Nebraska Strategic Highway Safety Plan Guidance for 2012 - 2016

Nebraska Interagency Safety Committee

Education

Enforcement

Engineering

EMS

Toward Zero Deaths

September 2012

Dear Fellow Nebraskans:

In accordance with federal law, each state is required to develop and implement a strategic highway safety plan (SHSP). The plan is data-driven, strategic and targeted, and is designed to make significant progress towards Nebraska's goal of slashing fatal crashes. The initial plan, for the years 2007-2011, was a great success, meeting the ambitious goal of reducing the statewide fatality rate below 1.0 deaths per hundred million vehicle miles traveled, something that had never been accomplished before in Nebraska.

On behalf of the Governor, I submit to you Nebraska's second Strategic Highway Safety Plan, covering the years 2012-2016. This SHSP builds on the momentum of the previous plan. It cuts across the public and private sectors and all levels of government to reach for better results. It includes an even more ambitious goal of reducing the fatality rate toward zero deaths, with an interim goal of 0.5 deaths per hundred million vehicle miles traveled by 2016. I join with the Superintendent of the Nebraska State Patrol and the directors of the Department of Motor Vehicles, Department of Health and Human Services, Nebraska League of Municipalities, and the Nebraska Association of County Officials to invite you to unite with us in implementing the strategies outlined in the SHSP.

You may access the document at www.nebraskatransportation.org.

Remember, that driving is a serious business. In fact, motor vehicle crashes are the leading cause of injury-related deaths in the state. Always stay alert when behind the wheel and avoid becoming a statistic.

Please drive safely.

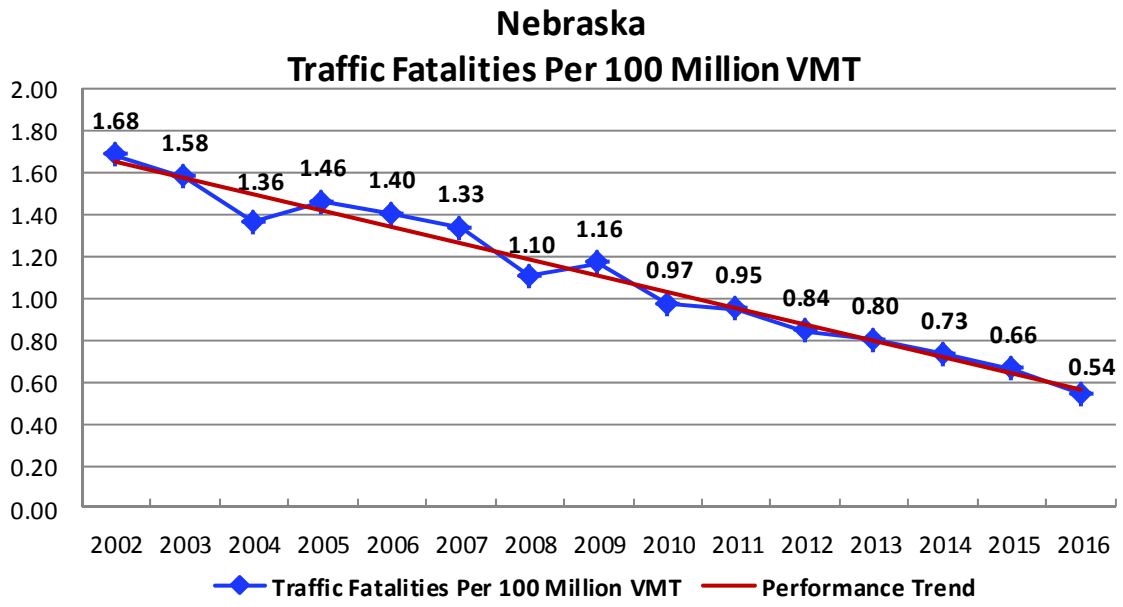
Randall D. Peters, P.E.
Director – State Engineer

Executive Summary

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005 (SAFETEA-LU) required all States to develop Strategic Highway Safety Plans (SHSP). This Nebraska 2012-2016 SHSP complies with that requirement. It is the second SHSP implemented in Nebraska and builds on the success of the first SHSP covering the period of 2007-2011. It is presented under the auspices of the Nebraska Interagency Safety Committee (IASC), whose member agencies include the Nebraska Department of Roads, Nebraska State Patrol, Nebraska Department of Motor Vehicles, Nebraska Department of Health & Human Services, Nebraska Local Technical Assistance Program, League of Nebraska Municipalities and the Nebraska Association of County Officials.

In recent years, Nebraska and the nation have experienced significant reductions in roadway deaths and injuries. The National Highway Traffic Safety Administration (NHTSA) reported that highway deaths in the United States dropped to 32,885 in 2010 – the lowest figure since 1949. Furthermore, the national fatality rate also fell to a historic low of 1.10 fatalities per 100 million vehicle miles traveled (VMT). Nebraska exceeded the 2007-2011 SHSP's goal of 1.0 fatality per 100 million VMT in both 2010 and 2011.

In view of the success of the previous SHSP, the Nebraska IASC set an ambitious goal of 0.5 fatalities per 100 million VMT by the end of 2016. This is coupled with the ultimate goal of "Toward Zero Deaths," which the IASC added mid-stream to the previous SHSP. The IASC presented the new goal and the draft 2012-2016 SHSP at the Nebraska Highway Safety Summit on April 5, 2012. During breakout sessions, the IASC sought input from the 180 safety professionals in attendance. This final document has incorporated some of the ideas provided. The following graph shows the historical and projected fatality rates for Nebraska.



Based on the crash data, the Critical Emphasis Areas (CEAs) for the 2012-2016 SHSP mirror the CEAs under the 2007-2011 SHSP and include the following:

1. Increasing Safety Belt Usage
2. Keeping Vehicles on the Roadway, Minimizing the Consequences of Leaving the Road, and Reducing Head-On and Across-Median Crashes
3. Reducing Alcohol-Impaired Driving
4. Improving the Design and Operation of Highway Intersections
5. Addressing the Over Involvement of Young Drivers

In preparation for updating the SHSP for the next five-year period starting in 2012, the IASC again reviewed crash data trends from 2003 through 2010 for the five CEAs, as well as additional areas of concern. A shift was also made toward using both fatal and serious injury (Types A and B) crash data to better reflect crash trends. The additional areas included older drivers, speed-related crashes, distracted driving crashes, commercial motor vehicle crashes, motorcycle crashes and work zone crashes. Because accident investigators can only code one contributing driving factor per vehicle, it is difficult to capture complete data on distracted driving- and speed-related crashes. The IASC determined that the existing CEAs were still the areas with the highest numbers of crashes and with strategies that had the greatest opportunities to reduce fatalities and injuries. However, they also added strategies to address additional areas of concern and will continue to monitor crash trends on a yearly basis.

In submitting this new SHSP, the IASC also recognizes the importance of safety shareholders in both the past and future success of the plan. The IASC hosted the state's sixth Highway Safety Summit on April 5, 2012. At the summit, shareholders discussed past and current safety strategies, as well as possible new strategies, for each of the five CEAs that the group felt would be effective in helping achieve the goals of the SHSP. The IASC carefully reviewed these recommendations and added appropriate strategies.

The IASC also included strategies for new advances in safety technology to improve roadway safety including intelligent transportation systems (ITS) such as adaptive control signals, bridge anti-icing spray systems, and IntelliDrive in vehicles. In the coming years, the NDOR plans to mainstream and integrate ITS strategies into a growing proportion of roadway construction projects.

Finally, as we stand at the threshold of implementing this new SHSP, it is important to recognize the achievements of the recently concluded SHSP. In addition to the infrastructure safety projects, the NDOR funded many of the enforcement and public information and education initiatives through the Federal Highway Administration's Highway Safety Improvement Program (HSIP). Flex provisions of SAFETEAU-LU allowed states to use up to 10 percent of infrastructure safety funds for non-infrastructure safety priorities:

- The state participated in five national and five state Click It or Ticket campaigns adding 87,653 hours of overtime enforcement operations emphasizing safety belt and child restraint law compliance. During these 10 campaigns of overtime enforcement, law enforcement issued - 8,392 for safety belt violations, 31,522 for speeding, 1,541 for alcohol-impaired driving, which made up part of a total of 61,022 citations that were reported during the overtime operations.

- The state conducted an additional five national and five state "You Drink, You Drive, You Lose" mobilizations that resulted in 98,403 impaired driving overtime hours. Through these impaired driving crackdowns, law enforcement issued a total of 48,214 tickets – which included 4,815 for impaired driving, 1,894 for safety belt violations, and 28,514 for speeding. Also utilized during this time were saturation patrols, sobriety checkpoints, underage party patrols, and alcohol license compliance checks.
- In an innovative statewide High Risk Rural Roads safety project, 81 of the state's 93 counties participated in a horizontal curve signing initiative that provided 46,530 signs and 33,192 posts to delineate hazardous horizontal rural road curves throughout the state. In 2009, this project received the American Association of State Highway and Transportation Officials Safety Leadership Award."
- A statewide project installed 226.47 miles of centerline rumble strips and 1,240.9 miles of shoulder rumble strips at the highest crash data driven sites.
- The Nebraska State Patrol implemented the "100 Days of Summer" and "Be Here for the Holidays" Initiatives that provided motorists an opportunity to view planned NSP daily enforcement activities to encourage voluntary compliance in wearing their safety belts, obeying the posted speed limit, and never driving alcohol-impaired or distracted.
- During 2007-2011, the NDOR safety teams approved almost $25 million for over 90 safety projects, including $1.4 million in statewide HRRRP projects.
- The Nebraska EMS/Trauma Program conducted 280 Emergency Vehicle Operator courses during the 2007-2011 timeframe and trained 3,360 pre-hospital providers in the six-hour specialized course for ambulance personnel.
- Data system improvements upgrade of the current electronic accident reporting system, implementation of electronic citations, and conducting the 2011 Traffic Records Assessment.

