



Toward

# Zero Deaths



A Vision for Safer Roads in America



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# *Toward Zero Deaths*

**A Vision for Safer Roads in America**

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On an average day in the U.S., there are 116 fatalities. Thirty percent of those fatalities will be under the age of 25 and it will cost Americans \$630 million.

- AAA Foundation







## ATSSA's Vision

**TOWARD ZERO DEATHS: *A Vision For Safer Roads in America***

Federal, state and local governments will unite with private industry toward a single overarching goal – *To annually reduce roadway fatalities until we reach the goal of Zero Deaths on America's roadways.*



# Foreword: TOWARD ZERO DEATHS: A Vision for Safer Roads in America

People die on America's roadways every day. Too many people. For the past 10 years, an average of 42,642 people have lost their lives each year. As cited in a recent summary by the AAA Foundation, "In 2006, 42,642 people died in traffic crashes in the United States. That's 116 every day, almost five every hour, one every 12 minutes. And 2006 was a good year. The toll was 868 higher in 2005. Of every traffic death in 2006, there were about 60 injuries; more than 7,000 every day, almost 300 every hour, one every 12 seconds."<sup>1</sup>

The AAA Foundation summary also states: "Each individual death and injury is sudden, shocking, and unpredictable. They strike young and old, rich and poor, in all seasons and at all hours. Everyone who drives or rides in a motor vehicle or walks or bicycles on or across a road is at risk."<sup>2</sup> This includes those who work on or near the roadway itself and may only be separated from traffic by cones and barrels.

It is time that we start thinking of those who die on our roadways as people, not fatalities or statistics. Every person who dies is a loss to someone; they are a mother or father, sister or brother, husband or wife. Certainly each such death is a loss to the community of which the person was a part.

We can no longer accept deaths – thousands of deaths - as a natural or normal consequence of motor vehicle use in our country. We do not and would never do so for any other mode of transportation – planes, trains, or ships. As roadway safety professionals, legislators, administrators, citizens and road users, we must set a new goal. ATSSA proposes that the new goal be: **TOWARD ZERO DEATHS**.

We further propose the following vision statement: Federal, state, local and municipal governments will unite with private industry toward a single overarching goal: To annually reduce roadway fatalities until we reach the goal of zero deaths on America's roadways.

This new goal of **TOWARD ZERO DEATHS** should be the central focus of the 2009 Reauthorization of the "Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users" (SAFETEA-LU). We include 38 specific legislative recommendations that will help us get there. ATSSA members believe that, when enacted, these recommendations will contribute significantly in helping attain this goal and make our nation's roadways safer.

The concept of setting a goal of zero deaths was first adopted in Sweden in 1997 as "Vision Zero," and has since been adopted in several other countries.<sup>3</sup> In addition, several state Departments of Transportation in the United States have identified zero roadway deaths as the core objective in their Strategic Highway Safety Plans.<sup>4</sup> These include Minnesota, Utah, Washington, Oregon, and most recently, West Virginia. West Virginia's plan was signed on September 13, 2007 with the goal of "Zero Fatalities... Saving One Life at a Time."<sup>5</sup> Utah's plan states that "...we believe that the loss of just one life is too many and this is reflected in the philosophy of the campaign, '**Zero Fatalities: A Goal We Can All Live With**'."<sup>6</sup> Iowa's report on its Strategic Highway Safety Plan's status at the AASHTO Subcommittee on Safety Management meeting

In 2006, 42,642 people died in traffic crashes in the United States. That's 116 every day, almost five every hour, one every 12 minutes.



A 747 can hold 524 passengers. Imagine if 82 of them crashed in a year. That is how many lives are lost each year on America's roadways.

1 AAA Foundation. Improving Traffic Safety Culture in the United States: The Journey Forward, Summary and synthesis. Hedlund. Sept. 2007, Page 1.

2 Idem.

3 Vision Zero - An Ethical Approach to Safety and Mobility, Claes Tingvall and Narelle Haworth. Monash University Accident Research Centre, presented to the 6th ITE International Conference on Road Safety and Traffic Enforcement: Beyond 2000, Melbourne, Sept. 6-7, 1999, <http://www.monash.edu.au/muarc/reports/papers/visionzero.html>

4 See Utah's Strategic Highway Safety Plan, Moving Toward Zero Fatalities, located at [http://www.atssa.com/galleries/default\\_file/Utah\\_SHSP.pdf](http://www.atssa.com/galleries/default_file/Utah_SHSP.pdf). Also, Minnesota, Oregon and Washington State have adopted a version of zero deaths in developing their Strategic Highway Safety Plans. Minnesota uses the term Toward Zero Deaths. Washington state uses Target Zero.

5 AASHTO Subcommittee on Safety Management participant workbook. September 26-28, 2007, Portland, Ore. State Safety Reports Tab, W.Va, Page 1.

6 AASHTO Subcommittee on Safety Management participant workbook. September 26-28, 2007, Portland, Ore. State Safety Reports Tab, Utah SHSP, Summary Document, Page 2.

stated: “We are laying the groundwork for [a] ‘Culture Change’ focus of our multi-disciplinary efforts to generate public awareness and support for safety legislation. ‘One Death is One too Many’.”<sup>7</sup>

## Toward ZERO

DEATHS should be the central focus of the 2009 Reauthorization of the “Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users”

**TOWARD ZERO DEATHS** brings multiple agencies and organizations together to create a “toolbox” to address roadway safety issues using the concept of the “4 E’s” of safety (engineering, education, enforcement, and emergency medical services). Given the broad experience and expertise of ATSSA members, as well as a substantial body of research, we believe that thousands of lives can be saved through proven roadway infrastructure improvements that will make our roadways safer.

While **TOWARD ZERO DEATHS** is similar in concept to Sweden’s Vision Zero, there are several important distinctions:

1. The inclusion of the adverb toward powerfully illustrates our commitment to move forward with combined efforts to reduce the approximately 43,000 fatalities that occur annually on our nation’s roadways.

2. Movement toward the ultimate goal of zero deaths also addresses the anticipated objection that one could never actually achieve zero deaths on our nation’s roadways. We feel that zero deaths is a positive goal. No one leaves for work or school in the morning planning to become a statistic. Don’t we all want every member of our family to return home safely every day?

3. By pursuing **TOWARDS ZERO DEATHS** at all levels of government – federal, state and local – substantial reductions in roadway fatalities can be the end result. For example, Minn.-DOT’s plan states, “Each year there are approximately 650 traffic fatalities in Minnesota... In line with the State’s Toward Zero Deaths initiative, Minn.-DOT and DPS (Department of Public Safety) have established a goal to reduce the number of traffic fatalities to 500 by 2008.”<sup>8</sup> Likewise, a county with five fatalities annually could set a goal to reduce that number to four, then three, two, one, zero. Steady, incremental improvements in safety performance can, over time, lead to substantial movement **TOWARD ZERO DEATHS**.



Over the years, ATSSA has demonstrated that the installation or upgrade of roadway safety features – many of them available at low-cost – can provide immediate and substantial safety benefits for all. Here are some examples taken from a recent study:<sup>9</sup>

1. In Mendocino County, Calif., the number of crashes plummeted 42 percent, while fatalities fell 61 percent, following an aggressive sign installation program. The total program cost of \$79,260 netted accident cost savings of over \$12 million.
2. In 2002, the City of Redmond, Wash. installed 13 in-street pedestrian crossing signs at crosswalks on roadways with speeds at or under 30 mph. Before the sign installation, driver-stopping compliance ranged from 19 – 67 percent. After the sign installation, the compliance ratio ranged from 68 – 98 percent.
3. In Lamar County, Miss., the DOT found that right side run-off-the-road crashes were reduced by 25 percent after the low-cost installation of edge line rumble strips.
4. The Florida Turnpike Enterprise’s Traffic Operations Department confirmed a nearly 70 percent reduction in cross over accidents as a result of the installation of median guardrails.



<sup>7</sup> AASHTO Subcommittee on Safety Management participant workbook. Sept. 26 – 28, Portland, Ore. State Safety Reports Tab. Iowa Report, Page 1.

<sup>8</sup> See Minn.-DOT Comprehensive Highway Safety Plan, December 31, 2004.

<sup>9</sup> *Low Cost Local Road Safety Improvements*, American Traffic Safety Services Association. March 2006. Research and case studies developed by the Texas Transportation Institute.



Congress designated the Highway Safety Improvement Program (HSIP) as a “core program” and recognized the necessity of establishing a focus on saving lives if we are ever to reduce the number of fatalities on our roadways when it passed SAFETEA-LU. In many states, this program has succeeded beyond our initial expectations. In evaluating the HSIP, the California Department of Transportation, CALTRANS, states that: “The results of the analysis of the before and



after collision data for the 95 highway locations shows statistically significant reductions in the number of fatal collisions by 19.6 percent, fatalities by 19.6 percent, and number of persons injured by 18.8 percent... The effectiveness of the program was established by using benefit-cost ratios. The total cost of implementing improvements at these locations during the three-year evaluation period was \$82.8 million. The minimum savings, in terms of reductions in collision frequency and severity during the same time period was estimated at \$482.8 million. This translates to a savings of \$2.5 billion, or a benefit-cost ratio of 30.5 assuming a project life-cycle of 15 years.”<sup>10</sup>

The expertise, knowledge and experience of ATSSA members are in the development and installation of traffic control devices and roadside safety features that make the roadway safer and more forgiving for all users of the roadway system. The remainder of this document focuses on the policies and practices needed to move America **TOWARD ZERO DEATHS**.

