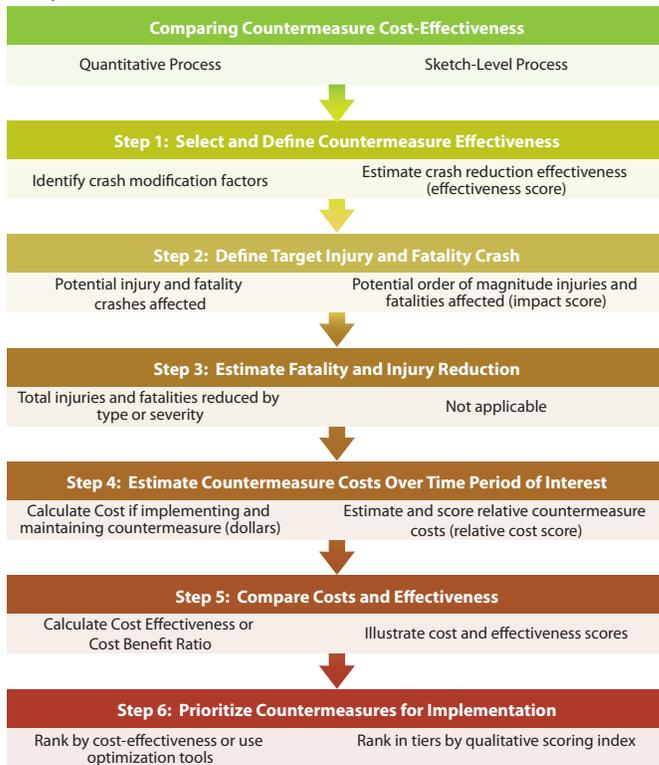


## A Comprehensive Framework for Safety Investment Decisions

In an environment of resource constraints, public agencies strive to focus resources on the most cost-effective investments. Within the road safety field, this means giving preference to strategies that deliver the greatest injury and fatality reduction for the least cost. State Department of Transportation (DOT) engineers calculate benefit/cost ratios for safety countermeasures funded through the Federal Highway Safety Improvement Program (HSIP), but no such requirement exists for behavioral safety countermeasures. In addition, state Strategic Highway Safety Plans (SHSP) do not typically compare the cost-effectiveness of candidate safety strategies across disciplines.

**Figure 1. Overview of Methods for Safety Cost-Effectiveness Comparisons**



Source: NCHRP Research Project 17-46, *A Comprehensive Analysis Framework for 4 E Safety Investment Decisions*.

safety planning documents (e.g., Strategic Highway Safety Plan, regional highway safety plan) could use the framework and methods to inform the approach and to prioritize safety strategies in these documents; 2) **prioritization for grant funding**, where highway safety office staff and road safety engineers could use the sketch method for prioritizing grant applications and compare applications for behavioral safety strategies; and 3) **corridor planning**, where local engineers, planners, and behavioral safety specialists, such as persons involved in road safety audits or corridor planning studies, could use the quantitative methods to compare the cost-effectiveness of safety strategies in a specific corridor.

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NCHRP Research Project 17-46, *A Comprehensive Analysis Framework for 4 E Safety Investment Decisions* developed a conceptual framework that allows a comparison of education, engineering, enforcement, and emergency response strategies based on their cost effectiveness.

The research proposes two methods for comparing the cost-effectiveness of safety countermeasures: a sketch-level method and a quantitative method. The quantitative method is appropriate when sufficient data is available such as crash modification factors, the geographic extent and duration of the countermeasure, and project costs. The sketch-level method is appropriate when quantitative information is incomplete or when detailed results are not required. Figure 1 provides an overview of both methods.