During the years 2007-2011, the Nebraska Unicameral passed the following new legislative bills addressing highway safety:

- January 1, 2008 POP, Learner's and School Permit Enhancement
- January 1, 2008 Underage "Dram Shop" Law
- January 1, 2009 Ignition Interlock Law
- July 15, 2010 Banned Texting While Driving
- August 30, 2009 Move Over Law
- April 22, 2009 Additional Condition for Double Fines in Work Zone
- May 29, 2009 Office of Highway Safety Moved to Department of Roads
- July 14, 2010 Requirements for Drivers Failing to Pass Driver's Tests
- August 26, 2011 Medical Examiner's Certificate for Commercial Driver's License

The following is a summary of the results for the five CEAs from 2007 to 2011.

- Fatalities dropped from 256 in 2007 to 181 in 2011 (25.8%), or 0.95 fatalities per 100 million VMT exceeding the SHSP's overall goal of 1.0 fatalities per 100 MVM traveled.
- Serious injuries dropped from 1,976 in 2007 to 1,750 in 2010 (11.4%).
- Safety belt usage increased from 79% in 2007 to 84% in 2010.

- Alcohol-related fatalities dropped from 92 in 2007 to 53 in 2010 (42.4%).
- Youth-involved (ages 16-20) Fatal, A & B Injury Crashes were reduced from 1,977 in 2007 to 1,576 in 2010 (20.3%).
- Safety belt citation convictions increased from 8,500 in 2007 to 9,869 in 2010 (15.4%)
- Alcohol Impaired driving arrests dropped from 13,095 in 2007 to 12,399 in 2010 (5%)
- Intersection-related Fatal, A & B Injury Crashes decreased 15.2%, from 3,193 in 2007 to 2,709 in 2010
- Roadway departure Fatal, A & B Injury Crashes decreased 15.2%, from 2,167 in 2007 to 1,837 in 2010

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1. Introduction and Background

1.1 Highway Safety Trends at the National Level and in Nebraska

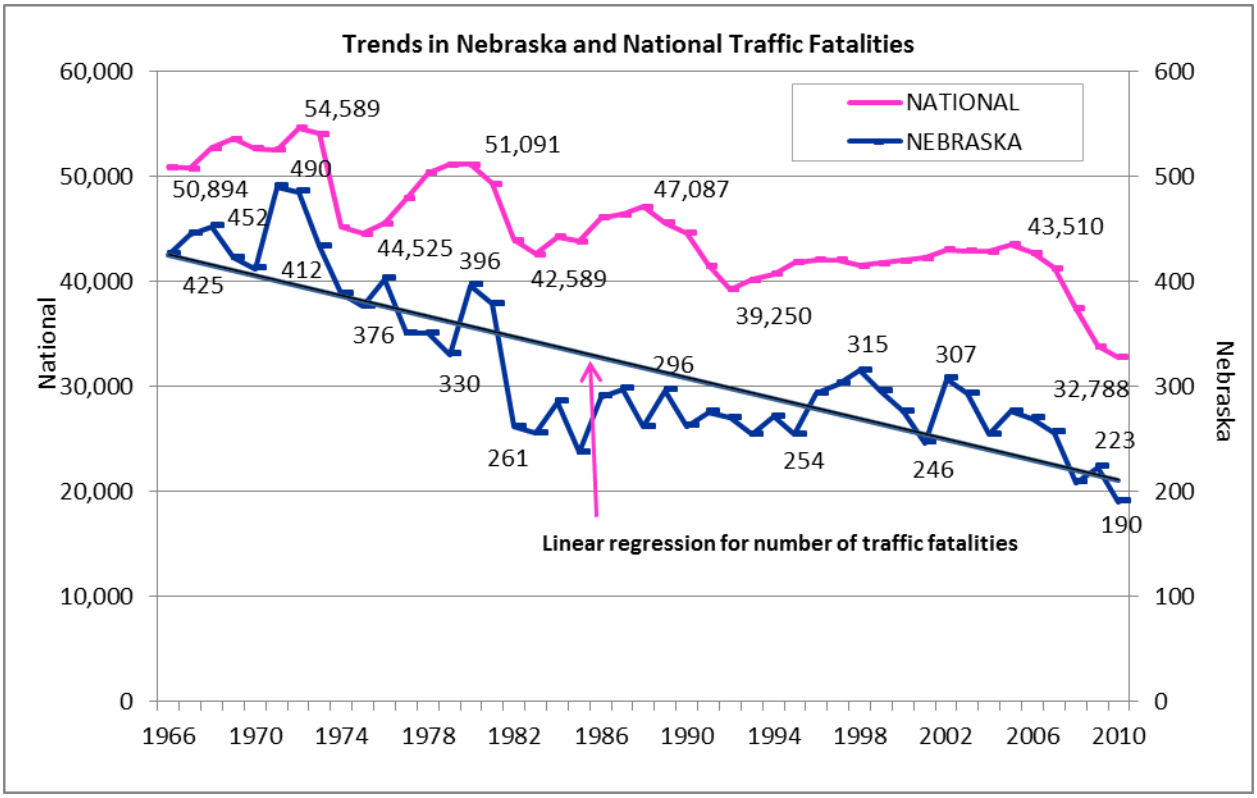


Figure 1.1
Historic Number of Traffic Fatalities

From a peak in the 1970s, there have been significant reductions in the number of traffic-related fatalities in the U.S. Nebraska experienced a decrease in the number of traffic fatalities similar to the national trend as illustrated in Figure 1.1. After significant decreases up until the early 1980s, the number of traffic fatalities in Nebraska leveled off until the 1990's, when there was a slight upward trend. A contributing factor to this fatality increase was the steady rise in vehicle miles traveled (VMT) throughout this period. VMT in Nebraska increased from 11.4 million in 1982 to 19.5 million in 2010, a growth of 71%.

Both nationally and in Nebraska, the number of fatalities has dropped significantly in the past five years. According to figures from the National Highway Traffic Safety Administration (NHTSA), highway deaths fell to 32,885 in 2010. This is the lowest figure since 1949 and represents a 2.9 percent drop from 2009. This decrease occurred despite the fact that Americans drove almost 46 billion more miles during the year. Americans collectively drove about 3 trillion miles in 2010, according to FHWA's Traffic Volume Trends.

Additionally, when reviewing the trends in the fatality rates in **Figure 1.2** (*1,2*), the national trend indicates a sharp decrease in the fatality rate up until the early 1990's, followed by a much slower decreasing trend. The trend in Nebraska has closely mirrored what has been occurring for the entire U.S., as illustrated in **Figure 1.2**. Nebraska realizes the need to expand on current strategies, implement additional strategies, as well as develop new and innovative strategies to continue the downward trend.

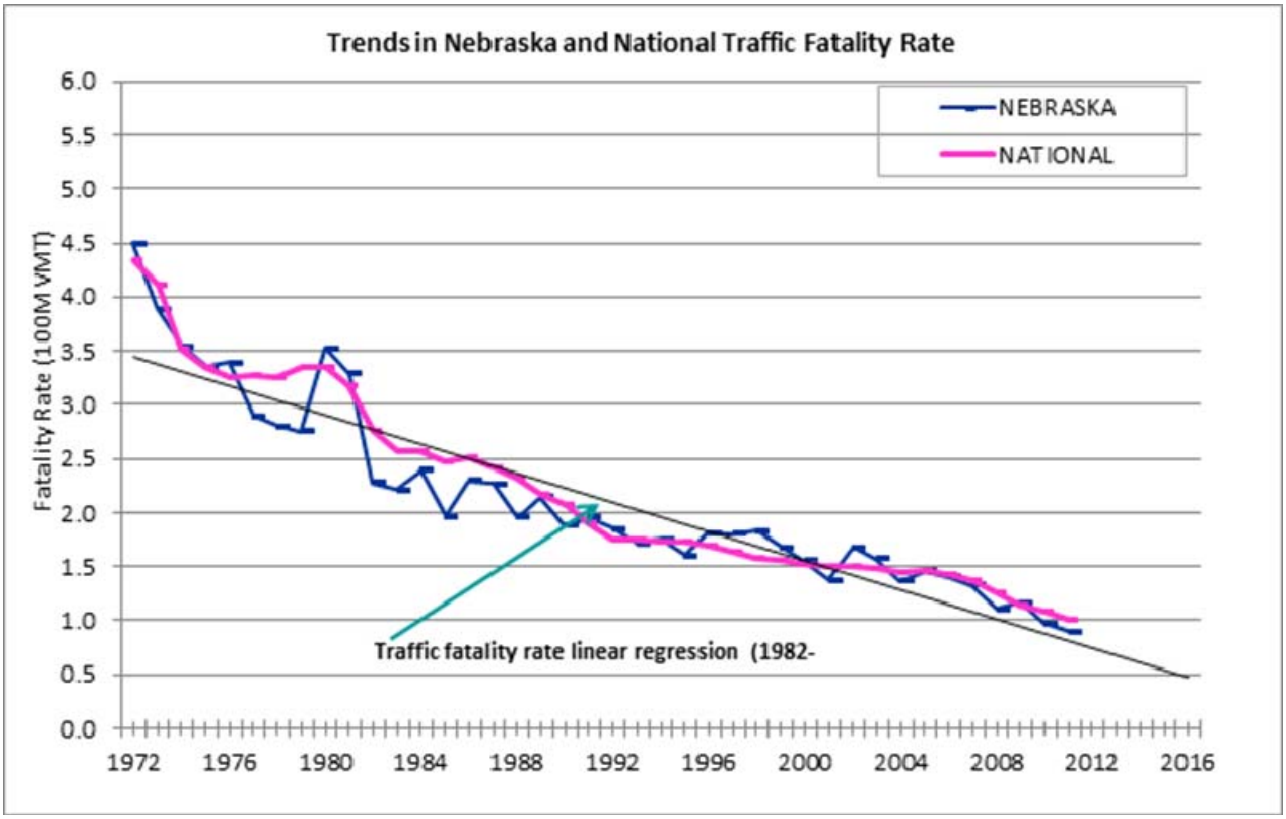


Figure 1.2
Historic Fatality Crash Rate

1.2 Background on National Guidance on Highway Safety

Despite impressive improvements in national highway traffic safety since the early 1970's (a 45% decrease in fatalities and a 75% decrease in fatality rate), traffic-related deaths and injuries continue to impose a massive burden on the residents of Nebraska. Traffic crashes are still one of the leading causes of death and the estimated annual economic cost of the 35,000 crashes that occurred during 2010 is almost $1.95 billion dollars.

