

Funding match for lower-cost safety improvements



Signs at busy pedestrian crossings are a safety improvement that fits the HSIP definition of lower cost and easy to implement.

HSIP emphasizes safety improvements that public agencies can implement quickly, following a formula of 90 percent federal dollars to a 10 percent state or local match.

"MANY OF THE BEST SAFETY solutions are also the most cost effective." So says Justin Shell, who directs the federally funded Highway Safety Improvement Program (HSIP) for the Wisconsin Department of Transportation. The HSIP program looks for exactly those solutions when allocating dollars to local road and street projects.

The federal program, introduced in 2005, helps fund lower-cost highway safety projects that reduce the number and severity of crashes on state and local roadways. HSIP emphasizes safety improvements that public agencies can implement quickly. It follows a formula of 90 percent federal dollars to a 10 percent state or local match.

High return on safety

WisDOT uses a focused project evaluation process to identify proposed lower-cost treatments that have a high return on improving traffic and pedestrian safety. Local governments can qualify for funds by identifying sites with safety problems, gathering the crash history at those sites, and recording other pertinent factors like the presence of traffic controls and average annual daily traffic volume.

Regional WisDOT Safety Engineers work with local road officials to evaluate proposed projects and assist with the HSIP

application. The next round of applications are due to HSIP coordinators in each region by August 15 for the 2015-2016 funding cycle.

Typical treatments

Which treatments qualify as a *best solution*? Shell says a variety of street and highway improvements fall in this category, including projects to:

- Install or modify traffic signals
- Construct roundabouts
- Straighten or remove isolated curves or hills
- Improve sight distances
- Add turn, bypass or other auxiliary lanes
- Improve safety for pedestrians, bicyclist and people with disabilities
- Add traffic calming features
- Eliminate roadside obstacles
- Install countdown pedestrian signals
- Install priority control systems for emergency vehicles at signalized intersections
- Install guardrails, barriers and crash attenuators
- Install signs, delineators, flashing warning lights (including fluorescent, yellow-green signs) at pedestrian-bicycle crossings, in school zones and other problem areas

The program funds stand-alone projects and safety treatments that are part of larger projects. Shell cites as an example a major municipal street reconstruction project that included the HSIP-funded addition of turning bays and other access modifications.

Calculate benefits gained

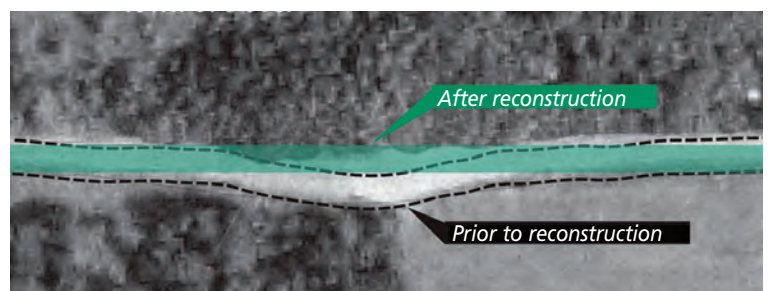
Besides requiring states to monitor the HSIP funds they allocate through project planning and implementation, the FHWA asks them to determine if funded projects achieve desired and cost-effective results. To accomplish this, WisDOT asked the University of Wisconsin Traffic Operations and Safety (TOPS) Laboratory to come up with a reliable method for judging if benefits gained from an HSIP-funded improvement are worth the cost of implementing it. Those efforts earned recognition last year as an HSIP Noteworthy Practice, "one of the best in the country" according to the FHWA.

The evaluation process combines a look at crash data from five years before and three years after the HSIP project is completed with an examination of specific roadway traits, like average daily traffic volume, to calculate expected crash frequency. Andrea Bill, traffic safety engineer and research program manager for the TOPS Lab, says this benefit-cost analysis approach reduces the risk of overestimating the safety benefits of an improvement.

Accessing local crash data

Requesting crash data to support road improvement efforts begins online at the WisTransPortal page, where users have login access to a variety of specific crash data resources.

<http://transportal.cee.wisc.edu>



Aerial view highlights a safety-related reconstruction project that straightened a section of the roadway on a vertical curve to improve sight distances.



Converting a signalized intersection to a roundabout helps slow traffic, reduce conflict and improve safety.

“The crash data is good but has its limitations,” Bill explains. “By looking at other factors, we get a realistic picture of the true impact of an improvement and its value from an economic perspective.”

Right fix, right locations

Shell calls the TOPS Lab results essential for selecting new projects. It gives WisDOT’s HSIP program a consistent way of comparing the costs of a specific treatment to the expected crash reduction at a location. “Impressions of an intersection or other stretch of road as dangerous don’t always tell the

whole story,” he notes. “The crash data alone might support the need for more safety measures but a benefit-cost analysis helps us focus on the most effective improvements and advise public agencies which treatments to consider.”

Shell says a good first step for local agencies is to discuss proposed safety projects with their regional WisDOT office. The safety engineers in these offices are knowledgeable about HSIP guidelines and can evaluate proposed projects and assist with the HSIP application.

Collecting the multi-year crash data from the WisTransPortal website (<http://transportal.cee.wisc.edu/>) and preparing a benefit-cost analysis gives local road officials facts to back up their HSIP applications. Equally important, says Shell, is how the combined data helps persuade local boards and councils to make the 10-percent match a budget priority.

Support for safety

According to Shell, FHWA and WisDOT are committed to allocating all funds in each application cycle. They recently eliminated a small local HSIP program that funded projects of \$25,000 or less as part of this effort. The scope was limited and few local governments applied so WisDOT is concentrating all efforts on the main program. HSIP generally approves individual projects at funding levels that range from less than \$100,000 to multi-million dollar budgets.

WisDOT also plans to accept additional applications for the 2015-2016 cycle in January 2013 from public agencies that cannot make the August 15 deadline. Shell says the department will award any funds that remain to qualifying proposals.

Local governments need to spend wisely in all areas of public expenditure. Their investment in street and highway safety improvements is no exception. The HSIP program’s 90 percent funding match and application process provide the incentive to do a fact-based analysis of projects that will provide the greatest return. ■

The HSIP program funds both stand-alone projects and safety treatments that are part of larger projects.

Contacts

Andrea Bill
TOPS Laboratory
608-890-3425
bill@wisc.edu

Justin Shell
WisDOT
608-267-9617
justin.shell@dot.wi.gov

Resources

Link to information about Wisconsin’s HSIP funding and regional coordinators.
<http://www.dot.state.wi.us/localgov/highways/lhsip.htm>

Link to the WisTransPortal page for crash data search.
<http://transportal.cee.wisc.edu/>



Safety improvements like chevrons installed at curves on streets and rural roads to warn and guide drivers also qualify for HSIP matching dollars.