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TOOLS OF THE TRADE ◀

Transportation Planner's Safety Desk Reference

The Transportation Safety Planning Working Group (TSPWG) has developed a new information resource called the Transportation Planner's Desk Reference. This tool is intended to help state and local transportation planners address safety in a comprehensive way. It recommends a set of steps to incorporate safety into the transportation planning process and summarizes some key safety strategies from National Cooperative Highway Research Program (NCHRP) Report 500, Guidance for Implementation of the American Association of State Highway Transportation Officials (AASHTO) Strategic Highway Safety Plan.

Some steps recommended in the Desk Reference include determining high crash locations, types, and factors of crashes, identifying appropriate countermeasures for these crashes, and creating goals, objectives, and performance measures to manage the transportation system's safety performance.

Once these tasks have been completed, planners can refer to the Desk

Reference for vital information on strategies in the following sixteen emphasis areas:

- Older travelers
- Pedestrian collisions
- Aggressive driving
- Unlicensed drivers
- Signalized intersections
- Run-off-the road collisions
- Head-on collisions
- Horizontal curves
- Tree collisions
- Utility pole collisions
- Occupant protection
- Heavy truck collisions
- Work zone collisions
- Drowsy or distracted driving
- Rural emergency medical services
- Alcohol involved collisions

In addition, the Desk Reference includes information on costs and benefits and the effectiveness of each strategy along with information on obtaining best practices and resources. Information on how to obtain a copy of the Desk Reference will be available soon on the TSPWG website at <http://tsp.trb.org>.

Focus on Accident Modification Factors

Accident modification factors (AMF), derived from crash reduction factors, are used to estimate the reduction in crashes that can be expected for a specific transportation treatment or installation. To achieve the greatest return on investment, states, regional organizations and localities must have accurate AMFs when choosing a solution to a transportation related problem.

To improve the usefulness of AMFs, the National Cooperative Highway Research Program (NCHRP) documented the state of practice for the development, application, and validity of existing AMFs and to determine user priorities for improvements. The NCHRP Research Results Digest 299, Crash Reduction Factors for Traffic Engineering and Intelligent Transportation System (ITS) Improvements: State of Knowledge Report reviewed the literature and conducted a survey of state DOTs to obtain information on 100 treatments.

Survey respondents rated (high, medium or low) the importance of an AMF for each of the 100 intersection, roadway segment and miscellaneous treatments along with assigning a level of predictive certainty (LOPC) for each AMF indicating the level of confidence for that treatment.

Out of the initial list, 20 treatments with a high or medium LOPC was developed with information on the type of crash in both urban and rural environments and the estimated AMF. A copy of the document is available at www4.trb.org/trb/crp.nsf.



Traffic Safety Works on the Community Level

To address transportation safety problems, Florida directly involves local officials and concerned citizens through Community Traffic Safety Teams (CTST). These teams are locally based groups of highway safety advocates who are committed to solving traffic safety problems through a comprehensive, multi-jurisdictional, multidisciplinary approach. Members traditionally include local city, county, state and occasionally Federal agencies, as well as private industry representatives and local citizens.

The Florida Department of Transportation (FDOT) supports this concept by identifying a CTST coordinator in each District who works closely with the teams in their area. Key to the success of the effort are program coordinators who recruit, organize, and staff the task forces and commit-

tees for the CTST, oversee projects, and serve as liaisons to FDOT and the county.

In Seminole County, located in Sanford, FL, twenty-one agencies use a team approach and combine law enforcement, emergency medical services, public education, and engineering efforts to address road improvements, driver education, and enhanced emergency response. For road improve-

ments, the Seminole County CTST reviews DOT crash information to identify the location of crash clusters, road deficiencies, and other contributing factors and recommends safety-related, cost-efficient solutions that can be implemented in a relatively short time.

For more information, see <http://tsp.trb.org/research.asp?id=2>



New Website Feature

The Transportation Safety Planning Working Group web site has a new, interactive feature – a Question and Answer Forum where users can post questions and receive responses from other users who may have additional ideas and insight.

Questions and a list of responses will be posted and archives kept for future research.

So if you run into roadblocks in developing or implementing your SHSP or need the best approach for integrating safety into your TIP, STIP or long range plan -- whatever your question – someone will have the answer.

Visit <http://tsp.trb.org>.