Traffic fatalities have fallen in Nebraska from a peak of 490 in 1970 to a modern automobile era low of 181 in 2011. During this time, road travel increased by 80%. Trends prior to 2006 indicated that the rate of reduction in roadway related deaths and injuries had flattened and at the national level and the number of fatalities had actually risen. This lack of progress in reducing the death toll on our nation's highways led the American Association of State Highway and Traffic Officials (AASHTO) and the Federal Highway Administration (FHWA) to conclude

that a new focus on and approach to traffic safety was necessary to address the documented increase in fatal and life changing injury crashes.

The updated ASHTO SHSP, "A Comprehensive Plan to Substantially Reduce Vehicle-Related Fatalities and Injuries on the Nation's Highways" (February 2005), outlined 22 key emphasis areas organized into six plan elements: drivers, special users, vehicles, highways, EMS and management. These key areas served as a starting point to evaluate State data. This report expanded on these areas in Table 1.1. Additionally, the NCHRP Report 500, "Guidance and Implementation of the AASHTO SHSP," series of publications provided the basis for developing CEAs for the Nebraska 2007-2011 SHSP. Furthermore, subsequent to the passage of the SAFETEA-LU Act, the U.S. Department of Transportation (DOT) modal agencies released a publication entitled, "SHSPs: A Champion's Guide to Saving Lives – Guidance to Supplement SAFETEA-LU Requirements" (April 2006).

These documents encouraged states to develop their own SHSPs based on the following six guiding principles:

1. Comprehensive—In order to be highly effective at reducing crashes, SHSPs need to be comprehensive in nature and include strategies that address education, enforcement, and emergency medical services, in addition to the more traditional engineering improvements (the Four Safety E's). A review of crash characteristics found that the key contributing factor in over 60% of the serious crashes is driver behavior and supported the need to address safety in a comprehensive fashion.
2. Systematic—A short list of safety strategies should be developed using a process that first identifies a universe of potential strategies and then screens the strategies so that the final prioritized list directly links the improvements to the key factors that are contributing to high numbers of serious crashes.
3. Integrated—Many state transportation departments have focused the implementation of engineering type improvements on the state highway system. The guiding principles suggest that to be more effective at reducing serious crashes, states needed to integrate SHSPs across the state's entire system of roads and coordinate with all state and local agencies that address transportation safety issues. Crash characteristics that found 40 to 50% of serious crashes occurred on local roads and that local roads in rural areas usually have the highest fatality rates support the need to address safety in an integrated fashion.
4. Stakeholder Involved—Representatives of each element of the Four Safety E's should be involved in the process of developing and screening the safety strategies because they could be a key partner in implementing the strategies.
5. Data Driven—SHSPs need to be crash data-driven so that the recommended improvement strategies are directly linked to the factors contributing to high frequencies of fatal and disabling injury crashes. Being able to access reliable and accurate data will help increase the overall effectiveness of the SHSP by directing safety resources to those strategies that will prevent the most crashes at the locations with the greatest needs.
6. Proactive—Most recent safety plans have primarily focused on reacting to locations identified as having unusually high crash frequencies. However, fatal and disabling

crashes are often widely dispersed across the road system. Therefore, safety analyses that rely solely on crash frequency to select candidate locations for improvements have no guarantee of being able to predict which locations have a high probability of having a serious crash in the future. The most effective approach may include both a reactive component to deal with known locations with safety deficiencies and a proactive component to address better the random nature of serious crashes, especially those in rural areas.

In addition to these guiding principles, FHWA asked the states to address three key objectives in their plans—first, set a safety goal; second, identify a short list of the highest priority safety strategies and finally, analyze safety investment practices to determine the most effective way to achieve the adopted safety goal consistent with federal guidelines and state policies.

TABLE 1.1
AASHTO's 22 Emphasis Areas

	Emphasis Areas
Part 1: Drivers	Instituting Graduated Licensing for Young Drivers
	Ensuring Drivers are Licensed and Fully Competent
	Sustaining Proficiency in Older Drivers
	Curbing Aggressive Driving
	Reducing Alcohol-Impaired Driving
	Keeping Drivers Alert
	Increasing Driver Safety Awareness
	Increasing Safety (Seat) Belt Usage and Improving Airbag Effectiveness
Part 2: Special Users	Making Walking and Street Crossing Safer
	Ensuring Safer Bicycle Travel
Part 3: Vehicles	Improving Motorcycle Safety and Increasing Motorcycle Awareness
	Making Truck Travel Safer
	Increasing Safety Enhancements in Vehicles
Part 4: Highways	Reducing Vehicle-Train Crashes
	Keeping Vehicles on the Roadway
	Minimizing the Consequences of Leaving the Road
	Improving the Design and Operation of Highway Intersections
	Reducing Head-On and Across-Median Crashes
	Designing Safer Work Zones
Part 5: EMS	Enhancing Emergency Medical Capabilities to Increase Survivability
Part 6: Management	Improving Information and Decision Support Systems
	Creating More Effective Processes and Safety Management Systems

Source: AASHTO Strategic Highway Safety Plan

1.3 Previous Highway Safety Efforts Completed by Nebraska

1.3.1 Formation of the Nebraska Interagency Safety Committee

The Nebraska Interagency Safety Committee had its initial meeting in October 2004. The committee involves state, local and federal agencies with an interest in Nebraska's road safety programs. There are two parts to the Nebraska Interagency Safety Committee. The first is the Leadership Committee that meets on an annual basis and as needed to sponsor and oversee the general direction of the Nebraska SHSP. The Leadership Committee is currently comprised of directors from:

- Nebraska Department of Roads
- Nebraska Department of Motor Vehicles
- Nebraska Department of Health & Human Services
- Nebraska State Patrol
- Nebraska Association of County Officials
- Nebraska League of Municipalities

The second component of the Nebraska Interagency Safety Committee is the Working Committee. The Working Committee meets monthly to give guidance to the development of the Plan and help with making decisions on technical issues. The members of the Working Committee are currently:

- Nebraska Department of Roads
- Nebraska Department of Motor Vehicles
- Nebraska Department of Health & Human Services, EMS/Trauma
- Nebraska State Patrol
- Nebraska Local Technical Assistance Program
- Federal Highway Administration (federal advisor)
- National Highway Traffic Safety Administration (federal advisor)
- Federal Motor Carrier Safety Administration (federal advisor)

1.3.2 Nebraska Crash Records System

The Nebraska Department of Roads (NDOR) maintains a sophisticated crash data system, which collects, categorizes, and analyzes crashes on all roads in Nebraska. The state revised this system in 2002 to correspond with many of the data elements described in the Model Minimum Uniform Crash Criteria. The state uses the data from this system to identify safety problems, including those defined in the state's Highway Safety Plan and Highway Safety Improvement Program. In addition, the Motor Carrier Management Information System and Nebraska's Crash Outcomes Data Evaluation System integrate crash data from this system.

Nebraska has maintained a Traffic Records Coordinating Committee (TRCC) since 1995 that identifies and champions traffic records improvements. The TRCC has made major improvements during this time span and has planned others. The TRCC develops a Strategic Plan for Traffic Records that they update annually. The TRCC, along with the Nebraska Office of Highway Safety and a collection of other traffic record system participants, completed a new Traffic Records Assessment in July 2011. Plans for improving the crash records system include upgrading and expanding electronic submittal of accident reports from law enforcement

agencies, allowing for direct sale of crash reports to the public over the web, and providing a means for drivers to report electronically.

Some of these improvement projects are already under way; others are for future implementation. A total re-write of NDOR's Electronic Accident Form (EAF) has been in progress for over a year. When completed, the EAF will allow law enforcement officers to more easily report to the NDOR electronically. It will include several features requested by the officers themselves, such as a drawing tool that is within the program, eliminating the need to import diagrams. Another project that has already started is the conversion of the existing document imaging system for accident reports to the On Base system, fully supported by the state's main information technology agency, the Office of the Chief Information Officer. In the process of this conversion, NDOR will make several improvements that should improve the efficiency of data entry clerks and crash analysts. In addition to these major projects, NDOR is evaluating the possibility of allowing law enforcement officers to report using iPads, especially in remote counties where internet access is problematic.

