



Waterfall Way
Road Safety Review

Thank you

To the residents of Bellingen, Dorrigo, Bellingen Shire Council, NSW Police, NRMA and other organisations that provided feedback, contributed information and assisted us during this review.



Overview

Roads and Maritime committed to completing a road safety review of Waterfall Way.



Outcomes from the report

32 short term and **five** medium-long term recommendations have been made.

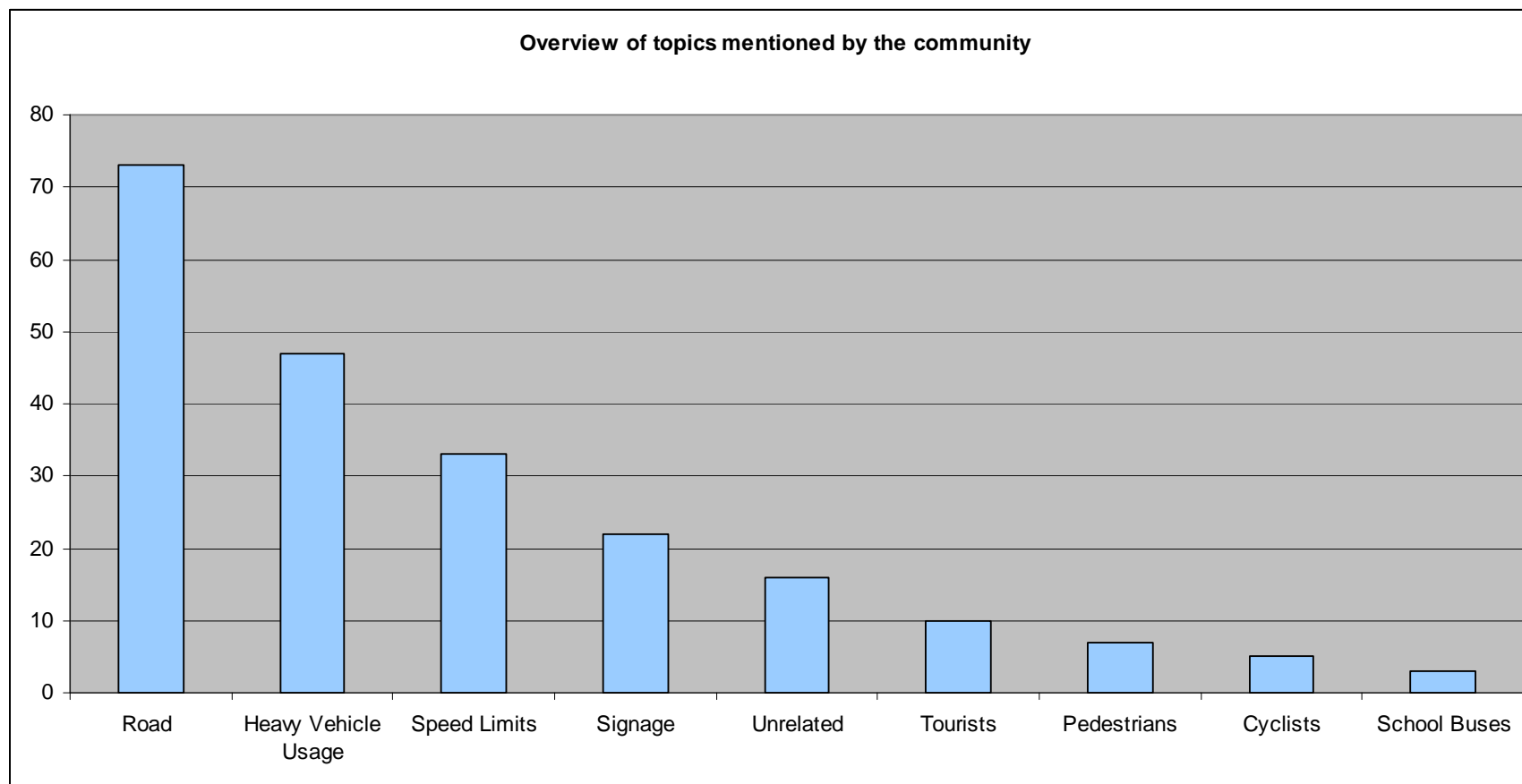
The recommendations recognise the importance of ongoing monitoring, particularly from October 2014 to July 2015 when heavy vehicle numbers will increase.