The framework and methods have several real world applications, including 1) **strategic planning**, where engineers and planners involved in preparing strategic safety planning documents (e.g., Strategic Highway Safety Plan, regional highway safety plan) could use the framework and methods to inform the approach and to prioritize safety strategies in these documents; 2) **prioritization for grant funding**, where highway safety office staff and road safety engineers could use the sketch method for prioritizing grant applications and compare applications for behavioral safety strategies; and 3) **corridor planning**, where local engineers, planners, and behavioral safety specialists, such as persons involved in road safety audits or corridor planning studies, could use the quantitative methods to compare the cost-effectiveness of safety strategies in a specific corridor.

The final results will be available soon, but have not yet been approved by the NCHRP project panel for publication by TRB or the National Academies. For additional information on the project, contact Mark Bush, Senior Program Officer, TRB, mbush@nas.edu.

### Nominations for 2013 National Roadway Safety Awards

Each year, the Federal Highway Administration (FHWA) and Roadway Safety Foundation (RSF) honor roadway safety achievements based on their effectiveness, innovation, and efficient use of resources. The awards are given in the following areas:

- Infrastructure – Physical improvements to the roadway or roadside that improve safety;
- Operations – Improvements to traffic safety operations; and
- Planning, Development, and Evaluation – Programs that identify and address state and local needs through effective use of safety data and evaluations.

For additional information and to obtain an application packet, go to <http://safety.fhwa.dot.gov> or <http://www.roadwaysafety.org>. The deadline for nominations is March 31, 2013.

## Updated National Highway System (NHS) Maps Available

The passage of Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) expanded the National Highway System (NHS) to include urban and rural principal arterials. The new maps, which are used for transportation planning purposes, are available at [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps/](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/). For additional information contact Stefan Natzke at [stefan.natzke@dot.gov](mailto:stefan.natzke@dot.gov) or (202) 366-5010 or Mike Neathery at [mike.neathery@dot.gov](mailto:mike.neathery@dot.gov) or (202) 366-1257.

## Release of IHSDM Model 8 Now Available

The 2012 version of the Interactive Highway Safety Design Model (IHSDM version 8.0.0) is now available for free downloading at <http://www.ihsdm.org>. The IHSDM is a suite of software analysis tools for evaluating safety and operational effects of geometric design decisions. It includes six evaluation modules: Crash Prediction, Policy Review, Design Consistency, Intersection Review, Traffic Analysis and Driver/Vehicle. The crash prediction module estimates the frequency of crashes expected on a roadway based on its geometric design and traffic characteristics. The policy review module checks roadway-segment design elements for compliance with relevant highway geometric design policies. The design consistency module helps diagnose safety concerns at horizontal curves. The intersection review module includes both policy and diagnostic review capabilities. The traffic analysis module uses the TWOPAS traffic simulation model to estimate traffic quality-of-service measures for an existing or proposed design under current or projected future traffic flows.



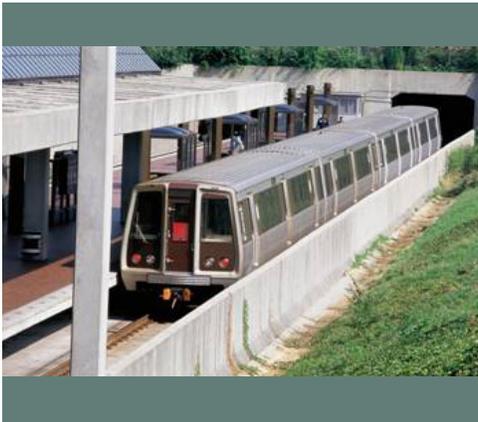
Source: Federal Highway Administration.

For more information on the Highway Safety Manual, please go to <http://www.highwaysafetymanual.org>. Additional support is available [IHSDM.Support@dot.gov](mailto:IHSDM.Support@dot.gov); (202) 493-3407. The National Highway

Institute also has several courses on the IHSDM: FHWA-NHI 380071, a two-day on-site training, and FHWA-NHI 380100, a newly developed web-delivery course. They can be found in the NHI catalog at <http://www.nhi.fhwa.dot.gov/default.aspx>.