The NDOR uses a Hazardous Location Analysis tool for the identification of high accident intersections, sections, and clusters on the state highway system. The formula to identify significant locations uses crash rate by type and volume of roadway, accident frequency, and crash severity. Although this process excluded local roads because of a lack of traffic volume data, the NDOR does not ignore these roads. They are analyzed using a different, although more cumbersome procedure. The Nebraska High Risk Rural Roads Program Team uses local road crash data from all 93 Nebraska counties to determine appropriate local and statewide safety projects.

1.3.3 Nebraska's Process for Developing the 2007-2011 SHSP

In response to the direction provided at the national level, the NDOR along with its partners on the IASC worked to develop the 2007-2011 Nebraska SHSP that addressed the frequency, rate and contributing factors contributing to fatal and disabling injury crashes in the state. The plan served as a guide for accomplishing the identified goals, providing a forum and process for engaging safety professionals to work towards reducing the number of fatal and disabling injuries associated with traffic crashes in Nebraska. The plan started with the guiding principles and made adjustments based on Nebraska's crash characteristics and input from a variety of safety partners at a workshop attended by approximately 90 safety professionals representing education, enforcement, engineering and emergency medical services.

The key results of the SHSP development process and review update included:

- Nebraska adopted a safety goal of reducing the statewide fatality rate from a rate of 1.6 fatalities rate per 100 million VMT in 2003 to a rate of 1.0 in 2011. With this goal, annual traffic fatalities would decrease from approximately 290 to 190.
- Nebraska crash records identified the areas emphasized in the Plan based on the number of related fatal crashes—the notion being that these emphasis areas represented the greatest opportunity for successfully reducing severe crashes. The Interagency Safety Committee then undertook a screening process that ultimately resulted in the selection of five areas of focus – the Critical Emphasis Areas (CEAs) – for the Plan:

- Increasing Safety Belt Usage
- Keeping Vehicles on the Roadway, Minimizing the Consequences of Leaving the Road, and Reducing Head-On and Across-Median Crashes
- Reducing Alcohol-Impaired Driving
- Improving the Design and Operation of Highway Intersections
- Addressing the Over Involvement of Young Drivers

- The selection of the five CEAs focused the vision of the Plan from an initial universe of more than 500 alternative safety strategies to approximately 160 strategies directly related to the factors contributing to severe crashes in Nebraska. At a Critical Strategies Workshop in 2006, safety partners further screened a list of 20 Critical Strategies addressing the Four Safety E's. **Figure 1.3** illustrates a summary of these Critical Strategies.
- The state could implement most of the Critical Strategies dealing with engineering and emergency services almost immediately, with the cooperation of the responsible agencies and the allocation of the necessary financial resources. However, several strategies dealing with enforcement and young drivers (a primary safety belt law, automated enforcement and a more comprehensive Graduated Driver's License (GDL) program) required new legislation before implementation.
- Nebraska's six keys to safety investment included:

  1. Invest in all Four Safety E's.
  2. Focus the safety investment in the few strategies that are associated with the largest pool of fatal and disabling injury crashes.
  3. Invest heavily in strategies that have proven to produce crash reductions, have relatively high safety effectiveness ratios, are relatively low cost and therefore can be widely deployed across Nebraska's entire system of highways.
  4. Find a balance between the traditional reactive approach to safety and a proactive approach expected to be more effective at addressing the few widely distributed serious crashes over-represented in rural areas.
  5. Develop a method to direct safety resources to local road systems, which account for over 40% of the fatal crashes in Nebraska.
  6. The enforcement and young driver strategies requiring new legislation are linked to large pools of severe crashes that are susceptible to correction, have low to moderate deployment costs and relatively high effectiveness ratios. As a result, the addition of these strategies to an overall safety plan would significantly increase Nebraska's ability to meet the adopted safety goal.

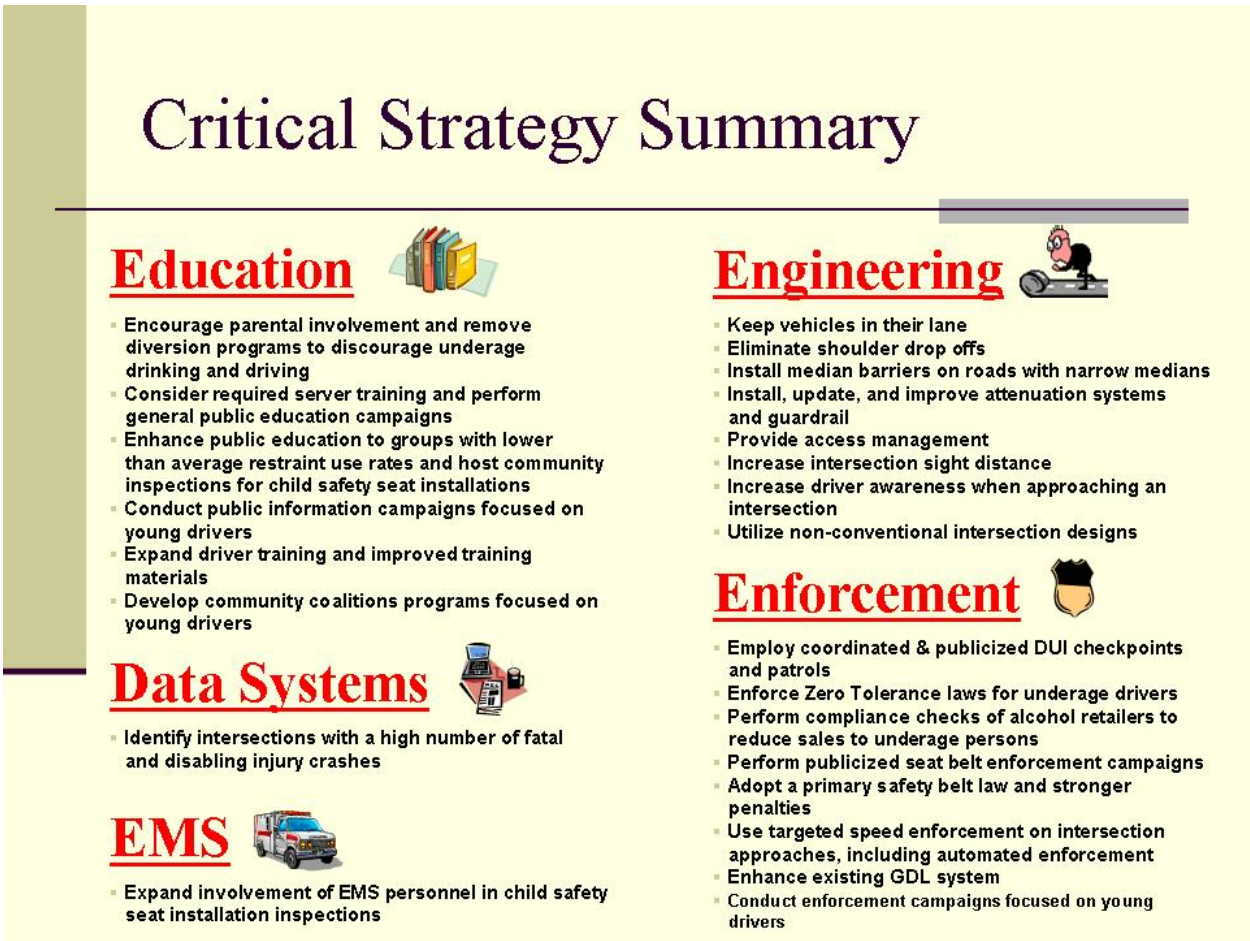


FIGURE 1.3

Summary of Nebraska's Critical Strategies

Note: Several Critical Strategies had multiple components and addressed more than one of the Four Safety E's. The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

The IASC could not identify additional investments to improve data systems as being highly effective in reducing severe crashes. It appeared that this is likely a function of the lack of research results at the national level as opposed to providing a true picture of the actual value of good data. In fact, traffic safety professionals in Nebraska considered improving the crash data system to be a high priority. Without accurate data, the task of identifying crash prone locations and linking causative factors to mitigation strategies becomes far too speculative. As a result, Nebraska chose to include improvements to data systems as a key part of the SHSP. Nebraska will continue to make the necessary investment of safety dollars in order to support the development of a crash records system that is highly accurate and integrated across the state's safety agencies.

Finally, the greatest challenge facing traffic safety professionals in Nebraska was the need to acknowledge that the effort to reduce fatal and life changing injuries was tied to implementing a

new, more effective safety program that was different than what had been done in the past. The analysis of safety investment options proved that Nebraska could achieve the adopted safety goal of reducing the fatal crash rate to the national goal of 1.0, a 38% reduction. However, this achievement required doing things differently than what had been the practice in recent years. This included investing in additional enforcement, education and emergency services, being more proactive, engaging the legislature to improve laws dealing with safety belts, electronic enforcement and young drivers, and focusing safety investments to the small subset of low cost strategies. These strategies, linked to large pools of severe crashes, could be widely deployed across Nebraska.

As referenced in Section 1.2, Nebraska used AASHTO's 22 emphasis areas as the building blocks for this Plan. This included an evaluation of fatal, disabling injury and visible injury crashes.

