traffic needs in mind. This design provides for the provision of four traffic lanes and appropriate intersection treatments.

6.3 Traffic Arrangements - Camoola Avenue, Ballina

Design staff also examined whether it was possible to provide an inexpensive right hand protection option now through adjustments to line marking. However this option is not recommended due to the lane merging that occurs near this intersection.

Adding the additional right turn lane potentially adds to the risks by creating potential confusion with the number of conflicting traffic movements that would be occurring at this point. It is therefore preferred to install the right turn lane at the same time the convergence issues are removed by the implementation of four through traffic lanes at this location.

Based on this preference, the recommendation to this report is for Council to continue to monitor this location and review the traffic management options for Camoola Avenue again once a right turn lane is installed in River Street.

RECOMMENDATIONS

- 1. That based on the contents of this report Council agrees to maintain the status quo in regard to the traffic management arrangements for Camoola Avenue, subject to point two as follows.
- 2. The Council continues to monitor the traffic management performance of Camoola Avenue and that the provision of an eastbound protected right turn lane in River Street at either the Brunswick Street or Tweed Street intersections is to be considered in future capital works programs.
- 3. Correspondence is to be forwarded to residents explaining Council's decision.

Attachment(s)

1. Feedback from Residents re Camoola Avenue Traffic Management Options"



Option 2 - Camoola Avenue, One Way Traffic Eastward - No Parking South side



Option 3 - Camoola Avenue, Two Way Traffic - No Parking Both Sides



Option 4 - Camoola Avenue, Two Way Traffic - Staggered Parking Both Sides



Option 5 - Camoola Avenue, One Way Traffic Eastward - Staggered Parking Both Sides

6.4 <u>Parking and Pedestrian Issues, Southern Cross K-12 School, East</u> <u>Ballina</u>

Introduction

Following a report regarding the Southern Cross K-12 School East Ballina to the Committee 11 June 2014, an onsite meeting has taken place to review parking and pedestrian options.

Information

The Local Traffic Committee recommended 11 June 2014:

- "1. That the Committee consult with the school for feedback on optimising the parking and pedestrian crossing arrangements on Chickiba Drive, East Ballina adjacent to the Southern Cross Schools.
- 2. That the consultation include consideration of converting some of the parking bays in Chickiba Drive, adjacent to the schools to a "No Parking" zone to be active during peak periods only. This would enable these areas to be used for drop off and pick up of students during peak periods and minimise the need for students to cross Chickiba Drive. During the rest of the day these areas would revert back to untimed parking and be available for longer term parking for persons visiting the school."

On Site Meeting 30 July 2014

An on site meeting was conducted 30 July 2014 attended by the Acting Principal, Peter Flannery, the school safety officer Murray Deeps and Council's Jodie Hewett and Patrick Knight.

Council has recently constructed a new concrete pathway on the east side of Links Avenue that terminates at the pedestrian gate to the school, in line with the Links Avenue Marked Foot Crossing. The school representatives expressed concern that cars exiting the school car park may conflict with pedestrians on the path. After some discussion the school representatives advised they would remove vegetation on their land that is inhibiting sight distance to the east and also considering providing a holding line on the inside of the car park, on the approach to the gate and/or provision of internal standard Stop or Give Way signage. Council's Road Safety Officer also suggested providing LOOK stencilling on the newly constructed footpath pavement, on either side of the driveway and at the same location providing shared path (Starts and Ends) signage on the new section of pathway.

Having regard to the Committee's suggestion to provide more drop off/pick up spaces and the other issues raised at the on site meeting, the following measures are now forwarded for consideration by the Committee:

• On Links Avenue at the entrance to the school carpark, consider LOOK stencilling on the newly constructed footpath pavement, on either side of the driveway.

- At the same location consider shared path (Starts and Ends) signage on the new section of pathway.
- On Chickiba Drive, directly in front of the school office, four of the car spaces to be converted to No Parking with School Drop and Pick Up signage (image attached).
- The car spaces (excluding the disabled car space) opposite the current P2 parking to be limited to 2 hour parking (to provide parking for parents and school visitors with short term parking opportunities).

Issue Raised by NSW Roads and Maritime Services (RMS)

There is concern that the Marked Foot Crossing (MFC) on Links Avenue (adjacent to the car park access discussed above) has little usage outside of school times. This creates a safety and liability issue for both RMS and Council. Crossing Supervisors are RMS employees. Statistics indicate that MFC's that do not have regular usage are a big danger to users. There have been some serious accidents and even fatal accidents at such sites. The other issue is that the facility has two different laws covering it. For a school crossing, traffic is required to stop in both directions as soon as a person steps off either kerb. For a MFC a motorist can drive through as long as there is no collision with a pedestrian. RMS have requested the matter be listed for discussion.

Attached to this report is an aerial photo of the school. The Numbers in red are located to indicate the sites of the following recommendations.

RECOMMENDATIONS

- 1. On Links Avenue at the entrance to the school car park, "LOOK" to be stencilled on the new concrete pedestrian path, on either side of the car park driveway.
- 2. At the same location erect shared path (Starts and Ends) signage on the new section of pathway.
- 3. On Chickiba Drive, directly in front of the school office, four of the unrestricted angle car spaces to be converted to "No Parking" during peak school times and have attached "School Drop and Pick Up" signage.
- 4. The unrestricted time car parking spaces (excluding the disabled car space), opposite the current P2 parking zone in the off-through road, drop off area be changed to 2 hour parking.
- 5. The committee review the warrant for the existing Marked Foot Crossing in Links Avenue.

Attachment(s)

- 1. Sites of Recommendations Southern Cross K 12 School
- 2. School Drop Off Pick Up Signage





6.5 Deletion of School Drop Off Pick Up, No Parking Zone - Crane Street, Ballina

6.5 <u>Deletion of School Drop Off Pick Up, No Parking Zone - Crane Street,</u> <u>Ballina</u>

Introduction

The Ballina Primary School Principal advises the School Drop Off Pick Up, No Parking Zone on the south side of Crane Street Ballina, between Martin and Norton Street is no longer necessary.

Information

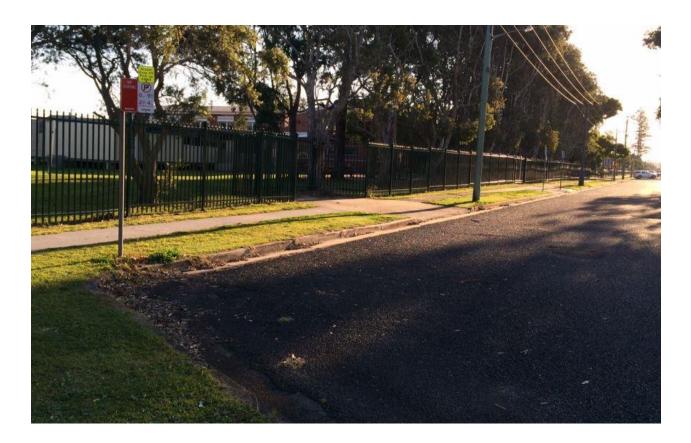
The Primary School Principal advises the School Drop Off Pick Up, No Parking Zone on the south side of Crane Street Ballina, between Martin and Norton Street is no longer necessary or used by parents and should be converted to unrestricted parking. The location is shown on the attachment to this report.

RECOMMENDATIONS

The School Drop Off Pick Up, No Parking Zone on the south side of Crane Street Ballina, between Martin and Norton Street be converted to unrestricted parking.

Attachment(s)

1. Crane St Ballina Drop Off Pick Up No Parking Zone



6.6 Request for Line Marking & Timed Parking - Fox Street, Ballina

Introduction

A request was considered at the 9 April 2014 Local Traffic Committee meeting for line marking of angle parking spaces and 2 hour parking limit in Fox Street Ballina, adjacent to Ballina Community Health Service. A decision on the time parking limit was deferred pending monitoring of the location.

Information

A request from Ballina Community Health Service was considered by the Committee 9 April 2014 for line marking of angle parking spaces and a 2 hour parking limit in Fox Street, Ballina to facilitate parking by elderly and vulnerable clients.

The Committee Recommended:

"The Committee supports the installation of line marking for angle parking and agreed to defer a decision on two hour timed parking pending further monitoring by Council officers."

The line marking has been completed and has successfully maximised the efficiency of parking in this location.

Ongoing monitoring has revealed the area is generally parked out during business hours on Monday to Thursday, but spaces are generally available on Fridays. A representative of Ballina Community Health advises that the cars mostly belong to hospital/health employees and a smaller number to students residing at a nearby hostel.

It is understood that elderly and vulnerable clients still often need to park a considerable distance away to access Ballina Community Health services.

If a section were to be zoned for time limited parking, the section immediately east (excluding the current disabled space) of the Community Health entrance pathway (7 spaces, see attachment) would be favoured by the Health Service and is also considered the most practical for signage. For consistency of signage the standard 2 Hour CBD signage template is favoured.

RECOMMENDATIONS

- 1. The south side of Fox Street Ballina, from the east side of the existing disabled parking space located immediately east of the entrance to Ballina Community Health Service, to Cherry Street (7 spaces) be approved as a time limited parking zone.
- 2. The above zone be in accordance with the standard Ballina CBD parking format, "2P, 8:30am 5pm Mon Fri, 8:30am 12:30pm Sat".

Attachment(s)

1. Ballina Community Health, Parking Fox Street



7. Items for Traffic Engineering Advice

7.1 <u>Access Driveway Sight Distance Restrictions - 64 Cherry Street / 54</u> <u>Burnet Street, Ballina</u>

Introduction

The driveway onto Burnet Street from the corner property, 64 Cherry Street, Ballina has restricted sight distance due to the presence of a high wall on the adjacent property boundary. Advice is sought on how driveway safety may be improved.

Information

A commercial tenant has reported that the driveway at 64 Cherry Street, Ballina (a corner block with driveway onto Burnet Street) is unsafe because of an 1.8m high block wall that has been erected on the 54 Burnet Street boundary.

The block wall on No 54 was erected in accordance with plans submitted for DA 2006/570 consent which approved a dual occupancy.

Council has a standard DA condition to require lower fence heights or fence truncations adjacent to driveways.

"EN0003 Fencing adjacent to driveways - Fencing adjacent to driveways from a street or lane shall not exceed 1.0 metre in height or alternatively truncated by a minimum 2m from vehicle access points to maintain sight lines when entering and leaving the Lane. No permanent sight obstruction exceeding 1 metre in height shall be located within this area. This includes garages, carports, landscaping, vegetation, signs."

This condition or similar was not included in the DA 2006/570 consent, possibly because the driveways for the development itself are at the rear and the impact on the existing neighbours driveway was overlooked.

The tenant of 64 Cherry Street has advised that the footpath across the driveway is heavily used at peak times by school children accessing Ballina High School (across Cherry Street) and the other nearby primary Public and Catholic schools. He is concerned that the blockage of sight distance caused by the wall could lead to a collision between vehicles exiting the driveway and pedestrians. He has requested consideration of a convex mirror to improve sight distance for detection of pedestrians.

Attached to this report is a street view of the driveway and wall.

RECOMMENDATION

The Committee review and advise on options to improve driveway/pedestrian safety at the driveway on 64 Cherry Street, Ballina adjacent to the boundary of 54 Burnet Street, Ballina.

Attachment(s)

1. Block Wall Erected at 54 Burnet Street, Ballina Adjacent to Neighbours Driveway



7.1 Access Driveway Sight Distance Restrictions - 64 Cherry Street / 54 Burnet Street, Ballina

7.2 Operation of Marked Foot Crossing - Bugden Avenue, Alstonville

Introduction

NSW Roads and Maritime Services (RMS) are concerned with the operation of the "Marked Foot Crossing" (MFC) in Bugden Avenue, Alstonville between Main Street and South Street.

Information

A Marked Foot Crossing is defined in the NSW Road Rules as:

"marked foot crossing means an area of a road:

- (a) at a place with pedestrian lights facing pedestrians crossing the road and traffic lights facing vehicles driving on the road, and
- (b) indicated by a different road surface, or between 2 parallel continuous or broken lines, or rows of studs or markers, on the road surface substantially from one side of the road to the other."

The MFC in Bugden Avenue, Alstonville is shown on the attachments to this report.

RMS advise "What is occurring is that during peak times, right-turners are queuing back across the MFC and causing problems for its safe operation. Options would be to paint KEEP CLEAR or to introduce a part-time NO RIGHT-TURN. This facility should also be reviewed to assess the need for the MFC to make sure the safest arrangement is provided. Rather than a random approach, maybe the Traffic Committee should implement a rolling review process that at least checks MFCs every 10 years."

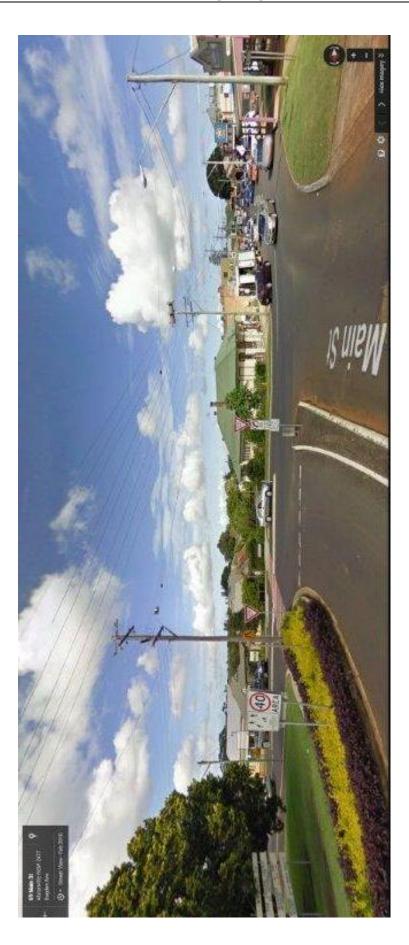
RECOMMENDATION

The Committee provide advice on traffic management options in the vicinity of the Bugden Avenue, Alstonville Marked Foot Crossing.

Attachment(s)

- 1. Aerial Photograph Bugden Avenue, Alstonville
- 2. Street View Intersection of Bugden Avenue & Main Street, Alstonville





7.3 Request for Disabled Car Parking Space - Fawcett Street, Ballina

7.3 Request for Disabled Car Parking Space - Fawcett Street, Ballina

Introduction

A request has been received for a disabled car parking space in Fawcett Street, Ballina near the "Pelican Moorings" building to assist disabled persons to access the nearby Richmond River front for recreational fishing.

Information

A request has been received for provision of a disabled car parking space in Fawcett Street Ballina near the "Pelican Moorings" building to assist disabled persons to access the nearby Richmond River front for recreational fishing (see attached letter).

A possible space for disabled car parking, close to the river access way is shown on an attachment to this report.

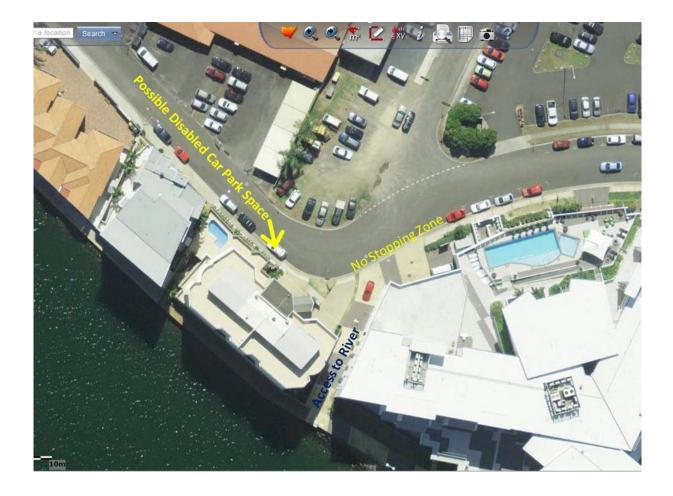
There are no other disabled parking spaces along this section of Fawcett Street however there are a number of disabled car parking spaces on the south side of Fawcett Street, adjacent to the riverfront reserve between Cherry Street and Moon Street.

RECOMMENDATION

The Committee advise on whether a disabled car parking space should be provided on Fawcett Street, Ballina between Martin Street and Cherry Street.

Attachment(s)

- 1. Possible Location for Disabled Car Parking Space Fawcett Street, Ballina
- 2. Letter Requising Disabled Parking Space Fawcett Street, Ballina



Ballina Shire Council Tamar Street BALLINA 2478

Traffic Committee

To Whom It May Concern

Hello, my name is]

I am writing to you seeking a special request.

My father is 87 years old and was born in Ballina and he is a very keen Luderick fisherman.

His is body failing him and he finds walking any great distance extremely painful.

He loves to fish and the only place he can now fish for Luderick is on the boardwalk in front of Pelican Moorings.

Due to the new building under construction behind "The Pelican" and the new Woolworths parking is now extremely limited.

I am asking if you would consider erecting a "Disabled Parking" sign in front of Pelican Moorings ("The Pelican" as it is known to the local fishing people), so he can access his fishing spot in safety and ease.

I would be very grateful if this could be achieved and as you tell by his age time is a factor.

Kind Regards

· · · · ·

PAGE Ø1/01

13/00/2014 12:41

7.4 <u>Extension of Parking Time Limit - Tamar Street, Ballina Public Car</u> <u>Parking Areas</u>

Introduction

The Committee's advice is sought on a request to extend the duration of time limited parking at the Tamar Street, Ballina Public Car Parking Areas.

Information

A resident has made the following request:

"I would like you to reconsider Tamar Street car park be extended to "3 HOURS" this would give time for people to go to their Bank/Building Society, a little shopping, have coffee or lunch. It is almost impossible to take an elderly person to do 2 of these functions. River Street consists greatly of Finance institutions, Real Estate, Coffee Shops, Cafes or eateries in Hotels. If you can go to Ballina Fair, Ballina Central or Bayside Shopping Centres and not be rushed to finish your Coffee or Lunch, why go to River Street? You go because of the diverse range of financial institutions there, other business's benefit from this. Lunch with Family or friend's from outside of Ballina Shire which I have done 4 times so far this year. We found 2 hours not enough time. By the time you park, walk to the venue and catch up with everyone (not all arrive together), order and have lunch, maybe have a coffee if there is still time, most times not, we find it is very close if not on 2 hours. There is not enough time for the out of Ballina Shire people to do a little shopping. Lost revenue! Even doing Bank transactions and Lunch with Ballina Shire residents is pushing the 2 hour limit. There are 3 Car Parks in the Tamar Street Area, which is great but the photograph tells a story, I went there on Wed 16th July (around 11.30) 4 cars parked, 6 on leaving, a Parking ranger came along as I was talking to a friend beside my car, and was I told "You are over the 2 hour limit" 6 cars parked in a 31 space area. Thurs 17' 13 & 9. There is plenty of short term, 15 mins, ½ hour and 1 hour parking in River St. which is great for people who just want to be in one business and out as I have done. BUT 2 hours is just not long enough for a few errands and with the added parking I am asking you to reconsider limit to 3 hrs. I have spoken to staff in business places as well as customers using this facility and all comment in favour of extending to 3hours. Not one person has disagreed. requested a review."