## MPO Performance Based Planning Webinar

A recording of a webinar sponsored by the Association of Metropolitan Planning Organizations (AMPO) on the new MAP-21 performance-based planning is now available at <http://www.ampo.org/content/index.php?pid=280>. The webinar highlighted the MAP-21 approach that requires states and MPOs to set performance targets in support of national goals and how performance measures are being incorporated into current MPO planning processes. The webinar featured presentations from Brian Hoeft, Regional Transportation Commission of Southern Nevada, and Brian Fineman from the North Jersey Transportation Planning Authority.



Source: ©2000 EyeWire, Inc.

## Training Program Helps Transit Meet Safety Goals

The Community Transportation Association of America (CTAA) has launched the Community Transportation Safety and Security Accreditation (CTSSA) program to help transit agencies meet their system safety goals and comply with upcoming Federal transit guidelines. MAP-21 gives the Federal Transit Administration (FTA) authority to establish and enforce a new framework for public transportation safety. Public transportation agencies will be required to have a safety plan in place to qualify for

Federal funding. The CTSSA helps agencies meet that challenge by determining standards for safety and security and by developing a program to assess an organization's achievement in meeting those standards. For more information, visit the CTAA web site at <http://www.ctaa.org/>.



Source: Cambridge Systematics, Inc.

## Road Safety and Economic Patterns

A study on road safety and economic patterns from the University of Michigan's Transportation Research Institute summarizes findings on the correlation between road traffic fatalities and economic patterns in the U.S. The report notes from 2005 to 2011, traffic fatalities in the U.S. dropped 26 percent, due in large part to the economic downturn, but noted the trend might be reversing. The report provides guidance to policy-makers in light of the recent sharp drop and subsequent reversal in the number of fatalities. To view a copy of the full report, go to <http://deepblue.lib.umich.edu/bitstream/2027.42/93637/1/102887.pdf>.

## Estimate of Traffic Fatalities Shows Increase

A report from the National Highway Traffic Safety Administration (NHTSA) shows traffic fatalities for the first half of 2012 are up nine percent over 2011. An estimated 16,290 people died in motor vehicle crashes during the first half of 2012, which is up from 14,950 a year ago. The Agency indicated it was too soon to speculate on the contributing factors or potential implications of any increase in deaths on our roadways. To view a full copy of the report, go to <http://www-nrd.nhtsa.dot.gov/Pubs/811680.pdf>.

## RTPOs Work to Improve Rural Safety

By Carrie Kissel, Associate Director,  
National Association of Development Organizations

In many states across the country, regional transportation planning organizations (RTPO) have been formed in non-metropolitan areas to perform regional transportation planning in support of statewide plans and processes while providing technical assistance to local governments on transportation issues. MAP-21 provided a definition for RTPOs for the first time in Federal statute, but several states have already developed their own rural planning models after Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) required more local input in planning. Although MAP-21 did not require specific RTPO roles in safety planning, the existing network of regional organizations has already been engaged in safety in various ways.

In the National Association of Development Organization (NADO) Research Foundation's work on RTPO practices, safety has been consistently reported by planning practitioners to be one of their regions' highest priorities,

along with system maintenance and economic development. That emphasis on safety is evident in the planning RTPOs provide under contract to their state DOTs. As RTPO members identify local priority projects for consideration in the Statewide Transportation Improvement Program, they often use safety-related criteria to rank projects. For example, safety is the highest weighted criterion in the regional project prioritization framework used by the Upper Valley Lake Sunapee Regional Planning Commission in New Hampshire. For the Central Minnesota Area Transportation Partnership, a project's score is higher if it includes safety improvements, and the crash rate is analyzed for proposed roadway projects.

In addition, the North Central Pennsylvania Regional Planning and Development Commission developed an in-depth Corridor Safety Analysis, with a focus on core roadways serving the six-county region and extensive public engagement. Other RTPOs, such as New Mexico's Northeast Regional Planning Organization, assist members with Highway Safety Improvement Program applications in response to the State's annual call for projects,

and the RTPO provides a first level review at the regional level.

