Montana Department of Transportation
Guidelines for the Use of Vehicle Speed Feedback Signs on the State Highway System

General Information:

The Montana Department of Transportation (MDT) has developed the following guidelines for installing and maintaining of Vehicle Speed Feedback Signs (VSFS) within the rights-of-way (ROW) on the Montana's state maintained roadways. This guidance incorporates both portable/temporary (speed trailers) and permanent (changeable speed sign) uses of these signs.

Purpose & Objective:

VSFS are installed to provide a real-time dynamic display of a driver's vehicular speed at select locations. When used in conjunction with a regulatory speed limit sign (R2-1), drivers receive immediate confirmation of their actual speed in comparison to the legal speed limit static signs. When the VSFS are activated, the display format shall follow the guidance in Section 2B.13 Speed Limit Sign and Section 2L.01 Changeable Message Signs of the Manual on Uniform Traffic Control Devices (MUTCD.) VSFS are typically used at locations where a speed limit transition occurs or in an area where driving the appropriate speed for the highway conditions is particularly important, such as around school speed zones or parks. Because law enforcement agencies cannot be expected to constantly monitor speeds in a particular location, the VSFS serve to supplement regular enforcement of speed limits alerting drivers to specific driving behavior. VSFS are allowed for their use in Part 2 of the 2009 MUTCD.

Permanent Deployment of VSFS

A. Technical Requirements:

VSFS must meet the following specifications and documentation to that effect must be supplied to the MDT District Administrator or designee:

1. Installation shall be in conjunction with a Speed Limit sign (standard or school speed zone).
2. Installation is restricted to one VSFS in each direction for the area being addressed.
3. The VSFS shall include the legend "YOUR SPEED xx MPH" or similar legend. The color of the changeable message legend shall be a yellow legend on a black background or the reverse of these colors.
4. The changeable display shall be programmed to display "SLOW DOWN" when the vehicle speed exceeds 15 MPH over the posted speed. The speed of the vehicle will not be displayed when the speed exceeds 15 MPH over the posted speed.

5. When activated, the VSFS display shall give drivers immediate feedback on their individual driving speed when the posted speed is exceeded without animation, rapid flashing, or other dynamic elements.
6. When installed in association with school speed zones, the VSFS shall operate only when the school speed zone is in effect. (Generally, the VSFS will operate only on days that schools are in session, for thirty minutes before and fifteen minutes after the time in which the school day begins; and fifteen minutes before and thirty minutes after the time in which the school day ends). Use of VSFS in conjunction with school speed zones "when children are present" is not allowed. If this same school zone location experiences documented speed issues, this VSFS can be utilized during 'non-school-hours' also.
7. Information shall be supplied that documents that the VSFS and sign support assembly and installation meet the requirements for crash-worthiness as defined in the National Cooperative Highway Research Program (NCHRP) Report 350 or Manual for Assessing Safety Hardware (MASH).
8. The installation shall **not** interfere with the visibility and general effectiveness of any other signs in the area.
9. All elements of the VSFS shall conform to the guidance and standards as outlined in the latest edition of the MUTCD.
10. Identification and contact information for the local government in which it is installed shall be displayed on the case of the VSFS.

B. Local Agency Responsibility:

Local governments shall be responsible for the installation, maintenance, and removal of VSFS located within the state's highway ROW. If existing signs must be relocated due to conflicts with the proposed VSFS, replacement signs must meet current MUTCD requirements and the responsibility for installing replacement signs shall be at the expense of the local government. Local governments shall be responsible for ongoing electric costs and all maintenance of the VSFS, including annual maintenance and replacement if damaged.

MDT may decide to install and maintain the VSFS if a crash trend is identified and a VSFS is recommended as a tool to mitigate this trend. If MDT installs the VSFS, MDT will be responsible for on-going electric costs and all maintenance of the VSFS, including annual maintenance and replacement if damaged.

C. Application Process:

Requests from the local government shall include the following information:

1. Cover letter addressed to the MDT District requesting permission for installation of the VSFS.

2. Submission of an Encroachment Permit.
3. Supporting documentation by local authorities, Highway Patrol, or District personnel that indicate traffic speeds are exceeding the posted speed. Supporting documents may include: speed study, reported complaints, or other documentation indicating that the posted speed is being exceeded.
4. A scaled drawing that shows the existing regulatory speed signs and their legends; the location and legend of other nearby signs, and adjacent features (sidewalks, driveways, existing street lighting, traffic signals, adjacent land uses). The sketch or plan must either be at a specific scale or include measured distances between pertinent features.
5. A diagram or plan indicating how the VSFS will be powered (solar or hardwired, including connections to power poles and their location).
6. Documentation that the technical requirements outlined in Section A has been met.

The local government must submit an encroachment permit application and all supporting documentation to the appropriate MDT district office. The district office will issue the local government a permit, after determining that the proposed VSFS meets the conditions and technical requirement shown in this guidance. Assurance of financial and maintenance responsibility of the local government is a requirement of the permit. MDT reserves the right to modify these guidelines as it deems appropriate.

Information can be found on the MDT website under 'mdt.mt.gov', click on Publications, Forms, Right of Way/Utilities or access the site by clicking on the link: Encroachment Permit Application

D. Removal of Permanent Signs:

If the local government no longer desires the VSFS or fails to maintain the device, the local government is responsible for all costs associated with the removal or restoration of the State Highway ROW to the satisfaction of MDT.

Portable Application of VSFS (i.e., Speed Trailers)

The management and deployment of portable VSFS is at the discretion of the MDT's District Administrator. The deployment of these devices should follow the conditions below. Should the local agencies purchase their own device and wish to deploy it on a state maintained highway; they will be required to secure an encroachment permit with supporting documentation to justify its use.

A. Example Locations for Use:

- Construction & Work Zones
- Special Events (Fairs, Festivals & Pow Wows) that bring about a significant change in operation or unexpected entries to the roadway.
- In conjunction with Traffic Safety Enforcement Patrols
- New construction and/or on segments where a recent major change in traffic control or environment has taken place.
- Emergency situations (natural disasters)

B. Technical Requirements:

1. Speed trailers should be in place for a maximum of 2 weeks; (if needed longer than two weeks, the District Administrator (or designee) can grant the extra time by email or other documentation).
2. Speed trailers should not replace any other safety measures already in place, i.e., school crossing guards, existing warning signs, enforcement.
3. Speed trailers shall not interfere with the operation of the highway for motor vehicles, bicyclists or pedestrians.
4. Care should be taken for the placement of the speed trailers in relationship to the clear zone or to other signs. This would include placing behind guardrail and if that is not practicable then placement on the shoulder of the highway with proper delineation of retroreflective temporary traffic control devices such as drums or cones.
5. Speed trailers shall include the legend "Speed Limit xx MPH" that is consistent with the regulatory speed limit of the road on which it is used.