

---

## Case Study A.9. Network-Wide Speed Limit Reduction—Mornington Peninsula, Australia

---

### *Key Successes*

The speed limit reductions in Mornington Peninsula, Australia resulted in the following safety outcomes:

- An average 3 mph mean operating speed reduction after 2 years of the speed limit being reduced from 68 mph to 50 mph.
- An even greater mean speed reduction of 4 mph on these roads after 2 years for a subset of roads that carry more than an average of 1,000 vehicles per day.
- An average 2.5 mph mean operating speed reduction by reducing the speed limit from 56 mph to 50 mph.
- Number of drivers traveling below the target speed of 50 mph increased significantly for both speed changes. In both cases, over 60 percent of drivers were under the target speed of 50 mph in the after period, compared with 42 percent and 46 percent, respectively, in the before period.
- An estimated 20 percent reduction in fatal and serious injury crashes on all roads.

### *The Safe System Approach Highlights*

- **Death/serious injury is unacceptable:** Mornington Peninsula's efforts to lower speed limits has a goal of eliminating fatal and serious injury crashes.
- **Humans make mistakes/humans are vulnerable:** Reduction of speed limit to reduce crash impact forces.

### *Background*

Mornington Peninsula Shire is located southeast of Melbourne, Victoria, Australia and has an estimated population of 168,000. Mornington Peninsula Shire Council (MPSC) has demonstrated strong leadership in adopting and applying the Safe System approach to improve road safety in the Mornington Peninsula. Mornington Peninsula offers a unique environment in which to undertake and evaluate this speed trial. Visitors to the region, who make a significant contribution to the economy, often don't know their destination, stopping at places of interest on winding roads. These roads are unlikely to receive infrastructure treatments in the foreseeable future, and so the introduction of safer speed limits is the most suitable treatment to reduce risks on these roads for both visitors and the local community.

In 2019, Mornington Peninsula experienced significant road trauma, observing the most deaths of any local government area in Victoria. From January 2019 to November 2019, 100 people were seriously injured and 14 were killed on MPSC roads.

## Implementation

To address the concerns regarding road deaths and serious injuries and to reduce safety risk in the long term in Mornington Peninsula, MPSC acted quickly in applying a network wide speed limit reduction trial. Speed limits were reduced from 56 mph or 62 mph to a new speed limit of 50 mph on 33 high-speed local roads (**Figure 15**) beginning in early 2020.

### Safer Speeds Trial

Mornington Peninsula's Shire-Managed Sealed High Risk Rural Roads

The Shire has implemented 80 km/h speed limits on the listed roads



Source: Mornington Peninsula Shire.

**Figure 15. Mornington Peninsula Safer Speeds Trial.**

## Outcomes

Program evaluations are an important part of the Victoria Department of Transport (Victoria DOT) Safer Roads program because they provide an understanding of the effectiveness of infrastructure improvements. This informs decisions regarding future treatments. Additionally, it allows for analysis and feedback on treatments that preformed inadequately. It is important that the results of evaluations are statistically robust, so that investment decisions are based on creditable information.

The Victoria DOT's "Safer Speeds on High Speed Local Government Area (LGA) Roads" evaluation framework was applied to evaluate the effectiveness of the two MPSC speed limit trials:

- Trial 1 covered speed limit reductions from 62 mph to 50 mph on 20 routes. This is shown as the red lines in **Figure 15**.

- Trial 2 covered speed limit reductions from 56 mph to 50 mph on 15 routes. This is shown as the yellow lines in **Figure 15**.

For the speed limit reduction trial, before data were collected in December 2019. Three periods of after speed data have also been collected for the evaluation, including:

- May 2020 (After 1 Period)
- November 2020 (After 2 Period); and
- November/December 2021 (After 3 Period).

Following data collection, the objective of this evaluation was to assess the following observed and expected outcomes from the trial:

- Reduction in free flow mean speeds associated with a:
  - Speed limit change from 62 mph to 50 mph (Trial 1)
  - Speed limit change from 56 mph to 50 mph (Trial 2)
- Changes in speed limit compliance associated with the speed limit changes
- Changes in the proportion of motorists traveling below 50 mph (target of “below 50 mph” proportion) and below 62 mph (target “upper bound” proportion)
- Estimated fatal and serious injury (FSI) crash reductions expected from the speed limit change

The evaluation found:

- There was very strong evidence that an average 3 mph mean operating speed reduction is achieved after 2 years of the speed limit being reduced from 62 mph to 50 mph, a 12 mph drop.
- An even greater mean speed reduction of 4 mph was observed after 2 years for a subset of roads that carry more than an average of 1,000 vehicles per day.
- Across all after periods, a higher speed reduction was observed on a subset of roads that have higher operating speeds in the before case, and therefore a higher risk of FSI crashes.
- The 56 mph to 50 mph speed limit reductions showed some evidence of a 2.5 mph reduction in mean speeds.
- The number of drivers traveling below the target speed of 50 mph increased significantly for both the 62 mph to 50 mph and 56 mph to 50 mph speed changes. In both cases, more than 60 percent of drivers were under the target speed of 50 mph in the after period compared with 46 percent and 42 percent, respectively, in the before period. This is an important outcome from a Safe System perspective, as more drivers below these target speeds will significantly reduce the risk of FSI crashes.
- The trial also estimated an average reduction in FSI crashes of approximately 20 percent for the 62 mph to 56 mph roads. Some routes showed reductions as high as 34 percent.
- For the 56 mph to 50 mph routes, the reductions are likely to be less, with an average FSI reduction of 12 percent across the treated routes.