State of Tennessee

Strategic Highway Safety Plan

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Tennessee Strategic Highway Safety Committee
Tennessee Department of Transportation
Governor's Highway Safety Office
Tennessee Department of Safety
Federal Highway Administration
Federal Motor Carriers Safety Administration

MISSION: Through coordination of education, enforcement, engineering, and emergency response initiatives reduce the number of crashes that result in fatalities, injuries, and related economic losses on Tennessee's roadways.

VISION: All roadway users arrive safely at their destination.

GOAL: Achieve fewer than 900 fatalities annually by the end of calendar year 2012. This would represent saving at least 144 lives per year based on 2008 fatalities.

The Tennessee Strategic Highway Safety Plan has been developed under the oversight of the Tennessee Strategic Highway Safety Committee to reduce the number of lives lost, human suffering, and the economic costs associated with motor vehicle crashes in Tennessee. By signing this document, the signatories agree to support the committee mission and the Tennessee Strategic Highway Safety Plan.

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State of Tennessee

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Introduction

The Tennessee Strategic Highway Safety Plan defines a system, organization, and process for managing the attributes of the road, the driver, and the vehicle to achieve the highest level of highway safety by integrating the work of disciplines and agencies involved. These disciplines include the planning, design, construction, operation, and maintenance of the roadway infrastructure (engineering); injury prevention and control (law enforcement and emergency response services), health education; those disciplines involved in modifying road user behaviors (education, enforcement), and the design and maintenance of vehicles. In order to manage this complex system and to achieve the level of integration necessary to meet the highest levels of safety, two key components are needed. The first is an organizational structure that will allow for the integration of the agencies involved in highway safety. The second is a formal management process that will direct the activities of these agencies in a manner that will efficiently achieve the mission and vision. All parts as described within this plan are necessary, but there is flexibility to customize the structure and process according to external and internal factors. As prescribed by law, the plan will be updated periodically.

From 2004 to 2008, Tennessee experienced an annual average of more than 172,930 reported traffic crashes. In 2008, 65,535 injuries and 1,043 fatalities occurred on Tennessee's roads. The US Department of Transportation estimates that the annual economic loss due to traffic crashes in Tennessee was over $4.6 billion. In 2008, Tennessee's fatality rate was 1.50 fatalities per 100 million miles driven which is a 20% decrease from the 2004 fatality rate.

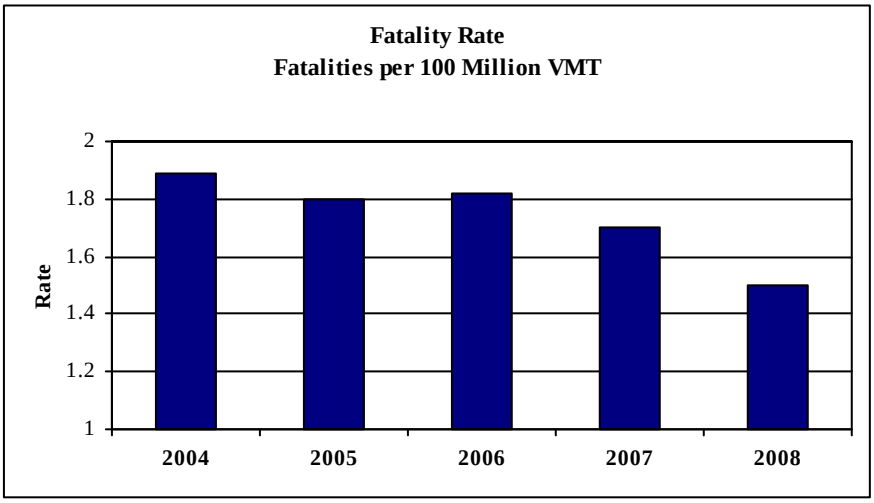
Many of these injuries represent extended rehabilitation care costs and loss of productivity. Fatalities are only a small part of the total injury picture. For each injury-related death, there are 19 injury hospitalizations and over 300 injuries that require medical attention. Each year, one in four Americans will have a potentially preventable injury serious enough to require medical care. These injuries account for almost 10% of

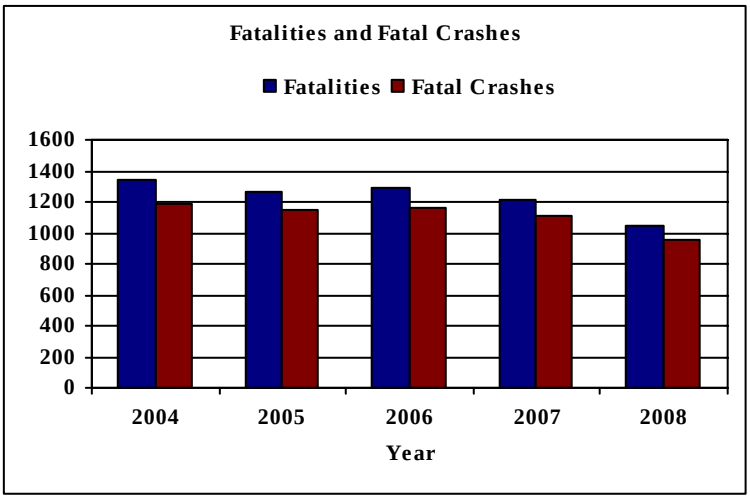
all physician office visits and 38% of all emergency department visits. For an individual, these injuries vastly diminish quality of life.

For Tennessee, facing the enormous challenge of reining in our TennCare costs, highway injuries pose a significant drain on the health care system. People who are injured in crashes incur huge treatment, acute care, and rehabilitation costs. The McKenzie December 11 report, *Achieving a Critical Mission in Difficult Times – TennCare's Financial Viability*, identified one aspect of saving TennCare costs related to automobile crashes, where they note that "an auto insurance policy should pay for medical coverage in an auto accident before TennCare does." With a devoted effort to making our highways safer, significant gains should be made by preventing/reducing these costs in the first place. Though data on precise dollar amounts that TennCare incurs due to automobile crashes was not readily available, based on national trends we know that reducing the number and severity of highway injuries will reduce the amount spent here by TennCare to treat highway injuries by several millions of dollars.

The substantial impact within the local community relative to medical costs, lost wages, insurance costs, taxes, police, fire and emergency services, legal and court costs as well as property damage are also significant.

The following charts reflect the recent state trends in fatalities resulting from traffic crashes.





Safety Partners:

For the State of Tennessee, the Tennessee Strategic Highway Safety Committee has taken on the responsibility of developing and implementing this safety plan to reduce fatalities in Tennessee. The team is comprised of the state agencies responsible for transportation and safety as well as other partners: Tennessee Department of Transportation (TDOT), Tennessee Department of Safety (TDOS), the Tennessee Department of Health (TDOH), Governor's Highway Safety Office (GHSO), Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), Tennessee Trucking Association, representatives of the Metropolitan Planning Organizations (MPO's) and Rural Planning Organizations (RPO's), the District Attorney General's Office, and the Tennessee Regional Safety Council (TRSC). The committee reports directly to the Commissioners of Transportation and Safety on their activities and progress.