Whilst there are no recent formal occupancy count/surveys of the Tamar Street Car Parks, from observation there is currently significant over capacity at most times. Given the segmented configuration of the car parks, there is an opportunity to designate one of the segments for longer than 2 Hours. This could be done on a trial basis and reviewed later this year when a comprehensive survey and analysis of Ballina CBD parking is scheduled.

RECOMMENDATION

The Committee provide advice on the durations of time limited car parking in the Tamar Street, Ballina public car parking areas.

Attachment(s)

Nil

7.5 Montwood Drive, Lennox Head - Control of Parking Near Ibis Place Intersection

7.5 <u>Montwood Drive, Lennox Head - Control of Parking Near Ibis Place</u> Intersection

Introduction

The Committee's advice is sought regarding management of parked cars that are causing sight distance problems at the intersection of Montwood Drive and Ibis Place, Lennox Head.

Information

Council's Rangers have received complaints regarding vehicles exiting Ibis place having insufficient sight distance along Montwood Drive due to a number of cars parking too close to the intersection. Rangers have attended on numerous occasions and have not been able to observe any offences. They understand the offences are occurring during the periods they are not rostered.

The Rangers further advise that:

"Vision of this corner is limited in that when you travel west along Montwood Drive you go over a crest and Ibis Place is on your right approximately 60 metres after this crest. So when a car parks on the North eastern side of Montwood it limits the vision of people exiting Ibis Place. Perhaps in this location NO STOPPING signage could be placed on the corner to reduce vehicle obstruction of the little view drivers have".

RECOMMENDATION

The Committee advise on traffic management options to control parked cars at the intersection of Montwood Drive and Ibis Place, Lennox Head.

Attachment(s)

Nil

7.6 Road Safety Review - Ross Lane

Introduction

A Road Safety Review has been conducted by NSW Roads and Maritime Services (RMS). The process included consultation with Council staff. The review recommends short, medium and long term actions to improve the safety of Ross Lane.

Information

A Road Safety Review has been conducted and written by Greg Sciffer A/Senior Network and Safety Officer, NSW Roads and Maritime Services (RMS). Council staff members Patrick Knight and Peter O'Keefe were consulted and participated in the process.

The review follows a fatal accident on Ross Lane, 23 January 2014 and the heightened network function of Ross lane which is now the sole eastern/coastal connector to a major Pacific Highway interchange.

The review included comprehensive on site investigations and collection of data. The issues addressed in the review include adjacent land use, road function, alignment and overtaking, road junctions and accesses, sight distance, guidance and delineation, guardrail, speed zoning, road shoulders, bus facilities, pedestrians, cyclists, traffic volumes, accident data, and future road network planning. The Review has identified a number of safety issues and has made recommendations for short, medium and long actions to address these safety issues. The recommendations of the review are listed in the table attached.

The Road Safety Review and associated Appendices 1 to 4 are also attachments to this report.

RECOMMENDATIONS

- 1. The Committee endorse the Ross Lane Road Safety Review and its recommendations.
- 2. That Council consider requesting NSW Roads and Maritime Services for funding assistance to implement the Ross Lane Road Safety Review's recommended Short Term, Medium Term and Long Term actions.

Attachment(s)

- 1. Ross Lane Road Safety Review Recommended Actions
- 2. Road Safety Review Ross Lane 22 May 2014
- 3. Appendix 1 Ross Lane Road Safety Review
- 4. Appendix 2 Ross Lane Road Safety Review
- 5. Appendix 3 Ross Lane Road Safety Review
- 6. Appendix 4 Ross Lane Safety Review

Ross	s Lane Road Safety Review		ons
ltem	Short Term	Medium Term	Long Term
1	Relocate the existing RCL65 advisory warning sign and install new CL65	Develop a program of works for the ongoing upgrading of road infrastructure such as shoulders	Undertake road works to improve the alignment, pavement, capacity and width of Ross Lane.
2	Install new advisory warning sign for eastbound RCL at the highway	Widen shoulders to provide a minimum 1.0 m of seal.	Widen culverts.
3	Review speed limit for western hilly section of Ross Lane	Develop a strategic plan that identifies the required improvements and new infrastructure required for traffic growth	Realign western section to improve safety.
4	Regularly monitor accident data to identify any trends	Provide improved turning facilities at existing road junctions.	
5	Review sight lines at existing junctions and roundabout at the highway	Consider any future bus, pedestrian and bicycle infrastructure needs for inclusion in future programs	
6	Review existing bus bays and seek funding for improvements	Carry out road works to improve bus bays.	
7	Review SCRIM for existing curves	Develop a program of works for the ongoing upgrading of substandard road curves.	Upgrade substandard road curves

ROAD SAFETY REVIEW

REGIONAL ROAD 7735 – ROSS LANE

SH10-Pacific Highway to MR545-Coast Road

22 May 2014

Location

Regional Road 7735 – Ross Lane is located just north of Lennox Head. It is 5.68km long and provides an important connection between SH10-Pacific Highway and MR545-Coast Road. See DVD for further details



Background

Following a fatal accident on Ross Lane on 23 January 2014 Ballina Shire Council undertook some urgent works. This was reported back to Council's Traffic Committee on 9 April 2014.

Following further discussions between Ballina Shire Council (BSC) and Roads Maritime Services it was agreed to undertake a more comprehensive Road Safety Review of Ross Lane.

A Road Safety Review was undertaken on Thursday 22 May 2014. It was carried out by Patrick Knight (BSC), Peter O'Keefe (BSC) and Greg Sciffer (RMS).

Land Use

The hilly western section of Ross Lane has been developed with rural residential. At the eastern end there are two residential areas in Figtree Hill Drive and the Sanctuary Village mobile home park. Both these areas are separated by the Newrybar Swamp floodplain which is used for rural activities such as sugar cane farming and a sand quarry.

Road Function

Ross Lane is a Regional Road under the care and control of Ballina Shire Council. It provides an important local arterial link between SH10-Pacific Highway and MR545-Coast Road. It not only has to cater for through traffic to Byron Bay, Lennox Heads and Ballina but provide access to the adjoining residential and rural developments.

Alignment and Overtaking

The eastern end of Ross Lane is generally flat and winding where overtaking is restricted. This is followed by a few flat and straight sections connected by curves across a flood plain that provide a number of overtaking opportunities in both directions. The following western section is winding and hilly where there are no overtaking opportunities.

Road Junctions and Accesses

The existing junctions of Figtree Hill Drive, Sanctuary Village and Newrybar Swamp Road have CHR and AUL turning lanes. The other road junctions along Ross Lane have no separate lanes for turning traffic. Some of them are constrained by the terrain and property boundaries.

All of the existing private accesses have been constructed to various standards that are not conducive to easy or safe access. They are generally unsealed. See DVD for details of road junctions.

Sight Distance

Dufficy's Lane is the only junction that is controlled by a 'STOP' sign. All of the other junctions operate under the T-Junction rule. Most of these would have adequate sight distance at the hold line but would not meet the requirements from 10m back. They all need to be reassessed or have the restrictive vegetation removed. This should include the Coast Road and the roundabout at the highway.

Guidance and Delineation

The standard of guidance and delineation along Ross Lane is generally of a high standard. It has centreline marking for its whole length and edgelines from the Coast Rd to just past Dufficy's Lane. The centreline is supported with RPM for its entire length,

Guide posting on both sides of the road is adequate. The advisory curves have been reviewed and the existing signs are appropriate except for the eastbound RCL65 east of Dufficy's Lane that is ambiguous. There is no advisory curve sign for the eastbound RCL at the highway.

CAMs have been installed correctly on all of the required curves. All of the other warning and regulatory signs appear to be in good condition.

The existing side road junctions are only delineated with urban street name blades that are only suitable for low speed environments.

Guardrail

Existing guard rail beam and end treatments appear to meet current practices. Pavement width is narrowed at two of the culverts. All of the guardrail is delineated with reflectors and chevrons on the ends.

There is a gap in the guard rail on the southern side west of North Creek, which provides for local property access. Ideally, if the property access could be relocated, this should be closed up to reduce the hazard it creates.



Ross Lane – Westbound gap in guard rail for property access west of North Creek.

Speed Zoning

The speed limit along Ross Lane has been reviewed three times since 2010. All of these reviews appear to have been initiated by community concerns.

Ross Lane currently has a sign posted speed limit of 80km/h from the Coast Rd to west of McLeish Rd. The remaining section to the highway is signposted as a '60 ROADWORK'.

The existing 80km/h speed limit on the western hilly section should be reviewed in accordance with the current guidelines.

A copy of the latest review is attached in Appendix 1.

Road Shoulders

Generally there are no formed shoulders for most of the Ross Lane except for between the Coast Road and Sanctuary Village where there is a variable sealed shoulder on the southern side. All of the road the verges are grassed and the sections along the flood plain would not be trafficable for most of the time.

There were some short sections of K&G existing on the hilly section. Improvements to the shoulders on the hilly sections would be constrained by the terrain and property boundaries.



1. Ross Lane Westbound East of Coast Road

2. Ross Lane Westbound East of North Creek

Bus Facilities

The only bus services that uses Ross lane would be for school transport. There were two gravel and one sealed area on the western hilly section. Another one with a shelter was located at the Figtree Hill Drive junction.

The existing bus pull over areas on the hill would not comply with current standards. They need to be reviewed and improved. See Appendix 2. for details of the sites.

Pedestrians

Pedestrians would be encouraged to use the carriageway as there were no formed shoulders for most of the road and the verges were not suitable or safe to walk on.

Bicycles

For most of the length of the road there were no sealed shoulders which would force cyclists to ride within the travel lanes. Any planned future road works should at least provide a 1.0m minimum sealed shoulder on both sides of the road.

Traffic Volumes

The following table lists the averaged historical traffic data provided by BSC at Newrybar Swamp Road and the Coast Road end of Ross Lane. It appears that the volumes are growing at a rate of 3% - 4% per annum.

Location	1999	2004	2006	2008	2011	2012	2013
Newrybar Swamp Road	2150	3758	3466	-	-	5186	4919
Coast Road	2311	3258	4688	4423	4907	-	-

Accident Data

Appendix 3. contains a copy of the available current accident history. A majority of the accidents involved a single westbound vehicle on a wet pavement. Most of them occurred on the eastern half of the road at curves.

On 23 January 2014 a fatal accident occurred in similar circumstances for a westbound vehicle in the wet. As a result BSC has resealed and upgraded the guidance and delineation for the curve.

Most of these accidents including the fatal occurred prior to the reduction of the speed from 100km/h to 80km/h. The speeds and accident rate along this road should continue to be monitored.

This review has not considered the accidents at the junctions' of the Pacific Highway and Coast Road with Ross Lane.

Road Network Planning

Attached in Appendix 4. are extracts from BSC "Ballina Strategic Road Network Study Update 2007" undertaken by Cardno Eppell Olsen. BSC is currently having this study reviewed.

From the study the following traffic is expected on Ross Lane in 2016 and 2026.

Location	Year 2016	Year 2026
Ross Lane E of SH10	12815	20353
Ross Lane west of Coast Road	11840	16255

Cumbalum North-South Link

"Introduction of the new link would lead to a reduction in volumes along the parallel section of the Pacific Highway. However, since it is assumed that the Pacific Highway Upgrade will already be in place by this time, the additional benefits to highway users are limited and would be unlikely to justify an earlier implementation date on this basis alone."

"with close to full development of the Cumbalum area anticipated by 2026, Ross Lane will be carrying approximately 20,400vpd east of the Pacific Highway, which is in excess of the capacity of a two-lane road;"

The proposed new link will have a significant impact on Ross Lane and the Pacific Highway interchange. It will require major improvements to the existing alignment and infrastructure of Ross Lane. It will double the amount of traffic using the Coast Road junction and triple the traffic using the existing highway junction's roundabouts.

Consideration will need to be given to the impact of this additional traffic on both the safe operation of the Pacific Highway's roundabout and the junction of Ross Lane and the Coast Road.

Recommended Actions

The following table of actions are recommended:

Item	Short Term	Medium Term	Long Term
1	Relocate the existing RCL65 advisory	Develop a program of works for the	Undertake road works to improve the
	warning sign and install new CL65	ongoing upgrading of road	alignment, pavement, capacity and
		infrastructure such as shoulders	width of Ross Lane.
2	Install new advisory warning sign for	Widen shoulders to provide a minimum	Widen culverts.
	eastbound RCL at the highway	1.0m of seal.	
3	Review speed limit for western hilly		Realign western section to improve
	section of Ross Lane	the required improvements and new	safety.
		infrastructure required for traffic growth	
4	Regularly monitor accident data to	Provide improved turning facilities at	Provide improved turning facilities at
	identify any trends	existing road junctions.	existing road junctions
5	Review sight lines at existing junctions	Consider any future bus, pedestrian	
	and roundabout at the highway	and bicycle infrastructure needs for	
		inclusion in future programs	
6	Review existing bus bays and seek	Carry out road works to improve bus	
	funding for improvements	bays.	
7	Review SCRIM for existing curves	Develop a program of works for the	Upgrade substandard road curves
		ongoing upgrading of substandard	
		road curves.	

Report written and recommended by Greg Sciffer

Date:

A/Senior Network and Safety Officer Roads and Maritime Services

Supported by Patrick Knight

Date:

Traffic and Development Engineer Ballina Shire Council

Speed Zoning Review 24 January 2013

Existing Bus Stops

Accident Data

Ballina Strategic Road Network Study Update 2007

Speed Zoning Review 24 January 2013

1. RSTS Manager, Northern Region, RMS

- 2. RSTD Manager, Northern Region, RMS
 - 3. Regional Manager, Northern Region, RMS



Roads & Maritime Services

From:	Liz Smith	Date:	24 January 2013
	Senior Road Safety Traffic Office	er	_
Ref:		Pages	: 6
File no:	SF2012/002685 Review # 226		
Subject:	Speed zone review Ross Lane, I	ennox H	lead

Location

To:

Review the existing 100km/h speed limit on Ross Lane, Lennox Head from The Coast Road to 360m west of Newrybar Swamp Road. This is a total distance of 3.5km.



Background

The speed limit along Ross Lane was reviewed in September 2010. It was recommended that an 80km/h zone be installed on the hilly section west of Newrybar Swamp Road and that the 100km/h zone be retained between Newrybar Swamp Road and The Coast Road.

In January 2012 another review was requested by the residents of Sanctuary Village. The matter was referred to the Ballina Local Traffic Committee (LTC) in February 2012. Discussion included the history of upgrade works along Ross Lane since 2006, future work proposals, roadside development, population growth and traffic flow. It was agreed that traffic counts be undertaken and sight distance at the Sanctuary Village access be measured and that the matter be brought back to the LTC.

This matter was brought back to the LTC in April 2012. Speed classification counts recorded 85th percentile speeds as 99km/h 70m west of Newrybar Swamp Road (on the straight near the

Memo

80/100km/h change point) and 91km/h 100m west of the Sanctuary Village access (in the 100km/h zone). Sight distance at the access was not included in council's report. Discussion included the strong correlation between the posted speed limit and a driver's expectation of the road environment and that Ross Lane had undergone a series of upgrades over the past few years and that council was proposing further works. It was agreed that the existing speed limit was appropriate and that council would continue to monitor speed and changes in traffic patterns.

A resident of Sanctuary Village then made a deputation to the LTC in August 2012 requesting a reduction from 100km/h to 80km/h. Issues discussed included increased traffic since the opening of the Ballina By-pass, the number of residences accessed from Ross Lane, use by school buses and the number of near misses experienced when accessing properties, particularly the access to Sanctuary Village. It was agreed that a formal speed zone review be undertaken. Council have since forwarded several letters to RMS from other residents of Sanctuary Village supporting a reduction to 80km/h.

Review

Road Function

Ross Lane is a regional road under the care and control of Ballina Shire Council. It provides direct access from the Pacific Highway to Lennox Head and it links the highway to The Coast Road which provides access to the popular coastal strip between Ballina and Byron Bay.

Ross Lane requires a balance between its mobility function and the need to provide safe access for residents.

Road side development

Roadside development appears to be rural. Ross Lane is generally surrounded by agricultural land.

Sanctuary Village is a satellite residential development area on the southern side of Ross Lane. It is a retirement development and has an aging population demographic. There is only one access to this area of 84 homes. Development is screened by vegetation.

Coopers Close and Fig Tree Hill Drive provide access to rural residential areas where there are 10 homes and 60 homes respectively. Houses are not visible from Ross Lane.

Road Characteristics

Alignment

The horizontal alignment consists of straight sections connected by large and small radius curves. Between Sanctuary Village and the long straight section there are two substandard curves. Curve warning signs with 55km/h advisory speed plates have been installed.

The vertical alignment is generally flat.



Two substandard curves just west of Sanctuary Village, looking westbound. Second curve has guard rail instatled.

Мето

Delineation

Guideposts have been installed at the correct spacing and are in good condition.

Centrelines and edgelines have been installed. There are some sections where the shoulder has been widened and the edgelines are yet to be reinstated. RRPM have also been installed.

Warning signs have been installed including side road warning signs, floodway signs and truck warning signs. Width markers have been installed to dellneate the guard rail over the bridges.





Truck warning sign westbound east of Newrybar Swamp Rd Floodway warning sign eastbound on Ross Lane

Guard rail has been provided through two curves with a previously high crash history. Council are in the process of applying for further funds to install additional guardrail along the long straight section and through the reverse curves in the middle of this long straight section. This length has experienced eight crashes in the last five years, of which six were single vehicle off-carriageway on curve or straight crashes.





No sealed shoulder on long straight section of Ross Lane

Road Hazards

Width markers delineate narrow sections on Ross Lane

Several hazards were identified. These include:

- Lack of sight distance to the east from the Sanctuary Village access and the risk associated with having slower reflexes, given the aging population demographic within the village
- Large letter box style pits adjacent to Sanctuary Village within 4m of the edge of bitumen
- Substandard curves with 55km/h speed advisory signs installed
- Lack of sealed shoulders
- Lack of required clearzone

Memo



Trees and letter box style drains within the clearzone opposite and adjacent to Sanctuary Village.