The second task in the SHSP development process involved reviewing the most current summary of Nebraska's fatal crashes (2002-2004) associated with the 22 emphasis areas to reevaluate the initial selection of the CEAs. As seen in the fatal crash summary, the ten categories with the highest number of fatal crashes included:

Roadway departure crashes (58%)
Unrestrained vehicle occupants (49%)
Intersection crashes (35%)
Alcohol-related crashes (33%)
Younger driver (16-20) crashes (27%)
Older driver crashes (65+) (25%)
Commercial motor vehicle crashes (19%)
Speed-related crashes (12%)
Motorcycle crashes (8%)
Distracted drivers (4%)

Following the review of Nebraska's fatal crash records, the Interagency Safety Committee met to discuss the selection of the CEAs. The breakdown of the fatal crash information showed that the following CEAs represented the top five categories based on the number of traffic fatalities. These categories were:

- **Keeping Vehicles on the Roadway, Minimizing the Consequences of Leaving the Road, and Reducing Head-On and Across-Median Crashes**
- **Increasing Safety Belt Usage**
- **Improving the Design and Operation of Highway Intersections**
- **Reducing Alcohol-Impaired Driving**
- **Addressing the Over Involvement of Young Drivers**

In prioritizing strategies for the 2007-2011 SHSP, the IASC conducted a highway safety workshop in May 2006. Attendees included safety partners representing the Four Safety E's (education, enforcement, engineering and EMS). For each of the CEAs, attendees reviewed and prioritized strategies listed in the *NCHRP Report 500* series. In addition to the NCHRP series, the initial list included some strategies previously documented in safety plans through FHWA's Lead State Initiative. This information reflected the professional opinions of the safety summit participants, indicating where they suggested the state should invest its safety resources in order to reduce the largest number of traffic fatalities.

Following the summit, the IASC identified the top Critical Strategies that Nebraska would focus on to achieve the 2011 safety goal. The IASC elected to add the countermeasure of using cable median barrier in narrow medians and upgrading roadside guardrail to address lane

departure crashes. They also added a countermeasure to perform more compliance checks of alcohol retailers to reduce the sale of alcohol to minors. Finally, IASC expanded the strategy to use roundabouts when and where appropriate to include other non-conventional geometric designs that might have applications in certain circumstances. The Committee made these additions and revisions with the purpose of filling in any areas not sufficiently addressed by the outcomes of the workshop and finally selected 20 Critical Strategies.

The selected Critical Strategies did not replace existing safety programs and activities. Instead, the purpose of identifying the Critical Strategies was to help Nebraska supplement existing safety activities/programs and to provide a coordinated, multi-agency focus for Nebraska's safety funds, including NDOR's Highway Safety Improvement Program (HSIP) funds.

2. 2007-2011 Accomplishments

2.1 Awards

In 2009, the American Association of State Highway and Transportation Officials honored Nebraska, along with Colorado and Nevada, with the AASHTO Safety Leadership Award. The nomination highlighted the IASC as a State Champion in working with stakeholders on aggressive strategies to reduce the fatalities on Nebraska roadways. The award also focused on NDOR's very successful High Risk Rural Roads horizontal curve signing project. Eighty-one of the state's 93 counties (87%) participated in this project for a total of 46,530 signs and 33,192 posts.

2.2 Highway Safety Summits

During the period of 2007-2011, the IASC hosted Highway Safety Summits in 2007 and 2009. As with the state's previous summits in 2001, 2003 and 2005, representatives from the 4 E's – engineering, enforcement, education and emergency – addressed safety efforts and strategies for the five Critical Emphasis Areas identified in the SHSP.

2.3 Legislation

Recent legislation passed in Nebraska affecting highway safety:

- Legislative bill 92 – (2009) – "Move Over" Bill requires drivers to move over a lane or slow down for stopped emergency or roadside assistance vehicles.
- Legislative bill 111e – (2009) - Requires road construction workers to be present within a highway maintenance, repair, or construction zone as a condition for the doubling of a speeding fine.
- Legislative bill 219e – (2009) - Moving the Nebraska Office of Highway Safety from the Department of Motor Vehicles to the Department of Roads to improve efficiency.
- Legislative bill 497e - (2009) - Clarifies changes to the statute regarding interlock. devices and establishes ignition interlock provisions for first time and multiple offenders.
- Legislative bill 805 – (2010) - Defined a "dark" power failure traffic signal as a multi-way stop.
- Legislative bill 924 – (2010) – Removes authorization for an ignition interlock permit holder to drive to and from required visits with a probation officer.
- Legislative bill 945 – (2010) - Prohibits texting while driving.
- Legislative bill 158 – (2010) - Requires individuals who fail three driver's tests to hold a learner's permit for 90 days or successfully complete a DMV approved Driving Training Course before retesting.
- Legislative bill 178 – (2011) - All Commercial Driver's License applicants who operate or expect to operate in interstate commerce will be required to provide the DMV with a medical examiner's certificate and keep it current with the DMV.
- Legislative bill 289 – (2011) - Effective January 1, 2012, provided for the title, registration and operation of a low speed vehicle on public roadways.
- Legislative bill 307 – (2007) - Modified the allowed uses of an ATV in public roadways.

- Legislative bill 650 – (2010) - Provided for the title, registration and operation of a mini-truck on public non-access controlled roadways.

2.4 Crash Statistics for 2010

- Fatalities dropped from 256 in 2007 to 190 in 2010 (25.8%), or 0.97 fatalities per 100 million VMT, exceeding the SHSP's overall goal of 1.0 fatalities per 100 million VMT.
- Serious injuries dropped from 1,976 in 2007 to 1,750 in 2010 (11.4%).
- Safety belt usage increased from 79% in 2007 to 84% in 2010.
- Alcohol-related fatalities dropped from 92 in 2007 to 53 in 2010 (42.4%).
- Youth-involved (ages 16-20) Fatal, A & B Injury Crashes were reduced from 1,977 in 2007 to 1,576 in 2010 (20.3%).
- Safety belt convictions increased from 8,550 in 2007 to 9,869 in 2010 (15.4%).
- Alcohol-impaired driving arrests decreased from 13,095 in 2007 to 12,399 in 2010 (5%).
- Intersection-related Fatal, A & B Injury Crashes decreased 15.2%, from 3,193 in 2007 to 2,709 in 2010
- Roadway departure Fatal, A & B Injury Crashes decreased 15.2%, from 2,167 in 2007 to 1,837 in 2010

2.5 Highway Safety Improvement Program (HSIP)

Because of SAFETEA-LU, the NDOR implemented two internal teams, in addition to the long-standing Safety Committee, to develop highway safety projects funded through the HSIP. The Safety Committee reviews safety improvement projects submitted by counties and cities, and recommends/develops safety projects for locations identified through the Hazard Location Analysis Program. The Strategic Safety Infrastructure Projects Team reviews major and statewide projects, such as roundabouts, major intersection improvements, and statewide shoulder and centerline rumble strip projects. The High Risk Rural Roads Program (HRRRP) team identifies and reviews projects using HRRRP funding, including statewide bridge object markers, horizontal curve signing, and intersection signing projects.

During 2007-2011, the NDOR safety teams approved almost $34.7 million for 84 safety projects, including $2.4 million in statewide HRRRP projects. These projects included:

- Improving safety by modifying intersection geometrics
- Installing and modifying traffic signals
- Modifying geometrics to improve safety
- Installing countdown pedestrian signals in Lincoln and Omaha
- Lighting rural intersections with nighttime crashes
- Upgrading bridge rail to modern standards
- Installing centerline and shoulder rumble strips on two-lane highways
- Offering improved intersection signing for county road locations
- Providing proper curve signing for horizontal curves on county roads
- Installing bridge anti-icing systems, constructing roundabouts, and implementing adaptive signal control technology projects

Evaluations of safety projects require an economic analysis to determine whether or not a project was cost-effective. The NDOR uses the benefit/cost analysis technique, in which the equivalent uniform annual benefits derived from the project, usually from accident reduction, are compared with the equivalent uniform annual costs. A project with a b/c ratio exceeding 1.0 would be considered cost-effective, with results larger than 1.0 indicating even higher degrees of success.

The following are four examples of infrastructure projects that were successful in reducing intersection crashes.

Douglas County – North of Omaha – Intersection of N-133 (Blair High St.) and State St. - To address a pattern of right-angle crashes, a safety project signalized the intersection and installed advance warning flashers on the north and south legs of N-133. The project reduced targeted right-angle crashes by 79.8%. Additional significant decreases also occurred in the injury crash rate (67%) and the total crash rate (62.5%). Completed in April 2008 at a cost of $290,467, this successful project had a benefit-cost ratio of 27.72.

Lincoln – Intersection of N-2 (Van Dorn St.) with 9th & 10th Street – Due to the spacing of the signals at this intersection, vehicles, especially heavy trucks, had difficulty clearing the two intersections on one green cycle. As a result, a number of right angle collisions occurred with vehicles running a red light, particularly on Van Dorn Street. To help reduce this problem, the City of Lincoln prepared an innovative design to remove trees from the wide median area and build two separate two-lane left-turn lanes. The project reduced the right angle crash rate by 70.7%. Additional decreases also occurred in the total crash rate (42.1%), the injury crash rate (34.0%), and the PDO crash rate (67.1%). This City completed this project in September 2007 at a cost of $817,775.13. The economic analysis calculated for this project resulted in a benefit-cost ratio of 3.87.

Lincoln – Intersection of S. 56th Street & Elkcrest Drive – The primary type of crash occurring at this intersection was the rear-end collision. To help reduce this problem, the project widened 56th Street to provide opposing left-turn lanes. In addition, the project widened both legs of Elkcrest Drive to provide opposing left-turn lanes and install an updated signal system. This project reduced targeted rear-end crashes by 68.2%. Decreases also occurred in the total crash rate (58.7%) and the PDO crash rate (76.0%). Completed in August 2008, this project resulted in a benefit-cost ratio of 2.50.

