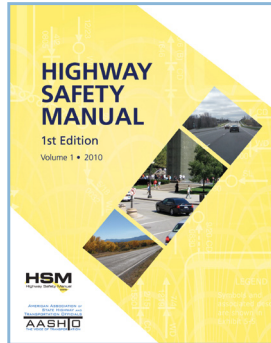


# Advancing the science of highway safety

**D**elivering a safe transportation system is a universal goal among state DOTs. NCHRP was the driving force behind AASHTO's *Highway Safety Manual*, which provides states with a modern, science-based approach to safety management, analysis, planning, and delivery.

NCHRP has been involved at every stage of the *Highway Safety Manual's* development, including the core research underlying its methodologies (NCHRP Projects 17-18(4), 17-26, 17-27, 17-29, and 17-34); the production of the manual (Project 17-36); and the creation of implementation and training tools (Project 17-38). The latest effort, now ongoing, is a project to facilitate implementation of the HSM among 13 lead states (Project 17-50). State DOT staff involved in this effort shared how their agencies are employing the HSM's methods and provided their perspectives on this major undertaking.



## Institutionalizing safety

Priscilla Tobias, chief of Illinois DOT's Safety Engineering Bureau, is a believer in the HSM's philosophy. "All agencies need to incorporate safety into their overall transportation management processes," Tobias says. "The HSM helps agencies institutionalize safety. That's laid out in Part B of the manual, 'Roadway Safety Management Process.'"

"In times of tight budgets, the HSM allows us to spend our safety dollars wisely and use techniques that will provide the best safety benefits."

Tobias describes the impact that the manual has had in Illinois. "The HSM strongly supports our state's data-driven approach to safety and complements our own analytical tools," she says. "We have incorporated parts of the HSM into our processes, including the predictive methods outlined in Part C and the crash modification factors in Part D.

"For example, we have identified locations that are either underperforming or exceeding expectations and applied benefit-cost analysis and the crash frequency assessment

tools presented in the manual," Tobias says. "The HSM helps us look at safety design alternatives and exceptions and quantify their impacts."

## Quantified choices

Maine DOT has likewise taken advantage of the quantitative methods presented in the HSM. "By providing a numerical 'star' rating of the impact of different crash mitigation treatments, the HSM gives us confidence that our choices are statistically valid,"

says Darryl Belz, Maine DOT's Safety & Scoping Unit manager.

"That's the real strength of the manual," Belz continues. "In times of tight budgets, the HSM allows us to spend our safety dollars wisely and use techniques that will provide the best safety benefits."

Virginia DOT's Highway Safety Improvement Program manager Stephen Read describes the HSM as a necessary counterpart to other national guidance documents. "The HSM provides analytical tools on par with established methods for other areas of highway management, such as capacity, the environment, and asset management," he says.

## Putting the HSM to work

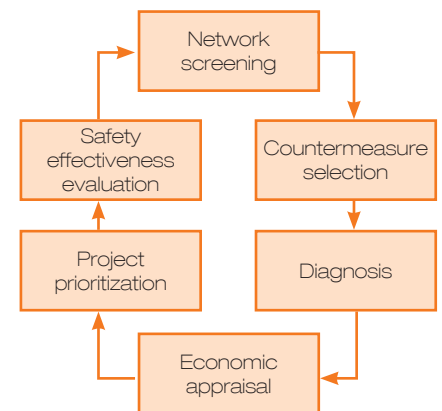
Every state uses the HSM differently based on individual need. "Here in Virginia we are taking the steps for safety planning described in the manual by building our own models and using AASHTO's SafetyAnalyst

"The HSM provides analytical tools on par with established methods for other areas of highway management."

software ([SafetyAnalyst.org](http://SafetyAnalyst.org)), which helps implement the best practices spelled out in Part B of the HSM," says Read.

Florida is another leader in advancing highway safety methods, and Florida DOT traffic safety engineer Joe Santos emphasizes the importance of NCHRP's training program and implementation efforts. "We have had the opportunity to share Florida's experiences piloting the HSM's design exception methods and other tools," Santos says. "In the process, we have gained a great deal in return by dialoguing about approaches that other states are taking. The HSM methodologies are very involved and data-intensive, and ongoing NCHRP efforts help states capitalize on the training and good work that others are doing."

Detailed information about the HSM is available at [www.highwaysafetymanual.org](http://www.highwaysafetymanual.org).



Part B of the manual presents strategies to monitor and reduce crash frequency and severity on existing roadway networks.

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