Assessment



What you told us



Collecting the data












- Traffic data / vehicle classification
- Speed zones
- Crash statistics

- Putting it all together

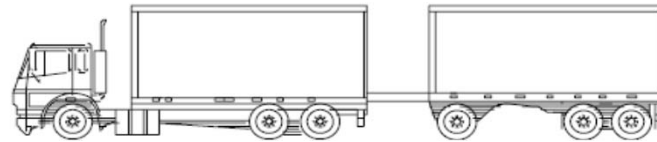


Vehicle classification

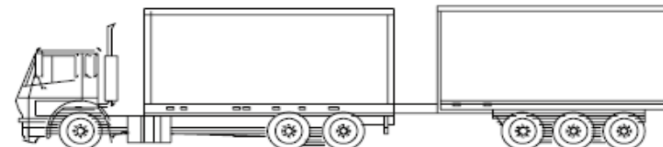


VEHICLE CLASSIFICATION SYSTEM	
AUSTRADS	
CLASS	LIGHT VEHICLES
1	SHORT Car, Van, Wagon, 4WD, Utility, Bicycle, Motorcycle 
2	SHORT - TOWING Trailer, Caravan, Boat 
HEAVY VEHICLES	
3	TWO AXLE TRUCK OR BUS *2 axles 
4	THREE AXLE TRUCK OR BUS *3 axles, 2 axle groups 
5	FOUR (or FIVE) AXLE TRUCK *4 (5) axles, 2 axle groups 
6	THREE AXLE ARTICULATED *3 axles, 3 axle groups 
7	FOUR AXLE ARTICULATED *4 axles, 3 or 4 axle groups 
8	FIVE AXLE ARTICULATED *5 axles, 3+ axle groups 
9	SIX AXLE ARTICULATED *6 axles, 3+ axle groups or 7+ axles, 3 axle groups 
LONG VEHICLES AND ROAD TRAINS	
10	B DOUBLE or HEAVY TRUCK and TRAILER *7+ axles, 4 axle groups 
11	DOUBLE ROAD TRAIN *7+ axles, 5 or 6 axle groups 

Class 9A 6 axles and 4 groups 9 (quarry trucks fall into this category)



Class 9B 6 axles and 3 groups



Traffic data - Section one



SECTION ONE: Traffic volumes by classification

June 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
6350	5759	139	314	47	7	9	11	4	16	34	11

July 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
6464	5872	145	320	38	6	8	11	6	10	35	11



Daily average mean speeds by classification

June 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
77	77	75	77	75	73	77	76	72	75	73	74

July 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
77	77	74	78	74	70	78	76	73	76	73	73

Traffic data - Section two



Traffic volumes by classification

July 2014

All	1	2	3	4	5	6	7	8	9A	9B	10
6359	5810	148	275	44	6	7	8	5	11	34	10

Daily average mean speeds by classification

July 2014

All	1	2	3	4	5	6	7	8	9A	9B	10
52	52	52	52	52	49	53	51	51	51	52	53

Traffic data - Section three



SECTION THREE: Traffic volumes by classification

June 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
2259	1858	66	223	33	4	9	8	4	13	31	10



July 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
2282	1888	63	228	29	4	9	7	5	9	31	9

Daily average mean speeds by classification

June 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
89	89	83	88	84	84	85	83	85	86	85	87

July 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
89	90	83	89	84	85	87	83	85	85	85	85

Traffic data - Section four



SECTION 4: Traffic Volumes by classification

June 2014

Traffic volumes by classification of vehicle											
All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
1789	1510	57	132	32	4	4	6	3	9	23	8

July 2014

All vehicles	1	2	3	4	5	6	7	8	9A	9B	10
1834	1565	57	126	29	3	5	4	4	6	26	7

Daily average mean speeds by classification

June 2014

Daily Average Mean Speeds by classification of vehicle											
All	1	2	3	4	5	6	7	8	9A	9B	10
55	56	51	53	44	45	53	46	42	46	42	41