Enhanced Tennessee Emphasis Areas and Lead Agencies:

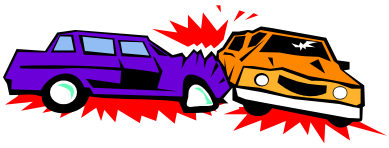
I. Improve Crash Data (TDOT, TDOS, GHSO)
II. Reduce Lane Departures (TDOT)
III. Improve Intersection Safety (TDOT)
IV. Improve Work Zone Safety (TDOT, TDOS)
V. Improve Motor Carrier Safety (TDOS, FMCSA)
VI. Improve Driver Behavior (GHSO, TDOS)
VII. Strengthen Legislation (GHSO,TDOT)
VIII. Enhance Educational and Awareness Programs (GHSO, TDOT, TDOS)

Providing the most efficient and safest highway facilities is of critical importance. The primary "measuring sticks" for safety are reductions in the number of fatalities and serious injuries that occur because of motor vehicle crashes across the state each year. To achieve the Goal of this Strategic Highway Safety Plan, data driven emphasis areas and strategies to reduce the number of fatal and serious injury crashes have been identified. Comprehensive, coordinated, and extensive safety initiatives of Engineering, Enforcement, Education, and Emergency Response will be developed and implemented

for each emphasis area. To advance the saving of lives, priority will be given to fund safety initiatives/projects to support the stated goal.

At the request of the Governor's Highway Safety Office, NHTSA assembled a team to facilitate a traffic records assessment in May of 2009. The same assessment had been conducted previously in 2004. The scope of this assessment covered all of the components of a traffic records system. The purpose was to determine whether the traffic records system in Tennessee is capable of supporting management's needs to identify safety problems, to manage the countermeasures applied to reduce or eliminate those problems, and to evaluate those programs for their effectiveness. Tennessee was lauded in the report for attaining "remarkable progress and deserving of recognition" for the efforts made since the 2004 assessment was conducted.

I. Improve Crash Data



Background

A critical challenge facing Tennessee's state and local transportation safety professionals is optimizing the use of information technology. Knowing the specifics relating to traffic crashes is the foundation of a comprehensive traffic safety analysis system. Proactive decisions can be made and effective safety policies and projects implemented by improving the availability of crash, traffic, citation, medical, judiciary, criminal, and driver records. To facilitate this, a central point of contact for statistical data information has been established in the Department of Safety.

Appropriate use of integrated traffic records to plan and assess safety programs, and leverage critical resources, is needed to protect public safety. The systems utilized to collect, store, and analyze traffic safety information require continuous assessment. This promotes the open exchange of techniques and ideas to improve the availability of information used by the highway safety community.

A complete traffic records program is necessary for problem identification, planning, operational management or control, and evaluation of a state's highway safety activities. Each state, in cooperation with its political subdivisions, should establish and implement a traffic records program to collect and provide information for the entire state. This type of program is basic to the implementation of all highway safety countermeasures and is the key ingredient to their effective and efficient management. The Highway Safety Improvement Program (HSIP) is driven by data on fatal and serious injury crashes.

The state has developed the Tennessee Integrated Traffic Analysis Network (TITAN) to improve the accuracy and storage of crash records. TITAN is a multi-stage project consisting of a core system housing multiple functional components of highway safety and law enforcement data. TITAN will expand based on the availability of funding, resources and technical support. The first phases of TITAN address the availability of crash and citation data in Tennessee and are identified as TITAN E-Crash, TITAN Paper-Crash, and TITAN E-Citation. Additional TITAN applications will address criminal activity, arrests, and other traffic safety related reporting.

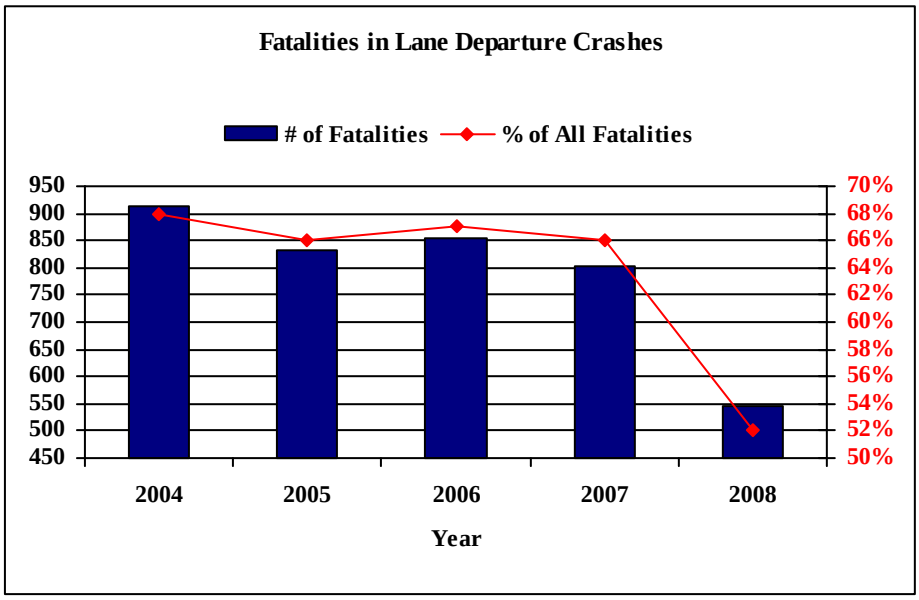
Strategies:

- Improve timeliness and accuracy of data collection, analysis processes, and traffic safety data systems including the linkage of crash, roadway, driver, medical, enforcement, conviction, criminal, and homeland security data.
- Improve and expand the storage and accessibility of safety data. Expansion will include additional data from local roads which is currently limited.
- Continually update data definitions defined by Model Minimum Uniform Crash Criteria (MMUCC) and D-20.
- Maintain the Traffic Records Coordinating Committee (TRCC) and include stakeholders who require traffic safety information.
- Promote and expand the implementation of electronic data collection systems for traffic safety information.
- Improve safety and access to resources by expanding local partner agencies' participation in the collection and use of traffic information.
- Provide training to State and local partner agencies on data collection, submission, analysis, definitions, importance, and appropriate uses for traffic safety data.
- Improve access to highway improvement and traffic safety information by communicating to the media and general public via the Internet.
- Independently verify data validity.
- Develop standard methodologies for the state-wide analysis of Work Zone Crash Data consistent with the requirements of the Work Zone Safety and Mobility Rule.

II. Reduce Lane Departures

Background

In 2008 lane departure related crashes accounted for 545 fatalities, approximately 52% of all the fatalities statewide. This is the first year since 2002 that this percentage has been below 65%. For example, a head-on collision, one of the most serious crash types, occurs when a driver departs the travel lane and collides with an oncoming vehicle. Another type of lane departure crash is the run-off-road crash that occurs when the driver loses control and the vehicle either collides with a fixed object or overturns. The primary objective of this section is to identify cost effective strategies that reduce unintentional lane departure as well as alert the driver should a departure occur. The secondary objective is to assist the driver in returning to the travel lane safely and minimize the consequences of departure by creating clear zones along the roadside. A lane departure action plan was devised in 2006.