In the future, rural regions will undoubtedly increase their involvement in safety efforts and in their state's Strategic Highway Safety Plans. The East Central Regional Development Commission (ECRDC), which is one of the agencies that is both a member of the Central Minnesota Area Transportation Partnership and provides planning staff support, continues to be a leader in multidisciplinary safety efforts among RTPOs. ECRDC formed local multidisciplinary committees addressing traffic safety issues, one of which created a countywide "safe cab" program giving free rides home to intoxicated drivers that has become a model across Minnesota. In another RTPO effort just beginning in late 2012, the East Central Iowa Council of Governments is developing a multi-disciplinary safety team to review and analyze regional safety data and to identify safety enhancement strategies and general preparedness.

For more information on the work of regional transportation planning organizations, visit NADO's online clearinghouse, <http://www.RuralTransportation.org>.

## TRB Events

### TRB Annual Meeting

The 2013 Transportation Research Board (TRB) Annual Meeting features a number of committee meetings and panel sessions of interest to transportation planners and safety practitioners. The meetings are scheduled in Washington, D.C., January 13-17, 2013. at the Marriott Wardman Park, Omni Shoreham, and Hilton Washington Hotels. To learn more, visit the TRB web site (<http://www.trb.org>) and use the interactive tool to find meetings and sessions you want to attend.

Sunday, January 13, 2013

#### Systemic Safety Program Improvement Location Prioritization: Processes and Risk Factors (Workshop)

9:00 a.m.-12:00 p.m.  
Marriott, Maryland B

This workshop will provide an update on the ongoing systemic safety tool development project and pilot. The methods and factors agencies are using to prioritize locations for systemic safety improvement will be discussed along with case studies of actual applications.

#### Safety Data: What Is It? Where Is It? How Do We Use It? (Workshop)

9:00 a.m.-5:00 p.m.

This workshop will explore best practices and the development of a primer concerning how best to identify, analyze, and use safety data. Issues to be addressed include the need for good exposure data, the combination of information from crashes with softer data such as precursor and voluntary reporting metrics, and the challenge of including the often missing human factors data elements.

Monday, January 14, 2013

#### Roadway Safety Culture Subcommittee

8:00-9:45 a.m.  
Marriott, Taylor

#### MAP-21 Demands on Safety Data (Lectern Session)

10:15 a.m.-12:00 p.m.  
Hilton, Columbia Hall 7

Moving Ahead for Progress in the 21st Century Act (MAP-21) mandates the U.S. DOT Secretary establish a program to integrate safety data across modes; and address gaps in existing

safety data. This workshop will focus on what the data should be given the other safety mandates in MAP-21.

#### Tribal Safety Issues Subcommittee

10:15 a.m.-12:00 p.m.  
Hilton, Embassy

#### Highway Safety Performance (Poster Session)

10:45 a.m.-12:30 p.m.  
Marriott, Salon 2

#### Improving Transit Safety: New Mandate Under MAP-21 (Lectern Session)

1:30-3:15 p.m.  
Hilton, International East

Under MAP-21, the Federal Transit Administration (FTA) now has the authority to establish and enforce safety performance criteria, a national public transportation plan, and transit agency safety plans. This session will examine past experience and best practices as well as discussions on how the change will impact the transit industry.

#### Highway Safety Workforce Development Task Force

1:30-5:30 p.m. Marriott, Truman

### Traffic Safety Culture: Just Wishful Thinking? (Lectern Session)

3:45-5:30 p.m.

Marriott, Thurgood Marshall East

Experts will describe the design, implementation, and evaluation of existing traffic safety programs that are based on concepts which are part of traffic safety culture. These are programs that seek to change behavior by transforming the values, beliefs, frames, norms, and attitudes of the driving population and traffic safety organizations.

### Improving Safety Data, Analysis, and Evaluation (Lectern Session)

7:30-9:30 p.m.