York – Intersection of US-81 & S. 35th Street – The primary crash type occurring at this intersection was the left turn collision caused by vehicles traveling south on US-81 attempting to turn left and failing to yield to northbound through vehicles. To help reduce this problem, this project converted left turn lanes to deep offset left-turn lanes with a connected raised center island. This project reduced targeted left-turn crashes by 100%. Decreases also occurred in the total crash rate (45.7%), injury crash rate (63.0%) and the PDO crash rate (52.2%). However, an increase in the rear-end crash rate (94.1) has developed. This project, completed in January 2008, resulted in a benefit-cost ratio of 6.26.

Nebraska was one of the initial five states electing to flex 10% of their HSIP funding for non-infrastructure projects. Since 2007, the NDOR has obligated over $4 million for

33 stakeholder projects addressing the driver behavior CEAs of occupant restraint, alcohol-impaired driving and younger drivers. Working in conjunction with the Nebraska Office of Highway Safety, the NDOR participated in funding five national and five state Click It or Ticket campaigns adding 87,653 hours of overtime enforcement operations emphasizing safety belt and child restraint law compliance. During these 10 campaigns of overtime enforcement, law enforcement issued - 8,392 for safety belt violations, 31,522 for speeding, 1,541 for alcohol-impaired driving, which made up part of a total of 61,022 citations that were reported during the overtime operations.

The state conducted an additional five national and five state "You Drink, You Drive, You Lose" mobilizations that resulted in 98,403 impaired driving overtime hours. Through these impaired driving crackdowns, law enforcement issued a total of 48,214 tickets – which included 4,815 for impaired driving, 1,894 for safety belt violations, and 28,514 for speeding. Also utilized during this time were saturation patrols, sobriety checkpoints, underage party patrols, and alcohol license compliance checks.

2.6 Emergency Medical Services (EMS)

With 44 designated trauma centers, Nebraska ranks among the top rural states for the highest number of designated centers. The Nebraska EMS/Trauma Program conducted 280 Emergency Vehicle Operator courses during 2007-2011 and trained 3,360 pre-hospital providers in the six-hour specialized course for ambulance personnel. The EMS/Trauma Program also conducted 140 specialized Vehicle Extrication Courses and trained 1,680 pre-hospital providers during this time period. Other achievements included:

- Implementation of a statewide trauma registry,
- Received the Gold Standard for National Medical Services Information System data set compliance,
- Passed rules and regulations requiring ambulance services to utilize the National Emergency Medical Services patient reporting data set,
- Implemented NHTSA's National ES Education Agenda for the Future, and
- Implemented Simple Triage and Rapid Treatment as the standard triage system for Nebraska pre-hospital providers to handle mass casualties.

2.7 Best Practices

The NDOR has taken a unique approach in implementing the High Risk Rural Roads Program (HRRRP) by partnering with the Nebraska Local Technical Assistance Program (LTAP) and the Nebraska Highway Superintendents Association (NHSA) – an affiliate of the Nebraska Association of County Officials, as well as the Federal Highway Administration, Nebraska Division. Representatives from LTAP and the NHSA meet monthly with NDOR staff and an FHWA advisor to review crash data, develop safety projects and examine project proposals from counties. Face-to-face communication has helped members understand the challenges and frustrations from each entity's perspective in addressing mutual safety concerns.

In reviewing rural crash locations, the HRRRP Team (HRRRPT) noted that many locations were horizontal curves with inadequate, improperly placed or missing signage. The HRRRPT proposed a statewide horizontal curve signing initiative to provide signing and posts to counties

wishing to participate. Using county and LTAP forums, HRRRPT representatives attended district meetings throughout the state to inform local agencies of the project. The project received overwhelming response. After three phases of the project, 81 of Nebraska's 93 counties (89%) have participated in the program. The first two phases of the project provided 46,530 signs and 33,192 posts. Phase 3 is currently in progress.

In 2006, the DMV completed installation of an automated written testing system in all driver licensing offices. This system scrambles test questions to ensure that people passing written driver tests actually pass them, and that they have an understanding of the rules of the road rather than merely memorizing the answers.

In 2009, the DMV moved from an over-the-counter issuance process to a central issuance process. The DMV also implemented a photo first system taking photos when individuals apply for the licensing documents rather than at issuance time. These changes allowed the DMV to put higher-level security features on the document, to have confidence that the applicants live at the address they provided (by mailing the document to them), and that the person applying for the document is the same person to when it was issued.

The DMV is also embarking on a project to enhance the existing gated-issuance process by integrating facial images and identities captured by other state and local government entities, including the Nebraska Department of Corrections, the Nebraska State Probation Office and the Nebraska State Patrol. The DMV may also collect future images from the larger jail and law enforcement agencies in the state. The DMV will convert existing images and personal identifying information from several outside trusted sources and integrate the images and data into the existing gated-issuance process. In addition, on a continuing basis, the DMV will integrate a periodic (daily or weekly) load of all new images and personal identifying information captured by these sources.

All trial courts within Nebraska now connect to the Judicial Users System to Improve Court Efficiency (JUSTICE). JUSTICE is software for case and financial management, and the system transits all traffic convictions to the Department of Motor Vehicles electronically on a nightly basis.

The DMV purchased 199 printers for installation in all 93 county offices as a prerequisite to the next DMV project. The future project will introduce a PDF417 barcode into the production of registration documents that will have a positive impact for those law enforcement agencies utilizing an e-citation system.

2.8 Data System Improvements

Nebraska enhanced the security of licenses by moving from field issuance to central office issuance of driver license related documents and is now using facial recognition software for its improved operations. The Facial Recognition System (FRS) is capable of conducting a 1 to 1 review of images at the time of driver license application and a review of every image in the driver license system each night. From these reviews, the DMV can identify possible cases of fraud. The DMV can then manually evaluate to determine if a review warrants an investigation. The DMV does not print or mail the driver license document to the applicant until the investigation is complete and it is determined that no fraud has occurred.

The DMV is embarking on a project to enhance the existing gated-issuance process by integrating facial images and identities captured by other state and local government entities. The DMV will convert existing images and personal identifying information from several outside trusted sources and integrate the images and data into the existing gated-issuance process. In addition, on a continuing basis, the DMV will integrate a periodic (daily or weekly) load of all new images and personal identifying information captured by these sources.

DMV plans to incorporate images acquired from the Nebraska Department of Corrections, the Nebraska State Probation Office, and the Nebraska State Patrol into the facial recognition process. In the future, they may also collect images from the larger jail and law enforcement agencies in the State. The DMV is targeting these databases for two reasons:

1. They are some of the few government entities that maintain images of individuals associated with identification data.
2. Since July 2009, FRS determined that individuals who already have criminal records committed over 90% of driver license fraud. This emphasizes the need to integrate the images from this section of the population into the driver license applicant verification process to limit further the issuance of driver license documents to those attempting to commit fraud.

The Judicial Users System to Improve Court Efficiency (JUSTICE) connects all trial courts within Nebraska. JUSTICE is software for case and financial management, and the system transmits all traffic convictions to the Department of Motor Vehicles electronically on a nightly basis.

In accordance with a federal mandate, use of the National Motor Vehicle Title Information System (NMVTIS) began on January 1, 2010. NMVTIS now provides access to all local county treasurer offices and the DMV prior to issuance of all motor vehicle titles where the proof of ownership provided is an out-of-state title. The primary purpose of NMVTIS is to prevent various types of theft and fraud by providing an electronic means for verifying and exchanging title, brand, theft and other data among motor vehicle administrators, law enforcement officials, prospective and current purchasers and insurance carriers.

A DMV project installed laser printers for the printing of title and registration documents in all 93 counties, the DMV and the Game and Parks Commission. In total, the project provided 199 printers for 101 offices. The new printers were a prerequisite for the next DMV project that is to introduce a PDF417 barcode into the production of registration documents. This project will have a positive impact for those law enforcement agencies utilizing an e-citation system.

The NDOR is assessing the *Highway Safety Manual* published by AASHTO in 2010, with the goal of being able to use the handbook for future crash analyses. The *Manual*, in combination with FHWA's Interactive Highway Safety Design Model, should allow analysts to quantify crash scenarios in a way not possible in the past. In April 2012, NDOR held a two-day *Highway Safety Manual* class for staff performing crash analysis to begin using in their work.

2011 Traffic Records Assessment – The State requested an NHTSA Traffic Records Assessment. NHTSA conducted and completed the assessment in July 2011.

Electronic Accident Reporting – The number of accidents reported electronically continues to grow. During 2011, approximately 33% of all reports were received electronically, all of them using NDOR's Electronic Accident Form (EAF). This number was given a strong boost by the addition of the Lincoln Police Department (LPD), the agency that investigates the second largest number of crashes in the state, or 17% of the total. LPD has been adopting EAF in stages, as they train their various units in the software. It is now available to all their officers. Discussions have begun to attempt to get the state's largest investigating agency, the Omaha Police Department (OPD), who investigates 29% of the total crashes, to report electronically. OPD has some unique problems that may prevent them from adopting electronic accident reporting in the near future. Increased use of electronic reporting should occur when other reporting systems, besides EAF, such as the SLEUTH system supported by the Nebraska Crime Commission, are able to submit data to NDOR using the Department's SML schema. Use of the EAF is also likely to increase when NDOR releases the new, improved version of EAF in the summer of 2012.

Electronic Citations – The Crime Commission continues to move ahead with implementing electronic citations to various law enforcement agencies. The NSP has completed rollout of TraCS version 10 to all submitting approximately 47% of its troopers. When eCitations are fully installed and stable for the Patrol, When the Crime Commission will begin installing it at local agencies. They are also working on development of a SLEUTH version for eCitations.

