

## Radar Speed Feedback Signs

Radar speed feedback signs provide a real-time, dynamic display of a vehicle's speed at a particular location where speeding may be a problem. *Speed trailers* are portable devices that can be moved among locations. *Speed feedback signs* can be mounted permanently on a pole.

This resource is a compilation of limited research by the Vermont League of Cities and Towns (VLCT) and advice and information offered by members of the Vermont Local Roads (VLR) listserve. Its focus is linking municipalities to potential funding opportunities. Nothing contained in this document constitutes guidance from VLCT about any law, program, or policy. Applicants for funding should consult program specific guidance for additional information. Links to other sites offered in this document are provided to assist municipalities. The inclusion of a link does not imply endorsement or approval of the linked site or product.

### Guidance

VLR listserve participants offered these resources about radar speed feedback signs and traffic calming.

#### [Guidelines for the Use of Radar Speed Feedback Signs on the State Highway System](#)

The Vermont Agency of Transportation adopted a policy in 2009 to allow municipalities to install and maintain radar speed feedback signs within the rights-of-way of the State Highway System.

#### [Speed Limit Sign and Placement](#)

This webpage from the Federal Highway Administration includes information on the use of speed feedback signs. This site includes a table addressing maximum speeds that a speed feedback sign should display based on the posted speed limit. These maximum speeds discourage drivers from racing. This [vendor webpage](#) provides best practices for sign installation.

#### [Effectiveness of Radar Speed Feedback Signs & Other Traffic Calming Techniques](#)

The Addison County Regional Planning Commission researched the effectiveness of radar speed feedback sign applications within a rural Vermont context. Its 2013 report documents its literature research and the results of a six-year test case in Shelburne.

### Traffic Safety Toolbox

VTrans is completing a research project that will include a Traffic Safety Toolbox aimed at helping people mitigate speed in their communities. Two case studies involve radar feedback signs. The Toolbox will be complete by April 15 and will be available at <https://vtrans.vermont.gov/planning/research/projects/21-1>.

### Listserve Responses

#### ***Did the flashing function bother neighbors near the sign?***

Most municipalities reported no complaints. Others reported significant issues. The Vermont Agency of Transportation noted that speed feedback sign features like strobe lights, blue or red lights, or digital messages like smiley faces and "Thank you" should be disabled. The features do not conform to the MUTCD.



### ***Did the speed signs work to slow traffic over the long term?***

Responses about long-term effectiveness were mixed. Other research indicates that road setting (e.g., flat straight stretches, mountainous declines, village setting) may be a factor in speed reduction effectiveness.

### **Cost**

VLR listserve participants reported costs of \$2,800 to \$7,500, with the most common being under \$3,500. The cost difference reflects differences in power supply, size, manufacturer, warranty period, features, and options. Questions to consider prior to purchasing include:

- What size of sign is needed? Letter height should be based on posted traffic speed.
- Is power readily available at the site or will battery-only or solar with backup batteries be needed?
- How “vandal proof” of a sign is needed?
- Will data be collected from the unit or is a Wi-Fi connection needed for data upload and cloud retrieval?

### **Funding Opportunities**

#### ***The most likely funding sources include:***

**Municipal Budget** – Most municipalities reported they funded the radar speed feedback signs through the town budget, either via the highway budget or as part of a traffic calming or pedestrian improvement project item. One municipality reported its voters approved a traffic calming article on the Town Meeting warning.

**Share The Cost** – One municipality reported it shared the cost of a sign with its school. Another said it received a sign via a donation. Sharing the cost can lighten the impact on the municipal and highway budget.

**Local ARPA Award** – Municipalities that elected the standard allowance for revenue replacement can use local ARPA funds to purchase radar speed feedback signs. Many municipalities established ARPA advisory committees to gather input from the community and municipal staff about needs. The municipal legislative body (Selectboard, City Council, Village Trustees) makes the decisions about allocation of local ARPA funds.

**AARP Community Challenge Flagship Grant** – This small grant funds quick-action projects that can help communities become more livable for people of all ages. Several municipalities have been awarded funds for radar speed feedback signs, especially to enhance safety for pedestrians in a village, near a school, or near another public place. Awards range from \$500 to \$50,000, with most awards under \$20,000. Applications are due in March. Visit <https://communitychallenge.aarp.org/2023/organizations/aarp/home> for information.

**VTrans State Highway Safety Occupant Protection/DUI Grant** – These grants provide funds to law enforcement agencies to work with partners “Toward Zero Deaths” by reducing the number of crashes, injuries, and fatalities on roads. Equipment like radar speed feedback signs are eligible. Municipalities can work with the law enforcement agency serving their community to access the grants. Grant information is released in the spring. Learn more about Law Enforcement Grants at <https://shso.vermont.gov/grants/law-enforcement>.

#### ***If radar speed feedback signs are part of a larger safety effort, the following sources may fund them:***

**AARP Community Challenge Demonstration Grant** – This grant (new in 2023) builds capacity toward transportation systems changes. It supports demonstrations that encourage the replication of promising local efforts. There are no sample projects to gauge whether radar speed feedback signs are the best fit. Awards range from \$30,000 to \$50,000. Applications are due in March. Visit <https://communitychallenge.aarp.org/2023/organizations/aarp/home>.



**VTrans Bicycle and Pedestrian Program** – This grant works to improve access and safety for bicyclists and/or pedestrians through the planning, design, and construction of infrastructure. Small grants to construct simple physical improvements are capped at \$75,000. Larger grants for design and/or construction are typically \$300,000. The program will fund *fixed* radar speed feedback signs as part of a larger project when a sign is justified (e.g. new crosswalk or sidewalk). Applications are due in early June. Visit <https://vtrans.vermont.gov/highway/local-projects/bike-ped>.