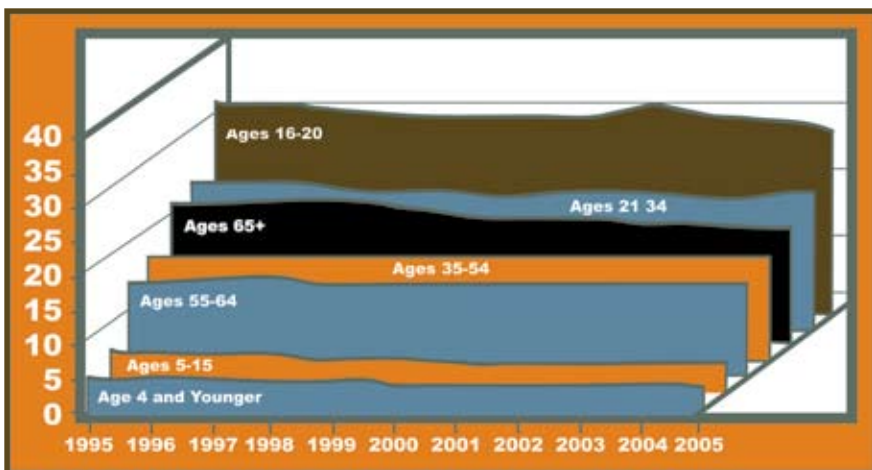
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<sup>10</sup> AASHTO Subcommittee on Safety Management participant manual. Sept. 26 - 28, 2007, Portland, Ore. State Safety Report Tab, Calif., Page 2.



# Introduction

In 2005, Americans traveled almost three billion vehicle miles.<sup>11</sup> People must use our surface transportation system to get to school, to work or to simply go about their daily business. With that in mind, it is imperative that we make our roadways as safe as possible.



Graph of statistics provided by NHTSA, Traffic Safety Facts, 2005.

closely with Congress and the Administration to make roadway safety a key feature in the legislation. The culmination of those efforts was the creation of the new core-funding program – the Highway Safety Improvement Program (HSIP).

ATSSA is proposing improvements to SAFETEA-LU in 11 issue areas. Implementing the recommendations included in this report will advance us **TOWARD ZERO DEATHS**.

The issue areas are:

- Highway Safety Improvement Program
- Strategic Highway Safety Plans
- Work Zone Safety
- High Risk Rural Roads
- Roadway Hardware
- Brightness and Visibility of Signage and Markings
- Older Drivers
- Congestion Mitigation
- Funding Roadway Safety
- Funding the Highway Trust Fund
- Additional Recommendations

The following pages provide ATSSA's reauthorization recommendations for each of these issue areas.

Crashes on our nation's roadways have become part of our everyday lives. People speed, talk on cellular telephones, eat, and even read while driving. The National Highway Traffic Safety Administration reports that 42,642 people were killed in 2006 in motor vehicle accidents.<sup>12</sup>

Human error should not be punishable by death. By increasing efforts to make our roadways as forgiving as possible, we can collectively limit the damaging effects these behaviors can produce.

During consideration of SAFETEA-LU, ATSSA helped frame the debate on safety by making several recommendations that became a cornerstone of the new bill. ATSSA worked

*I*n 2005, Americans traveled almost three billion vehicle miles. The National Highway Traffic Safety Administration reports that 42,642 people were killed in motor vehicle accidents in 2006.

<sup>11</sup> 2006 Cumulative Monthly Vehicle-Miles of Travel in Billions, Tables at URL: <http://www.fhwa.dot.gov/ohim/tvtw/07jantvt/page3.htm>

<sup>12</sup> Associated Press News Release dated July 23, 2007 posted at the "National News" link of ATSSA.com

# ATSSA's Reauthorization Proposals

## Highway Safety Improvement Program (HSIP)

Perhaps the greatest achievement for safety in SAFETEA-LU was the creation of the Highway Safety Improvement Program (HSIP). ATSSA strongly supports the continuation and expansion of this core Federal-aid program. Despite the fact that this is a new program and that many states delayed implementation until after they had completed development of their Strategic Highway Safety Plans, we see some very significant safety accomplishments.

In 2003, the Minn.-DOT developed a Comprehensive Highway Safety Plan (the predecessor of the Strategic Highway Safety Plan included in the SAFETEA-LU legislation and built on a model plan developed by AASHTO) to set a goal of reducing traffic fatalities from an annual average of 626 to 500 or less by 2008 (i.e. over a five year period). Through its comprehensive approach, Minnesota beat that goal by two years, registering 494 traffic deaths in 2006. The DOT reports that it "and its Toward Zero Deaths partners have adopted a new goal of fewer than 400 by 2010."<sup>13</sup>

North Carolina, Minnesota, Ohio, Texas and Washington all report dramatic success in reducing crossover deaths through the use of median barrier, with effectiveness ranging from 90 to 100 percent.

As stated earlier, CALTRANS has documented a reduction in fatalities due to roadway infrastructure improvements and measured a benefit-cost ratio of 30.5. States such as Kansas, Nevada and others have taken the lead in using Roadway Safety Audits as a proactive tool to make their roadways safer for all drivers. The Ohio-DOT reports that it completed more than 900 low cost safety items from 2004 to 2006.<sup>14</sup> North Carolina, Minnesota, Ohio, Texas and Washington all report dramatic success in reducing crossover deaths through the use of median barrier, with effectiveness ranging from 90 to 100 percent.

These are real examples of cost-effective infrastructure improvements that result in saving lives of American drivers. Congress should continue and expand this investment. Let us try to bring every driver home safely every day.

ATSSA believes that some incremental improvements can be made to the Highway Safety Improvement Program and the Strategic Highway Safety Plan planning process. Our recommendations are listed below.

**Recommendation: Congress should include the eligibility of "systemic" improvements for this program and target investments to proven roadway safety strategies.**

Highway Safety Improvement Program funds must be targeted toward cost-effective and highly beneficial safety improvements that can save lives on our roadways. While we believe that the current legislation allows for systemic improvements by state and local governments, there appears to be substantial confusion in the field. Installations and/or upgrades of signage and markings on a system wide basis may result in a greater reduction in fatalities than geometric reconfiguration at one or two locations. The eligibility of this "systemic" approach for funding should be specified legislatively.



<sup>13</sup> AASHTO Subcommittee on Safety Management participant workbook. Sept. 26 – 28, 2007. State Safety Reports tab. Minn.-DOT report, Page 1.

<sup>14</sup> Idem. Ohio Report, Page 1.

**Recommendation: Redefine the scope of eligible activities under the Highway Safety Improvement Program in order to target investments toward cost-effective roadway safety improvements.**

Eligible activities under the HSIP should be limited to the following list in order to keep the focus of the program on effective low-cost roadway safety improvements:



1. An intersection safety improvement;
2. Installation of rumble strips or another warning device, if the rumble strips or other warning devices do not adversely affect the safety or mobility of bicyclists, pedestrians, and the disabled;
3. Installation of roadway safety devices for pedestrian or bicyclist safety or safety of the disabled;
4. Construction of any project for the elimination of hazards at a railway-highway crossing that is eligible for funding under 23 USC 130;
5. Construction of a traffic calming feature;
6. Elimination of a roadside obstacle or shielding of the obstacle if it cannot be removed;
7. Improvement of highway signage and pavement markings by federal, state or local governments, including but not limited to any material upgrades and the implementation of any assessment or management method designed to meet state-established performance standards or required by federal regulation or the Manual on Uniform Traffic Control Devices to meet minimum levels of retroreflectivity;
8. Installation of a priority control system for emergency vehicles at signalized intersections;
9. Installation of a traffic control or other warning device at a location with high accident potential;
10. Safety-conscious planning;
11. Improvement in the collection and analysis of crash data;
12. Operational or traffic enforcement activities relating to work zone safety;
13. Installation of guardrails, barriers, and crash attenuators;
14. Installation of barriers between construction work zones and traffic lanes for the safety of motorists and workers;
15. The addition or retrofitting of structures or other measures to eliminate or reduce accidents involving vehicles and wildlife;
16. Installation and maintenance of signs (including Fluorescent Yellow-Green signs) at pedestrian-bicycle crossings and in school zones;
17. Projects and activities eligible for funding under the HRRR program;
18. Installation of a skid-resistant surface at an intersection, horizontal curve, or other location with a high frequency of accidents;
19. Roadway safety training for traffic control technicians, traffic control supervisors, pavement marking technicians and supervisors and inspectors, and guardrail installation supervisors and inspectors; and,
20. Any of the eligible activities cited above when installed on a system-wide basis or at appropriate locations on one or more roads identified by a public agency to receive systemic safety improvements.