Top 5% Report – The NDOR is communicating annually to the FHWA, as required by SAFETEA-LU, a report listing 5% of the state's most severe safety needs. The NDOR is also distributes this list to members of the various NDOR HSIP committees for analysis of the crashes and consideration for safety improvement.

3. 2012-2016 SHSP

3.1 Process for Updating the 2012-2016 SHSP

In preparation for updating the SHSP for the next five-year period starting in 2012, the IASC again reviewed crash data trends from 2003 through 2010 for the five CEAs, as well as additional areas of concern. The additional areas included older drivers, speed-related crashes, distracted driving crashes, commercial motor vehicle crashes, motorcycle crashes and work zone crashes. A shift was also made toward using both fatal and serious injury (Types A and B) crash data to better reflect crash trends.

Because accident investigators can only code one driver-contributing factor for each vehicle in a crash, it is difficult to capture complete data on distracted driving- and speed-related crashes.

In preparation for this SHSP update, early meetings of the Working Committee revisited the original nine possible CEAs they had for the 2007-2011 SHSP. These included:

- Reducing Over Involvement of Young Drivers
- Curbing Speeding
- Reducing Alcohol-Impaired Driving
- Increasing Safety Belt Usage
- Making Truck Travel Safer
- Keeping Vehicles on the Roadway
- Improving the Design and Operation of Highway Intersections
- Designing Safer Work Zones
- Traffic Records

In reviewing crash data for the above areas, the IASC found (Need discussion on how the Working Committee decided to keep the current five CEAs as is with some increased emphasis on distracted driver and speed-related crashes.)

The Working Committee then prepared a summary of fatal, disabling injury and visible injury crashes (2008-2010) to determine if the current CEAs were appropriate, or if crash data supported a change in the five CEAs (see **Table 3.1**).

TABLE 3.1
Possible CEAs from AASHTO's 22 Emphasis Areas

Potential Critical Emphasis Area	Related Crashes*		
	2008	2009	2010
Reducing Over Involvement of Young Drivers	1,729	1,742	1,576
Curbing Speeding	396	417	437
Reducing Alcohol-Impaired Driving	689	630	580
Increasing Safety Belt Usage	1,409	1,494	1,274
Making Truck Travel Safer	358	330	344
Keeping Vehicles on the Roadway	2,025	1,998	1,837
Improving the Design and Operation of Highway Intersections	3,029	2,968	2,709
Designing Safer Work Zones	141	114	115
Traffic Records	-- Not Applicable --		

* All figures are fatal, disabling and visible injury crashes, with the exception of Increasing Safety Belt Usage, which is fatal, disabling and visible injuries to unbelted passengers. Source: Nebraska Department of Roads, Traffic Engineering Division, Highway Safety/Accident Records Section

In developing the 2012-2016 SHSP, the Working Committee updated the fact sheets employing 2006-2010 crash data for use in revising the plan. A copy of these fact sheets is at the end of this chapter. In addition, summaries of the key findings for each CEA identified during the crash review follow below.

Increasing Safety Belt Usage

- 82% of unbelted vehicle occupant fatalities occurred on rural roads.
- 50% of unbelted fatalities when viewed by road type were located on local roads followed by state-numbered highways with 21%.
- The top six counties for unbelted fatalities were Douglas (13%), Lancaster (4%), Gage (3%), Buffalo (3%), Sarpy (3%), and Dawson (3%).
- The most common crash type in which an unbelted fatality occurred was a single vehicle run-off-the-road crash (61%) followed by the angle collision (17%).
- Males accounted for 64% of unbelted fatalities and 28% of the vehicle occupants killed were age 20 and under.
- Over half of the unbelted fatalities (52%) occurred on Friday, Saturday and Sunday.
- Of vehicle occupant fatalities, unbelted vehicle occupants accounted for 51% of all deaths.

Keeping Vehicles on the Roadway, Minimizing the Consequences of Leaving the Road, & Reducing Head-On and Across-Median Crashes

- There was a total of 670 fatalities from roadway departure crashes, which is comprised of 505 fatalities from single vehicle run-off-the-road crashes, 101 fatalities from head-on crashes, and 64 fatalities from fatal sideswipe (opposite direction) crashes.
- 85% of roadway departure fatalities happened on rural roads.
- 44% of roadway departure fatalities occurred on local roads with 22% on state-numbered highways.
- The top five counties for roadway departure fatalities were Douglas (11%), Lancaster (5%), Buffalo (5%), Sarpy (4%) and Cass (3%).
- Alcohol involvement was reported in 41% of roadway departure fatalities and 62% of the vehicle occupant fatalities were individuals not wearing safety belts.
- Of the drivers involved in a fatal roadway departure crash, 74% were male and 21% were 20 years old or under.
- 50% of the roadway departure fatalities happened in “dark” driving conditions.
- Friday, Saturday, and Sunday accounted for 52% of roadway departure fatalities.

Reducing Alcohol-Impaired Driving

- Alcohol-related fatalities were more likely in rural areas (71%).
- Most fatalities occurred on local roads (55%) with another 21% on state-numbered highways.
- The top five counties for alcohol-related fatalities were Douglas (20%), Lancaster (6%), Sarpy (5%), Scotts Bluff (3%), and Cass (3%).
- Single vehicle run-off-the-road crashes accounted for 65% of all alcohol-related fatalities.
- Of drivers in alcohol-related crashes, 20% were under the age of 21, 79% were male, and 67% were unbelted.
- Most alcohol-related fatalities occurred between 9:00 P.M. and 3:00 A.M. (53%) and 64% of alcohol-related fatalities occurred on Friday, Saturday, or Sunday.

Improving the Design and Operation of Highway Intersections

- There were 385 intersection fatalities. Of these, 130 could be identified as having occurred at an unsignalized intersection and 138 at a signalized intersection.
- 65% of fatalities occurred at a rural intersection.
- Intersections on local roads accounted for 41% of the fatalities and U.S. highways was second with 31% of intersection fatalities.
- The top five counties for intersection fatalities were Douglas (22%), Lancaster (9%), Sarpy (5%), Platte (4%), and Cass (3%).
- 51% of intersection fatalities were right angle collisions.
- Alcohol involvement was reported in 33% of the fatalities and 42% of the vehicle occupant fatalities were not using safety belts.
- The leading contributing factor was “failure to yield right of way”.
- Only 37% of the intersection fatalities occurred during “dark” driving conditions.
- Of the drivers involved in a fatal intersection crash, 74% were male, 20% were in the 65 and over age group, and 19% were in the 20 and under age group.

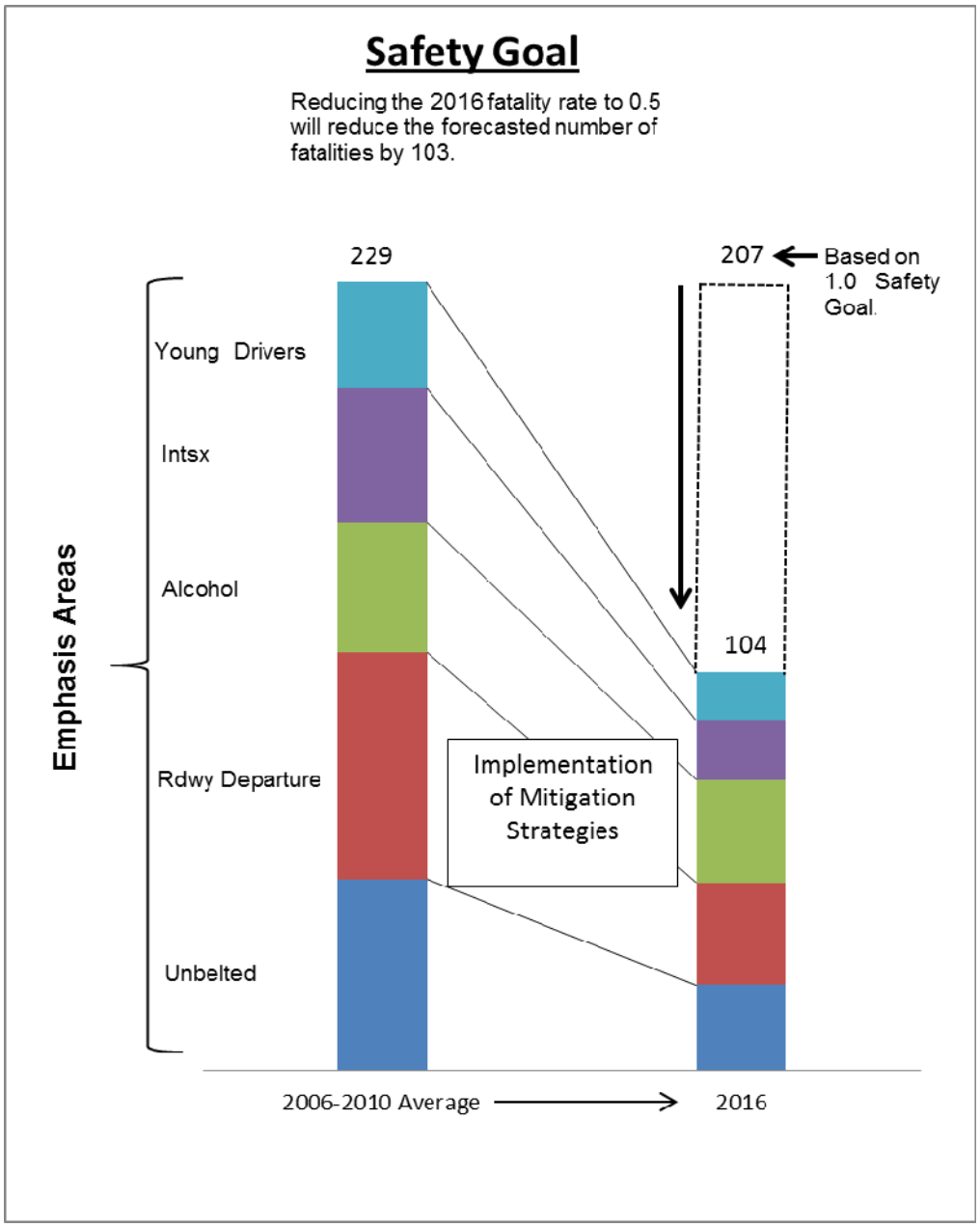
Addressing the Over Involvement of Young Drivers