Strategies:

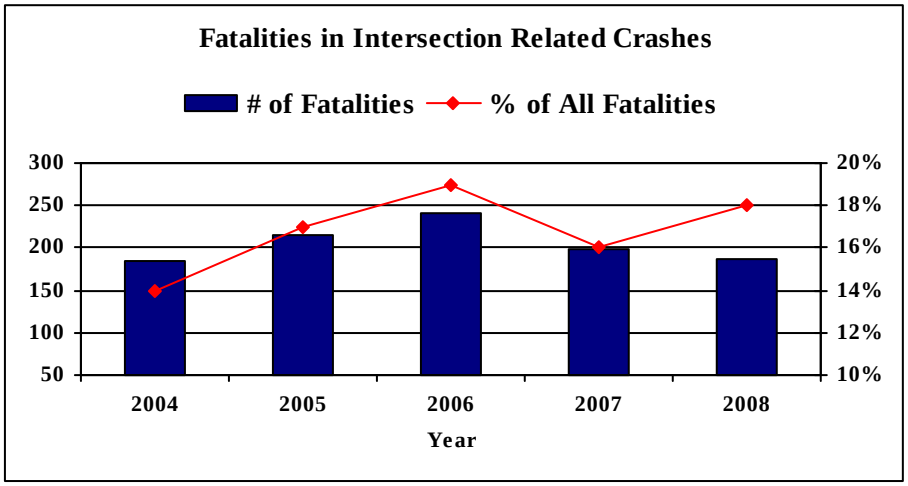
- Continue implementation of Lane Departure Action Plan.
- Identify locations with significant crash history or the potential for drivers to unintentionally leave their travel lane and develop and implement a comprehensive and coordinated initiative of Engineering, Education, Enforcement, and Emergency Response.
- Identify corridors and locations with a disproportionately large number of actual and/or potential for run-off-road and head-on crashes.
- Develop standard operating procedures for the implementation of roadway safety system-wide improvements such as:
  - Centerline rumble strips and stripes
  - Shoulder rumble strips and stripes
  - All Weather Pavement Markings including quality of materials
  - Longitudinal and Median barriers
  - Elimination of road-side hazards
  - Guardrail placement and end treatment upgrades
  - *Safety Edge* treatment for shoulders
  - Highway signage (inventory, engineering studies and analysis of existing signs and upgrade all to MUTCD minimum standards on all roadways)
  - Raised pavement markers (RPMs)
- Apply the concepts of forgiving roadway design.
- Achieve increased safety through the implementation of the latest designs and technology.
- Investigate improved lighting at rural interchanges based on 2006 TDOT Customer Satisfaction Survey findings.

- Removal of hazardous obstacles in the clear zone on right-of-way.
- Encourage safer mailbox structures.
- Consider motorcycle travel when designing strategies for preventing lane departures.

III. Improve Intersection Safety

Background

Intersection-related crashes accounted for 186 fatalities within Tennessee in 2008. Rural intersections accounted for 71 fatalities, of which 7 were at signalized intersections, and 64 were at unsignalized intersections. Urban intersections accounted for 115 fatalities, of which 51 were at signalized intersections, and 64 were at unsignalized intersections. Intersection related crashes accounted for 18% of Tennessee's fatalities compared to 22% nationally. Fatalities and serious injuries at highway/railroad intersections, while spectacular, account for a small percentage statistically of this particular emphasis area. According to NHTSA, two-thirds of all motor cycle vs. motor vehicle crashes occur at intersections. Tennessee will improve the focus for all modes of transportation at intersections.



Strategies:

- Identify intersections that qualify for the Highway Safety Improvement Program based on severity due to the number of fatal and serious injury crashes on the State and local systems.
- Implement cost effective intersection safety improvements that address project specific fatal and serious injury crash data.
- Achieve increased safety through the implementation of the latest designs and technology.
- Provide appropriate warnings at all highway-rail grade crossings.

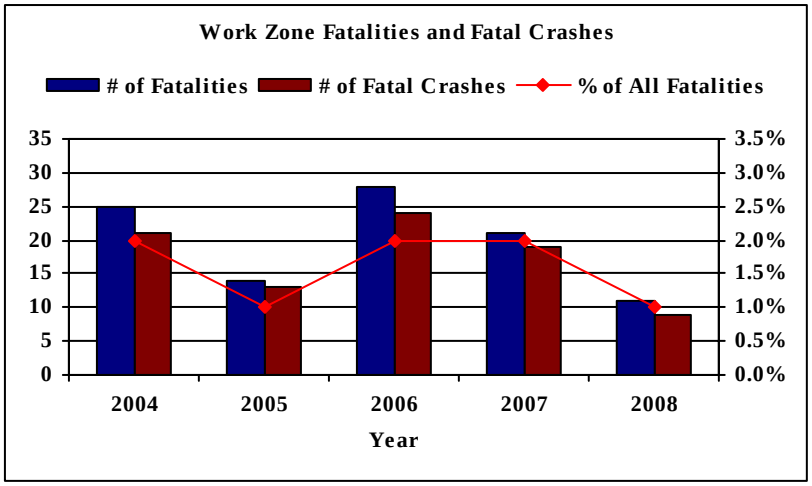
- Increase enforcement at intersections and highway-rail grade crossings.
- Provide public information on the importance of compliance with traffic control devices.
- Inventory and bring up to MUTCD standards all signs on Tennessee roadways (state and county).

IV. Improve Work Zone Safety

Background

Most road construction projects or utility work along Tennessee's Highways involve lane closures or restricted lanes at times. Each year, there are hundreds of work zones which present dangers to workers and drivers alike. Typically, 85 % of those killed in a work zone are drivers or occupants and rear-end crashes (running into the rear of a slowing or stopping vehicle) are the most common kind of work zone crash. Increased public awareness is a key factor in improving work zone safety. In order to comply with the Work Zone Safety and Mobility Rule, the Tennessee Department of Transportation developed the Tennessee Work Zone Safety and Mobility Manual to maintain safety and mobility within Tennessee's roadway work zones. Its purpose is to serve as a record of compliance with the Final Rule by promoting safety and mobility within work zones; define the process by which major aspects of applicable work zones shall be established; promote coordination between all organizations involved in work zone development; and provide guidance for the required completion of the work zone process by providing detailed instruction for completion of Traffic Management Plans. This document may be found at:

http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/design/TDOTWorkZoneSafetyMobilityManual.pdf



Strategies:

- Provide work zone training and information for public agencies and industry personnel.
- Ensure appropriate work zone traffic control including pavement marking and signing.
- Implement the updated work zone temporary striping policy.
- Prepare and air Public Service Announcements on work zone safety.
- Continue "Between the Barrels" teenage driver work zone training program instituted in 2006.
- Provide practices and policies to improve the safe travel of motor carriers in work zones.
- Achieve increased safety through the implementation of innovative designs and technology.
- Provide incident management training for all responders to highway incidents.
- Publish work zone booklet.
- Provide funding to state and local law enforcement to help control speeding in major work zones.
- Use "Merge Left" lane drops wherever practical.
- Use the 511 system to relay important work zone information to the public.
- Expand use of coordinated incident management (including HELP Program) in work zones to minimize effects on traffic flow and decrease secondary incidents.
- Implement Quick Clearance on all highway incidents and in work zones as a means of minimizing effects of secondary incidents.
- Conduct comprehensive review of current procedures as required by TDOT's Work Zone Safety and Mobility Manual.
- Implement state-wide standardized inspection procedures for work zones.
- Provide Emergency Reference Markers on urban Interstates and other controlled access highways to improve emergency response and crash data.