JULY

All	1	2	3	4	5	6	7	8	9A	9B	10
55	56	51	53	43	45	52	47	41	48	41	44



Speed zones



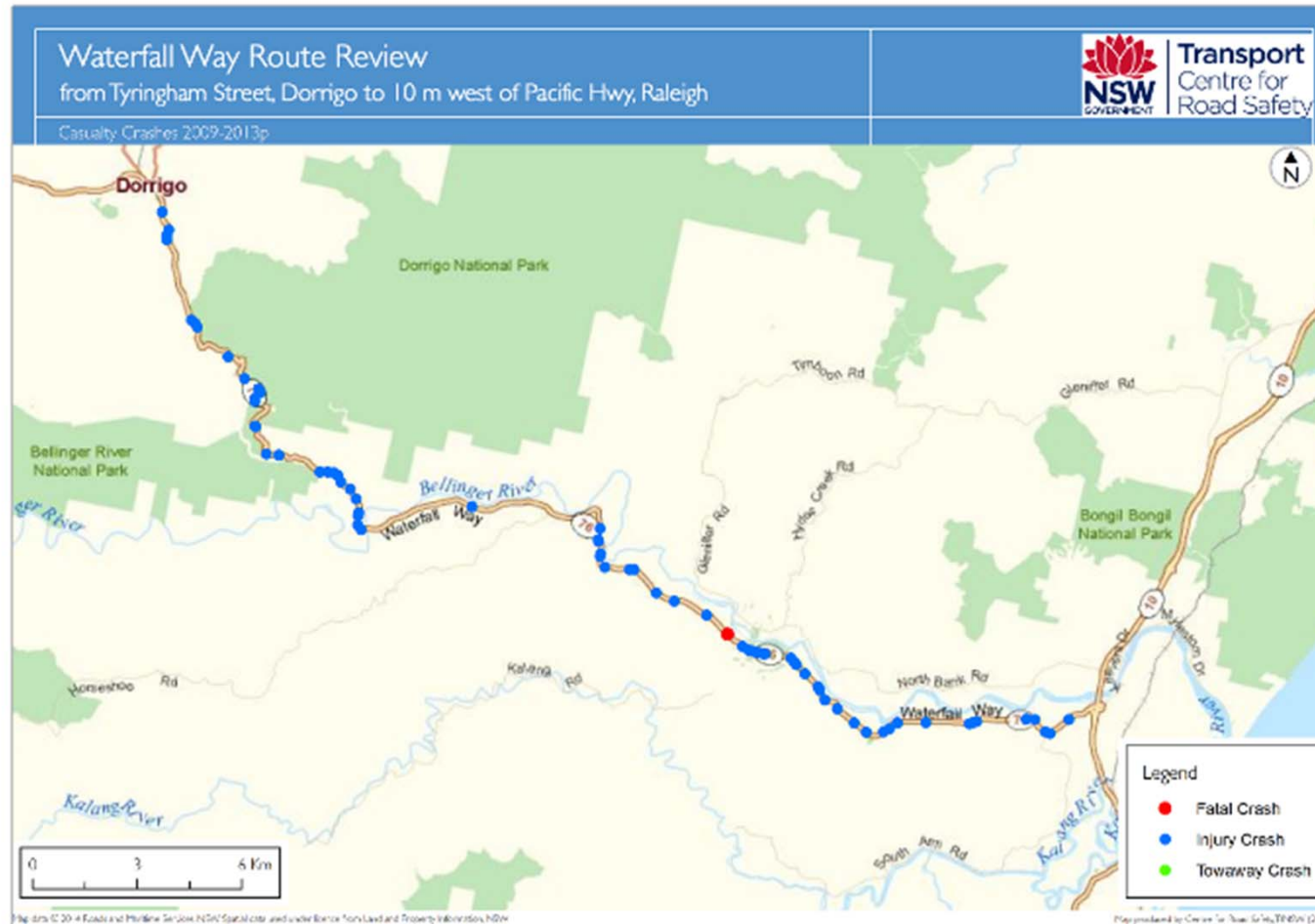
Transport
Roads & Maritime
Services



Crash analysis - summary



Transport
Roads & Maritime
Services



Putting it all together



- Bus inspection - 25 June 2014
- Issues considered
 - Fatal crash and other casualty crash cluster locations
 - Delineation and line marking, especially around curves
 - Clear zone issues, low radius curves
 - Intersection geometry and delineation
 - Narrow lanes and road shoulders, speed zones
 - Regulatory, warning and advisory sign posting
 - Motorcyclists, heavy vehicle and school bus issues
 - Pedestrian and cyclist facilities
- Inspection stopped at eleven locations.

32 short-term strategies

1. Traffic and pedestrians
2. Engineering
3. Behavioural
4. Site specific:
 - Section one – Pacific Highway to Bellingen
 - Section two - Bellingen
 - Section three - Bellingen to Thora
 - Section four – Thora to Dorrigo

Traffic and pedestrians

Continue monitoring traffic to December 2014 to better inform enforcement programs being conducted and inspection operations.

The contractors for the upgrade of the Pacific Highway between Nambucca Heads and Urunga are developing an Action Plan to manage trucks.

Liaise with Transport for NSW to arrange bus companies to install reflective tape on the back of buses.

A detailed night time audit of signs and delineation.

Investigate opportunities / locations and if sites identified install permanent Vehicle Activated Signage.

Develop a strategy to address guide sign posting, including street name signs and advance intersection signs.



Develop a strategy with NSW Police to run joint operations.

Continue road surveillance by deploying a monitoring device at various times between October 2014 and July 2015 to monitor heavy vehicle movements.

Investigate opportunities to develop education and school campaigns to inform motorists and pedestrians of road safety and sharing the road with heavy vehicles.

Behavioural

Helping Learner Driver workshop in Bellingen in October 2014.

Liaise with Council to consider establishing a working group to share information, promoting road safety and other initiatives.

