

 Will be considered for: release in full

MIN-4176 – Safe System Interventions statistics

16 June 2023

This note provides you with information about the impact that standard safety interventions are having on reducing DSIs on our roads. Waka Kotahi publishes case studies on each of the interventions on our website and links to each of these are provided.

Waka Kotahi NZ Transport Agency's response:

The following is a list of each standard safety intervention and the expected DSI savings of each:

- Continuous 3-barrier (median and roadside barrier) – 75 percent
- Median Barrier- 65 percent
- Wide Centreline – 35 percent
- Audio Tactile pavement marking – 20 percent
- Roundabouts – 75 percent
- Raised Safety Platforms – 40 percent
- Intersection Speed Zones – 65 percent
- Speed Management (safe and appropriate speed limits) – 15-30 percent

Intervention Case Studies		
	Intersection Speed Zones https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/safe-system-case-study-intersection-speed-zones.pdf	<p>Intersection speed zones are used to improve the safety at rural intersections along high-speed roads. They detect when a driver is approaching on a side road and activate an electronic variable speed limit sign to temporarily show a lower speed limit on the main road.</p> <p>The aim is to temporarily slow oncoming traffic down to 60 or 70km/h, making it easier and safer for people to pull into or out of a side road across a high-speed rural road. This takes the pressure off at intersections and makes the road safer for everyone by reducing the risk someone is killed or seriously injured if a crash happens.</p> <p>Looking at the 10 sites installed in the first trial, in the years after installation compared to the five years before, we saw:</p> <ul style="list-style-type: none"> total crashes reduced by 28 percent. fatal and serious crashes reduced by 69 percent.
	Raised Safety Platforms https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/safe-system-case-study-raised-safety-platforms.pdf	<p>Raised safety platforms are a treatment increasingly being used to improve safety through intersections and crossings by encouraging safer speeds. Raised safety platforms make it physically uncomfortable to drive over the platform faster than the advisory speed. When used at intersections, they can take the form of approach platforms just prior to the intersection, or the whole intersection can be raised.</p> <p>While a DSI reduction figure isn't available, an evaluation of the raised safety platforms at Thomas/Gordonton found them to be an effective treatment for achieving safer speeds. After installation, most drivers travelled through the intersection well below the design speed of 50km/h.</p>
	Rural Roundabouts https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/safe-system-case-study-rural-roundabouts.pdf	<p>A number of rural roundabouts have been installed at high-speed main road intersections in Waikato and Auckland to address serious crash concerns. They simplify decision making and reduce speeds. Austroads found roundabouts were effective in reducing fatal crashes by 63–100 percent and severe crashes by 37–90 percent.</p> <p>Recent analysis looking at the results of nine sites where roundabouts have been installed confirms just how effective they are. Across the nine sites:</p> <ul style="list-style-type: none"> In the five years before installation, there were 46 reported injury crashes. Since installation, there have been nine reported injury crashes, with no fatal crashes

		<p>and three serious crashes.</p> <p>A review of crashes after installation also found:</p> <ul style="list-style-type: none"> • Loss of control was the most common type, followed by changing lanes. • There were two motorcycle injury crashes, compared to 16 motorcycle injury crashes before installation. • There have been no reported cyclist or pedestrian crashes. However, numbers of pedestrians and cyclists would be extremely low at rural sites.
	<p>Median Barriers</p> <p>https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/median-barrier-presentation.pdf</p>	<p>Flexible median barriers can significantly reduce the occurrence of fatal and serious injuries. By separating opposing traffic flows, while retaining opportunities for overtaking where passing lanes are provided, high severity crashes are less likely to occur because people are physically separated from what may otherwise be a head-on collision. A median barrier will effectively eliminate 100 percent of head-on and 50 percent of run-off-road type crashes.</p> <p>A number of Median Barrier case studies have been carried out by Waka Kotahi.</p> <ul style="list-style-type: none"> • Longswamp to Rangiriri section of State Highway 1 – In the 11 years prior to the barriers being installed there were 41 DSIs, 16 deaths and 25 serious injuries, on this corridor. In the 11 years after there have been two deaths and 11 serious injuries, a 68 percent reduction. • SH1 Centennial Highway median barrier project – There were 18 deaths and 18 serious injuries on this corridor in the 10 years prior to the median barrier being installed. In the 10 years since installation, there have been three serious injuries.
	<p>Safe and appropriate speeds</p> <p>https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/safe-system-case-study-safe-and-appropriate-speed-limits-on-rural-roads.pdf</p> <p>https://www.nzta.govt.nz/assets/Safety/docs/road-to-zero/safe-system-case-study-implementing-safe-and-appropriate-speed-limits-on-central-city-streets.pdf</p>	<p>A safe and appropriate speed limit is a speed limit that is safe according to standards set by the Safe System approach and appropriate in terms of aligning with community wellbeing objectives as well as with the movement and place function, design and infrastructure of the street or road.</p> <p>Speed makes a major difference in a crash; it affects a driver's ability to react, and worsens the injuries sustained. Regardless of the cause of a crash, speed is the difference between someone being unharmed or being seriously injured or killed. Speed management is a proven way to improve safety, saving lives and preventing debilitating injuries. It also represents a major, yet under-appreciated, opportunity to improve the climate change impacts of travel, support better health and wellbeing, and create greater inclusion.</p> <p>For example, State Highway 6 is a key route for locals, tourists, businesses, and agriculture,</p>

		<p>along with freight travelling between Nelson, Blenheim and Picton. It's also a commuter, cyclist and tourist route. There are several different roadside environments along a 110km corridor from Blenheim to Nelson with a range of speed limits varying between 50 km/h and 100 km/h.</p> <p>Following the engagement and consultation with communities during October 2019, it was decided to reduce the existing 100 km/h limits to 80 km/h in places, introduce new 90 km/h speed limits on appropriate sections. The new speed limits took effect on 18 December 2020 and in the two years since, DSIs have reduced by around 80 percent whilst the average journey time has increased by about four minutes over the 110 km length i.e. two seconds per kilometre.</p>
--	--	--

Proactively Released