Elevating Safety Criteria

In southeastern Massachusetts, projects that show a greater potential for improving safety receive greater weight than projects that do not. This is due to a Southeastern Regional Planning and Economic Development District (SRPEDD) policy, started in the 1980s, that makes safety a key planning factor in the evaluation and selection of projects for the Transportation Improvement Program (TIP). SRPEDD, the metropolitan planning organization for the southeastern area of Massachusetts, decided early on that a greater emphasis on safety was necessary.

The modification required evaluators to document how the project would address a safety problem and affect the rate and severity of crashes in that location. SRPEDD maintains a regional database for crash rates on every intersection and roadway. The data is used to calculate the Equivalent Property Damage Only (EPDO) index, which ranks intersections on the severity of crashes, and the Accidents Per Million Entering Vehicles (ACC/MEV) which is based on traffic

volume and is used to determine crash probability.

SRPEDD provides this information to the public through “The Top 100 Most Dangerous Intersections in

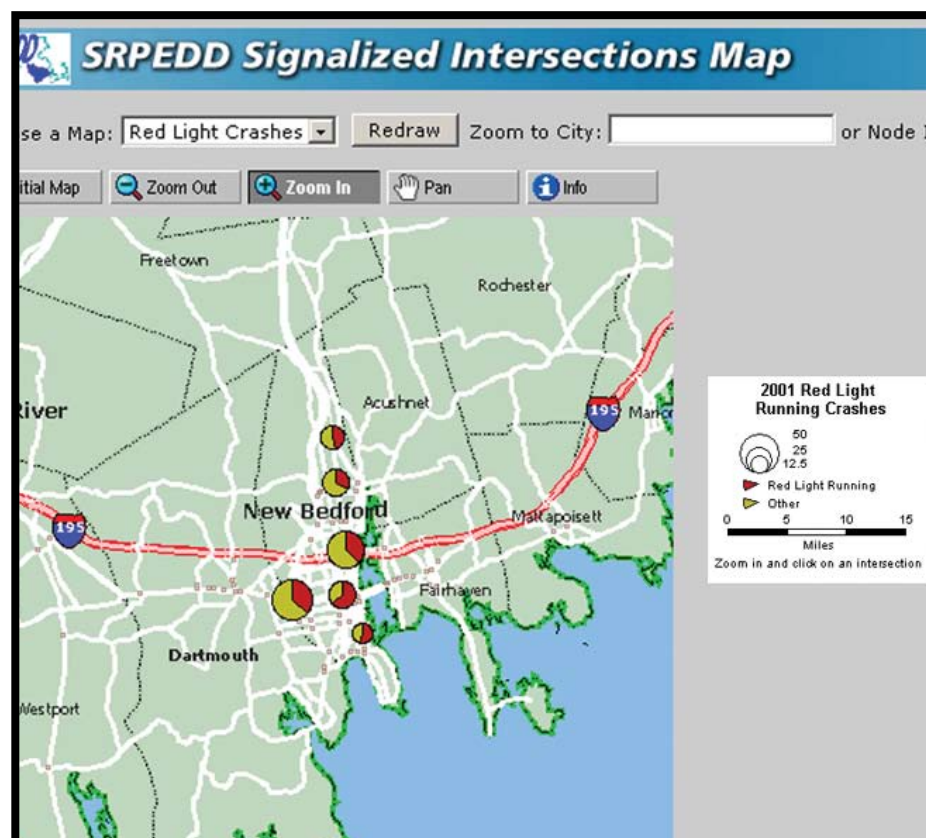
Southeastern Massachusetts” report, which receives extensive media attention. The goal is to identify intersections and roads that are experiencing safety problems, to inform local officials and the public, and to provide

technical assistance in determining the nature and extent of the problem and potential solutions.

SRPEDD also responds to requests for traffic control measures, conducts speed surveys, speed warrant analyses, helps communities with improper placement of traffic control devices and provides detailed maps on level of service, volume and crash rates.

The actions of SRPEDD, in elevating the importance of safety and raising public awareness on hazards, have prevented additional crashes. Since the first dangerous intersection report in 1988, a total of 32 intersections have received some documented level of improvement and prevented over 2600 crashes. Jim Hadfield, SRPEDD’s Director of Highway Planning, attributes the organization’s success at planning for safety to close working relationships with community leaders, law enforcement officials, and the public.

For more information, see <http://tsp.trb.org/research.asp?id=2>



To Improve Safety - Consider Your Assets

A transportation system's assets are more than pavements and bridges. They include signs, signals, lighting, guardrails, barriers, crash cushions, pavement markings, and detectors. Few states, however, have a system to adequately manage these assets and few may consider these assets in their efforts to improve safety.