Liaise with Bellingen and Dorrigo communities to consider future SMS alerts for interested residents.



Section 1 – Pacific Highway to Bellingen



Speed zone review - Pacific Highway to Fernmount.

Stage 1 of Sweedmans Lane improvements, install one metre road shoulders.

Investigate additional signage at Connells Creek curve and install as funding becomes available.

Improved signage at Fernmount, including additional speed limit repeater signs and warning signs.

Section 2 - Bellingen



Transport
Roads & Maritime
Services

Provide funding to Bellingen Shire Council to develop and design a plan for the high pedestrian activity area in Bellingen.

Work with council and the community to consider entry treatments, traffic calming, line marking and urban design for the CBD.



Section 3 – Bellingen to Thora



Transport
Roads & Maritime
Services

Develop a strategy to incorporate concrete dish drains and shoulder widening in future projects.

Myers Bluff and Gordonville Cutting projects.

Investigate the curve near Boggy Creek Road for future funding to improve the geometry of the curve.



Section 4 –Thora to Dorrigo



Speed zone review

No Stopping signage east of Maynards Plain Road.

Formalising 'pull over' areas with rehabilitation work.

Investigate speed advisory signs and prepare a signage plan as funding becomes available.

Audit of chevron alignment markers.

Section 4 –Thora to Dorrigo



Transport
Roads & Maritime
Services

Install Slippery When Wet signs in advance of the curve at the bottom of mountain.

Install Give Way signage at narrow section/low concrete wall.

Investigate high visibility line marking, raised pavement markers and fluorescent signage.

Dome Road - Advanced side road name signs.



Medium - long term strategies

Corridor planning strategy

Heavy vehicle inspection Station
BBQ / information days

Table drain maintenance

Clear zones at Give Way signs
on Dorrigo mountain

Guardrail upgrade



What now ?

1. Implementing recommendations
2. Update on hauling of quarry material

**We want to continue to work
with the community**



To contact the Pacific Highway to Urunga project
Call: **1800 800 612**, press 2 for the project site office.

To contact Roads and Maritime Services
Call: **131782**