Intersections

There are four intersections - Coopers Close, Fig Tree Hill Drive, Sanctuary Village and Newrybar Swamp Road. There are right and left turning bays provided for all side roads accept Coopers Close.

Side road name	Sight distance to the west	Sight distance to the east	Req'd Safe Intersection Sight Distance (SISD)	Existing speed limit	Meets SISD for speed limit of	If not meet SISD – meets Stopping Sight Distance (SSD) of:
Coopers Close	250m+	250m+	248m	100km/h	100km/h	N/A
Fig Tree Hill Drive	250m+	250m+	248m	100km/h	100km/h	N/A
Sanctuary Village access	250m	175m	248m	100km/h	West 100km/h East 80km/h	West N/A East 100km/h
Newrybar Swamp Road	250m	250m	248m	100km/h	100km/h	N/A

Road Access

There are 17 accesses and four side roads in the 3.5km review section. This equates to 4.85 accesses per kilometre and 1.14 side roads per kilometre. This falls just below the requirement of 5-6 accesses and 1-2 side roads per kilometre for an 80km/h speed limit.

From The Coast Road there are:

- Five accesses and three side roads in the first kilometre
- · Six accesses and no side roads in the second kilometre
- Four accesses and no side roads in the third kilometre
- Two accesses and one side road in the last 500m

This suggests that the first two kilometres from The Coast Road could be reduced to 80km/h. This includes the access to Sanctuary Village. However this only leaves 1.5km for the remaining 100km/h zone and this does not meet the minimum length requirement of 3km for a 100km/h zone.

Lane Width

Lanes are generally between 3 and 3.5m wide. Shoulders width varies from 0-1m sealed shoulders. Grass verges are predominant along Ross Lane.

Adjacent Speed Zoning

To the east there is a 100km/h speed limit on The Coast Road.

To the west there is an 80km/h zone on Ross Lane. It is 2km long and joins to the 60km/h zone at the Pacific Highway interchange.

Memo

Crash history

There have been 16 reported crashes for the period from 2007 to 2012 with six injury crashes and ten non-casualty crashes. Seven people were injured in total.

13 of the 16 crashes were off carriageway on curve or straight. Eight identified speed as a contributing factor. This suggests that motorists may be travelling too fast for the road environment although they may not be exceeding the speed limit.

One crash identified fatigue as a contributing factor.

Traffic Characteristics

Traffic Patterns

In February 2012 speed classification counts were undertaken at two locations, 70m west of Newrybar Swamp Road and 100m west of Sanctuary Village. Over the fourteen days the highest total traffic volume of 44,961 vehicles was at the site 100m west of Sanctuary Village. Therefore a calculated Average Daily Traffic (ADT) figure is approximately 3,214 vehicles per day (vpd).

This road is used by local and regional traffic. It is expected to have a small commuter movement and is a school bus route.

Pedestrians and Cyclists

No pedestrian or cyclist activity was observed during the inspections and this type of activity is expected to be low due to the distances required to be traversed. Some activity would occur between the residential areas and the bus stops.

Discussion

Roadside development including intersections and accesses suggests that the existing 100km/h speed limit could be reduced to 80km/h for the first two kilometres from The Coast Road. This would include the Sanctuary Village access, trees and the letter box style drains located within the clearzone and the two substandard curves with 55km/h advisory speeds.

Should the first two kilometres be reduced to 80km/h then the remaining length of existing 100km/h zone would be 1.5km. This is below the minimum length of 3km as required by the NSW Speed Zoning Guidelines. This 1.5kms includes the long straight section and the reverse curves where there have been eight recorded crashes in the last five years. Council has advised that guard rail is proposed to be installed along this length when funding is available. This section also has limited sealed shoulder width and some trees within the clearzone.

To reduce the number of speed zone changes along this road and to meet the minimum length requirements in the NSW Speed Zoning Guidelines the entire 3.5km length should be reduced from 100km/h to 80km/h.

Recommendation

That the existing 100km/h zone be reduced to 80km/h;

From: The Coast Road

To: 360m west of Newrybar Swamp Road

This is a total distance of 3.5km.

Therefore the total distance of the 80km/h zone along Ross Lane will be 5.4km

From: The Coast Road

To: the 60km/h zone at the Pacific Highway interchange

Mema

Slip

Report written & recommended by: Liz Smith Date: 23 January 2013 Position: Senior Road Safety Traffic Officer

Accepted by: Ian Shanahan Date: 13/2/13 Position: RSTS Unit Manager

Supported by: Tony Donohoe Date: 6/3/13 Position: A/ RSTD Section Manager

Approved by: John Alexander

Date: 7/5/13 Position: X/Regional Manager, Northern Region

Мето

Existing Bus Stops



1. Eastbound. Bus stop east of Pacific Hwy.



2. Eastbound. Bus Stop east of Glenross Dr.







5. Eastbound. Fig Tree Hill Drive Bus Stop

SCIFFER Greg

From:	Patrick Knight [patrickk@ballina.nsw.gov.au]
Sent:	Thursday, 26 June 2014 4:20 PM
To:	SCIFFER Greg
Cc:	Peter O'Keefe
Subject:	FW: Ross Lane Review
Follow Up Flag:	Follow up
Flag Status:	Red
Attachments:	Ross Lane Bus Stops 26June14.jpg

Greg,

I met with" Phill" from Blanches at Ross Lane this afternoon and he showed me all of the places their school busses stop on Ross Lane. Attached is an aerial photo of the western end and the red stars indicate where the busses now drop off/pick up. He says it changes often. There are far more stops than I imagined, it seems they drop off on the road shoulder as close as possible to the child's home so that the child does not need to walk unsafely along the road. Most of the places the busses stop are not ideal as they are on shoulders not wide enough for the busses to get off the traffic lanes or they stop in the throats of road junctions. A few of the spots are OK like the cane pad at the bottom of the hill and the widened section of eastbound shoulder 60m east of Dufficys Lane.

He did say that if there were wide enough shoulders for children to safely walk along they would need fewer places to stop.

He also showed me the bus stops further east near Sanctuary Village and Fig Tree Hill Drive which seemed OK. The problem seems to be confined to the western hilly section.

To provide safe bus drop off/pick up in the western hilly section, the options seem to be to either:

- provide widened shoulders at each of many locations for the busses to pull off the traffic lanes or
 provide a fewer number of strategically located widened shoulders for the busses to pull off the
 - traffic lanes and provide widened shoulders/paths for children to walk longitudinally from their homes to the bus stops.

Patrick

From: Patrick Knight Sent: Monday, 23 June 2014 3:30 PM To: 'SCIFFER Greg' Subject: Ross Lane Review

Greg,

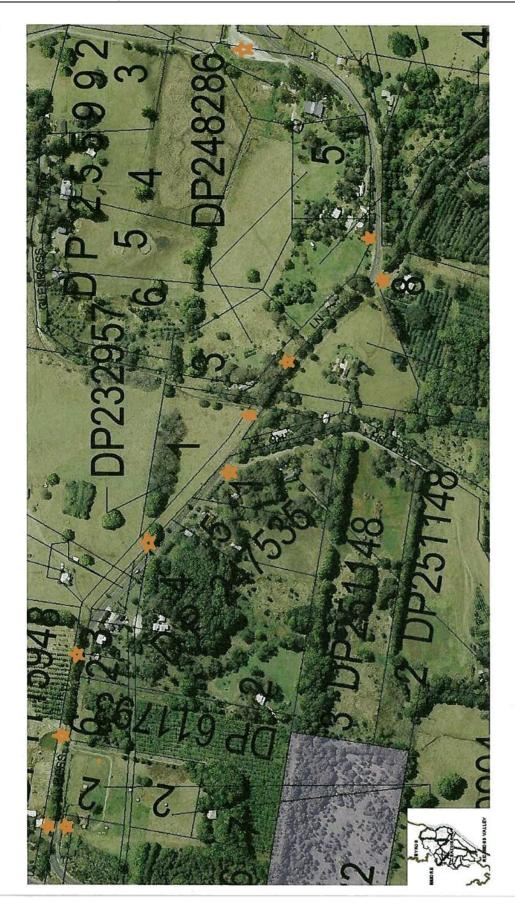
Attached are a few tracked changes to your draft. I had a bit of a play with the table at the end. Patrick

From: SCIFFER Greg [mailto:Greg.SCIFFER@rms.nsw.gov.au] Sent: Tuesday, 10 June 2014 12:34 PM To: Patrick Knight Subject: RE: Ballina Local Traffic Committee 11 June 2014, Late Agenda Items

Pat

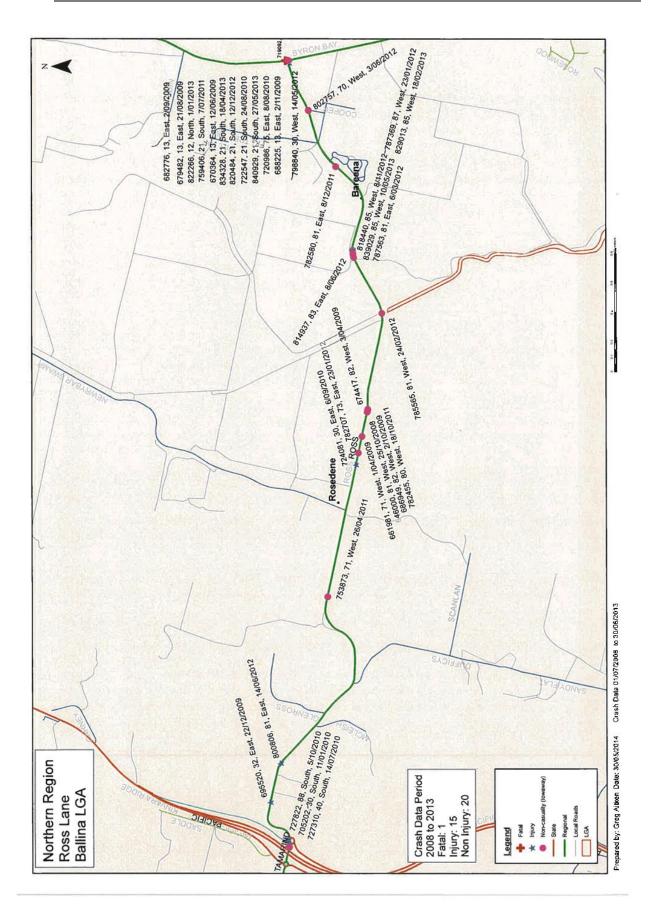
Attached is draft of Ross Lane Review for comments. I have yet to include signature sheet and appendixes. I will bring you a copy of DVD tomorrow for you. Feel free to make changes or question anything. There appears to be a few bus stops that need improving. I have flagged these with officer managing program but

8/07/2014



Appendix 3

Accident Data



	Brief Crash Report	L								Centre for Road Safety	Soluty
Loc Alg Lgt	Wth Sfc SL RUI	Tus	RUM Tus TU1	S1 D	Manoeuvre1		TU2	S2 D	Manoeuvre2	Ч	Fac
											SF
STR Off I	Fine Dry 60 75	-	WAG	2 2	Proceeding in lane	ne				0	
CRV NII F	Raining Wet 100 12	7	VMO	r v	Turning left	0		2 2	Proceeding in lane	0	S
CRV Nil F	Fine Dry 100 21	8	4WD	1 S	Turning right	5	UTE	z	Proceeding in lane	0	
STR NII F	Fine Dry 100 21	2	CAR	1 S	Turning right	Ű	CAR 1	z	Proceeding in lane	0	
STR NII F	Fine Dry 100 13	7	CAR	2 2	Turning right	Ű	CAR 1	z	Proceeding in lane	0	
ī	Fine Dry 100 13	2	4WD	2 E	Turning right	Ű	CAR 1	z	Proceeding in lane	0	
ΪŻ	Fine Dry 100 13	8	CAR	2 E	Turning right	\$	WAG 1	z	Proceeding in lane	0	
ĪZ	Fine Dry 100 13	8	4WD	2 2	Turning right	Ű	CAR 1	z	Proceeding in lane	0	
0#	Fine Dry 80 21	8	CAR	1 S	Turning right	Ũ	CAR 1	z	Proceeding in lane	0 0	
ΪŻ	Fine Dry 100 21	8	WAG	1 S	Turning right	41	4WD 1	z	Proceeding in lane	0 2	
iin	Fine Dry 100 21	7	CAR	1 S	Turning right	Ű	CAR 1	z	Proceeding in lane	0	
ĪŽ	Fine Dry 100 3	7	CAR	z F	Proceeding in lane		PED 1		Lie/sit on carriageway	1	
Ī	Raining Wet 100 83	-	CAR	т Т	Proceeding in lane	ne				0	S
Ξ	Overcast Wet 100 81	-	CAR	т	Proceeding in lane	ne				0	S
0ff F	Raining Wet 100 85	2	CAR	1 V	Proceeding in lane		TRK 1	ш	Proceeding in lane	0	S
ő	Fine Dry 80 30	2	CAR	2	Proceeding in lane		CAR 1	8	Proceeding in lane	0	
IN	Overcast Wet 100 87	-	CAR	1	Proceeding in lane	пе				0	S
ĪZ	Fine Wet 80 85	-	CAR	2	Proceeding in lane	an				0	S
īž	Fine Wet 80 81	-	TRK	1	Proceeding in lane	ne				0	
i.	Fine Dry 80 30	7	CAR	т Ш	Proceeding in lane		CAR 1	ш	Proceeding in lane	0	
līz	Raining Wet 100 70	-	CAR	1 V	Proceeding in lane	ne				0	
Ē	Fine Dry 100 81	-	4WD	т	Proceeding in lane	ЭЦ				0	S
ΪŻ	Raining Wet 100 85	-	CAR	1	Proceeding in lane	ne				0	S
CRV NII F	Fine Dry 100 82	-	CAR	1	Proceeding in lane	ЭЦ				0	S
CRV NII F	Raining Wet 100 82	-	4WD	1 V	Proceeding in lane	ne				0	S
STR NIL F		•				5				0	

Generated: 30/05/2014 10:00

Rep ID: BCR01 Office: Grafton User ID: aitkeng

																	f	
_	ن د	SFA					۷	٩					L.		L.			
Control of Providence Solution	Fac	Ś	m			S		S			S							
el porta a	-		Ċ			-	-	-	0		0	0	0	2	-			
Control our Price Section	¥		c			0	0	0	0		0	0	0	0	0	1: 17		
	~															Injured: 17		
	ivre	1						n lane						Ħ		-		
	Manoeuvre2						ary	ding i	ary					m righ				
	M						Stationary	Proceeding in lane	Stationary					Wait turn right		-		
	۵						s		ы Ш					< ш		Killed: 1		
	82 I						-	-	÷							¥		
	TU2						CAR	BDBL	4WD					4WD				
	F						U	8	4					4		: 57		
	re1		φ				e		e		8	9	Ð	e	9	Traffic Units:		
	Manoeuvre1		W Proceeding In lane				Proceeding in lane	Ę	Proceeding in lane		W Proceeding in lane	Proceeding in lane	Proceeding in lane	Proceeding in lane	Proceeding in lane	raffic		
	Mane		eding			g left	eding	Ľ Ľ	eding		eding	eding	eding	eding	eding	F		
			Proce			Turning left	Proce	Perform U-turn	Proce		Proce	Proce	Proce	Proce	Proce			
	۵		≯				s		ш			ω	≥	ш	ш	0		
	ŝ		÷			-	-	-	-		-	-	-	-	-	Non-Casualty Crashes: 20		
:	Ę		4WD			M/C	CAR	CAR	CAR		CAR	4WD	CAR	CAR	CAR	Crash		
	RUM T _{US}		-			-	ю	2	4		-	-	-	7		ualty		
	RUM		81			88	30	40	30		80	73	71	32	81	n-Cas		
	S		80			60	40	60	50		100	100	100	60	100	٩		
	Sfc		Wet			Wet	Dry	Dry	Wet		Wet	Wet	Wet	Dry	Dry			
	Wth		Overcast Wet			Raining	0	8	Raining			Raining	Overcast Wet	0	0	15		
	Lat W						ff Fine	On Fine						il Fine	il Fine	Injury Crashes: 15		
		1	CRV NII			CRV NII	CRV Off	CRV 0	STR Nil		CRV Off	STR Nil	STR Nil	STR Nil	CRV NII	nry Cr		
	c Alc															lnju		
	Loc		2WY			RDB	RDB	RDB	DIV		2WY	2WY	600 m W NEWRYBAR SWAMP R 2WY	2WY	2WY			
	a												VAMP			-		
	ID Feature		Ŵ			Щ	ĥ	щ	ĥ		0	IS CK	AR SV	₩.	Ŵ	shes		
	DFe		FIC H			SLAN	SLAN	SLAN	SLAD		STR	DMAN	'RYB	FIC H	PACIFIC HWY	Fatal Crashes:		
			PACI			at ROSS LANE	ROS	ROS	ROS		COA	at DEADMANS CK	NEW	PACI	PACI	Fata		
			ш с			at	10 m N ROSS LANE	10 m N ROSS LANE	20 m W ROSS LANE		۶ ۲	at	Ň	200 m E PACIFIC HWY	ш с			
	Dist		3.85 kn				10 n	10 n	20 n		2.62 kr		600 n	200 n	600 m E	36		
			08:40 3.85 km E PACIFIC HWY			9:50	3:51	8:45	6:17		18/10/2011 Tue 10:20 2.62 km W COAST RD	6:10	9:20	7:15	7:15	Crashes: 36		
	Dav Time	-				05/10/2010 Tue 09:50	Mon 13:51	14/07/2010 Wed 18:45	Sun 16:17		Tue 1	Mon 06:10	26/04/2011 Tue 09:20	Tue 17:15	Thu 17:15	ö		
	-	'	012		Ş	010	010	010		e	011	012	011		012			
	ate		24/02/2012 Fri	bar	Pacific Hwy	5/10/20	11/01/2010	4/07/20	19/12/2010	Ross Lane	8/10/2(23/01/2012	6/04/20	22/12/2009	14/06/2012	:0		
	Crach No Date			Tintenbar	Pac					Ros		64				Report Totals:		
	d date		785565	F		727822	705202	727310	739714		782455	782707	753873	695520	800806	port		
	Č	51	78			72	20	72	73		78	78	75	69	80	Re	-	