Safety hardware, however, degrades quickly due to weather, other environmental factors, and traffic loads placing road users at risk. Rather than reacting to a specific situation, a comprehensive approach to the design, installation, inventory and monitoring of condition, performance, maintenance, and repair of this hardware can prevent a problem before it happens.

This is the message of the Federal Highway Administration's publication, *Why Your Agency Should Consider Asset Management Systems for Roadway Safety*, which outlines several benefits for inclusion of roadway safety elements in an asset management system including the following:

- More rationale resource allocation decisions that can help managers identify priorities

and provide information to upper level management, decision makers and the public.

- Simplified cost estimating and budget processes that can track costs.
- Cost savings through better information, more accurate cost data, more timely data and other efficiency improvements.
- Timely, accurate, and complete data access through a centralized database of all inventory including location, condition, assessment, maintenance, repair history, and other relevant information.
- Improved safety through faster response to customer service requests.
- Reduced duplication of effort that allows central and regional or district offices to share information.
- Improved data clarity and consistency through standard definitions, measurements, and formats.
- Simplified report preparation.

The report also describes integrated asset management systems, which bring the added benefit of supporting

strategic decision making through improved analysis capabilities. It also provides case studies of several states that have made progress on safety management systems, including Virginia, Florida, Tennessee, and New Mexico.

Virginia has a sampling-based inventory system that collects data on signs, sign supports, guardrails, and pavement markings. Florida continually updates data that is collected conventionally from traditional sources on all roadway safety elements.

Tennessee also continually updates data that is collected from traditional sources on signs, guardrails, and pavement markings. New Mexico uses a video image-based and Oracle® database system that collects information on all visible roadway safety elements except lighting and detectors. To help other states get started, FHWA provides some initial action steps for building a roadway safety asset management system.

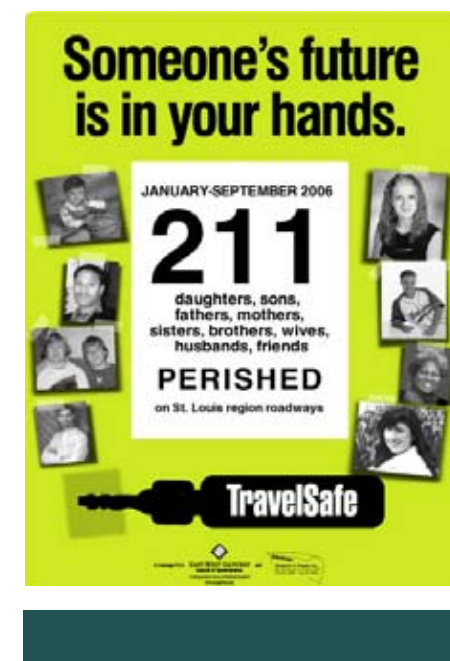
Copies of the publication are available at www.fhwa.dot.gov.

Travel Safe Zones Alert Drivers

Drivers in and around St. Louis, MO cannot claim they are unaware a roadway is dangerous. The East-West Council of Governments has implemented a new initiative called "Someone's Future Is In Your Hands." This initiative, which is coordinated with the State's "Arrive Alive" campaign, targets driving behavior in high-risk road segments, as well as that of young drivers. The impetus for the campaign is the high number of crashes caused by driver inattention in the St. Louis region.

The Council used safety data to identify high-risk areas and installed large black and yellow signs designating them as "Travel Safe Zones." The signage and accompanying public education efforts stress personal responsibility and the need for attentive driving. The campaign also includes increased law enforcement in the designated areas.

The program also includes a high school course called "Crash! The Science of Collisions," that is given in science, math, and physics classes. The course, sponsored by Monsanto, uses videotape, computer software, laboratory equipment, model cars, and other materials to reconstruct crashes, showing how they occur and how they can be prevented.



NACE Participates on FHWA Safety Scan

By Sue Miller, P. E.,
Freeborn County Engineer and
NACE North Central Regional
Vice President

This summer, as a representative of the National Association of County Engineers (NACE), I had the unique opportunity to participate on a FHWA Scan Tour that identifies best safety practices across the country. The team included FHWA representatives from the Federal and state level, the chief engineer for New Hampshire, a pavement specialist from Colorado, the chief design engineer for Louisiana, and a facilitator from Penn State University.