**Recommendation: Funding for the HSIP should be reserved exclusively for saving lives and should not be transferable to other programs.**

As a core federal program, up-to 50 percent of HSIP funds may be transferred to other federal-aid categories. There is near universal agreement that the nationwide need for roadway safety improvements significantly exceeds the availability of safety funding. Indeed, a recent report from the FHWA demonstrates that *in toto* the states obligated 95 percent of their safety funds under TEA-21, a ratio that is in excess of the average annual obligation limitation for all programs collectively imposed by the Appropriations Committees of Congress. ATSSA recommends that HSIP funds be non-transferable and used exclusively for reducing the 43,000 deaths that occur on our roadways annually. An alternative would be to restrict transferability on a state-by-state basis until such time as the individual state has reduced its number of fatalities to no more than 10 percent of its 2009 number, thereby demonstrating that it had effectively used its safety dollars.

Passenger vehicle occupants killed in rollover crashes increased by 2.1 percent in 2006, increased for vans and pickup trucks and declined slightly for SUVs.

**Recommendation: Each state should be required to designate a full time staff person to manage the HSIP and the SHSP.**

While substantial progress has been made in state implementation of the Highway Safety Improvement Program and in the development of Strategic Highway Safety Plans, we feel that every state could benefit from the designation of a “Safety Champion” to oversee the HSIP and SHSP. The rapid launch of the Safe Routes to School Program provides ample evidence that the “champion” approach is an effective method to focus both human and financial resources on advancing a new program. It would be beneficial if this position could be supported by HSIP funds, similar to the Safe Routes to School Program.

## Strategic Highway Safety Plans (SHSP)

SAFETEA-LU requires that states develop Strategic Highway Safety Plans (SHSPs) to identify the safety improvements needed on each state’s roadway system. This in turn allows safety decisions to be based on demonstrated need. In order for these tools to be successful, states must identify not only where crashes occur, but also why they occur. The data used to develop the SHSP can help identify where crashes are occurring, but not necessarily why. There are tools available to help states with this issue.

*More than 40,000 people are injured each year as a result of motor vehicle crashes in work zones.*

**Recommendation: A federal guideline should be established to encourage the use of the AAA Foundation’s U.S. Road Assessment Program (USRAP) when developing Strategic Highway Safety Plans.**

The AAA Foundation for Traffic Safety (AAAFTS) has a program that shows great promise for helping states identify key locations where they can improve roadway safety. This program, called the U.S. Road Assessment Program (USRAP), provides a new approach to organizing highway safety information to help highway agencies more effectively manage road safety.<sup>15</sup> USRAP has two main objectives:

- Reduce deaths and serious injury on U.S. roads through a program of systematic assessments of risk that identifies major safety shortcomings, which can be addressed by practical road improvement measures; and,
- Ensure that assessment of risk lies at the heart of strategic decisions on route improvements, crash protection, and standards of route management.<sup>16</sup>

The primary tool for the USRAP is the “Risk Map.” These maps illustrate the safety performance of the road system by measuring and mapping where people are killed and seriously injured in crashes.<sup>17</sup> In this way, transportation agencies can identify roadways where there are opportunities to improve safety, or where drivers should exercise more care in driving.<sup>18</sup>



**Recommendation: Require the use of Roadway Safety Audits to plan roadway safety countermeasures and assess current safety levels.**

The FHWA has initiated the Roadway Safety Audits (RSA) Program, a formal performance examination of an existing or future road or intersection by an independent multidisciplinary team.<sup>19</sup> We believe that Roadway Safety Audits are an effective tool to plan safety countermeasures and that they will contribute to the effective expenditure of scarce safety resources. The goal of the RSA Program is to assist in the development of roadway designs that reduce the number and severity of roadway crashes, reduce construction costs by identifying and correcting safety issues before projects

<sup>15</sup> AAA Foundation for Traffic Safety. Rating U.S. Roads for Safety. 2006, Page 3.

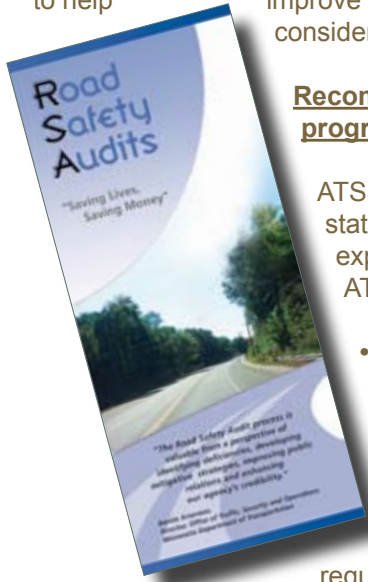
<sup>16</sup> Ibid, Page 2.

<sup>17</sup> Ibid, Page 3.

<sup>18</sup> Ibid, Page 3.

<sup>19</sup> FHWA, Focus. November 2006.

are completed, promote awareness of safe design practices, integrate multi-modal safety concerns and consider human factors in all aspects of highway design.<sup>20</sup> The FHWA has an RSA implementation team that works with states to help them implement RSAs and has developed a guidebook for this purpose.<sup>21</sup> The RSA Program is a promising initiative to help improve the safety of America's roadways. As mentioned earlier, Kan.-DOT and Nev.-DOT have had considerable success with this tool.



**Recommendation: Amend the Strategic Highway Safety Plan requirements to make the program stronger and better able to respond to safety concerns.**

ATSSA supports improvements to the Strategic Highway Safety Plan Program to ensure that states continue to update information, utilize the most current data available and include the experience of the roadway safety industry during the decision making process. In particular, ATSSA recommends:

- **Requiring that private roadway safety industry representatives, as well as local government officials - in addition to MPO representatives - be included in the development of each state's SHSP.**

Subtitle D, Section 1401 of SAFETEA-LU requires each state to develop a Strategic Highway Safety Plan. Subsection (6)A enumerates those that are to participate in this process, including a highway safety representative of the Governor, a representative of an MPO, representatives of the major modes of transportation, law enforcement, and motor vehicle agencies, persons responsible for administering Section 130, Operation Lifesaver, motor carrier safety, and "other major state and local safety stakeholders." We believe that it is the clear intent of Congress to include private industry through this last enumeration. ATSSA members have volunteered their time and expertise in infrastructure safety across the country; however, some states have been somewhat insular and included only state level agencies on their planning groups and especially on their oversight or core committees. Therefore, we believe that the legislation should clarify the intent of Congress that the roadway safety industry be represented at all levels of planning in the SHSP development, review and updating process.

- **Requiring that safety elements of all Federal-aid Highway Programs be included in state SHSPs by 2011.**

Through the strong linkage between the Highway Safety Improvements Program and the Strategic Highway Safety Plan, states have developed good approaches to focus the expenditure of HSIP funds on safety programs. Some states such as Massachusetts and Utah have even included the Safe Routes to School Program in this planning effort. However, there are safety aspects of other core federal aid highway programs that are not at this time included within the prioritization schedule of state SHSPs. For example, reconstruction and rehabilitation projects may include installation of new signage, modern guardrail, striping, etc., that are paid for by that program's funds. ATSSA feels that the installation of these safety features should meet the same objectives and standards as "stand alone" projects funded under the HSIP.



Crashes are the leading cause of death for Americans ages three to 34 and cost society \$7,300 per second.

<sup>20</sup> FHWA Website Highways for Life. URL: <http://www.fhwa.dot.gov/hfl/successstory.cfm?id=49>.

<sup>21</sup> FHWA Road Safety Audit Guidelines. U.S. Department of Transportation, Federal Highway Administration, Publication No. FHWA-SA-06-06, February 2005.

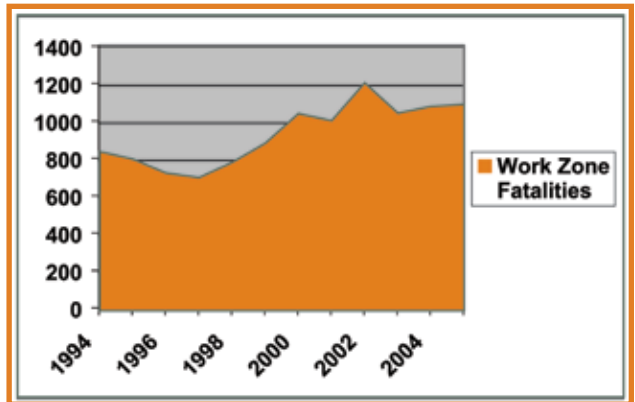
- Promoting high benefit, cost effective systemic improvements for inclusion in the SHSP.

Some practitioners believe that with its requirements for data driven countermeasures and “Five Percent Reports,” the HSIP requires them to focus on improving safety at narrow geographic locations. As cited elsewhere in this document, ATSSA has found that system-wide cost-effective countermeasures can be equally or more effective than site specific responses. Consequently, we urge Congress to develop a mechanism to promote the systematic approach when it appears that it would have a benefit that is equal to or greater than that of a site specific approach. This could include directing a recommended percentage of HSIP funds toward system wide or corridor solutions.

## Work Zone Safety

With many of our highways and bridges at or near the end of their useful life, system preservation (resurfacing, restoration, rehabilitation, reconstruction) has become critical and roadway work zones are likely to be more prevalent in the future. Work zones impact the safety and mobility of the traveling public, businesses, highway workers, and transportation agencies. Unsafe work zones can result in the loss of life, the loss of productivity and a growing frustration on the part of the motoring public.