Type Type Contributing Factors Crash Movement S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S S	¢.						Summ	Summary Crash Report						2: 0	Connects Read Server	SW
33 91.7% Speeding 14 33.9% Intersection, adjacent approaches 5 13.9% Fatal crash 1 2.6% / Inju 1 1 2.8% Fasigue 3 3.3% Intersection, adjacent approaches 5 13.9% Intersection, adjacent approaches 5 13.9% Inju 2.6% / Inju 1 1 2.8% Feator 0 0.0% Inju 2.8% % of Dyy Correstant 11.1% 20 56%1.8% / Inju 0 0.0% Feator 0 0.0% Inju 2.8% % of Dyy Cor 20 56%1.8% / Inju 20 56%1.8% / Inju 20 56%1.8% / Inju 20 20	# Crash	Type		Contributi	ng Factors			Crash Movement			CRA	SHES	36		CASUALTIES	18
1 2 5.6% Failue 3 8.3% Injury 15 17.% Injury 15 17.% Injury 15 17.% Injury 15 17.% 10.000 15 15.4.7% Injury 15 17.% 10.000 15 15.4.7% Injury 10.000 15 10.000 15 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 11.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 <t< th=""><th>Car Crash</th><th>Ś</th><th></th><th></th><th></th><th></th><th>tersection, adj</th><th>acent approaches</th><th></th><th>5 13.9%</th><th></th><th></th><th>1 2.8%</th><th></th><th></th><th>1 5.6%</th></t<>	Car Crash	Ś					tersection, adj	acent approaches		5 13.9%			1 2.8%			1 5.6%
0 0.00% Accord 2 5.6% Opposing whicles, turning 5 13.3% Non-result or sensitive cash 20 55.6% 1 1 2.0% Constant 2.0% 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6% 2.0 55.6%<	Light Truck Crash		2 5.6%	-			lead-on (not ov	ertaking)		0.0			15 41.7%		-	17 94.4%
1 1 2.3% Tend from the constraint finded to not work no restant finded to position 1 1 2.8% Time Group % of Day 1 2.8% Weather Learner Uturn 1 2.8% Weather Learner Uturn 1 2.8% Rain 10 2.7% Parallel lanes; turning 0.00% Beson 4.35 Turn of coup % of Day Y of Day 1 2.8% Read Unturn 10 2.7% Parallel lanes; turning 0.00% Beson 4.35 Montal 1.2% Montal 1.2% <thmontal 1.2%<="" th=""> <thmontal 1.2%<="" th=""> Montal 1.</thmontal></thmontal>	Rigid Truck Crash	-	0.0%	_			pposing vehicl	es; turning		5 13.99	_	ash	20 55.6%	A Unrestrair	bed	0.0%
(1) (2.8%) Feature Rearter % of Day Cr 0 0.00% Fine 22 61.1% Neather % of Day Cr 1 (1) (2.8%) Feg 0 0.0% 00004-4559 2 56% 12.5% 1 2.8% Feg 0 0.0% 00004-4559 0 0.0% 42.% 1 2.8% Feg 0 0.0% 0500-05:59 0 0.0% 42.% 1 2.8% Feg 0 0.0% 0000 0500-05:59 0 0.0% 42.% 1 2.8% Press 0 0.0% 0000 0.0% 42.% 0 0.0% 42.% Trutukany existions 0 0.0% 0000 0.0% 0.0% 42.% 0 0.0% 42.% 0 Trutukany existions 0 0.0% 0.0% 0.0% 0.0% 42.% 0 0 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	Articulated Truck Cras	Ę	1 2.8%		11		l-turn			1 2.8%	1	vorn, No re	straint fitted	to position OR No	helmet wor	-
0 0.00% File 22 61.1% Lane change 0 00% 0001 02:38 Bin 23% Bin 1 23% Bin 23% Bin Concests 1 23% Bin	'Heavy Truck Crash	E	() (2.8%)		ther	œ	tear-end			5 13.9%	_		% of Day		0	Casualties
(1) (2.8%) Rain 10 27.8% Parallel lanes; turning 0 0.0% 00% 0.0% 42% 43% 1 2.8% Overcast 4 11.1% Venticle leaving driveway 0 0.0% 05:00 0:5:9 0 0:% 42% 0 0.0% Other 0 0.0% N:00 0:5:9 2 5% 42% 1 2.8% Overcast 1 41.1% 0 0.0% 0:00% 0:0% 25% 42% Vinction Hawy Linin 0 0.0% 0:00% 0:0% 0:00% 0:0% 42% 42% Vinction Haw exclusion 0 0.0% 0:00% 0:0% 0:0% 42% 42% Vinction Haw 1 47.2% Hit aliwai 0 0.0% 0:0% 42% 42% Vinction Haw 0 0.0% Natural Lighting 0 0.0% 1:00-11:59 1:09% 42% Marceloin 0 0.0% Natural Lighting 0 0.0% 1:00-11:59 1:28%	Bus Crash	-	%0.0 0			_	ane change			0.0	-	2	.6%12.5%		2013	
ash 1 2.8% Overasit 4 11.1% Verticle leaving driveway 0 0.0% 05:00-05:59 0 0.0% 4.2% 0 0.0% 000% 000% 000% 00% 07:00-07:59 0 0.0% 4.2% 0 0.0% 000% 00% 00% 00% 0.0% 4.1% 4.11% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.2% 4.2% 4.2% 4.2% 4.2% 4.2% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1% 4.1%	"Heavy Vehicle Crash	5	() (2.8%)				arallel lanes; tu	Irning		0.0		-	.8% 8.3%		2012	
1 2.8% Feg or mist 0 0.0% 06:00-06:59 2 5.6% 4.2% 0 0.00% Other 0 0.0% N:00-07:59 4.11% 4.2% vTuck or Heavy Bank Timulually exclusive 17 47.2% Nitraliway train 0 0.0% 00:00 05:95 5 5.9% 4.2% VTuck or Heavy Bank Timulually exclusive 17 47.2% Nitraliway train 0 0.0% 00:00 4.2% 4.2% Timulually exclusive 0 0.0% 11 2.8% 12.8% 4.2% Nitralion 0 0.0% 4.2% Micro 15 41.7% Nitral Lighting 0 0.0% 11.0 12.8% 4.2% Micro 16 0 0.0% 0 0 0.0% 11.0 2.8% 4.2% Micro 16 0 0.0% 11 2.8% 12.00 12.8% 4.2% Micro 18.0.0% Dison school	Emergency Vehicle Cr	ash	1 2.8%	-	4 11	_	ehicle leaving o	iriveway		0.0	_	0			2011	
0 0.00% Other 0 0.00% Other 0 0.00% Off-on-07:59 4 11.1% 4.2% 7 Timulually sectors Timulually sectors 0 0.00% 08:00-07:59 5 13.9% 4.2% 7 Timulually sectors 0 0.00% Hit parked vehicle 0 0.00% 97:00-07:59 5 13.9% 4.2% Timulually sectors Dry 19 5.41.7% Prover less 0 0.00% 10:00-11:59 0 0.0% 4.2% Invol 15 4.1.7% Timulually sectors 0 0.00% 11:00-11:59 0 0.0% 4.2% Invol 15 4.1.7% Natural Lighting Diff coact on straight 1 2.8% 4.2% Invol 18 6.00% Durk Diff coantrol on straight 1 2.8% 4.2% Invol 18 5.00% Durk Diff control on straight 1 2.8% 4.2% Invol	Motorcycle Crash	~	1 2.8%			_	vertaking; sam	e direction		0.00	-	2			2010	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Pedal Cycle Crash	-	%0.0 0				lit parked vehic	e		0.00	_	4		8	2009	
vy Truck or Heavy Bus i mutually exclusive	Pedestrian Crash		1 2.8%	no peod	Condition	Ī	lit railway train			0.00	_	5 13		-	2008	
Timulally exclusive Type Wet Type 17 (1:00-11:59 17 (2:00-12:59 2.8% (2:00-14:59 12 (2:00-14:59 2.8% (2:00-14:59 12 (2:00-14:59 2.8% (2:00-14:59 12 (2:00-14:59 2.8% (2:00-14:59 12 (2:00-14:59 2.8% (2:00-14:59 12 (2:00-14:59 2.8% (2:00-14:59 McL 1000 0.00% 11 2.8% 11:00-11:59 0 0.0% 42% 12 11 2.8% 11 2.8% 11:00-11:59 2 5.6% 42% 12 1000 nerection 1 2.8% 0.00% 14:00-14:59 1 2.8% 42% McL 11 2.8% 0.00% 0.00% 14:00-14:59 1 2.8% 42% McL 11 2.8% 0.00% 0.00% 17:00-14:59 1 2.8% 42% McL 11 2.8% 0.00% 0.00% 12:00-15:59 2 5.6% 42% 2 11 12 3.3% 12:00-15:59 2 5.6% 42% 2 <th>' Rigid or Artic. Truck " Heav</th> <td>y Truck or</td> <td>Heavy Bus</td> <td></td> <td></td> <td></td> <td>iit pedestrian</td> <th></th> <td></td> <td>0.0</td> <th>-</th> <td>5</td> <td></td> <td></td> <td></td> <td></td>	' Rigid or Artic. Truck " Heav	y Truck or	Heavy Bus				iit pedestrian			0.0	-	5				
Type Dry 19 5.3% Hit animal 15 41.7% 5 41.7% 19 5.3% Hit animal 21 58.3% Natural Lighting Off road, on straight 1 2.8% 12:00-11:59 0 0.0% 4.2% Invoi 21 58.3% Natural Lighting Off road, on straight, hit object 3 8.3% 13:00-13:59 2 5.6% 4.2% Invoi 0 on school days Dawin 1 2.8% Out of control on straight 0 0.0% 14:00-14:59 1 2.8% 4.2% Invoi 0 on school days Dayught 24 65.7% Out of control on straight 0 0.0% 17:00-17:59 1 2.8% 4.2% McLi 0 on school days Dayught 2 5 3 3.3% 15:00-15:59 1 2.8% 4.2% McLi 1 1 2 5 3 8.3% 1 1 2.8% 4.2% McLi 1 1 2 5 5 5 5 3.8% <th># These categories are NO</th> <td>T mutually</td> <td>exclusive</td> <td>Wet</td> <td></td> <td></td> <td>ermanent obstr</td> <th>uction on road</th> <td></td> <td>0.0</td> <th>·</th> <td>-</td> <td></td> <td></td> <td></td> <td></td>	# These categories are NO	T mutually	exclusive	Wet			ermanent obstr	uction on road		0.0	·	-				
15 41.7% Snow or ice 0 0.0% Arradight 1 2.8% 12:00-12:59 0 0.0% 4.2% Invol 21 58.3% Natural Lighting Off road, on straight, hit object 3 8.3% 13:00-13:59 2 5.6% 4.2% Invol nesection Down school days Dawn 1 2.8% 13:00-15:59 2 5.6% 4.2% Invol 0 on school days Dawn 1 2.8% Natural Lighting Off road, on curve 3 8.3% 13:00-15:59 2 5.6% 4.2% McL 0 on school days Dawn 2 5.6% 0 0.0% 17:00-17:59 2 2.8% 4.2% McL 18 50.0% Dusk 2 5.6% 0 0.0% 12:00-16:59 1 2.8% 4.2% McL 18 50.0% Dusk 2 0 0.0% 0 0 1 2.8% 4.2% McL 18 50.0% Dusk 2 Mct control on curve 0 0 0<	Location	Type		Dry		_	it animal		_	0.0		0			~ School Travel Time	Time
21 53.3% Natural Lighting Off road on straight, hit object 3 8.3% 13:00 - 13:59 2 5.6% 4.2% Niersection Dawn 1 2.8% Out of control on straight, hit object 3 8.3% 13:00 - 13:59 2 5.6% 4.2% 00 n school days Dawn 1 2.8% Out of control on straight, hit object 3 8.3% 15:00 - 14:59 1 2.8% 4.2% 00 on school days Dawn 1 2.8% Out of control on straight, and on curve 3 8.3% 15:00 - 14:59 1 2.8% 4.2% 00 on school days Davinght 2 5.6% Out of control on curve 3 8.3% 15:00 - 15:59 2 5.6% 4.2% 18 50.0% Dut of control on curve 0 0.0% 17:00 - 17:59 1 2.8% 4.2% 18 50.0% Dut of control on curve 0 0.0% 17:00 - 17:59 2 5.6% 3.2% 16 Dut of control on curve 0 0.0% Dut of control on curve 1 1 2.8% <td< th=""><th></th><td></td><td></td><td>_</td><td></td><td>_</td><td>off road, on stra</td><th>iaht</th><td></td><td>1 2.85</td><th></th><td>0</td><td></td><td>laval</td><td>÷</td><td>12 33.3%</td></td<>				_		_	off road, on stra	iaht		1 2.85		0		laval	÷	12 33.3%
Interaction Dawn 1 2.8% Out of control on straight 0 0.0% 14:00-14:59 1 2.8% 4.2% 000 school days Daynight 2.8 0ff road, on curve 3 8.3% 15:00-14:59 1 2.8% 4.2% 000 school days Daynight 2.8 66.7% Off road, on curve 3 8.3% 15:00-15:59 2 5.6% 4.2% 18<50.0% Dut of control on curve 10 27.8% 17:00-17:59 5 13:9% 4.2% 18<50.0% Dut of control on curve 3 8.3% 18:00-16:59 1 2.8% 4.2% 18<50.0% Dut of control on curve 3 8.3% 18:00-15:59 2 56% 3.3% 111.1% Dut of control on curve 0 0.0% 20:00-15:59 2 56% 3.3% 12 33.3% F8:00-15:55 0 0 0.0% 20:00-24:00 1 2.8% 25:6% 2 56% 3.3%	Non intersection	21			inhtine.		off road on strai	ght, hit object		3 8.39		2		13		
00 on school days Dawn 1 2.8% Off road, on curve 3 8.3% 15:00 - 15:59 2 5.6% 4.2% Type Daylight 24 66.7% Off road on curve, hit object 10 27.8% 15:00 - 15:59 2 5.6% 4.2% Type 18 50.0% Dut of control on curve 0 0.0% 17:00 - 15:59 1 2.8% 4.2% 18 50.0% Dut of control on curve 3 8.3% 18:00 - 16:59 1 2.8% 4.2% 18 50.0% Dut of control on curve 3 8.3% 18:00 - 15:59 5 13:9% 4.2% 18 50.0% Detter crash type 3 8.3% 19:00 - 19:59 1 2.8% 4.2% 12 33:3% Go km/h cress 1 2.8% 8.0 km/h zone 1 2.8% 4.2% 12 33:3% 60 km/h zone 1 19:0% 20:00 - 24:00 1 2.8% 3.2% 12	* Up to 10 metres from an i	ntersection					ut of control or	i straight	-	0.00		-		12	iods	% Week
Type Daylight 24 66.7% Off road on curve, hit object 10 27.8% 15:00 12.8% 4.2 18 50.0% Dusk 2 5.6% Out of control on curve 3 8.3% 15:00 1 2.8% 4.2 18 50.0% Darkness 9 25.0% Other crash type 3 8.3% 18:00 17:59 5 13:9% 4.2 18 50.0% Darkness 1 2.8% 80 km/h zone 7 19:4% 1 2.8% 8.3% 3 3.3% 4.2 1 2.8% 8.3% 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.3 3 3 4.2 2.8% 8.3 3 3 4.2 2.8% 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.3% 8.3% 8.3% <th>~ 07:30-09:30 or 14:30-17:</th> <td>00 on schoo</td> <td>ol days</td> <td>Dawn</td> <td>1 2</td> <td>_</td> <td>off road, on curv</td> <th></th> <td></td> <td>3 8.39</td> <th>·</th> <td>2</td> <td></td> <td>-</td> <td>1 30.6%</td> <td></td>	~ 07:30-09:30 or 14:30-17:	00 on schoo	ol days	Dawn	1 2	_	off road, on curv			3 8.39	·	2		-	1 30.6%	
18 50.0% Dusk 2 5.6% Out of control on curve 0 0.0% 17:00-17:59 5 13:9% 4.2 18 50.0% Darkness 9 25.0% Other crash type 3 8.3% 18:00-18:59 1 2.8% 4.2 18 50.0% Darkness 9 25.0% Other crash type 3 8.3% 18:00-18:59 1 2.8% 4.2 ification 0 0.0% To use 7 19:4% 1 2.8% 8.3 3 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3% 8.3%	Collision	Type		Daylight			off road on curv	e, hit object	÷			-			1 2.8%	
18 50.0% Darkness 9 25.0% Other crash type 3 8.3% 18:00-18:59 1 2.8% 4.2 iffication Speed Limit	Single Vehicle			1.00		_	ut of control or	i curve	-		-	5			3 22.2%	-
Iffication Speed Limit ~40km/h or less 1 2.8% 4.2 0 0.0% 40 km/h or less 1 2.00 21:59 2 5.6% 8.3 4 11.1% 50 km/h zone 1 2.8% 90 km/h zone 7 194% 20:00 21:59 2 5.6% 8.3 12 33.3% 60 km/h zone 1 1.1% 100 km/h zone 0 0.0% 20:00 21:00 29% 8.3 8.3 20 55.6% 7 19.00 km/h zone 0 0.0% 8 of Dar 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of Dar 20 55.6% 70 km/h zone 0 0.0% 8 of Dar 9 0 1 28% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <th>Multi Vehicle</th> <td>18</td> <td></td> <td></td> <td></td> <td>_</td> <td>ther crash type</td> <th></th> <td></td> <td></td> <th>-</th> <td>-</td> <td>.8% 4.2%</td> <td></td> <td>%0.0 0</td> <td></td>	Multi Vehicle	18				_	ther crash type				-	-	.8% 4.2%		%0.0 0	
ification Speed Limit ~40km/h or less 0<0.0%											19:00 - 19:59	-			1 2.8%	
0 0.0% 40 km/h or less 1 2.8% 80 km/h zone 7 19.4% 22:00 - 24:00 1 2.8% 8.3 4 11.1% 50 km/h zone 1 2.8% 90 km/h zone 0 0.0% 12.8% 8.3 12 33.3% 60 km/h zone 1 1 2.8% 90 km/h zone 0 0.0% 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of Dat 88.9 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of Dat 88.9 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of Dat 88.9 20 55.6% 70 km/h zone 0 0.0% 1 2.8% 9 7 8.9% 9 7 1 2.8% 9 7 9 7 9 7 1 2.8%	Road Class	fication		Speed Lim				~ 40km/h or less	-			2	.6% 8.3%		5 16.7%	10.7%
4 11.1% 50 km/h zone 1 2.8% 90 km/h zone 0 0.0% Extend to the condition of the conditic condition of the condition of the conditic condi	Freewav/Motorwav	0	0.0%	40 km/h or less	-			m/h zone	7	19.4%	_	-	.8% 8.3%		4 11.1%	7.1%
12 33.3% 60 km/h zone 4 11.1% 100 km/h zone 23 63.9% Street Lighting Off/Nil % of Dark 80.9 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of 9 in Dark 83.9 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of 9 in Dark 83.9 20 55.6% 70 km/h zone 0 0.0% 10 2.8% 83.9 22.2% 7 hursday 5 13.9% Sunday 3 8.3% Aust Day 0 0.0% 1 2.8%	State Hichway	4	11.1%		-		•		0	0.0%				H	1 2.8%	
20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 of 9 in Dark 88.9 20 55.6% 70 km/h zone 0 0.0% 110 km/h zone 0 0.0% 8 9 10 ark 88.9 20 55.6% # Holiday Periods New Year 1 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% 2.8% <t< th=""><th>Other Classified Road</th><td>12</td><td></td><td></td><td>4</td><td>-</td><td></td><th></th><td>8</td><td>63.9%</td><th></th><td>Dff/Nil</td><td>% of Dark</td><td>-</td><td>1 2.8%</td><td>-</td></t<>	Other Classified Road	12			4	-			8	63.9%		Dff/Nil	% of Dark	-	1 2.8%	-
of the Week # Holiday Periods New Year 1 2.8% Queen's BD 1 2.8% 8 22.2% Thursday 5 13.9% Sunday 3 8.3% Aust. Day 0 0.0% Labour Day 1 2.8%	Unclassified Road	20			0	-			0	0.0%	8	9 in Da	rk 88.9%	r	3 8.3%	10.7%
of the Week # Holiday Feriods New Year 1 2.8% Queen's BD 1 2.8% 8 22.2% Thursday 5 13.9% Sunday 3 8.3% Aust. Day 0 0.0% Labour Day 1 2.8% 7 0 0.0% Labour Day 1 2.8% 0 0.0% Labour Day 1 2.8%											1					
8 22.2% Thursday 5 13.9% Sunday 3 8.3% Aust. Day 0 0.0% Labour Day 1 2.8%	Day of the Week	r				*	Holiday Period:	S New Year	-	2.8%	Queen's BD	-		aster SH	2	5.6%
		22.2%		5				Aust. Day	0	0.0%	Labour Day	-		une/July SH	2	5.6%
7 19.4% Friday 7 19.4% WEEKDAY 32 88.9% Easter 0 0.0% Christmas 0 0.0%	Tuesday 7	19.4%	Friday	7 19.	4% WEEKDAY	AY	32 88.9%	Easter	0	0.0%	Christmas	0	0.0% S	Sept./Oct. SH	з	8.3%
Wednesday 5 13.9% Saturday 1 2.8% WEEKEND 4 11.1% Anzac Day 1 2.8% January SH 4 11.1% December SH		13.9%		۰		Q		Anzac Day	-	2.8%	January SH	4		ecember SH	2	5.6%
	Provided datacet Boos and Bollins CA															