V. Improve Motor Carrier Safety

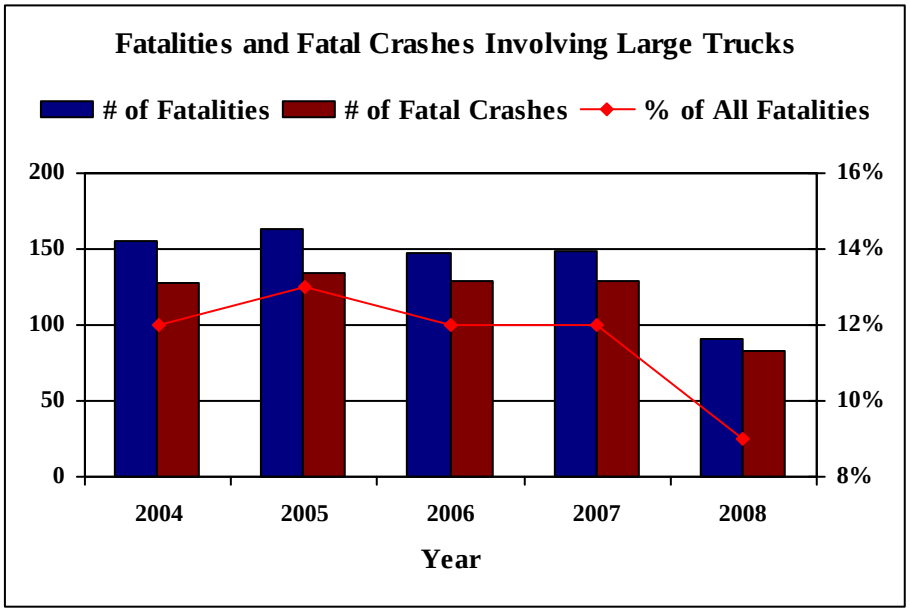
Background

According to the Federal Motor Carrier Administration's A&I website, Tennessee's crash data shows over representation of crashes in metropolitan areas along the interstates, due to congestion and high amounts of through CMV traffic. Department of Safety data shows 2003 had 117 fatal crashes with 124 fatalities, 2004 had 148 fatal crashes with 165 fatalities, 2005 had 153 fatal crashes with 166 fatalities, 2006 had 151 fatal crashes with 157 fatalities and 2007 had 152 fatal crashes with 155 fatalities. For overall crashes, MCMIS (Motor Carrier Management Information System) shows 3,452 in 2003 – 3,339 in 2004 – 4,698 in 2005 – 4,488 in 2006 - and 3,915 in 2007. During the year 2007 approximately 61.2% of all CMV fatalities reported occurred in rural locations, with approximately 79% of crashes identified as occurring on either undivided two way traffic ways, or divided traffic ways without a

barrier. This information was taken from FMCSA Analysis and Information Online (A&I) and TDOS data.

Strategies:

- Combine Safety Education efforts.
- Improve the effectiveness and reporting of CMV violation citations.
- Restrict trucks to right two lanes in urban areas and outside city limits.
- Identify and manage problem drivers more effectively in high crash counties.
- Develop and implement targeted enforcement initiatives.
- Provide technological infrastructure and solutions.
- Continue to implement National and State Specific Program Elements.
  - Driver/Vehicle Inspections
  - Compliance Reviews and New Entrant Safety Audits
  - Traffic Enforcement
  - Public Education and Awareness
  - Data Collection
  - School Bus Program (State Specific)
  - Drug and Alcohol Interdiction (State Specific)
  - Hazardous Materials (State Specific)
  - Motor Coach Program (State Specific)
  - CMV Seat Belt Usage



VI. Improve Driver Behavior

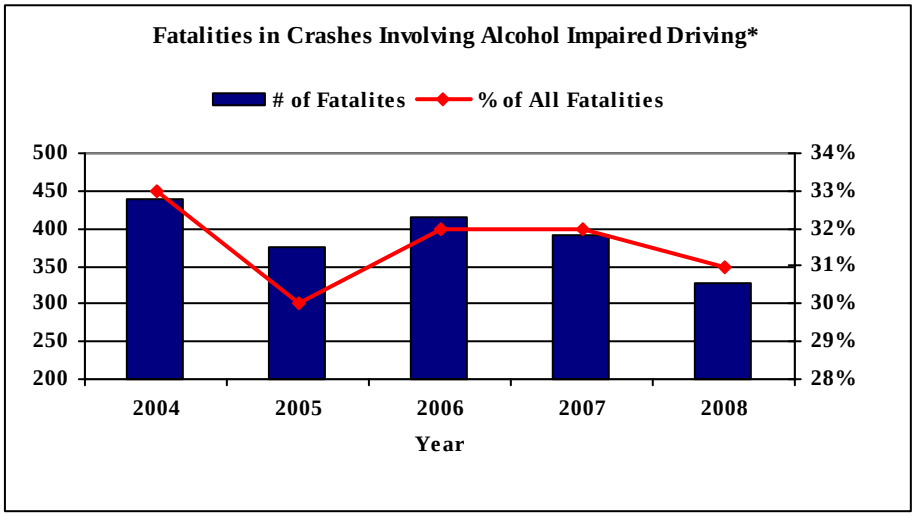
Background

Addressing driver behavior is a critical factor in reducing fatal and serious injury crashes. In 2008, of the 1,043 fatalities, 404 were alcohol related, 243 involved driving too fast or exceeding the speed limit, and 467 were not wearing safety restraint devices. The statistics also show that a large number of fatal crashes are due to the drivers' impaired condition or errors. A driver's lack of knowledge for the needs and rights of other road users leads to fatal crashes. Therefore, enforcement and education should be emphasized in the corresponding strategies.

Alcohol

Alcohol related crashes and fatalities have had a significant impact on the lives of our citizens and economy of our state. Data reported by TDOS show that in 2008, 404 or 38.7% of all traffic fatalities were alcohol related.*

*(BAC = .01 +) in the crash

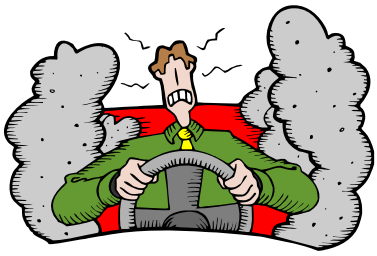


*(BAC = .08 +) in the crash

Strategies:

- Develop public information and education campaigns targeting all drivers, especially those engaged in high risk driving behaviors. Venues for these activities include print and electronic media as well as classroom instruction.
- Coordinate comprehensive sobriety checkpoints and saturation blitzes statewide.
- Coordinate conference and training programs for law enforcement officers, prosecutors, and judges to facilitate in the detection, arrest, adjudication and conviction of alcohol and/or drug impaired drivers.
- Coordinate DUI enforcement projects that provide highly visible patrols and selective enforcement methods utilizing up to date field sobriety techniques.

- Support efforts to implement a statewide uniform traffic DUI tracking system incorporating all law enforcement agencies.
- Support efforts to establish linked data bases with the ability to track offenders or citations from arrest/issuance through sanction completion or dismissal.
- Form an Alcohol Countermeasures Advisory Council statewide or by region.
- Pilot a community wide alcohol countermeasures intervention.
- Establish a statewide tracking system for Blood Alcohol Concentration (BAC) levels of offenders.
- Support specialized prosecution of driving under the influence including the placement of specially trained traffic safety prosecutors in each of the 31 Judicial Districts.
- Reduce the number of repeat DUI offenses by supporting the recommendations of the Governors DUI Task Force including increased treatment and monitoring of offenders through the use of transdermal monitoring of the individual and ignition interlock monitoring of the offenders vehicle.
- Target enforcement in areas with a high percentage of alcohol involvement.