Maintenance and reconstruction activities on our nation’s highways are increasingly taking place while traffic is being maintained and at night. This results in an increased risk of injury or death for highway workers who already suffer a fatality rate that is more than double that of other construction workers.<sup>22</sup>



Fatalities in work zones have increased from 789 in 1995 to 1,074 in 2005.

The number of fatalities in work zones has risen from 789 in 1995 to 1,074 in 2005. Of those 1,074 fatalities, 85 percent - or 913 - were either motorists or passengers.

Run-off-road crashes and vertical edge drop-offs are significant work zone safety problems. Cost-effective safety solutions to improve these and other unsafe work zone condition could include, but are not limited to, high visibility striping with audible alerts, barriers, and markings to improve wet and/or nighttime visibility.

Work zones are also a dangerous environment for drivers and vehicle occupants as well as construction work crews. According to the Fatality Analysis Reporting System (FARS) database administered by NHTSA, over the last 10 years, the number of fatalities in work zones has risen from 789 in 1995 to 1,010 in 2006.<sup>23</sup> Of those 1,074 fatalities, 85 percent – or 913 – were either motorists or passengers. What is worrisome is that this number may increase as agencies commit more resources to upgrading and improving our aging highway infrastructure.

**Recommendation: To assist the states in implementing the Work Zone Safety and Mobility Final Rule, fund the deployment of AASHTO’s Technology Implementation Group’s Seven “Identified Areas” of technology improvement at \$10 million each annually.**

AASHTO’s Technology Implementation Group has identified promising new technologies that would be beneficial to improve roadway safety, reduce congestion and enhance system capacity if used by transportation agencies.



<sup>22</sup> Department of Transportation, Federal Highway Administration, Federal Docket No. FHWA-2006-25203 IN 2125-AF10 Temporary Traffic Control Devices, Notice of Proposed Rulemaking.

<sup>23</sup> 2006 Fatality Analysis Reporting System (FARS), ARF, NHTSA



These technologies are related to the following areas:

- Congestion Mitigation
- Traveler Information
- Queue Management
- Speed Management
- Construction Management
- Weather and Road Conditions
- Incident Management

**Recommendation: Provide \$500,000 annually to support the FHWA efforts to expand the National Work Zone Awareness Week program.**

On December 5, 1999, ATSSA, AASHTO and the FHWA executed a Memorandum of Understanding that established “National Work Zone Awareness Week.” Since that time, over 40 other national associations have joined in as sponsors. A national event is held annually in April and nearly all 50 states hold local events. In addition to honoring those who have lost their lives in work zones, the event draws media and public attention to the need to drive safely in roadway construction areas. Considerable efficiencies could be attained through centralized development of uniform media and communication materials that could be used by all 50 states. We believe that this is a low cost way to educate the public about the need to drive with greater care in these areas.

**Recommendation: Promote public awareness programs to increase roadway users’ understanding of work zones and the positive benefits that result from roadway improvements.**

Road users often think of a work zone as an impediment or inconvenience rather than as a necessary element to maintaining and improving our roadways. Efforts should be made to increase public awareness of the very real benefits that result from roadway improvements including increased safety, efficiency, and the positive effects of reductions in congestion.

**Recommendation: Provide \$20 million annually for the deployment of promising smart work zone solutions and technologies identified in the Smart Work Zone Deployment Initiative.**

At the conclusion of the Smart Work Zone Deployment Initiative – an FHWA-funded research initiative that deploys and evaluates technologies used to enhance work zone safety and traffic control – a number of promising solutions and technologies were identified that can improve work zone safety.



The ATSS Foundation National Work Zone Memorial includes the names of roadway workers killed in work zones.



ATSSA President Henry Ross addresses guests and members of the media at an April 2007 National Work Zone Awareness Week event in Virginia.

On December 5, 1999, ATSSA, AASHTO and the FHWA executed a Memorandum of Understanding that established “National Work Zone Awareness Week.” Since that time, nearly all state DOTs have joined the cause.

These technologies include, but are not limited to, real-time integrated systems, stand-alone warning systems, and installation of barriers to positively protect workers and motorists, and static device evaluations. ATSSA recommends that Congress provide \$20 million annually to assist in the deployment of these life-saving solution and technologies.<sup>24</sup>

<sup>24</sup> A complete list of devices and systems that were tested and evaluated can be found at <http://www.ctre.iastate.edu/smartwz/award.cfm>. The project is part of the Transportation Pooled Fund Program, Study Number TPF-5 (081) and is administered by Iowa State University’s Center for Transportation Research and Education.

**Recommendation: Direct the FHWA to require recipients of federal-aid highway funds to establish quality guidelines that illustrate when a high visibility garment has reached the end of its useful service life and shall be replaced.**

Work zone safety devices and features should be highly visible and in good condition in order to provide proper guidance to the traveling public. It is widely recognized that these devices are subject to substantial wear and tear, and ultimately reach the end of their useful service life and must be replaced. In recognition of this fact, on Dec. 4, 2007, the Federal Highway Administration issued Final Rule FHWA23 CFR Part 630-Subpart K [FHWA Docket No. FHWA-2006-25203] RIN 2125-AF10 Temporary Traffic Control Devices, which includes a requirement for all federal-aid recipients to develop quality guidelines for work zone devices and features.

FHWA has already established a rule requiring workers to be provided with high-visibility garments.<sup>25</sup> In addition to this rule, the FHWA should be directed to establish quality guidelines that illustrate when a high visibility garment has reached the end of its useful life and shall be replaced in order to ensure worker safety.

## High Risk Rural Roads

Fifty-four percent of traffic fatalities nationwide occur on rural roads,<sup>26</sup> even though those roads bear only 35 percent of all travel.<sup>27</sup> Run-off-road fatalities are designated as a target area in most state Strategic Highway Safety Plans. The bulk of run-off-road deaths occur on two lane rural roads.

SAFETEA-LU included a new program called the High Risk Rural Roads (HRRR) Program as a subset of the Highway Safety Improvement Program (HSIP). It is currently funded as a set-aside from the HSIP. While the HRRR is a new program, it has great potential to make a difference in achieving the goal of **TOWARD ZERO DEATHS**.

Approximately 60 percent of traffic fatalities nationwide occur on rural roads, even though those roads bear only 35 percent of all travel.

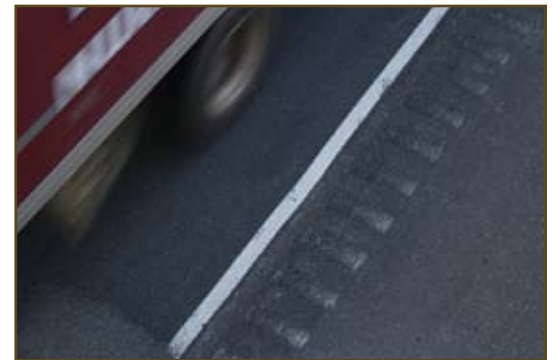


The bulk of run-off-road deaths occur on two lane rural roads.

**Recommendation: Redefine the scope of eligible activities under the HRRR Program in order to target investments and improve safety on our nation's rural roads.**

In order to improve the effectiveness of this program, an effort needs to be made to ensure that funds for this program are focused on improvements that move **TOWARD ZERO DEATHS**. ATSSA recommends that the scope of eligible activities should include the following items in order to target funds towards proven and cost-effective safety improvements:

1. An intersection safety improvement;
2. Installation of rumble strips or another warning device, if the rumble strips or other warning devices do not adversely affect the safety or mobility of bicyclists, pedestrians, and the disabled;
3. Installation of roadway safety devices for pedestrian or bicyclist safety or safety of the disabled;
4. Installation of protective devices at a railway-highway crossing;
5. Construction of a traffic calming feature; (e.g. speed bumps; radar speed feedback devices; bump outs)
6. Improvement of highway signage and pavement markings, including but not limited to any material upgrades and the implementation of any assessment or management method designed to meet state-established performance standards or required by federal regulation or the Manual on Uniform Traffic Control Devices to meet minimum levels of retroreflectivity;



Rumble strips: A cost-effective safety improvement

25 The Federal Rule regarding high visibility garments can be found at [http://dmses.dot.gov/docimages/pdf99/430925\\_web.pdf](http://dmses.dot.gov/docimages/pdf99/430925_web.pdf).

26 Persons Fatally Injured in Motor Vehicle Crashes - 2005 1/, Table FI-20, U.S.-DOT, FHWA

27 Functional System Travel - 2005 1/, Table VM-2, U.S.-DOT, FHWA

7. Installation of a priority control system for emergency vehicles at signalized intersections;
8. Installation of a traffic control or other warning device at a location with high accident potential;
9. Operational or traffic enforcement activities relating to work zone safety;
10. Installation of guardrails, barriers, and crash attenuators;
11. Installation of barriers between construction work zones and traffic lanes for the safety of motorists and workers;
12. The addition or retrofitting of structures or other measures to eliminate or reduce accidents involving vehicles and wildlife;
13. Installation and maintenance of signs (including Fluorescent Yellow-Green signs) at pedestrian-bicycle crossings and in zones.
14. Installation of a skid-resistant surface at an intersection, horizontal curve, or other location with a high frequency of accidents.

**Recommendation: Delineate edge drop-offs of more than four inches on High Risk Rural Roads.**



Edge drop-off on a rural road.