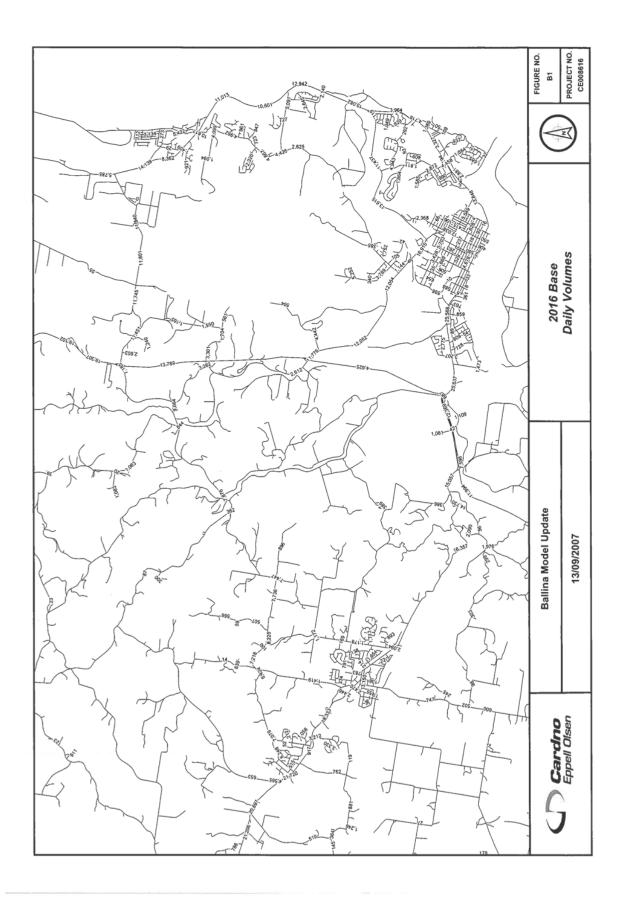
Rep ID: REG01 Office: Grafton User ID: aitkeng

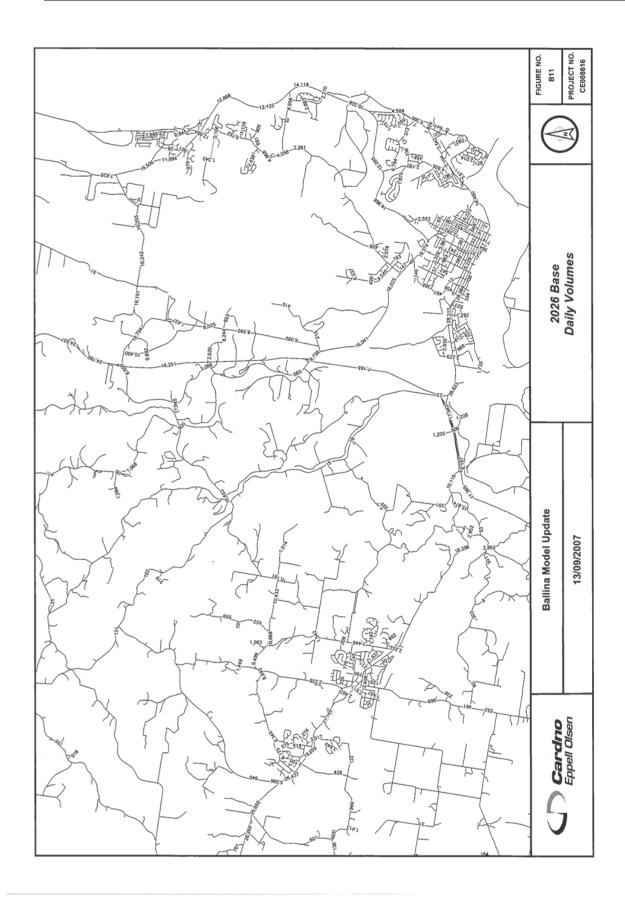
Percentages are percentages of all crashes. Unknown values for each category are not shown on this report.

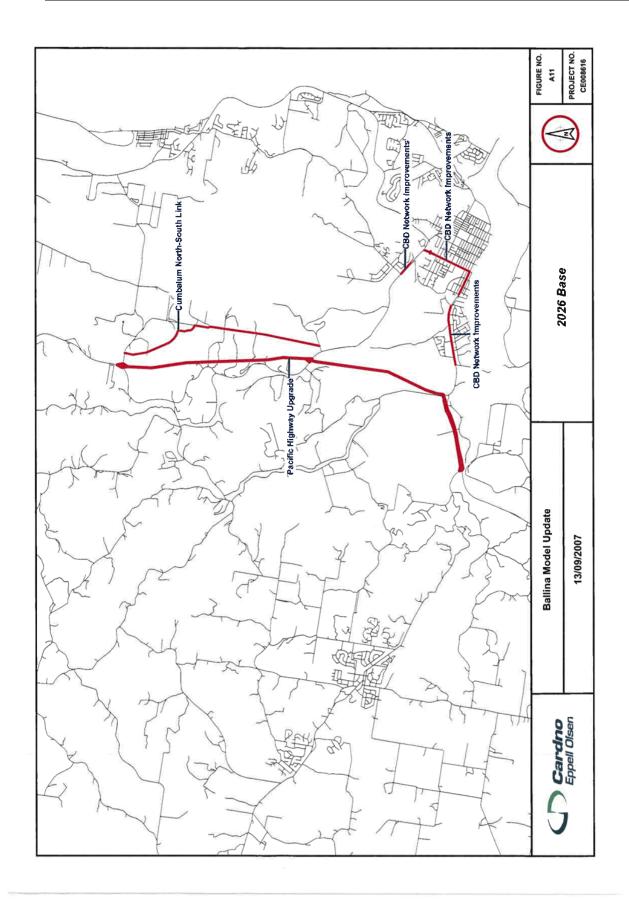
Page 1 of 1

Appendix 4

Ballina Strategic Road Network Study Update 2007







C Cardno EppellOlsen

Ballina Strategic Road Network Study Update

Location	2016 Base	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10
Pacific Hwy											
Pacific Hwy south of Deadmans Creek Rd	12052	12413	12191	12078	11982	12047	12550		12438	12554	12085
Pacific Hwy north of Deadmans Creek Rd	11776	11978	11623	11665	7938	11765	11824		11868	11836	11665
Pacific Hwy west of Burns Point Ferry Rd	25637	26446	26024	26232	25586	25684	27358		26933	27549	26240
Pacific Hwy (Kerr St) north of River St	12919	6974	13397	13492	12887	12970	7103		7155	7095	13490
Pacific Hwy south east of Southern Cross Drive	22194	22720	25707	22261	22124	22195	23840		23303	23862	22268
Pacific Hwy north of Ross Lane	19307	19307	19307	19306	19307	19307	19307		19306	19307	19307
Pacific Hwy west of Smith Drive Link	11994	11994	11994	11994	11994	11992	11994		11994	11994	11994
Pacific Hwy west of Bruxner Hwy	11994	11994	11994	11994	11994	11992	11994		11994	11994	11994
Teven Road					2,						
Teven Road north of Pacific Hwy	14	14	14	14	14	14	14		14	14	14
Bruxner Hwy					×						
Bruxner Hwy east of Main St	17630	17768	17831	17854	17628	6172	18112		17968	18306	17863
Bruxner Hwy west of Converys Lane	20697	20696	20697	20697	20697	20846	20696		20696	20695	20697
Bruxner Hwy east of Alstonville	16357	16582	16583	16617	16355	16479	17018		16823	17212	16633
Ross Lane				14	100						
Ross Lane east of Pacific Hwy	12815	12239	12240	12132	13253	12779	10885		11645	10691	12131
Ross Lane west of Coast Road	11840	11410	11260	11151	11875	11804	10051		10811	9855	11147
Coast Road											
Coast Road north of North Creek Rd	8362	8161	7966	7976	8396	8326	7738	,	7886	7516	7931
Coast Road south of North Creek Rd	11013	11334	6970	3878	10994	11013	6982		3879	6559	3712
Coast Road south of Skennars Head Rd	12942	13372	5634	1762	12882	12978	5607		1762	5585	1742
Coast Road south of Angels Beach Dr	3964	3964	3260	2066	3960	3964	3266		1999	3229	2090
Coast Road east of Bentinck St (on bridge)	13848	13616	13136	12560	13852	13848	12905		12258	12870	12587
Skennars Head Road			e l	a la							
Skennars Head Road west of Coast Road	5091	5198	2194	1044	5038	5127	2466		1044	2866	1191
Angels Beach Dr											
Angels Beach Dr north of Bangalow Rd	13615	14276	6734	15604	13576	13650	6109		16246	6738	15579
Angels Beach Dr east of Links Ave	11437	11948	4550	14034	11398	11473	4370		14522	4400	14010
Anoels Beach Dr west of Coast Rd	11119	11548	4221	2101	11080	11155	3969		2169	3083	2139

CE008616 231107 sh/sm/sw

15

C Cardno EppellOlsen

Ballina Strategic Road Network Study Update

Table 5.1 continued								2016 Opi	tion Testing	1 - Volume	2016 Option Testing – Volume Comparison
Location	2016 Base	Option 1 Option 2	Option 2	Option 3	Option 3 Option 4	Option 5	Option 6 Option 7	Option 7	Option 8	Option 9	Option 10
North Creek Road											
North Creek Road south of Skennars Head Rd	2625	2625	8920	12240	2625	2625	10385		12580	10585	12258
North Creek Road north of Piper Dr	3624	3624	11406	3624	3624	3624	12872		3624	13073	3624
North Creek Road south of Coast Rd	10617	10510	11345	13435	10671	10582	11994		13621	11230	13144
Pacific Highway Upgrade											
Pacific Hwy Upgrade north of Teven Road	4625	3959	4466	4268	4661	4625	3232		3670	3235	4287
Pacific Hwy Upgrade south of Ross Lane	13789	13132	13453	13305	12000	13789	12228		12716	12243	13321
Cumbalum North-South Link - Improvement Option											
Cumbalum North-South Link north of Sandy Flats Rd*	1550	1403	1528	1531	4158	1550	1382		1384	1382	1531
Cumbalum North-South Link north of Deadmans Creek Rd	A/N#	A/N#	W/N#	#N/A	3833	#N/A	#N/A		#N/A	#N/A	#N/A
Hutley Drive - Improvement Option				4	-123-						
Hutley Drive west of North Creek Rd	A/N#	A/N#	W/A	W/A	#N/A	A/N#	A/N#		A/N#	5033	6191
Hutley Drive south of Hendersons Lane	W/N#	#N/A	W/N#	#N/A	#N/A	#N/A	#N/A		#N/A	4534	5349
Alstonville Bypass - Improvement Option			23) -	1.		ļ					
Alstonville Bypass west of Wardell Rd	#N/A	A/N#	#N/A	#N/A	W/N#	12118	A/N#		#N/A	V/N#	#N/A
Western Arterial - Improvement Option				1947 - 1948 1949 - 1948							
Western Arterial east of Barlows Rd	#N/A	6514	W/A	W/N#	W/N#	#N/A	7785		7031	7975	W/N#
North Creek Road Bridge - Improvement Option			20172	mpl.							
North Creek Road Bridge	W/N#	#N/A	8188	W/N#	W/N#	A/N#	9653		Y/N#	9854	¥/N#
Skenners Head Distributor - Improvement Option				-120-	1						
Skennars Head Distributor	A/N#	A/N#	#N/A	11949	W/N#	#N/A	#N/A	,	12290	#N/A	11970
*This link is currently existing and will form part of the upgrade option	on			1							

CE008616 231107 sh/sm/sw

16

C Cardno Eppellolsen

Ballina Strategic Road Network Study Update

Table 5.2										
Location	2026 Base	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
Pacific Hwy										
Pacific Hwy south of Deadmans Creek Rd	16041	16854	16117	16916	16045	16043	16929	16040	16016	16074
Pacific Hwy north of Deadmans Creek Rd	9756	0696	9709	9641	9758	9721	9651	9754	9996	9657
Pacific Hwy west of Burns Point Ferry Rd	29604	31123	30047	32870	29603	29871	33112	29678	30537	30536
Pacific Hwy (Kerr St) north of River St	11744	6542	12117	6414	11746	11620	6418	11822	12342	12360
Pacific Hwy south east of Southern Cross Drive	25004	25886	28348	26830	25009	25003	27057	25005	25044	22511
Pacific Hwy north of Ross Lane	24780	24780	24780	24780	24780	24780	24780	24780	24779	24780
Pacific Hwy west of Smith Drive Link	17365	17365	17365	17365	17365	17365	17365	17362	17365	17365
Pacific Hwy west of Bruxner Hwy	17365	17365	17365	17365	17365	17365	17365	17362	17365	17365
Teven Road										
Teven Road north of Pacific Hwy	23	19	19	19	23	23	19	23	19	19
Bruxner Hwy										
Bruxner Hwy east of Main St	19904	20058	20156	20553	19906	20083	20791	6430	20206	20199
Bruxner Hwy west of Converys Lane	25659	25659	25659	25659	25659	25659	25659	25797	25659	25659
Bruxner Hwy east of Alstonville	18296	18510	18580	19128	18298	18493	19366	18442	18652	18644
Ross Lane				1						
Ross Lane east of Pacific Hwy	20353	18903	19855	16824	20350	20123	16571	20279	19413	19369
Ross Lane west of Coast Road	16255	15668	15662	13496	16251	15988	13240	16181	15272	15180
Coast Road										
Coast Road north of North Creek Rd	11244	11028	10800	10611	11239	10974	10329	11170	10765	10730
Coast Road south of North Creek Rd	12125	12591	7745	7842	12123	9782	7130	12123	3963	3980
Coast Road south of Skennars Head Rd	14118	14698	6709	6754	14117	8100	6527	14191	2243	2229
Coast Road south of Angels Beach Dr	4509	4509	3781	3790	4509	3571	3738	4509	2525	2543
Coast Road east of Bentinck St (on bridge)	16460	16167	15720	15438	16460	15767	15386	16460	15083	15095
Skennars Head Road			1	- 						
Skennars Head Road west of Coast Rd	4956	5069	2328	2601	4957	1280	3085	5031	1243	1614
Angels Beach Dr	1									
Angels Beach Dr north of Bangalow Rd	14968	15848	7993	8106	14972	15928	7952	15041	17340	14803
Angels Beach Dr east of Links Ave	12095	12757	5109	5006	12100	13296	4852	12169	15071	12569
Angels Beach Dr west of Coast Rd	11819	12399	4834	4654	11818	6840	4478	11892	2363	1990

CE008616 231107 sh/sm/sw

\$

C Cardno Eppeliolsen

Ballina Strategic Road Network Study Update

Table 5.2 continued							2026	Option Test	2026 Option Testing – Volume Comparison	Comparison
Location	2026 Base	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
North Creek Road										
North Creek Road south of Skennars Head Rd	2261	2261	8914	11249	2261	6530	11710	2261	13139	13558
North Creek Road north of Piper Dr	4246	4246	12105	14440	4246	4246	14901	4246	4246	6337
North Creek Road south of Coast Rd	5762	5651	9956	11459	5760	7970	4016	5690	4765	4360
Pacific Hwy Upgrade										
Pacific Hwy Upgrade north of Teven Road	7165	5792	7010	4390	7164	7098	4386	7165	6575	6549
Pacific Hwy Upgrade south of Ross Lane	16251	14891	16046	13437	46253	16145	13444	16250	15576	15532
Cumbalum North-South Link					4					
Cumbalum North-South Link north of Sandy Flats Rd*	8025	7162	7910	7050	8023	7988	7047	8024	7970	7901
Cumbalum North-South Link north of Deadmans Creek Rd	6080	6878	6189	6986	6081	6115	6989	6080	6133	6200
Hutley Drive - Improvement Option										
Hutley Drive west of North Creek Rd	#N/#	#N/A	#N/A	AN/#	AN/A	#N/A	9534	¥N/¥	11087	11454
Hutley Drive south of Hendersons Lane	AN#	#N/A	A'N#	AN/A	AN/A	#N/A	8390	#N/A	9530	9919
Alstonville Bypass - Improvement Option										
Alstonville Bypass west of Wardell Rd	A'N#	A/N#	#N/A	#N/A	#N/#	¥N/¥	W/N#	14182	#N/A	A/N#
Western Arterial - Improvement Option			in the	41.0						
Western Arterial east of Barlows Rd	A'N#	6613	#N/A	8685	VIN#	A/N#	8927	#N/A	¥N/¥	¥/N#
North Creek Road Bridge - Improvement Option			H+-							
North Creek Road Bridge	A'N#	#N/A	8326	10661	WNA #N/A	¥N/¥	11122	#N/A	#N/A	2637
Skenners Head Distributor - Improvement Option			HB- TERM	đ						
Skennars Head Distributor	V/N#	A/N#	#N/A	#N/A	#N/A	6362	¥N\#	A/N#	12966	10836
and the state of the		1000		or poll-						

existing and will form part of the upgrade option link is currently This 26

7.7 <u>Winton Lane, Ballina - Proposed Re-Configuration of Shared Zone at</u> <u>Wigmore Arcade</u>

Introduction

Proposed redevelopment of the Wigmore Arcade and the adjacent Tamar Street public car parking area in Ballina includes reconfiguration of the Winton Lane shared zone. This is a formal speed zone and changes require approval from NSW Roads and Maritime Services (RMS).