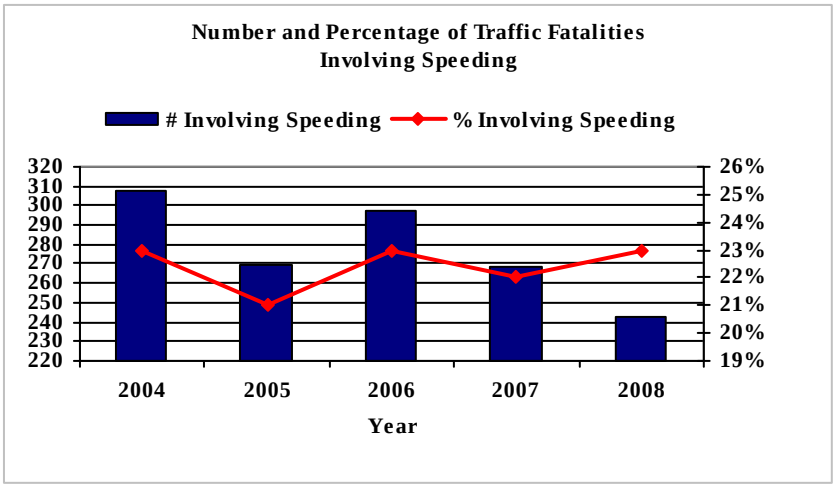


Aggressive Driving

Frustration displayed through excessive speeding, changing lanes frequently without signaling, following too closely, driving on shoulders to pass, driving across marked barriers, shouting or gesturing at other drivers, and stress created by traffic congestion are manifestations of aggressive driving. Tennessee Highway Patrol has instituted an aggressive driving enforcement unit moving statewide.

Aggressive Driving Fatalities				
Year	**Speeding**	**Failure to Yield**	**Improper Following**	**Reckless Driving**
2004	308	130	44	223
2005	270	151	37	184
2006	297	148	25	187
2007	268	155	32	136
2008	243	83	10	101

Source: TN Dept of Safety, Office of Research, Statistics, and Analysis, 03 Feb 2009



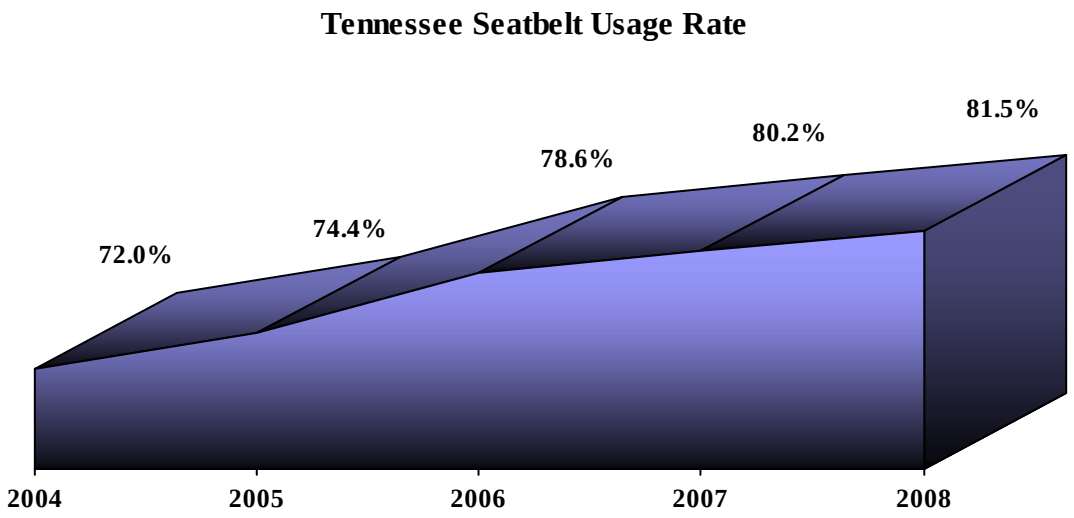
Strategies:

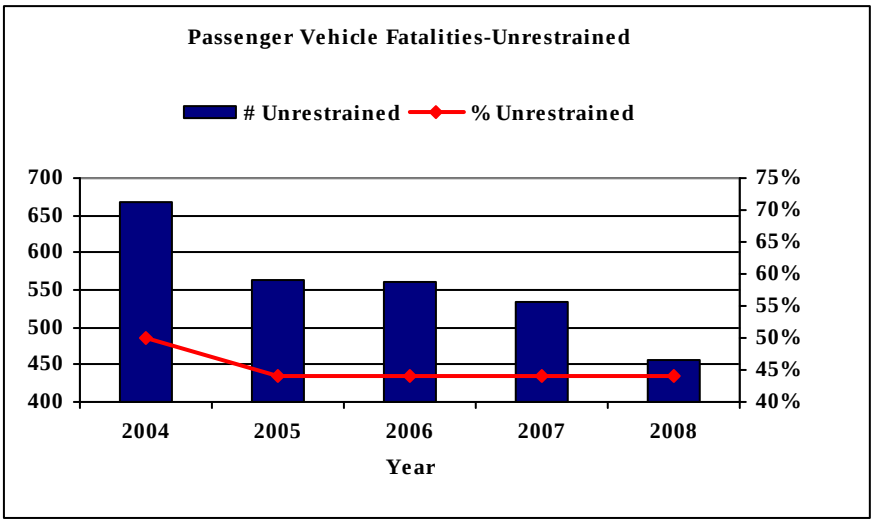
- Develop and implement enforcement programs aimed at aggressive driving in high frequency areas.
- Encourage public information and education programs to help define and inform the public about the dangers of aggressive driving.
- Evaluate the adoption of a statutory traffic law through the legislative process to clearly define aggressive driving for enhanced enforcement efforts.
- Evaluate the adoption of a uniform citation for enforcement that will serve as a tracking mechanism for courts and traffic records analysis.
- Continue formation and deployment of targeted aggressive driving enforcement units.

Occupant Protection

A 2008 Safety Belt Use Survey commissioned by NHTSA and analyzed by the National Center for Statistics and Analysis revealed an “All Vehicle” Restraint Usage Rate of 81.5%, an increase of 13.0% over the 2003 level and a 1.3% increase over the previous year.

Even though there was an improvement in the usage, there were still 467 fatalities of unrestrained occupants resulting in 45% of the total. Since 2000 there has been slow, but steady improvement in overall safety belt usage as indicated in the chart below. Drivers and occupants must become more aware of the importance of using safety belts, properly seating children in child passenger safety seats and air bag equipped vehicles, as well as the proper use of vehicle safety restraints.





Strategies:

- Develop targeted public information and education campaigns addressing critical usage areas; i.e., vehicle categories, socioeconomic groups and youth.
- Provide training and technical assistance on correct use of child passenger safety seats through law enforcement agencies, emergency medical services personnel, health care providers, healthcare educators, pediatric nurses, foster care and human service social workers, child care providers, firefighter personnel, rural transportation supervisors and highway safety advocacy representatives.

- Coordinate and promote child passenger safety (CPS) initiatives: i.e., 24 CPS technician classes and 158 child safety seat checkpoints in FFY 2008.
- Increase monitoring of seat belt usage and provide advice on usage to both the traveling public and CMV drivers.

Young Drivers

Drivers under the age of 21 continue to be over-represented in fatal and injury crashes. In 2008, drivers under 21 years of age were involved in 169 fatal crashes. The five major Contributing Factors for youthful drivers' fatal crashes were:

1. Speeding
2. Wrong Side of Road
3. Failure to Yield
4. Reckless Driving
5. Drinking

Strategies:

- Develop an active youth advocacy group for the State.
- Provide high-risk driver education programs targeting drivers age 15 – 21 with injury prevention, occupant protection, DUI, speed, and "attention" messages.
- Develop public information and education campaigns with activities targeting behaviors that endanger younger drivers. Selective targeting of ages with tailored messages.
- Promote youth oriented traffic patrols.
- Reduce minor's access to alcohol and other drugs, including vendor education and enforcement of underage sale laws.
- Continue to address college campus impaired driving and other high risk transportation related behavior issues.
- Collaborate with other agencies and organizations that address youth alcohol and other drug problems i.e., Select Committee on Children and Youth, Tennessee Council of Juvenile and Family Court Judges.
- Continue to host elementary, high school and parent traffic safety conferences that provide traffic safety awareness education, injury prevention education, advocacy education, and training in educational strategies.
- Continue to support youth seatbelt programs.