An estimated 11,000 Americans suffer injuries and 160 die each year in crashes related to unsafe pavement edges, at a cost of \$1.2 billion. An edge drop-off of four or more inches is considered unsafe if the roadway edge is at a 90-degree angle to the shoulder surface.<sup>28</sup> Near vertical edge drop-offs of less than four inches are still considered a safety hazard to the driving public and may cause difficulty upon reentry to the paved surface. Drivers sometimes tend to “over correct” when they drop off the edge by turning the steering wheel sharply and suddenly to get back on the roadway. This may result in a roll-over crash.

Addressing edge drop-offs could significantly reduce the number of these types of crashes. Since the cost of widening, paving or otherwise directly treating thousands of miles of unpaved shoulders would be cost-prohibitive, the FHWA recommends that state and local jurisdictions consider using a safety edge on resurfacing projects to help eliminate edge drop-offs. The majority of highway fatalities occur on two-lane rural roads, and these roads offer a particular opportunity for this type of treatment.<sup>29</sup> Another low-cost countermeasure to improve edge drop-offs is high visibility striping with raised profiles that give audible alerts to errant drivers while also improving wet and/or night visibility.

*An* estimated 11,000 Americans suffer injuries and 160 die each year in crashes related to unsafe pavement edges, at a cost of \$1.2 billion.

## Roadway Hardware

Since 1991, Congress has recognized that improving roadway safety hardware can significantly reduce fatalities and injuries on our nation’s roadways. In addition, as early as 1994, the FHWA called for the replacement of old and obsolete roadway safety features such as blunt end guardrail terminals. A comprehensive approach to updating and improving roadway safety hardware can be an effective method to accomplishing the goal of **TOWARD ZERO DEATHS**.

The AASHTO model Strategic Highway Safety Plan identified 22 emphasis areas for states to pursue in order to significantly reduce highway crash fatalities. Emphasis Area 15 is Keeping Vehicles on the Roadway, and Emphasis Area 16 is Minimizing the Consequences of Leaving the Road. Three key focus areas evolved from these two emphasis areas – run-off-road crashes, head-on crashes, and crashes with trees in hazardous locations.

There are a number of devices that are specifically designed to mitigate the severity of and/or prevent roadway departures. Examples of such devices include:

- Median barriers
- Shoulder-applied guardrail hardware safety features
- Crash cushions

<sup>28</sup> FHWA, You Can Prevent Crashes Caused by Unsafe Pavement, Edge Drop-Offs. The Safety Edge, Pavement Edge Treatment.

<sup>29</sup> New AAA Foundation Report Reveals Safety Impacts of Pavement Edge Drop-Offs, Business Wire, Sept. 26, 2006.

The Mo.-DOT reports a 94 percent reduction in crossover crashes as the result of the installation of median cable barrier.<sup>30</sup> The Texas-DOT reports that it has installed or is in the process of installing over 500 miles of median cable barrier. Their report states that “An informal study of the first complete year of post installation has shown that cross median fatal crashes have been reduced from approximately 47 crashes to one crash.”<sup>31</sup>

Likewise, the Washington report states: “Apart from a 10-mile stretch of I-5 in Marysville, not a single crossover fatality has been recorded on Washington’s freeways in locations where cable median barrier has been installed.”<sup>32</sup> It is clear that the installation of roadway safety features that mitigate run-off-

road, head-on, and crashes with fixed objects results in saving lives with a high return on investment.



Over the last five years, the number of persons killed in motor vehicle crashes in work zones has risen from 989 in 2001, to 1,074 in 2005. Eighty-five percent of those killed in work zones are drivers or vehicle occupants.

**Recommendation: Establish national guidelines – with deadlines - to ensure that all roadway safety features are updated so that they are compliant with NCHRP-350 or successor standards.**

It is important that national guidelines ensure that all roadway safety features be updated so that they are in compliance with NCHRP-350. To accomplish this, states should be encouraged to develop a “Roadway Safety Feature Asset Management System” in which they would inventory currently installed roadway safety features on the National Highway System, including rural roads that are owned or maintained by the state government. This process would allow states to develop an implementation plan for updating the system’s safety features to meet currently accepted standards that would better protect the current fleet of vehicles using the system.

**Recommendation: Establish an accelerated program to replace outdated guardrail safety devices.**

Deaths on rural roads account for approximately 54 percent of roadway fatalities nationwide.<sup>33</sup> Guardrail safety improvements on these more dangerous rural roads could provide immediate and substantial benefits by making these roadways more forgiving. Outdated guardrail with old style end treatments do not perform to modern standards – they need to be updated. Modern guardrail safety features can mitigate the severity of – or even prevent – roadway departure accidents.

**Recommendation: Require states to establish a process by which local entities of government will receive federal and/or state financial assistance to meet their obligations, if any, arising under a federal program to accelerate the replacement of outdated guardrail safety devices to be compliant with NCHRP-350 or successor standards.**

There are about 700,000 miles of rural major and minor collector roads in the United States, of which 400,000 are owned by county governments.<sup>34</sup> If we are serious about achieving a major reduction in deaths and injuries, we need to provide a funding source for local officials to add to and update their guardrail inventory as part of a “local” rural road safety program. Local governments currently receive no federal support to offset the cost of upgrading their current hardware to modern safety standards. This proposal would ensure that local governmental entities with jurisdiction over public roads will receive federal or state financial assistance to help them meet their



30 Performance of Guard Cable in Missouri, Missouri Department of Transportation, 2005 Data.

31 AASHTO Subcommittee on Safety Management participant workbook. Sept. 26 – 28, 2007. State Safety Reports tab. Texas-DOT report, Page 1.

32 Ibid. Wash.-DOT report, Page 2.

33 National Association of Country Engineers (NACE) Priority Issues in the Reauthorization of Transportation Equity Act for the 21st Century (TEA-21).

34 Ibid.

obligations under the NCHRP-350 or successor standards. By adopting this requirement, Congress can help ensure the timely and widespread implementation of this important roadway safety measure.

**Recommendation: Establish a pilot program of at least \$5 million to demonstrate the benefits to be realized by utilizing a comprehensive low-cost infrastructure improvement approach to roadway safety in two rural counties and two urban counties.**

ATSSA recommends the creation and funding of a pilot project in two rural counties and two urban counties within the United States. The purpose of the pilot project would be to measure the reduction in fatalities and injuries when a comprehensive approach is taken with regard to roadway safety hardware. Each area chosen for the pilot would update and utilize the latest technologies related to traffic signs, pavement markings, rumble strips, guardrails and other roadway safety devices.

## Brightness and Visibility of Signage and Markings

Driving at night or in adverse weather increases the risk of roadway crashes. Crash data bear out the importance of safety improvements targeted toward nighttime driving. While only 25 percent of travel occurs at night, more than half of traffic fatalities occur during nighttime hours.<sup>35</sup> Almost 60 percent of all highway fatalities involve vehicles running off the road.<sup>36</sup> While nighttime crashes are attributable to a wide variety of causes such as impaired driving, drowsiness, speed, etc., pavement markings with adequately maintained retroreflectivity help drivers navigate more safely on unfamiliar roadways and through unexpected hazards. In addition to properly maintaining roadway markings and traffic signs, it is important that the materials utilized to manufacture these products be environmentally friendly.



it is important that the materials utilized to manufacture these products be environmentally friendly.

**Recommendation: Establish October 1, 2011 as the deadline by which the FHWA must promulgate a Final Rule that establishes a national standard on minimum maintained levels of retroreflectivity for pavement markings as directed by Congress in Section 406(a) of the 1993 Transportation Appropriations Act.**

Recognizing the important relationship between retroreflectivity and roadway safety, Congress enacted legislation in 1992

directing the Secretary of Transportation to establish a national standard “for a minimum level of retroreflectivity that must be maintained for traffic signs and pavement markings” on all public roads.<sup>37</sup>

After years of scientific research, engineering and economic analysis, and input from hundreds of public officials, industry representatives and private citizens, on Dec. 21, 2007, the FHWA published a final rule to meet the congressional directive regarding minimum maintained levels of retroreflectivity for traffic signs. At this time, it is unclear when the FHWA will be ready to promulgate a final rule related to a national standard for minimum pavement marking retroreflectivity.

ATSSA applauds the FHWA’s leadership and expert staff for their diligence and perseverance in developing a final rule on traffic sign retroreflectivity. Adequately maintained minimum levels of retroreflectivity for traffic signs will provide substantial safety benefits for all roadway users.

However, there needs to be continued emphasis on a national standard for pavement markings as well. ATSSA strongly supports establishing a firm time frame to establish a national standard for minimum maintained levels of retroreflectivity for pavement markings.

There are about 700,000 miles of rural major and minor collector roads in the United States, of which 400,000 are owned by county governments.

<sup>35</sup> FHWA Night Lights, How Retroreflectivity Makes Our Roads Safer; URL: <http://safety.fhwa.dot.gov/media/nighlights.htm>.

<sup>36</sup> FHWA, Roadway Safety Fact Sheet, [http://safety.fhwa.dot.gov/facts/road\\_factsheet.htm](http://safety.fhwa.dot.gov/facts/road_factsheet.htm)

<sup>37</sup> See Section 406(a) of the 1993 Transportation Appropriations Act.