Information

Council's Commercial Services Unit has commissioned consultants to submit a development application for proposed redevelopment of the Wigmore Arcade at Ballina, the adjacent Tamar Street public car parking area and reconfiguration of the Winton Lane shared zone.

RMS has a Shared Zone Policy and Guideline (SS/12/01) dated July 2012 and a Shared Zone Technical Direction (TTD 2014/003) dated July 2014. These documents are attachments to this report. Section 5 of the Policy advises:

"Shared Zones are generally installed on local roads and the council will have the responsibility for the design of Shared Zones. However, the authorisation of a Shared Zone is not delegated to councils. Shared Zones are speed limits and approval to install them must be obtained from RMS prior to implementing this policy."

The Policy and Technical Direction provide detailed information regarding the process for designing and obtaining approval for new shared zones, but the design and approval pathway for reconfiguring existing shared zones is not so clearly defined. It is therefore presumed that RMS approval is also required for significant reconfigurations of existing shared zones.

The Winton Lane shared zone has been in place for some years. The current proposal is to reconfigure (lengthen) the shared zone, install new traffic/pedestrian control devices (bollards, flush kerbs, humps and signage), install new landscaping and paving, and include two defined dinning areas on the south side. A concept plan of the proposal is an attachment to this report.

The RMS Guideline and Technical Direction specify detailed public consultation and safety auditing at the design and implementation phases of new shared zones. These requirements may not be so stringent for modification of existing shared zones.

The proposed reconfiguration of the Winton Lane Shared zone will provide an enhanced public facility. Proposed development consent conditions require the detailed deign of the shared zone to be in accordance with the RMS Policy Guideline and there is also a condition advising that a Construction Certificate authorising the works will not be issued until formal RMS approval has been received (for the reconfigured shared zone).

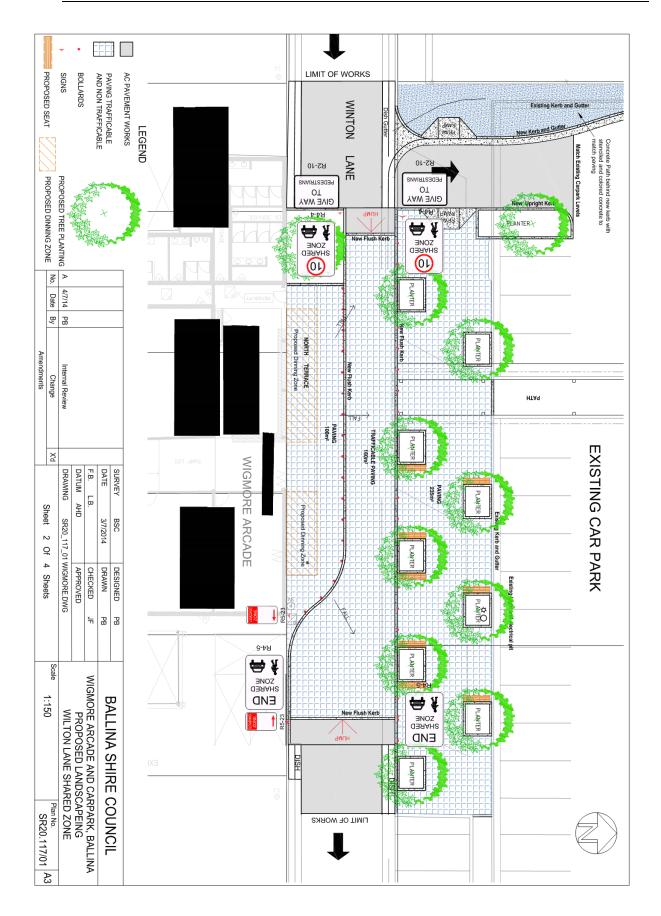
The Committee's support for the reconfigured shared zone concept is sought, prior to submission of a formal application for approval to NSW RMS.

RECOMMENDATIONS

- 1. The Committee support the proposed design concept for reconfiguration of the shared zone at Winton Lane, Ballina.
- 2. A formal application and detailed design for reconfiguration of the above shared zone be forwarded to NSW Roads and Maritime Services for approval.

Attachment(s)

- 1. Winton Lane Shared Zone Proposed Reconfiguration Concept
- 2. RMS Shared Zone Policy and Guideline 2012
- 3. RMS Shared Zone Technical Direction TTD 2014/003



Safer Speeds Policy & guidelines



PUBLISHED JULY 2012 | VERSION 1.0

SS/12/01

Shared Zones

1 Policy Statement

This document provides the policy and the guidelines for the identification and installation of Shared Zones so that pedestrians and vehicles share that road space safely.

This document is part of policy and guidelines promoting safer speeds that are set at a level more forgiving of human error and reflecting risk to road users.

Other policy and guidelines under this series are:

- NSW speed zoning guidelines
- 40 km/h speed limits in high volume pedestrian areas.

2 Scope and coverage

This document aims to assist the road safety practitioners in Roads and Maritime Services (RMS) and in local councils to assess, design and implement Shared Zone schemes on NSW roads.

It helps practitioners to identify the road and traffic issues that need to be considered in designing and implementing the Shared Zones. One of the key requirements of Shared Zones is that they are attractive and interesting places that reflect local needs and activities. The policy is therefore to be interpreted with some flexibility, and is not intended to limit the creativity of designers. Implementation of this policy must go hand in hand with community involvement and participation.

This document must be read in conjunction with the relevant RMS Supplements and the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management. If there are any differences in practice between these documents, the RMS Supplements will apply.

This policy does not include advice on the installation of School Zones and 40 km/h High Pedestrian Activity Areas. These are covered in the relevant Transport for NSW and Roads and Maritime Services documents.

Transport for NSW

Level 4, 18 Lee Street, Chippendale NSW 2008 PO Box K659 Haymarket NSW 1240 www.transport.nsw.gov.au | (02) 8202 2200

3 Purpose

The purpose of this policy is to ensure consistency in design and implementation of Shared Zone schemes across NSW so that the proposed Shared Zone schemes:

- are safe for all road users, particularly pedestrians
- reduce the risk of crashes between vehicles and pedestrians
- require lower vehicle speeds
- enhance the quality of the street environment.

4 Shared Zone

- A Shared Zone is a road or network of roads where the road space is shared by vehicles and pedestrians (NSW Road Rule 24).
- All Shared Zones in NSW must display a speed limit of 10 km/h. No other speed limit is allowed.
- Drivers must give way to pedestrians at all times (NSW Road Rule 83). A 'Shared Zone' sign in combination with 'Give Way to Pedestrians' sign must be installed on each entry road into the area.
- An 'End Shared Zone' sign must be installed on each exit road from the area.
- Pedestrians must not cause a traffic hazard by moving into the path of a driver and must not unreasonably obstruct the path of any driver or another pedestrian (NSW Road Rule 236).
- A driver must not stop in a Shared Zone unless the driver stops in accordance with a parking control sign; or in a parking bay; or dropping off or picking up passengers or goods; or the driver is engaged in the door to door delivery or collection of goods, or in the collection of waste or garbage (NSW Road Rule 188).
- If 'Parking in Bays Only' signs are used, they must be installed on each entry road in the area. Where permissive parking control signs are used, they must be installed in accordance with standard practice.
- The street environment of a Shared Zone must ensure that the drivers and pedestrians are made aware that they are entering a location that has different driving conditions.
- In Shared Zones any delineation, kerb and gutter shall be removed to enhance the sense
 of equality between pedestrians and vehicles, and to ensure that the Shared Zone is a
 road related area under NSW legislation.
- In special circumstances, kerbs and gutters may be retained, but only if approved by RMS. In such cases the existing footway must be treated so that it cannot be used by pedestrians to ensure that the existing road becomes a road related area.

5 Roles and responsibilities

Shared Zones are generally installed on local roads and the council will have the responsibility for the design of Shared Zones. However, the authorisation of a Shared Zone is not delegated to councils. Shared Zones are speed limits and approval to install them must be obtained from RMS prior to implementing this policy.

Kerbs and gutters may be allowed to remain in a Shared Zone but only if approved by RMS (See Figure 2).

Traffic control devices (for example, signs and markings for which the policy and guidelines are prescribed in this document) referred to in this document shall meet RMS specifications.

Shared Zones | July 2012

6 Definitions

Shared Zone

A Shared Zone is a road or network of roads with a 'Shared Zone' sign displayed on each road leading into the area and an 'End Shared Zone' sign displayed on each road out of the area. Drivers must give way to pedestrians at all times (See Section 4 for details).

Speed limit

The maximum legally permissible driving speed along a specific section of road, as defined by the NSW Road Rules and the *Road Transport (Safety and Traffic Management) Act 1999.*

Speed zone

A length or an area of road along which a signposted regulatory speed limit applies.

Traffic control device

A traffic sign, road marking, traffic signals, or other device, to direct or warn traffic on, entering or leaving a road that is prescribed by the regulations.

Road

A road is an area that is open to or used by the public and is developed for, or has as one of its main uses, the driving or riding of motor vehicles.

Road related area

A road related area is any of the following:

- an area that divides a road
- a footpath or nature strip adjacent to a road
- an area that is not a road and that is open to the public and designated for use by cyclists or animals
- an area that is not a road and that is open to or used by the public for driving, riding or parking vehicles.

Default urban speed limit

Statutory speed limits that apply in the absence of a signposted speed limit in a built-up area. The default speed limit in a built-up area is 50 km/h.

Local roads

All public roads for which a council is the roads authority other than State or regional roads. They comprise the local access and circulation roads which are managed and funded by councils. These roads have a primary function of providing direct access to abutting properties.

May, must, shall, should

- May Indicates the existence of an option, which is not mandatory. Mandatory requirements may, however, apply to a particular option once it is selected.
- Must Indicates that the statement is mandatory.

Should- Indicates a recommendation.

Shall Indicates that the statement is mandatory.

Shared Zones | July 2012

7 Objectives and features

Table 1 outlines the objectives and main features of a Shared Zone.

TABLE 1: OBJECTIVES AND FEATURES OF SHARED ZONES

Features	Shared Zones
Objectives	 Provide priority for pedestrian movements Reduce the dominance of vehicles along the street Achieve lower vehicle speeds Reduce severity of pedestrian injuries from crashes Improve amenity for pedestrians Enhance the quality of the street environment
Legal priority	 Pedestrians have priority Drivers must give way to pedestrians Pedestrians must not cause a traffic hazard by moving into the path of a driver and must not unreasonably obstruct the path of any driver or another pedestrian
Speed limit	10 km/h
Benefits	 Increases safety for pedestrians and cyclists Creates a lower speed environment Improves amenity without affecting access Alerts drivers to a different street environment Encourages a modal shift towards walking and cycling Creates a more socially inclusive street environment
Appropriate locations	 Low traffic volume streets with high pedestrian activity Where there is a need to provide permanent pedestrian priority in a street segment Areas with a low demand for vehicular movement such as cul de sacs Areas where there is either limited or no formal pedestrian areas such as footpaths Lanes and streets in central business districts, selected residential areas and shopping centres Narrow streets where pedestrians are forced to travel on the road
Non-appropriate locations	 Roads with high traffic volumes Roads where prevailing vehicle speeds are high Street lengths with notable cross vehicle traffic within the zone

Shared Zones | July 2012

8 Design method

Shared Zones are generally installed on local roads and the council will have the responsibility for the design of Shared Zones.

8.1 DESIGN PHASES

The design process shown in Figure 1, below, must be followed when considering Shared Zones.

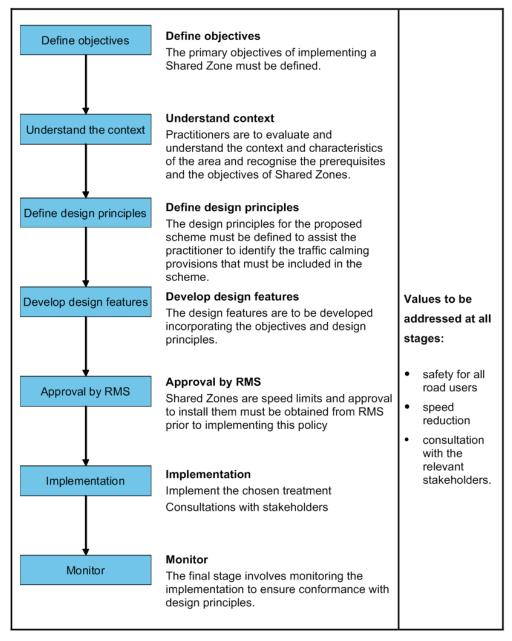


FIGURE 1: DESIGN APPROACH FOR SHARED ZONES

Shared Zones | July 2012

8.1.1 Define objectives

The primary objectives of implementing a Shared Zone in a high pedestrian activity area must be defined. The objectives include:

- improve pedestrian safety
- achieve significant speed reduction
- reduce conflicts between pedestrians and vehicles
- · improve facilities and access for pedestrians
- enhance the quality of the street environment.

It is essential to define the objectives to ensure that the appropriate design features are included in order to achieve these objectives. Some of the defined objectives may be of greater importance in some cases and appropriate design features need to be included to emphasise this importance.

8.1.2 Understand the context

Shared Zones must only be installed at locations that meet specific site conditions. Practitioners are to evaluate each proposed site against these criteria to determine if it is suitable.

Site criteria

The fundamental prerequisite when considering the implementation of Shared Zones is the definition of an area in which there is an acknowledged high level of pedestrian activity and potential pedestrian and vehicle conflict.

The current site conditions are to be assessed against the criteria for Shared Zones as presented in TABLE 2 below.

Features	Shared Zone
Current traffic flows	\leq 100 vehicles per hour and \leq 1000 vehicles per day
Current speed limit	≤ 50 km/h
Length of proposed Shared Zone	≤ 400 metres
Current speed limit of adjoining roads	≤ 50 km/h
Current carriageway width	minimum trafficable width of 2.8 metres
Route access	must not be located along bus routes or heavy vehicle routes except delivery or garbage trucks
Streets with narrow or no footpaths	where pedestrians are forced to use the road
Kerbs	kerbs must be removed unless excepted by the RMS (See Section 4)

TABLE 2: SITE CRITERIA FOR SHARED ZONES

Figure 2, below, is a flowchart to guide practitioners in assessing sites for suitability as shared zones.

Shared Zones | July 2012

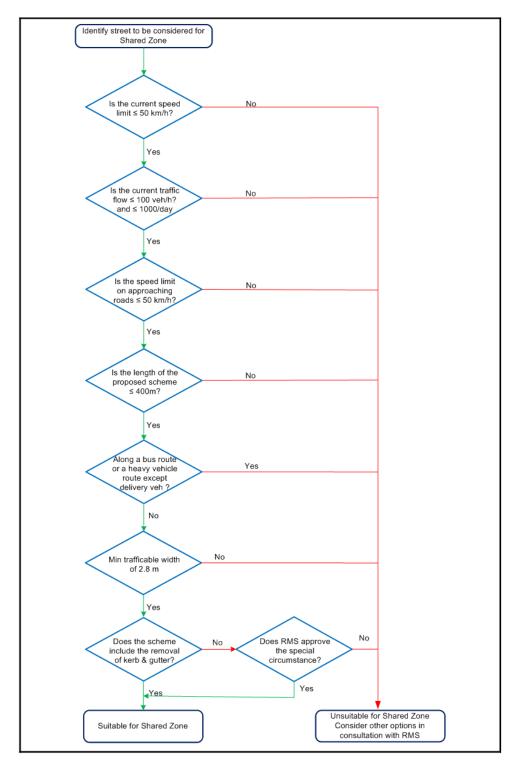


FIGURE 2: FLOWCHART FOR SELECTING SHARED ZONES

Shared Zones | July 2012

8.1.3 Define design principles

The design principles for Shared Zones need to be defined to ensure the proposed scheme incorporates the necessary features to provide traffic calming. In particular, the design needs to have an impact which clearly highlights to drivers that there is a change in the street environment and traffic conditions.

Table 3, below, presents the design principles for Shared Zones.

TABLE 3: DESIGN PRINCIPLES FOR SHARED ZONES

Features	Shared Zone
Street space/ kerb and gutter/ road	Any delineation, kerb and gutter (unless excepted by RMS) shall be removed to enhance the sense of equality between pedestrians and vehicles, and to ensure that the Shared Zone is a road related area under NSW legislation. Where it is not possible to remove the kerb and gutter then the existing footway must be treated so that it cannot be used by pedestrians to ensure that the existing road becomes a road related area.
Entrance / exit points	 Prominent features such as signs, architectural or landscape features must be provided to indicate a change in the street environment and highlight the start / end of the scheme. Traffic calming or a suitable treatment must also be provided to reduce speeds within the zone. Other features such as architectural and landscaping may also be provided to enhance the scheme.
Traffic signs	Regulatory traffic signs as per the requirement of NSW Road Rules (See Section 4) are required.
Pavement surface	The pavement surface shall be changed to highlight the difference in the street environment from the surrounding road network. It must be clearly distinguishable by colour, texture and materials.
Distance between traffic calming features/ treatments, if needed	≤ 30 m to encourage consistently slow driving.
Forward visibility	 Restricted forward visibility to encourage drivers to reduce their speeds and approach with care. Straight lengths without traffic calming treatment shall not exceed 50 metres. In locations where it is considered necessary to maintain visibility, a stopping sight distance of 12 metres shall be applied.
Vehicle mix	Alternative diversion routes for large vehicles such as buses (except delivery/garbage trucks) need to be planned.
Vehicle accessibility requirements	 Designs must safely accommodate emergency vehicles, delivery and garbage trucks. Emergency services and Police are to be consulted during the design process.
Car parking	Car parking provisions may need to be altered to suit the scheme.Car parking bays may be marked along the scheme.

