

## Delivering Safe System outcomes in Mildura

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### Abstract

Mildura Rural City Council's Road Safety Strategic Plan embraces a Safe System approach to support a safe community.

In delivering the Strategic Plan, a municipal speed limit review was undertaken and speed management plan developed. Revised speed limits, reflecting road environment rather than default limit, were proposed. The expected reduction in fatal and serious injury crashes associated with the proposed new speed limits were evaluated. Findings of the speed limit review, as well as expected fatal and serious injury crash savings are presented. The paper will also consider community response and acceptance of the proposed measures.

### Background

Mildura Rural City Council recognises road safety is a major factor in community health and wellbeing. The Council's Road Safety Strategic Plan embraces the Safe System approach to support this.

Safe speeds are a key pillar of the Safe System. Recognising this, a municipal speed limit review was undertaken.

### Method

The Speed Management Plan included two speed management scenarios:

- Treatment scenario 1: Two broad speed limit regions; 40 km/h in built-up areas (Figure 1: yellow region) and 80 km/h in rural areas (Figure 2: light blue region)
- Treatment scenario 2: Application of the two broad speed limit regions supplemented with additional changes on certain roads including:
  - raising or lowering speed limit from 40 km/h
  - raising or lowering speed limit from 80 km/h.

AusRAP star rating assessments and ANRAM fatal and serious injury (FSI) crash estimates were undertaken to compare the treatment scenarios with the baseline (before) scenario.

### Results

In order to achieve better alignment with Safe System Safer Speeds principles, the speed management plan recommended (Figure 1):

- Lower speed limits (generally 40km/h) in built-up areas (where high levels of pedestrian activity and property access exist)
- Typically 80 km/h speed limit (20 km/h reduction) on narrow, undivided rural roads

- For Treatment scenario 2, further raising or lowering of speed limits on certain roads (as outlined in the Method) recognizing that alternate speed limits were appropriate due to the standard of the road.

AusRAP and ANRAM were used to assess fatal and serious crash risk for the baseline and treatment scenarios. It found:

- For the baseline scenario:
  - 70% of the network had an AusRAP 1 or 2-star rating.
  - Approximately 78 FSI crashes were expected over five years.
- Treatment scenario 1:
  - 11% of the network achieved a 5-star rating. The proportion of the network with 3+ stars increased by 32%.
  - 45% reduction of FSI crashes
- Treatment scenario 2:
  - 4% of the network achieved a 5-star rating. The proportion of the network with 3+ stars increased by 32%.
  - 34% reduction of FSI crashes.

## Conclusions

Safe speeds are a key pillar of the of the Safe System. A speed limit review can help identify opportunities to revise speed limits to improve alignment with Safe System principles.

AusRAP and ANRAM can provide insights on the degree of Safe System alignment and outcomes associated with proposed treatment options (compared with a current scenario). The AusRAP and ANRAM analysis for the Mildura speed limit review found:

- roads that experience the highest individual risk (lowest AusRAP star ratings) tend to be on the perimeter of Mildura and on rural roads, while roads that experience the lowest individual risk tends to be in the Mildura city centre.
- roads that experience the highest collective risk (ANRAM FSI) tend to be near the centre of Mildura. This is reflective of the individual risks along these road sections and the higher traffic volumes exposed to the risks on these roads.

*Table 1. AusRap and ANRAM assessment results*

<b>AusRap Star Ratings</b>						
	<b>Baseline scenario (before)</b>		<b>Treatment scenario 1</b>		<b>Treatment scenario 2</b>	
	<b>Length (km)</b>	<b>Percent</b>	<b>Length (km)</b>	<b>Percent</b>	<b>Length (km)</b>	<b>Percent</b>
<b>5 Stars</b>	4.2	0.64%	74.3	11.35%	22.40	3.42%
<b>4 Stars</b>	30.70	4.69%	48.6	7.42%	99.00	15.12%
<b>3 Stars</b>	158.80	24.26%	279.50	42.70%	282.00	43.08%
<b>2 Stars</b>	274.90	42.00%	209.5	32.00%	194.30	29.68%
<b>1 Star</b>	186.00	28.41%	42.70	6.52%	56.90	8.69%
<b>Not applicable</b>	0.00	0.00%	0.00	0.00%	0.00	0.00%
<b>Totals</b>	654.6	100%	654.6	100%	654.6	100%
<b>ANRAM FSI crashes</b>						
	<b>Baseline scenario (before)</b>		<b>Treatment scenario 1</b>		<b>Treatment scenario 2</b>	
<b>Total estimated FSI crashes</b>	78.27 FSI crashes		42.74 FSI crashes (45% reduction)		51.70 FSI crashes (34% reduction)	