- Disseminate videos, curriculum materials, and posters to classroom teachers and schools.
- Participate with national legislative advocacy groups such as Mothers Against Drunk Driving (MADD) and National Student Safety Program.
- Continue to inform young drivers and parents of the graduated drivers' license restrictions and encourage law enforcement to enforce the GDL laws strictly

Tennessee Traffic Fatalities by Age					
	2004	2005	2006	2007	2008
15 & Under	72	53	67	53	43
16-20	197	145	185	168	126
21-24	123	133	132	117	95
25-34	228	210	218	189	167
35-44	187	211	205	177	163
45-54	216	180	188	197	179
55-64	135	135	104	129	109
65-74	82	84	96	95	71
75+	99	119	89	85	90
Unknown	0	0	0	1	0
Total	1,339	1,270	1,284	1,211	1043

Source: TN Dept of Safety, Office of Research, Statistics, and Analysis, 03 Feb 2009

Older Drivers

According to the National Cooperative Highway Research Program, the proportion of the driving population over 65 is growing significantly. The numbers will double over the next 30 years. By 2030, one in five Americans will be age 65 or older. As people age, a decline in sensory, cognitive, or physical functioning can have an impact on their driving skills, as well as increase their vulnerability to injury once in a crash. Older motorists can be expected to have problems driving given these known performance changes. In 2008, 14.9%* of total traffic fatalities in Tennessee involved persons in the age group of sixty-five years to over eighty-five years. By 2008 this had risen to 15.4%*. In 2007 there were 22,699* older drivers involved in crashes for a crash rate of 32.55 crashes per thousand licensed drivers. This indicates that Tennessee needs to take a proactive approach in addressing initiatives to improve the safety of older drivers across the State. In 2008, TDOT was awarded a grant from the National Center on Senior Transportation (NCST) to create an

action plan to develop and implement a comprehensive and unified approach to improving older driver safety.

The older driver population is overrepresented when crash rates are calculated based on miles traveled, fatality rate per crash, or number of crashes per thousand licensed drivers. These facts clearly present that older drivers are a subset that should be targeted in any attempt to reduce serious injuries and fatalities resulting from highway crashes.

** Data is preliminary: Tennessee Department of Safety*

Strategies:

- Utilize safety conscious planning with the aging population in mind.
- Provide advance warning and guide signs.
- Increase size and legibility of guide, street and roadway signs.
- Partner with organizations to retrain older drivers to increase their proficiency and help them understand their limitations.
- Provide optimum timing at signalized intersections.
- Improve lighting at problem areas.
- Improve roadway delineation (especially under low light and inclement weather conditions).
- Improve traffic control in work zones.
- Develop a handbook that contains resource materials needed to educate older drivers on self assessing driving skills.
- Implement the handbook developed to train trainers on educating older drivers to drive more safely.
- Continue support of AARP and AAA older driver training.
- Provide older drivers information on alternate public transportation in the urban and rural areas in Tennessee.
- Educate family members/caregivers of driving risks associated with physical conditions associated with aging.
- Provide the “Physician’s guide to Assessing and Counseling to Older Drivers” to statewide physicians specializing in Geriatrics care.
- Enhance TDOT and other state governmental agencies website with resource information on older drivers’ safety.
- Review the driving patterns of Tennessee’s older drivers by assessing the results of a survey produced by AAA.
- Support legislation reform to encourage vision retesting for license renewal.
- Inventory and bring up to MUTCD standards all signs on Tennessee roadways (state and local).

Other Modes

State law considers bicyclists to be vehicles when operated on the roadway and requires bicyclists to obey the same traffic rules as motorists. Bicyclists who do not obey traffic rules put themselves and other roadway users in danger. Bicyclists should ride in the appropriate lane of travel and should obey all traffic laws. Pedestrians should also walk in designated areas such as sidewalks and pathways, and should not walk in areas such as interstates and controlled access highways where both walking and bicycling are prohibited.

Drivers of motorized vehicles should also exhibit appropriate driver behavior by sharing the road with both motorcyclists and bicyclists. Bicyclists have the same rights to the roadways as motor vehicles under the law. In Tennessee, motorists must allow a minimum of three feet when passing a bicyclist. A motorist should never push a bicyclist to a shoulder in order to pass. Motorists should also yield to pedestrians in crosswalks and those who have the right-of-way when crossing at an intersection.

Strategies:

- Encourage driver education courses to teach students about sharing the road safely with motorcyclists and bicyclists and about yielding right-of-way to pedestrians.
- Promote the statewide law requiring motor vehicles to provide a minimum of three feet when passing bicyclists.
- Continue to support Federal, State and local Safe Routes to School Programs which teach students how to safely walk and bicycle to school and can raise awareness for motorists about traveling safely through school zones.

Legislation

Background

Legislation that was passed in 2004 by the Tennessee General Assembly included a new Primary Seat Belt law that went into effect July 1, 2004. In addition to primary enforcement, this bill added the following definitions to the seat belt law: prohibits any passenger from riding anywhere in a motor vehicle other than in a passenger seat position; requires all passengers, and not just front seat passengers, to wear safety belts; directs $20.00 of the proceeds of the fines from violations, rather than full amount, to the division of vocational rehabilitation; mandates that violators receive points on driving record; and adds to the list of circumstances excluded from the act.

In 2007, the Jeff Roth and Brian Brown Act was passed by the Tennessee General Assembly requiring all motorists to provide at least three feet of distance between a motor vehicle and a bicyclist on a roadway, making roads safer for both motorized and non-motorized modes of transportation. Multiple testing of impaired drivers was passed in 2005. In fall of 2006 a task force appointed by the Governor reported on proposed changes and reorganization of DWI laws. These will be proposed in a future legislative session. Booster seat legislation was passed by the Tennessee General Assembly in 2003 that also went into effect July 1, 2004. A booster seat is now required for children aged 4 years through 8 years and less than 5 feet tall. In 2006, the *Move Over for Emergency Vehicles* law was strengthened. The maximum fine was raised from $50.00 to $500.00. A law prohibiting texting while driving was passed during the 2009 session. Also legislation allowing Department operated cameras in work zones for enforcing or monitoring traffic violations when workers are present was passed in 2009. (HB 1202/SB 1502)

Strategies:

Pursue and support legislation in the following areas:

- Open Container Law
- Mandatory BAC testing for all fatalities per the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) model law
- Mandatory Drivers' Education
- Administrative License Revocation
- Passage of DWI law revisions as proposed by Gubernatorial Task Group
- Aggressive Driving
- "Workers Present" law
- Automated Speed Enforcement in Work Zones
- Mandatory motorcycle helmet laws
- Vehicle safety inspections

- Increase in seatbelt law penalties to include court costs and drivers' license "points"
- Require motorists to yield to pedestrians at marked mid-block and marked or unmarked intersection crosswalks

VII. Educational and Awareness Programs

Background

The Tennessee Law Enforcement Training Academy, as well as the four metropolitan area law enforcement academies, is overwhelmed with requests from law enforcement agencies for specialized traffic crash training courses. The need exceeds the resources. Due to overcrowded schedules as well as local agency funding resources, courses are unavailable on a regularly scheduled basis, the availability of specialized training within a geographic region is lacking in scope.