**Recommendation: Require states to establish a process by which local entities of government will receive federal and/or state financial assistance to meet their obligations, if any, arising under a federal rule establishing a national standard for maintained minimum levels of retroreflectivity for traffic signs or pavement markings.**

In addition to establishing a deadline for a national standard on pavement marking retroreflectivity, ATSSA also recommends that Congress require states to establish a process by which local governments will receive federal or state financial assistance to implement the new retroreflectivity standards for traffic signs and pavement markings. While HSIP funds can be used to finance any sign and pavement marking improvements that may be required, those funds are distributed to and controlled by the states. Local governments receive no direct federal financial support to offset the cost of implementing these new standards. ATSSA's proposal would ensure that local governmental entities with jurisdiction over public roads will receive federal or state financial assistance to help them meet their obligations under the national retroreflectivity standards. By adopting this requirement, Congress can help ensure the timely and widespread implementation of this important roadway safety measure.

Nearly 60 percent of roadway fatalities are the result of roadway departures.

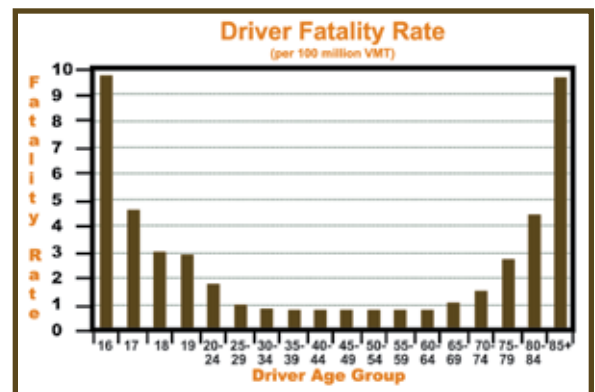
**Recommendation: A minimum width of six (6) inch pavement marking lines shall be established for the National Highway System and shall be implemented by October 1, 2012.**

Using wider lines in pavement markings can provide improved long-range detection under nighttime driving conditions, benefiting older drivers the most. Wide lines also improve vehicle lane positioning and driver comfort.<sup>38</sup>

## Older Drivers

The percentage of person's age 65 and older who are licensed drivers has increased from 61 percent in 1980 to 72 percent in 1990 and 80 percent in 2003, according to the AARP Public Policy Institute.<sup>39</sup> By 2020, people in this age group will represent one of every five licensed drivers, and the proportion is expected to increase to one in four by 2030.

As a group, older drivers tend to be relatively safe drivers with a substantially lower rate of crashes per licensed driver compared to drivers' aged 16-24. On the other hand, highway safety data indicate clearly that older drivers are at significantly higher risk of being injured or killed when crashes do occur. Compared with an overall fatality rate of 2.0 per 1,000 crashes, persons aged 65-74 have a fatality rate of 3.2. The rate climbs to 5.3 for those aged 75-84, and at 85 and above, the rate is 8.6.<sup>40</sup>



Driver Fatality Rates based on VMT (vehicle miles traveled)



Despite the risk, the ability to drive is increasingly important to older Americans. In a recent AAA survey of more than 1,000 seniors, nearly 90 percent said they drive themselves to get around on a daily basis, and next to financial security and the cost of health care, seniors are most concerned about their ability to get around in the future.<sup>41</sup>

Yet, extensive research by the federal government, the Transportation Research Board, and other academic and private organizations shows that as people grow older, changes to their physical health may make driving more difficult. These

38 The Use of Wider Longitudinal Pavement Markings, The Texas Transportation Institute, Research Report 0024-1, March 2002.

39 AARP Public Policy Institute, Older Drivers and Automobile Safety Fact Sheet (2005).

40 National Cooperative Highway Research Program, Report 500, A Guide for Reducing Collisions Involving Older Drivers (2004).

41 AAA News Release dated Aug. 15, 2005, "New Tool Helps Seniors Play it Safe Behind the Wheel," URL: [http://www.aaamidatlantic.com/safety/release\\_content.asp?id=2297](http://www.aaamidatlantic.com/safety/release_content.asp?id=2297).



Mo.-DOT is using larger signs to benefit older drivers. Improvements that benefit older drivers generally benefit all drivers.

changes include declining vision, decreased physical flexibility (e.g., the ability to turn one’s head to look over the shoulder for lane changes), decreased cognitive abilities (e.g., more difficulty sorting through the large amount of information encountered while driving), and increased reaction time.

Based on these findings, the FHWA developed and published a series of recommendations for roadway improvements designed to accommodate the particular needs of older drivers. In *Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians* (FHWA-RD-01-103), the FHWA recommends specific safety improvements at intersections, interchanges, curves, and roadway work zones that will make roadway features and hazards more visible, particularly at night, and provide drivers with more advance notice and clearer information guiding them through hazardous locations and to their destinations safely.

In SAFETEA-LU, Congress made its first attempt to get the FHWA recommendations for older driver safety improvements implemented in the federal-aid highway program. Section 1405 of that law authorized a program to carry out those recommendations. Unfortunately, the provision was not accompanied by a specific source of funding and Congress has not appropriated funding for this purpose in subsequent years.

**Recommendation: Reauthorize Section 1405 of SAFETEA-LU and provide at least \$90 million per year for a pilot program to assist states in implementing the FHWA’s recommendations to improve roadway safety for older drivers.**<sup>42</sup>

*F*ifty-four percent of traffic fatalities nationwide occur on rural roads, even though rural roads bear only 35 percent of the travel.

ATSSA strongly supports the safety improvements for older drivers that are recommended by the FHWA and authorized in Section 1405 of SAFETEA-LU. This minimal investment will contribute significantly to the safety, mobility, independence, and overall quality of life for millions of American seniors.

## Congestion Mitigation

Traffic congestion, particularly in urban areas, contributes to a degradation of air quality, jeopardizes safety, impedes efforts to conserve energy, reduces productivity, and results in delays that affect our standard of living and quality of life. Its adverse effects on our national economy are estimated to cost us over \$75 billion annually.<sup>43</sup>



The Road Information Program (TRIP) reports that the time commuters spend stalled in traffic has quadrupled in the last two decades and that it is growing worse by about 11 percent annually. In addition, a permanently congested freeway is environmentally irresponsible. An estimated six billion gallons of fuel related to greenhouse gas emissions have been attributed to congestion. Congestion causes an estimated 4.3 million hours of delays annually in 85 of our nation’s largest cities.<sup>44</sup>

A study conducted by Michigan State University observed that as traffic congestion builds, crashes increase due to speed differentials. When speeds slow as a result of “stop and go” traffic, the potential for rear end crashes increases.<sup>45</sup>

42 Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians, FHWA-RD-01-103.

43 Lomax, Tim, and David Schrank. *Urban Mobility Study*. Texas Transportation Institute, Texas A & M University. Available at <http://mobility.tamu.edu>.

44 *Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation*. United States Department of Transportation, Federal Highway Administration, 2006.

45 *Congestion and Crash Rates*. Michigan State University. June, 1998.

A study commissioned by the American Highways Users Alliance (AHUA) and conducted by Cambridge Systematics found that by improving traffic flow on our nation's worst bottlenecks, over one billion gallons of fuel could be saved and traffic delays could be reduced by an average of 19 minutes per day trip annually. In addition, an estimated 290,000 roadway crashes could be prevented. Pollution at bottlenecks could be halved, reducing carbon monoxide by 45 percent and smog-causing volatile organic compounds by 44 percent.<sup>46</sup> Given the pervasive impact that traffic congestion has on our nation's economy, freight movement, environment, and roadway safety, we believe that congestion mitigation should be a national goal. The U.S. Department of Transportation's National Strategy to Reduce Congestion on America's Transportation Network policy statement is a good place to start.<sup>47</sup>

**Recommendation: Amend the list of eligible projects in the CMAQ program, under 23 USC 149 (b)(5), to include: 1) the installation and operation of managed lanes, reversible lanes, contraflow lanes, and special use lanes; 2) reconfiguration of acceleration and deceleration lanes; 3) ramp metering; 4) the installation and operation of movable median barriers; and 5) the installation of traffic signs, pavement markings, channelizers, and other traffic control devices.**

SAFETEA-LU authorized approximately \$8.6 billion for the Congestion Mitigation and Air Quality Program (CMAQ) in Sections 1101 and 1103. ATSSA supports strengthening the CMAQ program to significantly improve and enhance our nation's principal bottlenecks and congested corridors. By targeting investment toward cost effective congestion improvements on key arterials, corridors, and highway links, the overall level of service of our transportation system can be significantly improved.

## Funding Roadway Safety

In 2006, almost 43,000 people lost their lives in motor vehicle crashes. Close to three million more were injured. Apart from the profound human suffering and loss, a report issued in 2000 by the National Highway Traffic Safety Administration estimates that the economic consequences are staggering – \$230.6 billion annually, or \$820 for every person living in the United States.<sup>48</sup> We are gratified that Congress created the Highway Safety Improvement Program (HSIP) as part of the SAFETEA-LU legislation. This new core federal program is funded at \$1 billion per year and its stated purpose is “to

*The economic consequences for motor vehicle crashes are staggering – \$230.6 billion annually, or \$820 for every person living in the United States.*

achieve a significant reduction in traffic fatalities and serious injuries on public roads.” Also included in the legislation were two new and vital programs created to enhance roadway safety – the High Risk Rural Roads (HRRR) Program and the Safe Routes to School Program (SRTS).