Shared Zones | July 2012

Features	Shared Zone
Bicycles	• Cyclists must be able to safely traverse the features provided in the schemes to encourage lower vehicle speeds.
	• Traffic calming measures must incorporate features to make them cycle friendly.
	 Bicycles must travel at ≤ 10 km/h and must give way to pedestrians.
Mobility and vision impaired	• Designs must include provision to safely accommodate the needs of the mobility and vision impaired.
requirements	Refer to Standards Australia, AS / NZS 1248.4.1 Design for Access and Mobility for detailed design requirements

8.1.4 Develop design features

The design features for Shared Zones are to be developed taking into consideration the objectives of implementing the scheme. Table 3, above describes the various design features that are to be considered for Shared Zones. The design features are to be chosen to accomplish the objectives of the scheme.

The design features are required to be implemented in accordance with the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management and the relevant RMS Austroads Guide Supplements.

Speed limits

The speed limit for all Shared Zones must be 10 km/h.

Entry / exit points

Table 4, below, describes the options for the features to be used to define the entry and exit points of Shared Zones to ensure pedestrian safety.

Features	Description	
Road narrowing / kerb extension	 Encourages drivers to reduce their speeds when entering the scheme. 	
	 Highlights to motorists that they are entering an area with changed traffic conditions such as lower speeds. 	
Raised threshold	Encourages lower speeds when entering the street.	
	 Clearly indicates the entry to the zone. 	
Traffic signs	regulatory traffic signs as per the requirement of NSW Road Rules (see Section 4)	
Change in carriageway surface	• Shared Zones shall have a different surface colour and texture to emphasise the change in the street environment.	
and texture	 Provides a characteristic that distinguishes the start / end of the scheme. 	
Architectural and	Assists in creating a visible change in the street environment.	
landscaping	 Helps to enhance the quality of the scheme. 	
	 Creates a prominent feature that clearly highlights the start / end of the scheme. 	

TABLE 4 EXAMPLES OF ENTRANCE / EXIT POINT FEATURES FOR SHARED ZONES

Shared Zones | July 2012

Traffic calming

Traffic calming is not normally needed in Shared Zones. If required, traffic calming measures are described in detail in the Austroads Guide to Traffic Management Part 8: *Local Area Traffic Management*.

Traffic signs

Traffic signs used to prescribe speed limits in a Shared Zone are described in the NSW Road Rules (Section 4) and are illustrated in Figure 3, below (R4-4), Figure 4 (R4-5) and Figure 5 (R2-10). Sign R2-10 must be displayed on all R4-4 signs.

The traffic signs R 4-4 and R 2-10 shall be repeated at regular intervals if needed.





FIGURE 3:

START SHARED ZONE TRAFFIC F SIGN R 4-4



FIGURE 4: END SHARED ZONE TRAFFIC SIGN R 4-5

FIGURE 5: GIVE WAY TO PEDESTRIANS R 2-10

Landscaping and street furniture

Carefully located landscape features and street furniture can encourage lower speeds. Examples of such features are bollards, architectural decorations and lighting.

Provision for the mobility and vision impaired

The design for Shared Zones is required to include provision to safely accommodate the needs of those who are mobility restricted and vision impaired. Features such as tactile paving, hand rails and the careful placement of landscaping and street furniture must be considered during the design process. The Standard AS / NZS 1248 Design for Access and Mobility contains detailed design requirements and must be referred to during the design process.

Shared Zones | July 2012

Road safety audit

Road safety audits provide a means of managing road safety by reviewing the scheme design from a road safety perspective. The process involves identifying road safety risks present in the scheme. The project manager must address all the identified deficiencies, prior to construction.

Road safety audits are to be conducted during the design stage and after implementation. The features provided in Shared Zones must be safe for all road users. The road safety audit is required to identify issues pertaining to vehicle speeds and pedestrian safety. This must be completed in accordance with the Austroads Guide to Road Safety Part 6: Road Safety Audits and the relevant RMS Austroads Guide Supplements.

8.1.5 Approval by RMS

The authorisation of a Shared Zone is not delegated to councils. Shared Zones are speed limits and approval to install them must be obtained from RMS prior to implementing this policy.

8.1.6 Implementation

The final stage involves implementing the chosen treatment option on site. Consultations with stakeholders such as the local council, Police, emergency services, public transport companies, delivery / garbage truck operators and local residents and businesses are needed prior to the implementation of the scheme.

Public awareness

In order to gain support for the implementation of a Shared Zone and to ensure compliance with the road rules, it is important for a public awareness campaign to be conducted prior to the operation of the scheme. The concept and detailed design of a Shared Zone must be developed with the participation of the local community, so that any potential conflicts and problems are resolved.

It is the responsibility of council to initiate such a campaign which may include various methods of communication, such as local door knocking, the media, the placement of posters and signs, distribution of brochures and public exhibitions.

8.1.7 Monitor

The implementation of the scheme must be monitored by the design team to ensure that it is consistent with the design objectives and principles.

8.2 ACTION

Shared Zone policy and guidelines are to be adopted from the effective date and applied as the standard practice when installing Shared Zone schemes.

9 Further information

Roads and Maritime Services

W www.rms.nsw.gov.au RMS Austroads Guide Supplements Footway Parking Schemes Technical Direction

NSW Legislation

W www.legislation.nsw.gov.au Road Transport (Safety and Traffic Management) Act 1999 Road Rules 2008

Austroads Standards

W http://www.austroads.com.au/ Austroads Guide to Road Safety Part 6: Road Safety Audits Austroads Guide to Traffic Management Part 8: Local Area Traffic Management.

Standards Australia

W http://www.standards.org.au AS / NZS 1248.4 1 Design for Access and Mobility

Shared Zones | July 2012

Technical Direction

Traffic management and road safety practice



Transport Roads & Maritime Services

TTD 2014/003 July 2014

Design and implementation of shared zones including provision for parking

Summary:	Audience:
This Technical Direction provides guidelines for the design and implementation of	Traffic management staff
shared zones in road related areas (Category 1) and for shared zones in a road (Category 2).	Road safety staff
(outogot) 2).	Councils

Definitions

Shared zones are defined under Rule 24 in the NSW Road Rules (2008). A shared zone is a road or network of roads or a road related area where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence over ease of vehicle movement.

Shared zones employ a range of regulatory and non-regulatory treatments to indicate a change in environment and priority. Where parking is provided in a shared zone, it is only allowed in marked bays and must have the relevant signage provided.

Using this Technical Direction:

- A *Category 1* (Cat 1) shared zone is provided on a road related area, has clearly different coloured and textured surface treatments from the surrounding roads, and does not have any kerbs.
- A Category 2 (Cat 2) shared zone is provided on a road, uses entry / exit treatments and traffic calming, requires approval to retain kerbs, and must maintain traffic flow where there is provision for parking.

Generally, Cat 1 shared zones are provided in 'greenfield' or redeveloped locations, and Cat 2 shared zones are provided in 'brownfield' or existing street locations.

Practice/General

The NSW Government is committed to improving pedestrian safety and amenity. The implementation of applicable shared zones will assist in reducing the incidence of pedestrian death and serious injury. One of the key requirements of shared zones is that they are attractive and interesting public places that reflect local needs and activities.

Shared zones are specifically designed for pedestrian priority and may be appropriate for a road, a network of roads or road related areas where there are comparatively high pedestrian volumes, where the road is narrow and pedestrian access along existing narrow footpaths is limited, and/or where on-road parking on one or both sides of the road restricts the free movement of vehicles along the road (especially emergency and service vehicles).

Approvals:

Owner:	General Manager Network Optimisation	Review date:		July 2017
Authorised by:	Ken Kanofski Director Journey Management	Date:		Page 1 9
RMS 14.274 Printed copies of this document are uncontrolled				

Technical Direction - Traffic management and road safety practice

Kerbs should generally not be provided in a shared zone to ensure a discernable change in the environment from the surrounding roads, and to facilitate the ease of movement and indicate the priority for pedestrians especially disabled pedestrians. Existing 'brownfield' roads may be suitable for conversion to Category 2 shared zones without the removal of existing kerbs if approved by RMS.

Traffic control devices (ie signs and markings) referred to in this Technical Direction shall meet RMS specifications. Traffic control devices, other than the *Shared zone* (R4-4), *End shared zone* (R4-5), and *Give Way to Pedestrians* (R2-10) signs, will still require council approval through the usual Local Traffic Committee process.

The NSW road rules (Rule 188) permit parking in designated shared zones. A driver can stop in a marked parking bay or designated parking area if the driver is permitted to do so by the road rules and where indicated by a parking bay or sign.

The maximum speed limit in shared zones is always 10 km/h. All speed zones and shared zone schemes must be approved by RMS.

Implementation of these guidelines must include community involvement and participation. Shared zones are designed and installed by local councils in partnership with the local community.

This Technical Direction provides guidelines for all aspects of shared zones, including design and implementation, and for the provision of parking within designated shared zones, and supports the Transport for NSW SS/12/01 shared zone policy.

Guidelines

General

- All new shared zones (Cat 1) must be constructed without kerbs.
- In special circumstances existing roads can be converted to shared zones (Cat 2), without the removal of the existing kerbs. Potential reasons for not removing kerbs may include heritage or cost-prohibitive constraints. However where existing kerbs are being retained traffic calming devices may need to be used to address vehicle speed. The retention of kerbs requires RMS approval.
- All shared zones must display the required regulatory signage at each entry point to the area and at each exit point from the area. The entry signage is to be duplicated on both sides of the road.
- Drivers must give way to pedestrians at all times in shared zones (NSW Road Rule 83). A *Give Way to Pedestrians* (R2-10) sign must be installed below each *Shared zone* (R4-4) sign. A *Give Way to Pedestrians* pavement marking must be installed at each entry to a Category 2 shared zone.
- All shared zones in NSW must display a speed limit of 10 km/h. No other speed limit is allowed. All shared zones in NSW must be approved by RMS as they are a speed zone.
- Where parking is to be provided in shared zones, *Park In Bays Only* (R5-65) signs must be provided under the shared zone (R4-4) signs at each entry into the shared zone.
- The parking bays must be marked within the shared zone. The length and width of any parking space must comply with AS2890.5 *Parking Facilities*.
- As shared zones are a pedestrian priority environment there should not be any requirement for pedestrian crossings and pedestrian fencing.
- Continuous footpath treatments should be considered as entry/exit treatments to Category 2 shared zones. Refer to TD 2013/05.
- All shared zone proposals must have consultation with the local community to provide an opportunity for feedback prior to implementation.

TTD2014-003 Design and implementation of shared zones	Page 2 9
Printed copies of this document are uncontrolled	

Technical Direction - Traffic management and road safety practice

Design Principles

The design principles for shared zones need to be defined to ensure the proposed scheme incorporates the necessary features to provide an appropriately safe environment. In particular, the design needs to have an impact which clearly highlights to drivers that there is a change in the street environment and traffic conditions and that the priority is for pedestrians. The design features are required to be implemented in accordance with the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management and the relevant RMS Austroads Guide Supplement. The following table presents the design principles for shared zones.

Features	Information		
Street space/ kerb & gutter/ delineation	 Any delineation and kerbs shall be removed to enhance the sense of pedestrian priority (Cat 1) Where it is not possible to remove the kerbs then the shared zone must be treated to a level where drivers can clearly identify that they are in a different driving environment (Cat 2). Traffic calming or suitable treatments must be provided to reduce speeds within the zone where kerbs have been retained (Cat 2). 		
Entrance/exit points	 Prominent features such as signs, architectural or landscape features must be provided to indica a change in the street environment and highlight the start/end of the shared zone (Cat 2). A <i>Give Way to Pedestrians</i> pavement marking must be installed (Cat 2 only). Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming (Cat 2). Refer to TD 2013/05. 		
Traffic signs	 Regulatory traffic signs as per the requirements of the NSW Road Rules 2008 are required. All entry signs must be provided on both sides of the road, for one or two-way shared zones, to further enhance the changes in environment and priority. 		
Pavement surface	 The pavement surface shall be changed to highlight the difference in the street environment from the surrounding road network. It must be clearly distinguishable by colour, texture and/or material (Cat 1). Any exceptions require RMS approval. Changes to the pavement surface may also be considered for Category 2. 		
Traffic calming features/ treatments	 Traffic calming or suitable treatments must be provided to reduce speeds wit kerbs have been retained to encourage consistently slow driving and ensure 10 km/h speed limit (Cat 2). Advisory speed plates are not required to supplement speed hump advisory speed stream of the speed hump advisory speed hump adv	compliance with the	
Forward visibility	 To encourage drivers to drive with care and comply with the 10km/h speed limit, it is not desirable to have unlimited forward visibility in a shared zone. In locations where it is considered necessary to maintain visibility, a minimum stopping sight distance of 12 metres shall be applied. 		
Vehicle mix and accessibility requirements	 Alternative access for large vehicles such as buses needs to be planned. Access must be designed to safely accommodate emergency vehicles, delivery and garbage trucks. Emergency services and Police are to be consulted during the design process. 		
Car parking	 Car parking provisions may need to be altered to suit the scheme. Car parking bays must be marked along the scheme and in accordance with the prescribed lengths and widths in AS 2890.5 <i>Parking Facilities.</i> Car parking spaces that straddle existing kerb and gutter may be provided in Cat 2 shared zones 		
Bicycles	 Cyclists must be able to safely traverse the features provided in the scheme to encourage lower vehicle speeds. Traffic calming measures must incorporate features to make them cycle friendly. In one way shared zones, consideration should be given to contra-flow bicycle movements. This provision will increase access for non-motorised transport and must include <i>Bicycles Excepted</i> (R9-3) signs. Cyclists need to be aware that they must give way to pedestrians. 		
	sign and implementation of shared zones	Page 3 9	

TTD2014-003 Design and implementation of shared zones Page 3 | 9 Printed copies of this document are uncontrolled

Technical Direction - Traffic management and road safety practice

Features	Information
Mobility and vision impaired requirements	 Designs must include provision to safely accommodate the needs of the mobility and vision impaired. Refer to AS 1428.4.1 <i>Design for Access and Mobility</i> for detailed design requirements.
Lighting and drainage grates	 Appropriate lighting should be installed for safety and security purposes. Appropriate drainage grates should be installed to cater for pedestrian and cyclist use.

Traffic signs

Traffic signs to be used in a shared zone are described in the NSW Road Rules and are illustrated below.

Any traffic calming must display the appropriate warning signage (eg W5-10 *Speed hump*). However the supplementary advisory speed plate is not required on speed hump signage.

Entry signposting is to be duplicated on each side of the road.

In shared zones, signs may be provided on both sides of the road, for one or two-way shared zones, to further enhance the changes in environment and priority.



R4-4 SHARED ZONE

- Must be displayed at the start of a shared zone.
- R4-4 may be repeated in combination with R2-10
- at additional locations within a shared zone.



R2-10 GIVE WAY TO PEDESTRIANS

- Must be displayed at the start of a shared zone and below the R4-4 sign.
- R2-10 may be repeated in combination with R4-4 at additional locations within a shared zone.

R5-65 PARK IN BAYS ONLY

- Must be displayed at the start of a shared zone, below the R2-10 sign, when parking is provided.
- May be repeated in isolation at additional locations within a shared zone.



R4-5 END SHARED ZONE Must be displayed at the end of the shared zone.

Traffic calming

Traffic calming is <u>not</u> normally needed in shared zones (Category 1). However when required, and where a shared zone has kerbs (Category 2), traffic calming measures should be used and are described in detail in the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management.

There is no requirement to provide pedestrian fencing in shared zones.

Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming. Refer to TD 2013/05.

TTD2014-003 Design and implementation of shared zones	Page 4 9
Printed copies of this document are uncontrolled	

Technical Direction – Traffic management and road safety practice

Landscaping and street furniture

Carefully located landscape features and street furniture can encourage lower speeds and enhance the experience for pedestrians. Examples of such features are bollards, architectural decorations, seating and lighting. These features can be repeated through the shared zone.

Provision for mobility and vision impaired people

The design for shared zones must safely accommodate the needs of those who are mobility restricted and vision impaired. Features such as tactile paving, hand rails and the careful placement of landscaping and street furniture must be considered during the design process. In Category 2 shared zones, mobility and vision impaired access to the existing road must be provided and the ability to negotiate traffic calming must also be accommodated. AS 1428.4.1 *Design for Access and Mobility* contains detailed design requirements and must be referred to during the design process.

Entry/exit points – non regulatory (Category 2)

The following table describes options for non-regulatory features used to help define the entry and exit points of shared zones to ensure pedestrian safety in Category 2 shared zones.

Features	Description
Road narrowing/ kerb extension	Encourages drivers and cyclists to reduce their speeds when entering the scheme.
	 Highlights to motorists and cyclists that they are entering an area with changed traffic conditions such as lower speeds.
Raised threshold	Encourages lower speeds when entering/exiting the street.
	Clearly indicates the entry/exit to the zone.
	There is no requirement to provide pedestrian fencing in shared zones.
	• Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming. Refer to TD 2013/05.
Change in carriageway surface and texture	• Provides a characteristic that distinguishes the start/end of the scheme. This must be provided at the entry to any shared zone where the existing kerb and gutter is to be retained.
Architectural and landscaping	 Assists in creating a visible change in the street environment. Helps to enhance the guality of the scheme.
	 Creates a prominent feature that clearly highlights the start / end of the scheme. Can be repeated through the shared zone.
Pavement markings	• A Give Way to Pedestrians pavement marking must be provided at each entry.

Shared zones with approved kerbs (Category 2)

- Traffic calming or suitable treatments must be provided to reduce speeds (in zones where kerbs have been retained). There is no requirement to provide pedestrian fencing in shared zones. Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming. Refer to TD 2013/05.
- In a shared zone with two-way traffic movement where the available travel width is less than 6.0 metres, storage gaps should be provided to allow moving vehicles to pass each other. A convenient position for storage gaps is adjacent to driveways where the loss of parking spaces is minimised. Storage gaps may not be necessary where the street is short and a driver entering at one end of the street is able to see a vehicle entering at the opposite end of that street.
- Give Way to Pedestrians pavement markings must be provided at entry points.