Also, due to emerging technologies and processes, additional safety training in intersection safety improvements, roadside safety design, safety data analysis and new approaches to highway safety design will be needed for State and local engineers, technicians, and highway personnel.

In 2006 a Safety Circuit Rider Program was instituted to train local officials on road safety audits and low cost safety improvements. Counties that were over represented in fatal crashes were first targeted. In 2009 this will be replaced by a Local Roads Safety Initiative to perform Road Safety Audits and let to bid safety improvement contracts on non-state routes. Priority will be given to items that do not require a local match of funds such as guardrail, signing, marking, lighting, etc.

Strategies:

- Conduct a needs assessment survey for municipal and county law enforcement agencies to determine specialized highway safety and traffic enforcement training courses.
- Offer more regional based highway safety and traffic courses to meet the demand for specialized traffic enforcement training.
- Conduct training for local and State engineering forces on integration of safety into the project development process (planning, design, construction, maintenance and operations) of the highway system.
- Implement a Local Roads Safety Initiative.
- Provide training to representatives of Metropolitan Planning Organizations and Rural Planning Organizations for Road Safety Audit Reviews.
- Continue to bring in Federal Highway Administration sponsored safety training.
- Continue "Between the Barrels" teenage driver work zone training.

- Provide law enforcement training for work zones and incident management.
- Continue training for law enforcement, prosecutors and judges for impaired driver enforcement. Collaborate with other agencies and organizations to establish standardization of traffic schools in Tennessee, i.e. licensing, curriculum, minimum hours, and qualification of instructors.
- Provide law enforcement agencies training about the laws that apply to bicyclists and sharing the road with bicyclists.
- Continue to promote and fund Safe Routes to School programs to enable communities to educate schools, law enforcement, parents, students and motorists about the benefits of walking and bicycling to school for reduction of traffic congestion and promotions of student health and environmental health.
- Continue utilization of driver awareness messages and programs aimed at reminding drivers to watch for motorcycles while on the road as a venue for reducing avoidable accidents from occurring.
- Partner with the Motorcycle Awareness Foundation to educate local and state law and emergency officials to train in the proper techniques for handling a motorcycle accident and motorcycle victims.

VIII. Conclusion

Implementations of these strategies will be guided and monitored by the Tennessee Strategic Highway Safety Committee with reports to the Commissioners of Transportation and Safety as well as annual reports to the FHWA on the Highway Safety Improvement Program.

Glossary of Acronyms and Terms (Rev. 1)

A & I: US Department of Transportation-Federal Motor Carrier Safety Administration-Analysis and Information website

AASHTO: American Association of State Highway and Transportation Officials.

Administrative per se: This term describes the laws establishing an administrative process so that the responsible state agency can suspend a driver for a BAC violation even if the court does not convict him or her on the corresponding DUI offense.

Aggressive Driving: Operating a motor vehicle in a selfish, pushy, or impatient manner, often unsafely that directly affects other drivers.

Alcohol Involvement: Alcohol involved fatal crashes and fatalities reflect those where a driver or a non-occupant with a positive alcohol result was involved or where the investigating officer reported alcohol involvement.

BAC: Blood Alcohol Concentration is measured as a percentage by weight of alcohol in the blood (grams/milliliter). A positive BAC level (0.01 g/ml and higher) indicates that alcohol was consumed by the person tested. In Tennessee, a BAC level of 0.08 g/ml or more indicates that the person was intoxicated.

Bicyclist: A person riding a vehicle consisting of a tubular metal frame mounted on two (or three) large, spoked wheels, one behind the others, and equipped with handlebars, a saddle like seat, and foot or arm pedals.

CDL: Commercial Driver License

Child Restraint Device: An object or system used by children in a vehicle to prevent or minimize injury and to prevent ejection during a crash. Common objects include child safety seats, booster seats, and seat belts.

Citation: A written order issued, in lieu of a physical arrest or issuance of a warrant, for a violation of law, ordinance, or regulation, which requires the accused person's signature. The order also requires the person to appear in a designated court or government office at a specified date and time. See also Uniform Citation

CMV: A Commercial Motor Vehicle is any motor vehicle operated in intrastate, interstate, or foreign commerce.

CODES: The Crash Outcome Data Evaluation System is a collaborative approach to generating medical and financial outcome information relating to motor vehicle crashes and using this outcome-based data as the basis for decisions related to highway traffic safety.

Collision: A road vehicle crash other than an overturning crash in which the first harmful event is a collision of a road vehicle in transport with another road vehicle, other property, animal or pedestrian.

Construction/Maintenance Zone: An area, usually marked by signs, barricades, or other devices indicating that highway construction or highway maintenance activities are ongoing.

CSD: Content Sensitive Design is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.

Crash: An event that produces injury and/or property damage, involves a motor vehicle in transport, and occurs on a traffic way or while the vehicle is still in motion after running off the traffic way.

Crash Rate: The number of crashes per million vehicle miles.

CVC: A Commercial Motor Vehicle involved crash.

D-20: A reference for the Data Element Dictionary for Traffic Records Systems which provide a common set of coding instructions for data elements related to highway safety, driver licensing, and vehicle registration.

Driver's License Suspension/ Revocation/ Cancellation: The temporary loss of driving privileges, which may be regained after the requirements for reinstating the privileges are met.

DUI: Driving under the influence of alcohol or drugs. A crime that can result in fines, suspension or revocation of driver's license, or jail time.

DWI: Driving While Intoxicated refers to driving while impaired by alcohol or drugs. May be used interchangeably with DUI.

DWS, DWR, or DWU: These acronyms refer to “driving while suspended,” “driving while revoked,” and “driving while unlicensed.” The term is used to denote the DWS, DWR, or DWU citation (a moving violation) and/or the license status of the driver at the time of a crash or other event.

Economic Loss: The total monetary cost of a motor vehicle crash, including continuing or future expenses to be incurred because of the crash. Included in these losses are lost productivity, medical costs, legal and court costs, emergency service costs, insurance administration costs, travel delay, property damage, and workplace losses.

Ejection: Refers to occupants being totally or partially thrown from the vehicle as a result of an impact or rollover.

FARS: The Fatality Analysis Reporting System (FARS) contains data on a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a traffic way customarily open to the public and result in the death of a person (occupant of a vehicle or a non-occupant) within 30 days of the crash.

Fatal Crash: A police-reported crash involving a motor vehicle in transport on a traffic way in which at least one person dies within 30 days of the crash.

Fatal Injury: Any injury that results in death within 30 days of the crash.

Fatality: Any death resulting from a fatal injury.

Fatality Rate: The number of persons killed per 100 million vehicle miles traveled.

FMCSA: The Federal Motor Carrier Safety Administration

FHWA: Federal Highway Administration

GDL: Graduated Driver License

GHSO: Governor's Highway Safety Office

GIS: A Geographic Information System is a collection of computer software, hardware, data, and personnel used to store, manipulate, analyze, and present geographically referenced information.

GPS: A Global Positioning System is a Government-owned system of 24 Earth-orbiting satellites which transmit data to ground-based receivers and used to determine the precise position of vehicles on the ground. Provides extremely accurate latitude/longitude ground position.

GVWR: The Gross Vehicle Weight Rating is the maximum rated capacity of a vehicle, including the weight of the base vehicle, all added equipment, driver and passengers, and all cargo loaded into or on the vehicle. Actual weight may be less than or greater than GVWR.