The HRRR Program makes federal assistance available for safety improvements on some of the nation's most dangerous roadways – rural two-lane roads. And the SRTS

Program funds infrastructure improvements and educational programs designed to encourage walking or bicycling to school by making bicycle/pedestrian routes safe and more appealing.

Even though SAFETEA-LU was a major step forward, there is more to do.



<sup>46</sup> Unclogging America's Arteries: Prescriptions for Healthier Highways. American Highway Users Alliance / Cambridge Systematics.

<sup>47</sup> National Strategy to Reduce Congestion on America's Transportation Network. U.S. Department of Transportation. May 16, 2006.

<sup>48</sup> The Effects of Traffic Crashes. URL: <http://www.safemotorist.com/articles/trafficcrashes.aspx>



**Recommendation: Increase funding for the Highway Safety Improvement Program, with a target of 10 percent of overall funding.**

Congress has already recognized the considerable gap between the amounts required to maintain and improve our nation's roadways and the funds currently available through the Highway Trust Fund. Under SAFETEA-LU, two commissions were established to address this issue, the National Surface Transportation Policy & Revenue Study Commission and the National Surface Transportation Infrastructure Financing Commission. There is no doubt that Congress will need to take bold steps in order to identify funding sources to maintain the integrity of the Highway Trust Fund. ATSSA urges all Members of Congress concerned with saving lives on our roadways to give careful consideration to dedicating 10 percent of total roadway funding to saving lives on our nation's roadways.

**Recommendation: Increase funding for the High Risk Rural Roads Program to at least \$1 billion annually and target that funding at cost-effective improvements for maximum return on investment.**

As documented earlier, fifty-four percent of all roadway fatalities occur on rural roads,<sup>49</sup> even though rural roads bear only 35 percent of all travel.<sup>50</sup> Many states have identified rural roads as key problem areas, especially for run-off-road crashes and fatalities. These are our nation's deadliest roadways. In SAFETEA-LU, Congress exhibited considerable leadership in developing a pilot program to target some safety funding to our nation's most dangerous roadways. ATSSA recommends that this program be increased to \$1 billion annually, and that additional Congressional guidance be provided to ensure that these funds are expended on cost-effective improvements on local roadways.

**Recommendation: Increase funding for the Safe Routes to School Program.**

The SRTS Program provides, for the first time, an opportunity to address the need to provide a safe environment for our children to walk and bicycle to school while at the same time addressing the issues of health and obesity. To date, every state that has bid out programs has received applications for more projects than it could possibly fund. In addition to increasing the funding for this program, ATSSA recommends that the application process and federal "paperwork" be streamlined in order to encourage participation by smaller communities.

**Recommendation: Provide a separate obligation limit for the Highway Safety Improvement Program.**

Due to the complex nature of the federal authorization, appropriations, apportionment and obligation limits, ATSSA strongly supports the establishment of a separate obligation limitation that would encompass the HSIP, HRRR, SRTS programs as well as the proposed program for Older Driver improvements in order to ensure that all federal-aid recipients comply with Congress' priorities regarding saving lives on America's roadways.

**Recommendation: Require that roadways developed or maintained under public private partnerships or other innovative financing mechanisms must meet or exceed the safety standards and specifications required of publicly owned roadways.**



There is considerable discussion at both the Federal and state levels regarding the application of private financing, usually accompanied by tolling, to our roadways. ATSSA strongly believes that such arrangements must be constructed to ensure that safety requirements – particularly infrastructure safety – are included as a key element of these programs.

**Recommendation: Continue the policy established in SAFETEA-LU of targeting funds toward the improvement and standardization of data collection.**

Under SAFETEA-LU, \$110 million annually was targeted over a four-year period to improvements in data collection by the states. Accurate data is essential to the successful planning

*While only 25 percent of travel occurs at night, more than half of traffic fatalities occur during nighttime hours.*

49 Persons Fatally Injured in Motor Vehicle Crashes - 2005 1/, Table FI-20, U.S.-DOT, FHWA

50 Functional System Travel - 2005 1/, Table VM-2, U.S.-DOT, FHWA

and design of safety countermeasure. We recommend that this effort be continued over the next six years and that it include a specific focus on work zone crash data.

## Funding the Highway Trust Fund

One of the most difficult issues that Congress will handle during the reauthorization process is that of funding. Given the growing infrastructure needs in the United States, it will be important that funding from the federal government be increased, be sustainable, and be dependable.

ATSSA urges Congress to carefully consider options to increase the level of transportation investments made by the federal government. The following are several policy options that can be utilized to increase the level of revenue into the Highway Trust Fund:

**Recommendation: Support an increase in the federal motor fuels tax to make up a significant portion of the purchasing power that has been lost since the last federal motor fuels tax increase in 1993.**



The federal motor fuels tax rates have not been increased since 1993. Since that time, the purchasing power of the revenue generated has been significantly diminished. ATSSA strongly supports an increase in the federal motor fuel taxes at a rate that will make up a significant portion of this loss of purchasing power.

**Recommendation: Support the indexing of the federal motor fuels tax rate on a biennial basis (beginning in 2011).**

*Deaths on rural roads account for approximately 60 percent of roadway fatalities nationwide.*

Revenue from the federal motor fuels taxes are collected and deposited into the Highway Trust Fund. Due to increased vehicle fuel efficiency and the increased mileage of hybrid vehicles, the amount collected from the motor fuels taxes has been decreasing. This has led to a reduction in funds available for the reauthorization of the federal transportation programs. In addition, the cost of materials used in transportation projects has been increasing at an alarming rate – thereby diminishing the purchasing power of the funds that are available.

ATSSA supports an increase in the federal motor fuels taxes that is tied to the consumer price index. This indexing should be done on a biannual basis beginning in 2011.

**Recommendation: Support federal bonding proposals – such as the Build America Bonds – to provide additional funding resources.**

During the reauthorization process, Congress will be considering various proposals to provide federal bonds to finance transportation projects. One such proposal is known as the Build America Bonds. The legislation creates a multi-state entity known as the Transportation Finance Corporation that will issue \$50 billion in bonds. The proceeds of the sale will be used to fund the construction of significant new projects across all modes of transportation including roads, bridges, transit, rail, and waterways.

ATSSA supports increased investment in transportation. Because the level of investment needed to improve this nation's transportation system is estimated to be \$155 billion annually for highways and bridges, funding for these projects will have to be



derived from various funding sources – not just the federal motor fuels taxes. Therefore, providing additional resources through federal bonding proposals is another key method to increasing the available funding for transportation projects.

**Recommendation: Expand the cap on the use of private activity bonds and require that at least 10 percent of the proceeds of each bond be dedicated to roadway infrastructure safety.**

Private activity bonds can be a useful tool that states can use to upgrade and improve infrastructure. Private activity bonds, as defined by SAFETEA-LU, are tax-exempt bonds issued by states to be used on transportation infrastructure. These bonds are treated like any other bond, except they must be approved for transportation use by the U.S.-DOT. The project may be built and operated by a private entity.

However, under SAFETEA-LU, the total amount of private activity bonds that can be issued is capped at \$15 billion. When states issue private activity bonds, they are adding revenue and funding to the project that is above and beyond what a state would receive from the Highway Trust Fund. Therefore, the use of private activity bonds increases the funding available for critical transportation projects. ATSSA supports the expansion of the cap on the use of private activity bonds.

## Additional Recommendations

The following are additional recommendations that ATSSA urges Congress to consider during the reauthorization of the transportation bill:

**Recommendation: Standardize the collection and reporting of nationwide fatality and crash data with an emphasis on gathering more standard and accurate information regarding crashes in work zones.**

Congress should require the standardization of fatality and crash data to be collected by the states. It is important that law enforcement be a partner in this effort. Standardizing the collection and reporting of such data will be beneficial in designing appropriate countermeasures to save lives on the nation's roadways. For example, better collection of data to include run-off road crashes and the types of fixed objects being struck by motor vehicles can lead to a better understanding of the life-saving benefits to be derived from the use of modern guardrail technology. There is also a need to have more consistent and accurate information on work zone crashes nationwide so that industry and government partners at all levels can work in an informed manner to make these areas safer for both workers and road users.

**Recommendation: The FHWA should be directed to establish training and certification standards for Traffic Control Installers and Supervisors who work in temporary traffic control zones on all federally funded projects. In addition, the FHWA should be directed to establish required minimum levels of training for “competent persons” in the areas of guardrail installation and inspection, pavement marking installation and inspection, and sign installation and inspection.**

ATSSA urges Congress to direct the FHWA to establish training and certification standards for Traffic Control Installers and Supervisors on all federally funded projects. In addition, the FHWA should establish minimum levels of training for supervisors and lead technicians - frequently referred to as “competent persons” - in the areas of guardrail inspection and installation, pavement marking installation and inspection, and sign installation and inspection.

