

# SPEED MANAGEMENT COUNTERMEASURES

More than Just Speed Humps



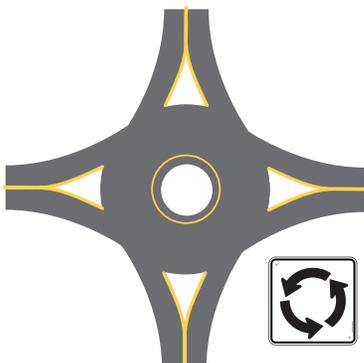
U.S. Department of Transportation  
Federal Highway Administration



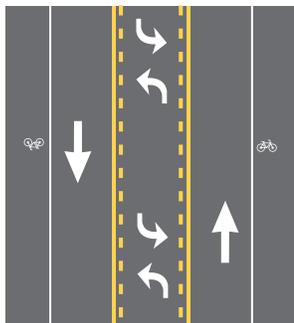
SPEED FEEDBACK SIGN



CURVE DELINEATION



ROUNDBOUT



ROAD DIET

Setting speed limits that are safe, consistent, and reasonable is the first step in speed management and is important in order to protect all roadway users. Transportation practitioners employ a variety of strategies to manage speeds on roadways, and speed limits are an integral part of this. However, simply lowering the speed limit on a particular stretch of roadway does not always lower the actual speed at which most people drive on that roadway. Therefore, transportation agencies often install speed management countermeasures in order to get drivers to slow down.

## WHAT DO SPEED MANAGEMENT COUNTERMEASURES LOOK LIKE?

Some speed management countermeasures are familiar to drivers and have been used for many years. Others are relatively new. All provide great safety and speed management benefits, and may offer operations and cost-savings benefits as well.

Some examples include:

- **Speed Humps.** Generally located on residential streets or other low-speed roads, these raised pavement structures force motorists to slow down to a safe speed. Studies show speed humps can be effective at reducing speeds by nearly 10 mph.<sup>1</sup> (See page 2 to learn the difference between speed humps and speed bumps.)
- **Speed Feedback Signs.** These portable, interactive signs display a vehicle's current speed to remind the driver to slow down and obey the posted speed limit. Research shows these types of signs have been effective at reducing speeds by 5 mph.<sup>2</sup>
- **Enhanced Curve Delineation.** By improving striping or signing along horizontal curves, motorists are more aware of the road's curvature and are more likely to slow down to a speed that matches the curve's perceived severity. Depending on the type and combination of delineation countermeasures chosen, studies show speeds can be reduced by nearly 10 mph.<sup>3</sup>
- **Roundabouts.** This type of circular intersection is very effective at safely moving traffic through an intersection and can have significant traffic calming effects. Features such as channelized approaches, a center island, and circular design encourage lower speeds. Studies have shown roundabouts can lower speeds by as much as 15 to 20 mph<sup>4</sup> and reduce severe crashes by nearly 80 percent.<sup>5</sup>
- **Road Diets.** The most common Road Diet converts a four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane. Studies show that Road Diets, when implemented in appropriate contexts, can lower the 85th percentile speeds and greatly reduce the number of motorists speeding excessively.<sup>6</sup>

**COUNTERMEASURE:**  
Any intentional, long-term alteration to the roadway or its environment that causes changes in motorists' driving behavior.

<sup>1, 2, 3, 4</sup> FHWA, "A Desktop Reference of Potential Effectiveness in Reducing Speed," July 2014. Available at: [http://safety.fhwa.dot.gov/speedmgmt/ref\\_mats/eng\\_count/2014/reducing\\_speed.cfm](http://safety.fhwa.dot.gov/speedmgmt/ref_mats/eng_count/2014/reducing_speed.cfm).

<sup>5</sup> FHWA, "Proven Safety Countermeasures - Roundabouts," FHWA-SA-12-005 (Washington, DC: 2012). Available at: [http://safety.fhwa.dot.gov/provencountermeasures/fhwa\\_sa\\_12\\_005.cfm](http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_005.cfm).

<sup>6</sup> FHWA, *Road Diet Informational Guide*, FHWA-SA-14-028. Available at: [http://safety.fhwa.dot.gov/road\\_diets/info\\_guide/](http://safety.fhwa.dot.gov/road_diets/info_guide/).

## Speed Hump vs. Speed Bump - both are used to control traffic speeds



➤ A speed hump is a gradual raised area on low-speed roadways, typically found on residential or local streets.



➤ A speed bump is an abrupt raised area generally located in private driveways or parking lots.

## CHOOSING A SPEED MANAGEMENT COUNTERMEASURE

Many agencies have traffic calming manuals or speed management policies that outline and guide their decisions on choosing speed management countermeasures. Transportation practitioners consider a variety of factors when selecting these countermeasures, which can be loosely grouped into the following categories.

### Roadway Setting (i.e., Urban vs. Rural)

Most countermeasures are versatile and can be applied in a variety of locations, but some countermeasures may be more appropriate in either a rural or urban setting. For example, an urban neighborhood may not welcome the idea of rumble strips due to the additional noise, but rumble strips are appropriate and effective on a rural highway.

### Roadway Type

Whether a roadway is an interstate, a freeway, or a city street influences the type of countermeasures that practitioners select. For instance, speed humps are not appropriate for a higher-speed roadway, but are well suited for streets with speed limits below 35 mph.

### Speeding-related Crash History

Transportation agencies often choose speed management countermeasures based on where, when, and what type of crashes are occurring. For example, curve delineation and rumble strips are effective countermeasures when a roadway is experiencing many speeding-related run-off-the-road crashes, and improving the visibility of intersections or installing roundabouts may reduce speeding-related intersection crashes.

### Road Users

Practitioners also consider the users of the roadway and its surrounding area. For example, Road Diets are very effective at reducing speeds and allow designers to incorporate features such as bicycle lanes, pedestrian refuge islands, parking spaces, and wider sidewalks to accommodate the needs of all road users.

### Cost

Budget limitations can affect countermeasure selection. Agencies allocate their resources to achieve the best safety benefits with their available funding. Practitioners evaluate multiple alternatives to determine the solution that provides the best result for a specific location or for the system as a whole.

### Effectiveness

Agencies carefully monitor studies that examine the effectiveness of speed management countermeasures in order to select the best solutions. The [CMF Clearinghouse](#) is an online resource practitioners can use to gather information on these studies and countermeasure effectiveness. [FHWA's Proven Safety Countermeasures](#) website provides information on safety countermeasures that can be used for speed management such as Road Diets, medians, rumble strips, and roundabouts.

## FOR MORE INFORMATION



To learn more about speed management, visit FHWA's [Speed Management Safety web page](#).



For more information on speed limits, check out FHWA's [Speed Limit Basics](#) fact sheet.