

IMPLEMENTATION SPOTLIGHT



Dynamic Speed Feedback Signs Effectively Improve Driver Behavior

Sign placement is the key to helping drivers slow down at highway interchange ramps.

Freeway interchanges are common locations for lane departure crashes, which are often severe and even deadly.

To increase safety and encourage drivers to slow down at these sites, MDOT conducted a multi-phase research study to determine whether dynamic speed feedback signs (DSFS) – which use radar to measure vehicle speeds and issue warning messages to drivers in real time – could have a similar effect on the state’s highways. The study showed the signs, which were already a proven countermeasure in use at many Michigan school zones, consistently lowered vehicle speeds by an average of 4 mph. The research also revealed a

number of strategies to increase the signs’ effects on driver behavior.

To help MDOT’s regions achieve similar results across the state, MDOT developed guidance for identifying suitable sites and selecting and installing the systems properly. The total cost of a DSFS device depends on the system and location that the region selects, but once in place the effort and expense to maintain the system should be minimal.

As additional signs are installed in the state, MDOT expects they will help to reduce the frequency and severity of lane departure crashes.

FAST FACTS

- **Position is critical.**
Signs should be placed within 250 feet upstream of the curve.
- **Larger isn’t necessary.**
Both 15- and 18-inch signs were found to be equally effective.
- **A border is better.**
A reflective yellow surround can improve conspicuity.

“With data-backed research that shows where and how to install dynamic speed feedback signs effectively, MDOT can maximize the benefits of these important safety countermeasures.”

—Alonso Uzcatogui,
Traffic Signing Engineer
UzcatoguiA@michigan.gov

Implementation Information

Original Research Report Number: [SPR-1704](#)
Start year: 2023

Initial cost: \$200,704
Additional ongoing costs: Minimal

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