



U.S. Department of Transportation
Federal Highway Administration

Reducing Excessive Speeding in Rural Communities in Iowa

BACKGROUND

In rural areas, many communities are located along higher-speed roadways, but have much lower speed limits inside the city limits. Speed limits can often drop from as high as 55 mph down to 25 mph as the road feeds into the town's center where pedestrians and bicyclists are more common. Typically, changes such as on-street parking or a greater number of houses or businesses give visual cues to out-of-town travelers that speeds will be reduced. These roadside cues are not always enough though, and additional traffic calming measures need to be installed to help lower vehicle speeds as drivers enter town.

CHOOSING TRAFFIC CALMING TREATMENTS AND LOCATIONS

In 2012, several communities in Iowa employed a variety of traffic calming techniques to inform motorists of the reduced speed limits and encourage them to slow down. Located on higher-speed roadways with speeds dropping by as much as 30 mph, the towns of Hazelton, Quasqueton, Jesup, Ossian, St. Charles, and Rowley installed five types of low-cost traffic calming treatments (shown below).¹ All of these communities had the common goal of improving safety and managing the speeds into their towns.



Transverse Speed Bars

This pavement marking treatment creates a visual effect that encourages motorists to slow down. The bar placement guides motorists to direct the vehicle's wheels in gaps between the bars, which results in the driver unconsciously slowing down.



Colored Speed-Zone Entrance

Colored or textured surface treatments in the roadway draw motorists' attention to changing roadway conditions.



Temporary Island

Temporary islands made of raised curbing and/or vertical markers can be removed and replaced, as needed, and give drivers the sensation of constricted lane widths, thus encouraging deceleration.



LED Flashing Speed Limits Signs

These speed limit signs have LED lights that are activated by motorists travelling above a set speed threshold, usually 5 mph or greater above the posted speed.



Speed Feedback Signs

The speed feedback signs display the motorists' actual speed.

Photo Source: Center for Transportation Research and Education (CTRE)

¹ Experimental approval was requested from and granted by the Federal Highway Administration (FHWA), Office of Transportation Operations, Manual of Uniform Traffic Control Devices (MUTCD) team for the colored speed zone entrance treatment. Any agency wishing to implement a treatment that has not been included in the most recent edition of the MUTCD must request experimental approval from the FHWA.

The communities' county engineers recommended the specific roadways and locations for the traffic calming treatments. With speed limits transitioning from 55 mph to as low as 25 mph, each of these roadways had safety and speeding-related issues. The following table shows the locations, speed limits, and specific treatments used in each community.

COMMUNITY	ROADWAY	SPEED LIMIT TRANSITION	TREATMENT USED
Hazleton	County Road C-57 / Hayes Street	55 mph to 25 mph	Transverse Speed Bars
Quasqueton	County Road W-40	55 mph to 25 mph	Transverse Speed Bars
Jesup	220th Street / State Highway 939	55 mph to 35 mph	Colored Speed-Zone Entrance
Ossian	County Road W-42	55 mph to 25 mph	Colored Speed-Zone Entrance
St. Charles	County Road R-35 State Highway 251 State Highway 251	55 mph to 25 mph	Temporary Island Temporary Island LED Speed Limit Sign
Rowley	County Road D-47 County Road D-47	55 mph to 25 mph	Speed Feedback Sign LED Speed Limit Sign

POSITIVE RESULTS

In order to evaluate the effectiveness of these treatments in reducing speeds, the communities partnered with researchers to complete before and after studies. The table below summarizes the largest reductions for each type of traffic calming treatment considered.

Treatment Used	Reduction in Excessive Speeders	Average Speed Reduction (mph)
Colored Speed-Zone Entrance Treatment	100%	2.3
Speed Feedback Signs	79%	7.6
Temporary Island	71%	2.6
Transverse Speed Bars	54%	2.3
LED Flashing Speed Limit Signs	53%	5.9

The most notable success for these treatments was the dramatic reduction in excessive speeders (vehicles traveling 15 mph or more over the speed limit).

One year after the installations, the communities saw a decrease in average speeds. However, the most notable success for these treatments was the dramatic reduction in excessive speeders (vehicles traveling 15 mph or more over the speed limit). Overall, these traffic calming measures have encouraged lower speeds and reduced the most aggressive speeders, thus improving safety for the communities.

FOR MORE INFORMATION

To view the complete research results for the speed management treatments installed in Iowa, access the report, *Evaluation of Low Cost Traffic Calming for Rural Communities – Phase II [Updated]*, at: http://lib.dr.iastate.edu/intrans_reports/94/.

To learn more about speed management countermeasures, visit [FHWA's Speed Management Safety website](#). Also, check out FHWA's fact sheets: *Speed Limit Basics* and *Speed Management: More than Just Speed Humps*.