Marriott, Maryland B

No Description Available.

Tuesday, January 15, 2013

### Transportation Safety Management Committee

1:30-5:30 p.m.

Marriott, Harding

### Transportation Safety Planning Subcommittee

7:30-10:00 p.m.

Marriott, McKinley

### Safety Data, Analysis and Evaluation Committee

7:30-10:00 p.m.

Marriott, Harding

Wednesday, January 16, 2013

### Rural Road Safety Policy, Programming, and Implementation Joint Subcommittee

8:00-9:45 a.m.

Marriott, Wilson A

### Toward Zero Deaths Goal Subcommittee

10:15 a.m.-12:00 p.m.

Marriott, Taylor

### Highway Safety Performance Committee

2:30-6:00 p.m.

Marriott, Washington B3

### Highway Safety Management Subcommittee

7:30-9:30 p.m.

Marriott, Hoover

## Meetings

February 10-12, 2013

### 2013 National Conference of Regions

Washington, D.C.

<http://narc.org/events/conferences/national-conference-of-regions/2013-national-conference-of-regions/>

February 27-March 1, 2013

### 2013 AASHTO Washington Briefing

Washington, D.C.

<http://mmsd.transportation.org/global/calendar/?id=64>

March 3-6, 2013

### ITE 2013 Technical Conference and Exhibit

San Diego, California

<http://www.ite.org/meetings/index.asp>

April 13-17, 2013

### APA National Planning Conference

Chicago, Illinois

<http://www.planning.org/conference/>

April 21-25, 2013

### NACE 2013

Des Moines, Iowa

<http://www.countyengineers.org/events/annualconf/Pages/NACE2013.aspx>

April 24-26, 2013

### 2013 National Rural Transportation Conference

Greenville, South Carolina

<http://www.nado.org/events/rpo2013/>

## TSPWG Members

The TSPWG includes representatives from agencies and organizations dedicated to advancing the integration of safety in the transportation planning process. If your organization is interested in participating, contact Rick Pain, TSPWG Moderator, at [rpain@nas.edu](mailto:rpain@nas.edu).

The TSPWG members are:

- AARP
- American Association of Motor Vehicle Administrators (AAMVA)
- American Association of State Highway and Transportation Officials (AASHTO)
- American Planning Association (APA)
- American Public Transportation Association (APTA)
- Association of Metropolitan Planning Organizations (AMPO)
- Community Transportation Association of America (CTAA)
- Federal Highway Administration (FHWA)
- Federal Motor Carrier Safety Administration (FMCSA)
- Federal Transit Administration (FTA)
- Governors Highway Safety Association (GHSA)
- Institute of Transportation Engineers, Inc. (ITE)
- International Association of Chiefs of Police (IACP)
- National Association of County Engineers (NACE)
- National Association of Development Organizations (NADO)
- National Association of Regional Councils (NARC)
- National Conference of State Legislatures (NCSL)
- National Highway Traffic Safety Administration (NHTSA)
- Rails-to-Trails Conservancy (RTC)
- Transportation Research Board (TRB)

## Planning It Safe

### Editorial Oversight

FHWA Office of Planning

[http://www.fhwa.dot.gov/planning/transportation\\_safety\\_planning/index.cfm](http://www.fhwa.dot.gov/planning/transportation_safety_planning/index.cfm)

FHWA Office of Safety

<http://safety.fhwa.dot.gov/hsip/tsp/>

### TSPWG Moderator

Rick Pain, TRB

[Rpain@nas.edu](mailto:Rpain@nas.edu)

### Research, Content, Format, and Web Master

Cambridge Systematics, Inc.

[www.camsys.com](http://www.camsys.com)

## Mission Statement

The mission of the TSPWG is to fully implement the SAFETEA-LU and MAP-21 safety planning factor and coordinate activities with the implementation and evaluation of Strategic Highway Safety Plans from a multimodal perspective on transportation safety planning.