So as not to place an undue burden on small businesses, we suggest that the standard for Traffic Control Installer and Supervisors provide sufficient flexibility to allow for normal employee turnover. For example, a requirement might be to ensure that 90 percent of employees be trained to the standard within 90 days of hire. This would ensure that a job would not be suspended due to the unexpected voluntary or

*By* improving traffic flow on our nation's worst bottlenecks, over one billion gallons of fuel could be saved, and traffic delays could be reduced by an average of 19 minutes per day trip annually. In addition, an estimated 290,000 roadway crashes could be prevented.



involuntary departure of a single employee.

**Recommendation: The FHWA should be directed to conduct a research program to measure the benefit cost ratios of various highway safety and congestion improvements.**

In the 1970s and 1980s, the FHWA and others undertook research to determine the benefit cost ratios of certain roadway work zone and infrastructure safety devices. This research may serve as a valuable tool to states in the development of safety countermeasures in their Strategic Highway Safety Plans. Yet, existing data is often as much as 30 years old, and does not include updates for newer traffic control devices or roadway safety features invented since that time.

ATSSA urges Congress to authorize \$2 million annually for fiscal years 2010 through 2014 for the purpose of establishing benefit-to-cost ratios for traffic control devices and roadway safety features that have the potential to improve highway safety and congestion. The Secretary should deliver such a report to Congress by June 30, 2014 so that relevant findings may be considered in the next reauthorization cycle.

**Recommendation: The American National Standards Institute (ANSI) 107 and 207 High Visibility Apparel requirements should be included in the MUTCD as they relate to all public roads, not just federal-aid projects.**

The FHWA has issued regulations under 23CFR Part 634 related to the use of high visibility apparel on federal-aid highway projects. This requirement for the use of high visibility apparel for workers should be extended to apply to projects undertaken on all public streets where the public is invited to travel. American workers deserve to be safe, regardless of the location of the roadway on which they are working.

# About ATSSA

The American Traffic Safety Services Association (ATSSA) has represented companies and individuals in the traffic control and roadway safety industry since 1969. More than 1,600 ATSSA members provide the majority of traffic control devices and roadway safety features throughout the nation. ATSSA's core purpose is **To Advance Roadway Safety**.

ATSSA's members include manufacturers and contractors in the areas of temporary traffic control, work zone traffic control devices, road signs, pavement marking, guardrail, intelligent transportation systems, and roadway safety, as well as hundreds of public officials responsible for state and local roads. In short, ATSSA is involved in all aspects of the infrastructure side of roadway safety.

The following are examples of the proactive nature of ATSSA and its members:

**Work Zone Safety:** Each year, approximately 1,100 people are killed in work zones – the majority of whom are motorists and their passengers. As part of its activities **To Advance Roadway Safety**, ATSSA has joined many transportation organizations to sponsor National Work Zone Awareness Week (NWZAW). This is a national campaign that helps increase public awareness of work zone safety, and is designed to positively impact the number of injuries and fatalities in work zones annually.



The ATSS Foundation sponsors the National Work Zone Memorial. This traveling memorial recognizes workers, motorists, passengers, police officers and emergency workers killed in work zone accidents across the country.

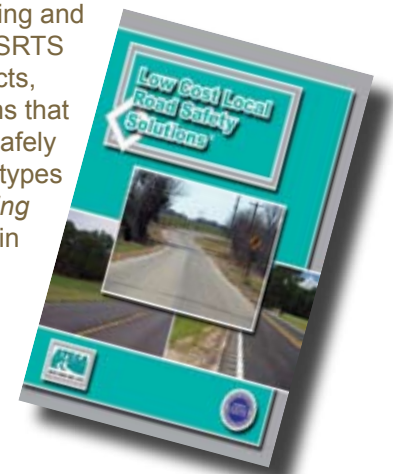
Each year, the ATSS Foundation also sponsors a work zone poster contest. Through this contest, young people are educated about the dangers of work zones. The activity named "Life Behind the Cones and Barrels - How Roadway Workers Keep America Moving" poster contest, gives kindergarten through sixth graders an opportunity to demonstrate their impressions of roadway work, which instills an advocacy for roadway safety at an early age.

**Technical Assistance:** Since the passage of SAFETEA-LU, ATSSA has worked within the framework of the legislation to help states benefit from the roadway safety aspects of the bill.

Recognizing that states and to a greater degree county and municipal governments have historically had limited funding available for roadway safety, ATSSA published a book entitled *Low Cost Local Road Safety Solutions* in cooperation with the National Association of County Engineers. The purpose of this publication is to provide examples of low cost measures, such as upgrading signs and markings or installing barriers and guardrails, that can improve the safety of local roads. The book includes 16 case studies that showcase the safety improvements these types of devices can make. ATSSA has distributed over 13,000 copies of this publication free of charge. By using low-cost measures such as those presented in the book, county and municipal governments can stretch their scarce safety dollars.



SAFETEA-LU created a new program called Safe Routes to School (SRTS). The purpose of the SRTS program is to empower communities to make walking and bicycling to school a safe and routine activity once again.<sup>51</sup> SRTS funds may be used for several types of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school.<sup>52</sup> To help school administrators understand the types of traffic control and safety devices available, ATSSA published *Putting Safety in the Safe Routes to School Program: A School Administrator's Guide* in 2006.



51 <http://safety.fhwa.dot.gov/saferoutes> FHWA Office of Safety website.

52 Ibid.

ATSSA is also committed to supporting the Federal Highway Administration in implementing new federal regulations by assisting in outreach efforts to the local and municipal level as well as the private sector. To this end, the association released a new brochure regarding the appropriate type of high visibility apparel to be worn by workers while performing duties on our roadways in the winter of 2007. Another brochure regarding the proper use of traffic control devices on private property where the public is invited to travel was released at ATSSA's Annual Convention in February 2008.

# Attachment: Technical Specifications for Older Driver Infrastructure Improvements

ATSSA's Reauthorization Policy document, **Toward Zero Deaths**, recommends the creation of a \$90 million pilot program focused on infrastructure improvements that would benefit older drivers. Many examples of these types of improvements are included in an outstanding report developed by the Government Accountability Office that is based on the FHWA's Older Driver report.<sup>53</sup> The following are extracted from that report and recommended as permissive activities for the pilot program.

## Intersection Safety

1. Larger and more reflective STOP signs with CROSS TRAFFIC DOES NOT STOP supplemental plaques.
2. Delineation of raised median with reflectors, painted curb, and larger, more reflective KEEP RIGHT signs.
3. Redundant and advance street name signs with higher retroreflectivity.
4. Generally larger street name signs.
5. Larger, more reflective ONE WAY, DO NOT ENTER, AND WRONG WAY signs.
6. Reflective turn path pavement markings.
7. Advance lane use arrows.
8. Offset left-turn lanes.
9. Backplates on traffic signals and lane control signals at signalized intersections.
10. Advance overhead lane control signs with larger lettering.
11. Reflective devices on median and island curbs to make them more obvious.

## Interchanges

1. Reflective flexible posts / delineators at exit ramps.
2. Greater use of reflective raised pavement markings.
3. Larger, more reflective WRONG WAY, STOP, YIELD and DO NOT ENTER signs.
4. Place STOP signs on both sides of ramp when used.
5. Longer "acceleration lanes" to permit more time to find a gap in the traffic.
6. More frequent use of lane use arrows.

## Curves

1. More frequent use of advanced warning for signals that may be obscured by the curve.
2. Greater use of reflective raised pavement markings on the centerline.
3. Use of post-mounted reflectors or delineators on the outside of the curve.

## Railroad Crossings

1. Greater use of post-mounted reflectors with high-performance reflective sheeting.
2. Highly reflective sheeting on the front and back of railroad crossing signposts.

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<sup>53</sup> Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians, FHWA-RD-01-103.



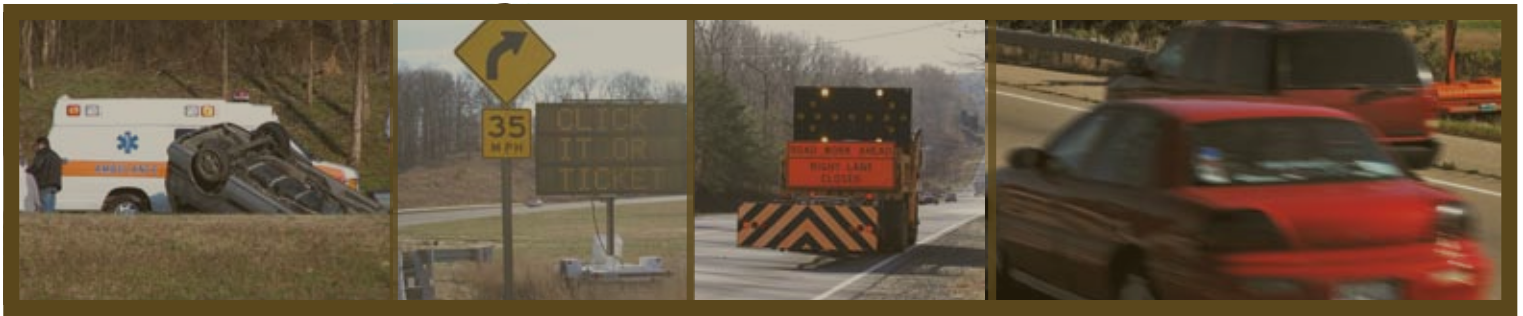








# Toward Zero Deaths



A Vision for Safer Roads in America



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