High-Risk Driver: A driver persistently engaging in a range of behaviors such as impaired driving, non-use of seat belts, speeding and running red lights that increase their probability of being involved in collisions resulting in fatalities and/or serious injuries.

Highway: A public way for purpose of vehicular travel, including the entire area within the right-of-way. (Urban areas – highway or street, in rural areas – highway or road).

Ignition Interlock: This is a device that renders a car inoperative unless one or more preconditions are met. In DUI driver-control programs, the typical ignition interlock device requires the driver to give a breath sample which is then analyzed for the presence of alcohol. If there is alcohol present (above some minimum threshold value), the car will not start. Other variations are used to ensure that an individual does not operate the vehicle, or is the only operator of a vehicle.

Incident: An event occurring by chance or arising from unknown causes, for example, unawareness. An unexpected happening causing loss or injury which is not due to any fault or misconduct on the part of the person injured, but from the consequences.

Injury: Bodily harm to a person.

Injury Crash: A police-reported crash that involves a motor vehicle in transport on a trafficway in which no one died but at least one person was reported to have: (1) an incapacitating injury; (2) a visible but not incapacitating injury; (3) a possible, not visible injury; or (4) an injury of unknown severity.

Intersection: An area that contains a crossing or connection of two or more roadways not classified as driveway access and within the prolongation of the lateral curb lines. If no curb exists, it is the area within the extension of the lateral boundary lines of the roadway of two joined traffic ways.

Interstates: Limited access divided facilities of at least four lanes designated by the Federal Highway Administration as part of the Interstate System.

MADD: Mothers Against Drunk Driving

MCMIS: Motor Carrier Management Information System. Operated and maintained by FMCSA, MCMIS contains information on the safety fitness of commercial motor carriers and hazardous material (HM) shippers subject to the Federal Motor Carrier Safety Regulations (FMCSRs) and the Hazardous Materials Regulations (HMRs). MCMIS is a collection of safety information including state-reported crashes, compliance review and roadside inspections results, enforcement data, and motor carrier census data. The Crash Profiles module uses the MCMIS Crash and Census data to compile and publish the State Profiles and several National reports.

Minimum drinking age and zero tolerance laws: Make it illegal for anyone under the age of twenty-one to drink alcohol. If someone under age twenty-one is suspected of drunk driving, a BAC of only 0.01 or 0.02 may be enough to revoke the person's license in many states. All states have zero tolerance laws.

MMUCC: Model Minimum Uniform Crash Criteria are a voluntary set of guidelines that help states collect consistent, reliable crash data that are more effective for identifying traffic safety problems, establishing goals and performance measures, and monitoring the progress of programs.

MPO: Metropolitan Planning Organizations are created for each “urbanized area” with a population of more than 50,000 people to carry out the transportation planning process required by federal laws and regulations (Title 23 USC 134). MPOs, which include representatives of all local governments, have been established in eleven urbanized areas in Tennessee—Bristol, Chattanooga, Clarksville, Cleveland, Jackson, Johnson City, Kingsport, Lakeway, Knoxville, Memphis, and Nashville.

Motor Carrier: An individual, association, corporation, or other legal entity that controls, operates, or directs the operation of one or more commercial motor vehicles that transport persons or cargo over a road or highway in this state.

MUTCD: Manual of Uniform Traffic Control Devices defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways.

NCUTLO: The National Committee on Uniform Traffic Laws and Ordinances is a private, non-profit membership organization dedicated to providing uniformity of traffic laws and regulations through the timely dissemination of information and model legislation on traffic safety issues

NHTSA: The National Highway Traffic Safety Association, an organization within the US Department of Transportation is responsible for reducing deaths, injuries and economic losses resulting from motor vehicle crashes. This is accomplished by setting and enforcing safety performance standards for motor vehicles and motor vehicle equipment, and through grants to state and local governments to enable them to conduct effective local highway safety programs.

Night: From 6 p.m. to 5:59 a.m.

NSSP: National Student Safety Program

Open container laws: Prohibit drivers and passengers from having an alcoholic beverage open in a vehicle. The federal government has encouraged all states to enact open container laws by linking highway funding to the implementation of such laws. So far, about thirty states have adopted open container laws.

Pedestrian: A person traveling on foot; a walker. Also includes those using assistance for mobility, such a manual or motorized wheelchairs, walkers and other mobility aids.

Property-Damage-Only Crash: A police-reported crash involving a motor vehicle in **transport on a traffic way in which no one involved in the crash suffered any injuries.**

Reckless Driving: Operating a motor vehicle with a willful and wanton disregard for the safety of persons or property.

Rollover: A rollover is defined as any vehicle rotation of 90 degrees or more about any true longitudinal or lateral axis. Includes rollovers occurring as a first harmful event or subsequent event

ROW: Right of Way

RPM: Raised Pavement Marker

Rumble Strips: Rumble strips are raised or grooved patterns on the road shoulder that provide both an audible warning and physical vibration to alert drivers that they are leaving the road.

SADD: Students Against Drunk Driving

Safety Edge: An FHWA sponsored technology whereby a modified edge strike-off attached to the paver produces a 30 degree slope from edge of pavement. This produces a pavement edge that is far less likely to cause crashes should a vehicle cross over the edge of pavement. It also produces better compaction at the edge of pavement.

Saturation Blitzes: Heavy enforcement with checkpoints and roving saturation patrols and extensive publicity. Example “Click It or Ticket” enforcement blitzes, in July and November, respectively.

Sobriety Checkpoints: The purpose of this is to provide guidelines for the physical construction and operation of a sobriety checkpoint in order to maximize the deterrent effect and increase the perception of "risk of apprehension" of motorists who would operate a vehicle while impaired by alcohol or other drugs.

Traffic way: Any road, street, or highway open to the public as a matter of right or custom for moving persons or property from one place to another.

TDOS: Tennessee Department of Safety

TDOT: Tennessee Department of Transportation

TIP: Transportation Improvement Program

TraCS: The Traffic and Criminal Software (TraCS) is application software that, combined with laptop computers, one or more PCs in a central office, and data communications, provides officers with all of the functionality needed to record and retrieve incident information, including crash, criminal reporting, traffic citation, and DWI forms wherever and whenever an incident occurs using a map-based crash and incident location system.

Traffic Incident Management: The planned and coordinated program process to detect, respond to and remove traffic incidents and restore traffic capacity as safely and quickly as possible. This coordinated process involves a number of public and private sector partners including: Law Enforcement, Fire and Rescue, Emergency Medical Services, Transportation, Public Safety Communications, Emergency Management, Towing and Recovery Hazardous Materials Contractors, and Traffic Information Media.

TRCC: Traffic Records Coordination Committee

TRSC: Tennessee Regional Safety Council

Uniform Citation: A form promulgated by the Tennessee Department of Safety as authorized by Tennessee Code Annotated (T.C.A.) §55-10-208, which may be issued by all law enforcement officers in the state of Tennessee.

Vehicle Safety Restraints: A system or device for restraining an occupant in a vehicle to prevent or minimize contact with the vehicle interior components and/or prevent ejection during a crash. Common systems and/or devices include seatbelts, child safety seats, and airbags.

VMT: Vehicle Miles of Travel represent the total number of vehicle miles traveled by motor vehicles on public roadways within Tennessee.

Work Zone: The area between the first advance warning sign and the point beyond the utility or construction zone where traffic is no longer affected. See construction/maintenance zone.

Zero Tolerance: In cases of DUI, the right to convict minors with virtually any amount of alcohol in the bloodstream. In many cases, this amounts to a BAC of .01%, much less than the legal limit for adults.