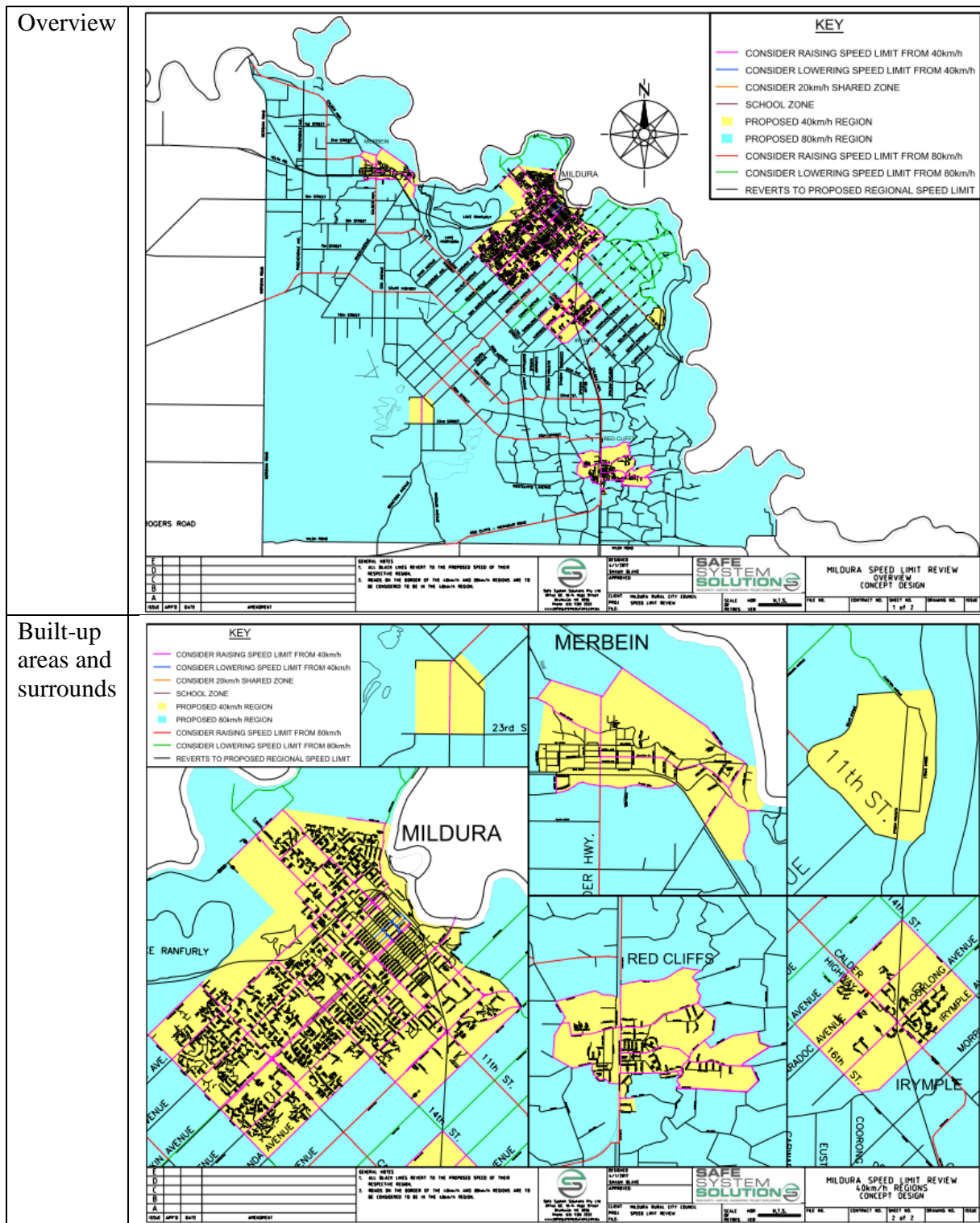


Figure 1. Mildura proposed speed management plan

References

Hall, C 2017, 'Speed management plan: conceptual framework report', prepared for Mildura Rural City Council, 2 May 2017, report no. 20170428CH.1v2, Safe System Solutions Pty Ltd, Richmond, Vic.

Steinmetz, L 2018, 'ANRAM Analysis for Mildura', prepared for Mildura Rural City Council, 22 February 2018, project no. PRS 16022, Australian Road Research Board, Vermont South, Vic.