At the first stop, the Colorado Department of Transportation gave a presentation on a program that combines weigh in motion (WIM) technology with safety messaging. In the mountainous area of Floyd's Pass, for exam-

ple, the WIM considers the speed and weight of a passing truck and provides a warning via a driver feedback sign to slow down to negotiate the road alignment ahead. The tour moved onto Washington State, where county engineers play an integral part. Thurston County, WA discussed the challenges of insufficient funding, particularly when it is possible to only make safety improvements on one or a limited number of projects. A lack of resources was a common theme throughout the tour.

One of the benefits of the tour was the opportunity for the team to meet and discuss safety topics with county engineers at the group's summer conference. It was clear the state and Federal members of the team were impressed by the professional approach engineers bring to safety and the transportation planning process.

In Minnesota - Traffic Safety Is Good Medicine

An article in May 2006 edition of Minnesota Medicine, a publication of the Minnesota Medical Association, posed an interesting question. Are traffic crashes public enemy #1? As people in traffic safety know too well, the answer is often no -- even though the data say otherwise.

The article goes on to note that, despite the high number of fatalities resulting from traffic crashes, much safety funding is directed toward solving problems that are less likely to happen. The article quotes Nic Ward of the University of Minnesota who notes "There is disproportionately more money per fatality going to areas such as homeland security that are important but do not constitute the same level of fatality risk in general as driving." Other experts note that the

U.S. has not kept pace with other motorized countries such as Great Britain, Canada, and Australia.

To solve the problem, the article quotes safety experts who believe traffic safety ought to be on the radar screen of medical providers and who urge physicians to advise patients to wear safety belts and drive the speed limit.

The article includes a number of other recommendations on ways to improve traffic safety, including graduated licensing and monitoring systems for young drivers, increased safety belt use in all seating positions, ignition interlock systems for impaired drivers, and implementation of a statewide trauma system.



Watch for Deer!

Whenever you are behind the wheel, but particularly . . .

- Dusk to Dawn
- On Rural and Suburban Roads
- Fall Mating Season (October through December)

A Focus on Deer Vehicle Crashes

According to the Federal Highway Administration (FHWA), there are over 1.5 million deer vehicle crashes each year in the U.S. A deer crash can happen at anytime, but half occur from October through December and three quarters happen from dusk to dawn.

Most of the crashes also occur on rural and suburban roads outside dense urban areas. In northern New Jersey, the North Jersey Transportation Planning Authority (NJTPA) has developed a campaign designed to prevent such crashes. The campaign includes a brochure, bumper magnets, radio public service announcements, and a web site (www.njdeercrash.org) to inform drivers about how to avoid these crashes.



Leanna Depue: A Passionate Advocate for Highway Safety

Dr. Leanna Depue, Director of the Highway Safety Division of the Missouri Department of Transportation, is a strong supporter of highway safety. In fact, she is passionate when it comes to doing all that is possible to make sure people stay safe on our nation's roads and highways.

As a supporter of the Safety Management Systems (SMS) approach in the early 1990s, she promoted the concept that improving the transportation system was a shared responsibility requiring broad-based prevention and mitigation strategies in engineering, enforcement, education, and emergency services areas. If this sounds familiar – it should. SMS, which was a requirement of the Intermodal Surface Transportation Act of 1991 (ISTEA), was the basis for many of the SHSP requirements set forth in SAFETEA-LU.

When the requirement for states to implement SMS was removed, Depue remained committed to the overall goals. “We had to move from isola-

tion,” she said. “Part of the problem was a focus on funding sources rather than how the various agencies could collectively work together toward a common safety goal.”

Her commitment and involvement in a comprehensive safety approach led to the national stage. She is past Chair of the Transportation Research Board's (TRB) Transportation Safety Management Committee, which reviews the advancement of safety management systems, research and technology. When the Transportation Equity Act for the 21st Century (TEA-21) was passed, requiring safety be one of seven priority transportation planning factors, she worked with others to create a subcommittee of the Committee to address the new conditions. This subcommittee was the forerunner of the Transportation Safety Planning Working Group (TSPWG).

With the passage of SAFETEA-LU in 2005, requiring states to develop Strategic Highway Safety Plans (SHSP), things came full circle. Many

of the SMS elements are components of the SHSP process, including the focus on all public roads, the emphasis on the 4Es (engineering, enforcement, education, and emergency services) in the development of solutions, and increased communication, coordination, and cooperation among the organizations involved in highway safety.

“We've started a paradigm shift,” she said. “The SHSPs [that are currently being developed in the states] will help us view highway safety through a systems approach that examines both engineering and behavioral solutions.”