**VTrans Systemic Local Road Safety Program** – Through this program, VTrans, regional planning commissions, and municipalities screen roads maintained by municipalities that have less than 5,000 vehicles per day for safety improvement areas. For selected projects, remedial actions to improve safety are identified (including location; type and size of signs; markings; and other specifications necessary to define the improvements). Fixed radar speed feedback signs can be part of this package (but more often are not part of the package). VTrans hires a contractor to implement the recommendations. Contact the regional planning commission serving your municipality (<https://www.vapda.org/regions.html>) to learn about this program.

**USDA Rural Development Community Facilities Direct Loan & Grant Program** – Funds can be used to purchase, construct, and/or improve essential community facilities; purchase equipment; and pay related project expenses. If the sign is part of a larger street improvement project, USDA may fund the purchase of this equipment. Applications are accepted on a rolling basis. The proportion of grant versus loan funds awarded varies by municipality from 0% to 75%. This information is available on the program website. Prospective applicants should discuss their project with USDA staff prior to initiating an application. Learn more at <https://www.rd.usda.gov/programs-services/community-facilities/community-facilities-direct-loan-grant-program/vt#overview>.

**US DOT Safe Streets and Roads for All** – This new program through the Infrastructure Investment and Jobs Act offers grants to implement strategies and projects that will significantly reduce or eliminate transportation-related fatalities and serious injuries. Several funded projects included speed feedback signs as part of a larger pedestrian-safety effort. The program requires (and funds) development of a comprehensive safety action plan before an applicant can seek implementation funds. Learn more at <https://www.transportation.gov/grants/SS4A>.

The Mount Ascutney Regional Commission (MARC) was awarded Safe Streets funding in early 2023 to develop an action plan. Municipalities in that region are encouraged to participate in the plan's development. Contact Jason Rasmussen at [jrasmussen@marcvr.org](mailto:jrasmussen@marcvr.org).

## Resources for Municipalities

**Regional Planning Commissions** – Regional Planning Commissions have transportation planners who can provide information about traffic calming techniques; review paving plans for bicycle- and pedestrian-friendly improvements; assist with grant writing, grant administration, and project management; conduct traffic counts and speed studies; and liaise with VTrans and other State agencies. With funding from the Agency of Transportation, RPCs can support consultant services for feasibility studies that identify alternate solutions for needs identified by communities. Find the RPC serving your municipality at <https://www.vapda.org/regions.html>.

**Vermont Agency of Transportation** – VTrans issues permits for radar speed feedback signs in the State highway right-of-way and may provide technical expertise for the use of radar speed feedback signs on local roads. Contact your [District Office](#) or the Traffic Operations and Mobility Unit. VTrans also supports the Safe Routes to School Program and funds grants for traffic calming through its Bicycle and Pedestrian Program and Transportation Alternatives Program.

**Local Motion** – Local Motion, a non-profit organization located in Burlington, Vermont, is the State's Safe Routes to School coordinator. Through its Complete Streets program, Local Motion provides no-cost input on possible



traffic calming solutions, can review paving plans for bicycle- and pedestrian-friendly improvements, and helps municipalities develop policies or designs that address gaps or deficiencies related to walking and bicycling. Local Motion hosts a 12-foot trailer filled with supplies to demonstrate traffic calming projects. The trailer does not include radar speed feedback signs. Pop-Up Demonstrations help municipalities understand project benefits and impacts. Local Motion also can work with your community to assess its bicycle and pedestrian safety and on-the-ground infrastructure and help prioritize community actions. Find out about its Complete Streets program and link to its other programs at [https://www.localmotion.org/complete\\_streets](https://www.localmotion.org/complete_streets).

### Vermont Local Roads Listserve Participants' Advice

The signs should be used together with a normal speed limit sign, so drivers know the posted limit.

Many speed feedback signs have features like strobe lights, blue or red lights, or other digital messages like smiley faces and "Thank you". Please disable these features because they do not conform to the MUTCD.

Some signs include a data collection feature. These signs allow you to turn off the display and still collect data. This can be helpful to demonstrate the sign's effectiveness by checking speeds when the sign is off and then when it is active.

*~ Vermont Agency of Transportation Bicycle and Pedestrian Program*

Speed displays should have an upper speed threshold above which they no longer display speed so that drivers do not "test" the signs.

*~ Federal Highway Administration*

Many drivers get used to signs that are mounted on a pole permanently. The best approach is to move signs periodically.

The best value of radar feedback signs is to collect data for targeted enforcement. That's done with active displays and in "stealth mode" (screen is off but unit still collects speed data).

*~ State of Maine Local Roads Center*

Mobile units take a lot of time to set up, have high maintenance, are affected by cooler temperatures, and are very heavy and awkward to maneuver. The

solar units need a lot of sun to stay fully charged, and snow needs to be removed during winter months for the unit to work properly. Fixed signs seem to be less problematic.

It doesn't take much of an obstacle to throw off the data or ability to read speeds, especially in villages or other congested areas.

*~ Town of Cambridge*

Towns need to go through a VTrans permit approval process if their sign will be in the State highway right-of-way. This includes conducting a speed study.

*~ Town of Wallingford*

Our newer unit was purchased domestically but must be sent to Canada for repairs. Sending an electronic device across an international border has been a pain.

*~ Town of West Rutland*

Prior to purchasing, we spoke with other towns that had put up signs. We used their recommendations, site visits to sign installations, and review of the software controls to choose ours.

Our voters approved an article at Town Meeting "to raise the sum of \$40,000 to control speeding by designing and installing mechanical means, such as radar signs, rumble strips, and speed tables, at the Selectboard's discretion."

*~ Town of Londonderry*