TTD2014-003 Design and implementation of shared zones	Page 5 9
Printed copies of this document are uncontrolled	

Technical Direction - Traffic management and road safety practice

- Enhancements to Category 2 shared zones may also be considered and include pavement markings such as the pedestrian symbol and the numerals 10 at regular intervals along the existing road length, and the provision of coloured/textured surfaces between traffic calming.
- Parking bays that straddle existing kerbs may be provided, subject to approval. Where this is the case:
 - Retaining barrier kerb (Type SA) is acceptable adjacent to parking spaces that have direct access via a driveway from one end. This would limit parking to a maximum of two parallel parking spaces in series between driveways. This will discourage people from driving illegally along the footway to access or leave parking spaces.
 - Providing roll-top kerb (Type RT) is the ideal treatment where parking spaces are not directly
 accessible from a driveway, or where there are long lengths between driveways. This treatment will
 facilitate the provision of three or more parallel parking spaces in series. Alternating short lengths of
 different kerb types along a kerb line should be avoided. This practice may be acceptable if the kerb
 types were separated by driveways.
- Utility poles could restrict positioning and access to and from parking bays. The location of parking bays in relation to utility poles needs to be defined to suit the relevant Authority.

Parking

- If parking bays are located on each side of the road the width between them must not be less than 3.0
 metres to allow vehicles to travel safely along the road or road related area.
- The location of the parking spaces or areas must not compromise sight distances at a shared zone entry
 point. There are existing mandatory (statutory) restrictions at intersections, road crossings, and traffic
 signals contained in the NSW Road Rules 2008 and RMS Technical Directions (signposted restrictions).
 These are applied to ensure that minimum sight distances are provided for road safety purposes.
- The parking spaces, including vehicle access to and from the spaces, are not to affect access to utilities. Utility covers may not be trafficable, so it is important to ensure that car parking does not damage them. Parking spaces and areas should be carefully located so this problem is eliminated or the devices protected.
- It is illegal to drive on the footpath, therefore parking spaces are to be located so they can be accessed without driving on the footpath.
- Trees and shrubs planted in the shared zone could affect positioning and access to and from parking bays, depending on the location and size of the tree or shrub. For safety, it is important to consider whether driver sight distance may be obstructed.
- Parking bays should not restrict access to property entrances.
- Parking bays must be provided in accordance with AS2890.5 *Parking Facilities*. The minimum width must be 2.3m and the minimum length must be 6.0m for parallel parking spaces. Refer to the standard for angle parking dimensions.

Road safety audits

Road safety audits provide a means of identifying and managing road safety risks in a shared zone scheme.

The features provided in shared zones must be safe for all road users. In particular the road safety audit is required to identify issues pertaining to vehicle speeds and pedestrian safety.

Road safety audits are to be conducted at a number of points during a project, including at the design stage. The project manager must address all the identified deficiencies, prior to construction. A road safety audit is also to be conducted after implementation.

Road safety audits must be completed in accordance with the Austroads Guide to Road Safety Part 6: Road Safety Audits and the relevant RMS Austroads Guide Supplements.

TTD2014-003 Design and implementation of shared zones	Page 6 9
Printed copies of this document are uncontrolled	

7.7 Winton Lane, Ballina - Proposed Re-Configuration of Shared Zone at Wigmore Arcade

Technical Direction - Traffic management and road safety practice

20 NOTES: 3 (3 (4)FOOTPATH FOOTPATH 1 1 DRIVE WAY

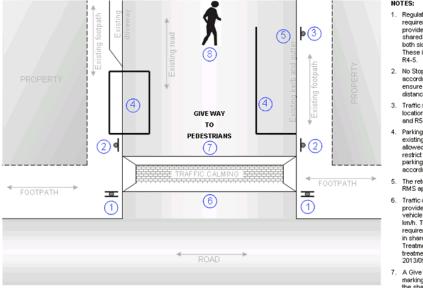
- Regulatory traffic signage per the requirements of Road Rules 2008 must be provided at each entry and exit to the shared zone. Signs must be installed on both sides of the road at each entry. These include: R4-4, R2-10, R5-65 and R4-5.
- Traffic signs may be repeated at additional locations in the Shared Zone (R4-4, R2-10 and R5-65).
- Parking bays may be provided. Parking is only allowed in marked bays and should not restrict property / driveway access. All parking spaces must be provided in accordance with AS 2890.5.
- Category 1 Shared Zones must not have kerks. Pavement surface (colour, texture and materials) are used to highlight the difference in the environment from the surrounding street network.
- 5. This diagram is not to scale.

Category 1 shared zone typical layout and treatments



Figure 1. Photo and diagram of a Category 1 shared zone showing regulatory signage, typical layout and treatments. [Note: The No Entry sign is site specific] The photo may have been modified to demonstrate essential elements.

TTD2014-003 Design and implementation of shared zones	Page 7 9
Printed copies of this document are uncontrolled	



Technical Direction - Traffic management and road safety practice

Category 2 shared zone typical layout and treatments

NOTES:

- Regulatory traffic signage per the requirements of Road Rules 2008 must be provided at each entry and exit to the shared zone. Signs must be installed on both sides of the road at each entry. These include: R4-4, R2-10, R5-65 and R4-5.
- No Stopping sign. Must be placed in accordance with the regulations and to ensure parking does not compromise sight distance.
- Traffic signs may be repeated at additional locations in the Shared Zone (R4-4, R2-10 and R5-65).
- Parking bays may be provided over existing kerbs or on road. Parking is only allowed in marked bays and should not restrict property / driveway access. All parking spaces must be provided in accordance with AS 2890.5.
- The retention of kerb and gutter requires RMS approval.
- Traffic calming treatments must be provided at regular intervals to maintain vehicle travel speed at no more than 10 km/n. There should not be any general requirement to provide pedestrian fencing in shared zones. Continuous Footpath Treatments should be considered as entry treatments and traffic calming (TD 2013/05).
- A Give Way to Pedestrians pavement marking is to be provided at the entry to the shared zone. (Refer to the Delineation Manual Section 9.)
- 8. Optional PS-4 pedestrian logos may be repeated at intervals.
- 9. This diagram is not to scale.



Figure 2. Photo and diagram of a Category 2 shared zone showing regulatory signage, entry treatments, traffic calming, parking provision, and typical layout. The photo may have been modified to demonstrate essential elements.

TTD2014-003 Design and implementation of shared zones	Page 8 9
Printed copies of this document are uncontrolled	

Technical Direction – Traffic management and road safety practice

Stakeholder consultation

To gain support for the implementation of a shared zone, to ensure compliance with the road rules, and to mitigate any potential conflicts and problems prior to the operation of the scheme, the concept and detailed design of a shared zone must be developed with the participation of the local community. Inclusive in this process is the need to liaise with disability groups.

Consultation with stakeholders such as the Police, emergency services, public transport companies, delivery/ garbage truck operators and local businesses is needed prior to the implementation of the scheme.

It is the responsibility of the local council to deliver an appropriate public awareness campaign and should include a variety of communication channels (eg door knocking, media coverage, placement of posters and signs, distribution of brochures, and public exhibitions). This campaign should advise residents on issues such as where to place garbage bins, and the need to remove them from the shared zone promptly once emptied.

Approval by RMS

The authorisation of a shared zone is not delegated to councils. Shared zones are speed limits and approval to install them must be obtained from RMS in accordance with this policy.

Implementation

The final stage involves implementing the approved scheme on site. Monitoring the implementation by the design team is recommended to ensure consistency with the design objectives and principles.

Post implementation monitoring

A road safety audit is to be conducted after implementation. Local council should also periodically monitor the scheme to assess the effectiveness of the operation of a shared zone.

Action

This Technical Direction must be followed when councils are designing and implementing shared zones.

Updates

To ensure that this Technical Direction and any related guidelines remain current and relevant, minor updates may be made from time to time. Any updates may be obtained from the RMS website using the Traffic & Transport Policies & Guidelines Register which can be found at:

www.rms.nsw.gov.au/doingbusinesswithus/guidelines/documentregister/index.html

Printed copies of this Technical Direction are uncontrolled; therefore the Register should always be checked prior to using this Technical Direction or any related guidelines.

TTD2014-003 Design and implementation of shared zones	Page 9 9	
Printed copies of this document are uncontrolled		

7.8 <u>Request to Prevent Parking - Wardell Road, Alstonville, Adjacent to</u> <u>Elizabeth Brown Park</u>

Introduction

A request has been received to prevent parking in Wardell Road, Alstonville adjacent to Elizabeth Brown Park.

Information

A resident has requested vehicles be prevented from parking on the southbound side of Wardell Road, Alstonville adjacent to Elizabeth Brown Park. The resident advises that parked vehicles in this location restrict sight distance which is dangerous for pedestrians who:

"want to cross Wardell Road & continue up Daley Street. You have to go right out into the middle of the road, to be able to see the cars coming up Wardell Road, & there have been quite a few near misses. I travel this way, quite a few times a day & many people have complained to me about the same problem."

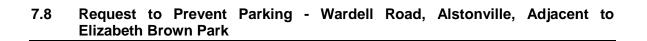
A street view photograph of the location is an attachment to this report. The photograph shows two cars parked in the subject location, also shown is a pedestrian refuge south of this location that assists pedestrian crossing Wardell Road. This pedestrian refuge would not be on the desired line for pedestrians proceeding westwards on the south side of Daley Street that need to cross Wardell Road.

RECOMMENDATION

The Committee provide advice on management of parking on Wardell Road, Alstonville adjacent to Elizabeth Brown Park.

Attachment(s)

1. Street View - Wardell Road, Alstonville Adjacent Elizabeth Brown Park





8. Information for the Committee

8.1 Schedule of Outstanding Resolutions of the Committee

Introduction

Outstanding resolutions from previous meetings of the Local Traffic Committee are listed below.

Information

Meeting Held 11 June 2014

By email dated 20 June 2014 the General Manger's Delegate approved all recommendations referred to him in the Minutes of the meeting held 11 June 2014.

6.1 Pedestrian Crossing – Bentinck Street, Ballina Adjacent to Bentinck Street/Martin Street Roundabout

Recommendations

- 1. Remove the pedestrian crossing, and associated signage, west of the Bentinck and Martin Streets roundabout, but retain the central pedestrian refuge and footpath kerb extension facility to assist pedestrians crossing Bentinck Street at this location.
- 2. Convert the roundabout to single lane entry and circulation as per Design Option

Action to Date

The proposed works have been submitted to Council's Engineering Design Works Meeting 25 June 2014 for detailed design and consideration for funding in a future budget.

6.5 Request for Speed Zone Review Friday Hut Road, Brooklet

Recommendation

The Committee recommends a referral request be made to NSW Roads and Maritime Services to conduct a speed zone review on Friday Hut Road from the Byron Shire Boundary to Tintenbar Road.

Action to Date

Request sent to RMS and acknowledgement received 3 July 2014.

6.7 Request for Time Limited Parking - South Street, Alstonville

Recommendations

- 1. It is recommended this location be monitored and rangers be requested to enforce the No Stopping zone outside the bakery. But no action be taken on altering the parking arrangements in South Street at this time.
- 2. A request be made to Council's Engineering Works Section for the section of redundant lay back kerb in front of the shopping centre be replaced by vertical kerb

Action to Date

Item 1 reported to Council meeting 24 July 2014 and a further report is included in this meetings agenda. Item 2 has been added to the works program.

6.8 60 km/h Speed Limit Ballina Road, Alstonville

Recommendations

- 1. NSW Roads and Maritime Services be requested to undertake a speed limit review of the 60 km/h section of Lismore Road, Alstonville/Wollongbar from 160 m east of Frank Street to the Sneaths Road roundabout to determine if the previous 70 km/h speed limit should be restored.
- 2. No review be requested of the 60 km/h speed limit on Ballina Road, Alstonville.

Action to Date

Item 1 referred to RMS and acknowledgement received 3 July 2014.

7.1 Parking and Pedestrian Crossing Issues - Southern Cross Schools, East Ballina

Recommendations

- 1. That the Committee consult with the school for feedback on optimising the parking and pedestrian crossing arrangements on Chickiba Drive, East Ballina adjacent to the Southern Cross Schools.
- 2. That the consultation include consideration of converting some of the parking bays in Chickiba Drive, adjacent to the schools to a "No Parking" zone to be active during peak periods only. This would enable these areas to be used for drop off and pick up of students during peak periods and minimise the need for students to cross Chickiba Drive. During the rest of the day these areas would revert

back to untimed parking and be available for longer term parking for persons visiting the school.

Action to Date

Meeting took place 30 July 2014 and a further report is in this meeting agenda.

7.3 Need for Additional Loading Zones - Lennox Head CBD

Recommendation

That the Committee consult with the Lennox Head Chamber of Commerce for suggestions and feedback on the need and placement of Loading Zones in the Lennox Head CBD.

Action to Date

Letter sent to Chamber President 24 June 2014 requesting meeting.

10.3 Ballina Prawn Festival 2014 - Request for Road Closures

Recommendations

- 1. Approval of the all day parking and pedestrian controls proposed for Kingsford Smith Drive and Bentinck Street on Saturday 15 November 2014 in accordance with the attached Traffic Control Plan.
- 2. Approval of the closure of Missingham Bridge form 8.15pm to 8.45pm Saturday 15 November 2014 for the Prawn Festival Fireworks, subject to the closure being conducted in accordance with the submitted traffic control plan.
- 3. Further consultation with the organisers regarding the proposed closure of Kingsford Smith Drive from the Sailing Club car park to the Bentinck Street roundabout from 6.00 am to 10.00 pm on Saturday 15 November 2014.

Action to Date

Site meeting held with Chamber Secretary 24 June 2014. A further report in in this meetings agenda.

Meeting Held 9 April 2014

By email dated 17 April 2014 the General Manger's Delegate approved all recommendations referred to him in the Minutes of the meeting held 9 April 2014.

7.2 Request for Speed Zone Review - Northern Section of Pearces Creek Road

Recommendation

The Committee agrees to make a referral request to the RMS to conduct a speed zone review for the northern section of Pearces Creek Road.

Action to Date

Referred to RMS. Acknowledgement letter received from RMS 19 May 2014.

7.4 Speed Limit Bentinck Street, Ballina

Recommendation

That subject to the concurrence of Council a review of remnant 60kph zones in the Ballina area be referred to RMS.

Action to Date

Referred to RMS. Acknowledgement letter received from RMS 19 May 2014.

7.5 South Ballina Beach Road - RMS Review of Speed Limit

Recommendation

The Committee agrees to make a referral request to the RMS to conduct a speed zone review for the existing 100 km/h section of South Ballina Beach Road.

Action to Date

Referred to RMS. Acknowledgement letter received from RMS 19 May 2014.

10.1 Request for Line Marking & Timed Parking - Fox Street, Ballina

Recommendation

The Committee supports the installation of line marking for angle parking and agreed to defer a decision on two hour timed parking pending further monitoring by Council officers.

Action to Date

Line marking installed, monitoring ongoing.

10.2 Request for Speed Zone Review - Sneaths Road, Alstonville

Recommendation

The Committee agrees to make a referral request to the RMS to conduct a speed zone review for Sneaths Road, Alstonville.

Action to Date

Referred to RMS. Acknowledgement letter received from RMS 19 May 2014.

Meeting Held 12 June 2013

7.1 Proposed One Way Road - Camoola Avenue, Ballina

Recommendation

The Committee note the Council's intention to conduct a community consultation in respect of the opportunities to improve the traffic management in Camoola Avenue.

Action to Date

Reported to Council meeting 24 July 2014. A further report is on this meeting's agenda.

RECOMMENDATION

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

Attachment(s)

Nil

8.2 Outcome of Speed Zone Reviews - The Coast Road, Lennox Head and Eltham Road, Teven

8.2 <u>Outcome of Speed Zone Reviews - The Coast Road, Lennox Head and</u> <u>Eltham Road, Teven</u>

Introduction

NSW Roads and Maritime Services (RMS) have advised of outcomes of speed zone reviews on The Coast Road, Lennox Head and Eltham Road, Teven.

Information

RMS have advised by two separate letters dated 29 July 2014 as follows:

"Roads and Maritime Services has completed a speed zone review of The Coast Road, Lennox Head. The outcome of this review is as follows:

1. That the existing 80 km/h speed limit north of Byron Street be extended 1 km to the north, finishing 200 m north of Ross Lane. The 80 km/h zone will then be 2.52 km in length."

"Roads and Maritime Services has completed a speed zone review of Eltham Road, Teven. The outcome of this review is as follows:

1. The existing 100 km/h speed limit on Eltham Road is reduced to 80 km/h from Teven Road to Ballina/Lismore LGA Boundary, a total length of 6.3 km."

RECOMMENDATIONS

The Committee note the advice of NSW Roads and Maritime Services regarding speed zone reviews on The Coast Road, Lennox Head and Eltham Road, Teven.

Attachment(s)

Nil

8.3 Road Safety Officer's Report - August 2014

Information

NSW Local Government Road Safety Program

As a condition of the Local Government Road Safety Program Funding Agreement a three-year Action Plan has been developed. The action plan will address the road safety problems and issues relevant to the Ballina Shire.

Another condition of the agreement is the development of a Road Safety Steering Committee to monitor Councils' Action Plan and the Road Safety Officer's (RSO) work output. As a minimum, the Committee could include membership from Council, RMS Region and Police. The meeting schedule will be negotiated and agreed upon by the RMS Region.

PROJECT - DRAFT Ballina Shire's Road Safety Strategy and Action Plan (2014/15-2023/24)

The draft strategy will be on public exhibition in September 2014 for a period of 28 days.

PROJECT - Speed

A funding application has been submitted to the RMS for a Safer Speeds program (three-year program).

PROJECT - Drink Drive Prevention

A funding application has been submitted to the RMS for a Safe Road Users program addressing drink driving (three-year program).

PROJECT - Scooter Wise

The next workshop will be presented on the 3 September from 10.00am - 12.00pm in the Richmond Room presented by the RSO, Heidi Craig (Occupational Therapist) and a local scooter retailer.

RECOMMENDATIONS

That the Road Safety Officer's Report be received and noted.

Attachment(s)

Nil

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

Nil Items

10. Items Without Notice

11. Next Meeting

Next meeting is scheduled for Wednesday 8 October 2014 at 10.00am.