Depue began her safety career as a graduate assistant in the Health Education Safety Center at Southern Illinois University (SIU) in Carbondale. “I had just graduated with a bachelor's degree in physical education and had sent out 250 letters looking for a teaching job, but got no response. So when I saw there was a graduate assistantship available in the Safety Center, I decided I'd better take it,” she said. The choice was a good one. Depue went on to receive both doctorate and master's degrees in health education – safety from the university. The experience gave her a strong background in highway safety.

When she was hired as Director of the Missouri Department of Transportation's Highway Safety Division in September 2005, she became active in implementing the state's strategic highway safety plan, called Missouri's Blueprint for Safer Roadways. The plan outlines eight essential strategies to reduce motor vehicle fatal and serious injury crashes and is overseen by the Missouri Coalition for Roadway Safety, an organization that includes twenty eight federal, state, and local agencies and private sector partners. Depue serves as Chair of the Coalition's Executive Committee.

Given her long history in the field of highway safety, Dr. Depue can provide a historical perspective on safety and transportation. “The biggest change I

“The biggest change I see is a breaking down of barriers between enforcement, engineering, education and the EMS community. We are truly seeing change occur. We are no longer doing things independently, but collectively.”

- Leanne Depue

see is a breaking down of barriers between enforcement, engineering, education and the EMS community. We are truly seeing change occur. We are no longer doing things independently, but collectively,” she said. “What hasn't changed is that the people in highway safety are a family of safety professionals who really have a heart and passion for this issue.”

No one exemplifies this heart and passion more than Leanna Depue. Her commitment to transportation safety has brought her beyond Missouri to the national stage. In addition to chairing the TRB Transportation Management Committee, she has served as a member of the Strategic Highway Safety Program Technical Coordinating Committee, Chair of the Safety Section for the Systems Users Group for TRB, and Chair of the Highway Traffic Safety Division of the National Safety Council. She is also Regional Director for the National Association of Women Highway Safety Leaders, and is involved in a number of National Cooperative Highway Research Program (NCHRP) panels.



Transportation Safety Calendar

AMPO Annual Meeting
October 30 – November 3, 2006
Ft. Lauderdale, FL
Ft. Lauderdale Marriott
For more info: www.ampo.org

TRB Key Issues in Transportation Programming: Second National Conference
November 12-14, 2006
Seattle, WA
Renaissance Seattle Hotel
For more info: www.trb.org

TRB 86th Annual Meeting
January 21-25, 2007
Washington, DC
Marriott Wardman Park, Omni Shoreham, Hilton Washington
For more info: www.trb.org

American Traffic Safety Services Association Convention and Traffic Expo
January 26-30, 2007
San Antonio, TX
For more info: www.atssa.com

NARC Washington Policy Conference
February 4-6, 2007
Washington, DC
Omni Shoreham Hotel
For more info: www.narc.org

AMPO New Partners for Smart Growth
February 8-10, 2007
Los Angeles, CA
The Westin Bonaventure Hotel and Suites
For more info: www.ampo.org

NADO 2007 Washington Policy Conference
March 12-14, 2007
Crystal City, VA
Crystal Gateway Marriott
For more info: www.nado.org

Lifesavers
March 25-27, 2007
Chicago, IL
For more info: www.lifesaversconference.org

NACE 2007
April 22-26, 2007
Milwaukee, WI
Hyatt Regency Milwaukee
For more info: www.naco.org

NARC 41st Annual Conference and Exhibition
June 23-26, 2007
Orlando, FL
Rosen Shingle Creek Resort and Golf Club
For more info: www.narc.org

Transportation Safety Planning Working Group

AAA

American Association of State Highway and Transportation Officials

American Planning Association

American Public Transportation Association

American Public Works Association

Association of Metropolitan Planning Organizations

Cambridge Systematics

Community Transportation Association of America

Federal Highway Administration

Federal Motor Carrier Safety Administration

Federal Transit Administration

Governors Highway Safety Association

Institute of Transportation Engineers, Inc.

International Association of Chiefs of Police

National Association of County Engineers

National Association of Development Organizations

National Association of Regional Councils

National Cooperative Highway Research Program

National Governors Association

National Highway Traffic Safety Administration

Society for the Advancement of Violence and Injury Research (SAVIR)

Transportation Research Board



Managing Editor:
Chester Fung, FHWA

TSPWG Moderator:
Rick Pain, TRB

Research and Content:
Cambridge Systematics

Design and Format:
Strat@comm

Web Master:
Mark Iansiti