- 76% of fatalities involving young drivers occurred on rural roads.
- 60% of fatalities were on local roads followed by U.S. highways with 17%.
- The top six counties for fatalities involving a young driver were Douglas (14%), Lancaster (8%), Sarpy (6%), Cass (4%), Seward (4%), and Platte (3%).
- The most common crash type involving a young driver was the single vehicle run-off-the-road crash (42%), followed by right angle collisions (31%).
- Males accounted for 69% of young drivers involved in a fatal crash; 30% of young drivers were involved in alcohol-related crashes and 51% of the young drivers were unbelted.
- 55% of the fatalities involving a young driver occurred on Friday, Saturday and Sunday.
- 47% of fatalities involving a young driver occurred between 6:00 p.m. and 3:00 a.m.
- 24% of all reported cell phone related crashes in 2010 involved teen drivers.

3.2 2012-2016 SHSP Goal

The goal of the 2012-2016 SHSP is to reduce highway fatalities in Nebraska to a rate of 0.5 fatalities per 100 million VMT toward zero deaths in 2016. This goal would reduce traffic fatalities from 181 fatalities in 2011 to approximately 104 in 2016, and save approximately 103 lives per year compared to the number of traffic fatalities in 2010.

FIGURE 1.4
Illustration of How Nebraska's Fatalities Stack Up and the Needed Reduction to Meet the 2011 Safety Goal



3.3 2012 Highway Safety Summit

On April 5, 2012, the IASC hosted the 2012 Highway Safety Summit. This was the state's sixth highway safety summit, with previous summits held in 2001, 2003, 2005, 2007 and 2009. The 2012 Highway Safety Summit followed a similar format to the Critical Strategies Workshop held in 2006. At that workshop, stakeholders reviewed the 500 alternative safety strategies to help select approximately 160 strategies directly related to the factors contributing to severe crashes in Nebraska. Over 180 stakeholders attended the 2012 safety summit, a 25% increase from the previous safety summit.

After listening to morning speakers, attendees met in facilitated breakout sessions to discuss successful current and past safety strategies, as well as possible new strategies for the state to implement to reach the SHSP goal. Groups reviewed summaries of the characteristics of fatalities associated with the five CEAs, as well as a list of strategies from the 2006-2011 SHSP. These reference pieces are included at the end of the section.

The breakout sessions identified several recurring strategies:

- Pass a primary safety belt law
- Increase the use of social media addressing critical emphasis areas
- Strengthen laws addressing cell phone usage for all drivers
- Continue to encourage community-based efforts that promote ownership of safety solutions

Individual CEA breakout sessions also identified the following strategies, which the IASC incorporated, as appropriate, into the plan.

Alcohol-Impaired Driving:

- Advanced Roadside Alcohol-Impaired Driving Enforcement Training for Drug Recognition Experts
- Re-energize Report Every Drunk Driver Immediately (REDDI) program
- Increase ignition interlock device use
- Offer increased, affordable, statewide treatment
- Mandatory training for alcohol servers/sellers
- Find new ways to reach non-English speaking drivers
- Liability shelter (mandatory reporting) for public health officials
- Improve the quality and timeliness of traffic record data

Occupant Restraint:

- Partner with private companies through web sites and social media entities
- Increase earned media
- Expand PSAs to reach larger demographics and other driver behaviors
- Peer-to-peer education (social media) for at risk populations
- Consistent enforcement through the state
- Pass a primary safety belt law

- Increase the number companies with workplace policies
- Increase youth incentive programs
- Increase social media
- Expand activities and information outreach to youth groups (i.e. FFA, FBLA, Boy and Girl Scouts)

Younger Drivers:

- Increase high visibility enforcement with warning tickets and parental notification
- Increase parental involvement/education
- Make cell phone use a primary versus secondary offense
- Utilize social media for education and involve teens in development of the media
- Involve teens in future safety summit as partners
- Tighten/strengthen graduated licensing laws
- Citizens advocate with local, state and national governments

Intersection Crashes:

- More robust public relation campaigns/education on roundabouts
- Encourage community-based efforts that promote ownership of safety solutions

Lane Departure Crashes

- Explore gap or stagger rumble strips
- Make safety edge a standard
- Pass primary safety belt law and increase laws for cell phone usage and distracted driving

In submitting this new SHSP, the IASC also recognizes the importance of advances in the safety technology to improve roadway safety. This technology includes intelligent transportation system (ITS) features such as adaptive control signals, bridge anti-icing spray systems, and IntelliDrive in vehicles. In the coming years, NDOR expects to mainstream and integrate ITS strategies into a growing proportion of roadway construction projects.

The following pages are summaries of the characteristics of fatalities associated with the five CEAs.

Fatal Crashes Involving Unbelted Vehicle Occupants

NEBRASKA STRATEGIC HIGHWAY SAFETY PLAN

How Significant is the Problem?

On Nebraska roadways, there were 565 unbelted vehicle occupant fatalities during 2006-2010, which is an average of 113 fatalities per year. This accounts for 49% of all traffic fatalities during the five-year period and approximately 51% of all vehicle occupant fatalities (1,098) during the study period.

During 2006-2010, reported safety belt usage in Nebraska ranged from a low of 79.0% in 2007 to a high of 85% in 2009. In 2010, safety belt usage was measured at 84.1%.

What is the Nebraska Goal?

Nebraska's goal is to reduce the traffic fatality rate to 0.5 fatalities per 100 million VMT by 2016 (which is expected to save 103 lives annually). In order to achieve the goal, the number of annual unbelted vehicle occupant fatalities needs to be reduced by approximately 50.

What are the Contributing Factors?

Road and Area Type

- Unbelted vehicle occupant fatalities were more likely to occur in rural areas (465 of 565, 82%).
- Local roads accounted for the greatest number of unbelted fatalities (285 of 565, 50%). U.S. highways and state-numbered highways each had 21% of unbelted fatalities. Only 7% (41 of 565) of unbelted fatalities were on Interstate routes.

Jurisdiction Classification	Rural	Urban
Interstates	6%	1%
U.S. Highways	17%	4%
State Highways	19%	2%
Local Roads	39%	11%
Total by Area Type	82%	18%
Total	100%	

Location

- 28% (156 of 565) of unbelted vehicle occupant fatalities occurred at an intersection.
- The top 6 counties represent only 30% (169 of 565) of unbelted vehicle occupant fatalities in Nebraska.

Top 6 Counties	Fatal Crashes	Fatalities
Douglas	67	74 (13%)
Lancaster	22	22 (4%)
Gage	18	19 (3%)
Buffalo	16	19 (3%)
Sarpy	16	17 (3%)
Dawson	15	16 (3%)

Crash Type

- 61% (347 of 565) of unbelted fatalities occurred during a single vehicle run-off-the-road crash. Overall, single vehicle crashes accounted for 65% (370 of 565) and roadway departure crashes (i.e., ROR plus head-on) were 73% (413 of 565). Angle crashes were the second most frequent crash type and accounted for 17% (98 of 565) of fatalities.

Crash Type	Unbelted Veh. Occ. Fatalities	Total Fatalities
Single Vehicle: Run-off-the Road	347 (61%)	392 (46%)
Single Vehicle: Other	23 (4%)	47 (4%)
Rear End and Sideswipe (Same)	23 (4%)	97 (7%)
Head-On and Sideswipe (Opposite)	66 (12%)	165 (15%)
Angle	98 (17%)	262 (24%)
Left Turn (Leaving)	8 (1%)	43 (4%)
Other	0 (0%)	1 (< 1%)

- Of the single vehicle run-off-the-road fatalities: 56% were overturn, 13% were a collision with a ditch or embankment, 15% were a collision with a tree, utility pole, or sign support.

The Passenger

- Men were 64% (361 of 565) of unbelted fatalities.
- The young driver age range (16-20) had the most unbelted fatalities (119 of 565, 21%). Young adults (ages 21-34) followed closely behind, making up 31% of unbelted fatalities.

Age Group	Male	Female
≤ 15	22 (4%)	15 (3%)
16-20	75 (13%)	44 (8%)
21-24	49 (9%)	20 (4%)
25-34	62 (11%)	27 (5%)
35-44	33 (6%)	30 (5%)
45-54	42 (7%)	27 (5%)
55-64	33 (6%)	11 (2%)
65-74	23 (4%)	11 (2%)
75+	22 (4%)	18 (3%)
Totals by Gender	361 (64%)	203 (36%)
Population Total	565 (100%)	

- Alcohol was listed as a contributing factor in 44% (246 of 565) of unbelted fatalities.
- 61 (11%) of the unbelted fatalities were partially ejected from their vehicle and 255 (45%) were reported as being totally ejected.

Role of Safety Belt in Injury Severity

In the fatal crashes that occurred between 2006 and 2010, unbelted vehicle occupants were found to account for 51% of all vehicle occupant fatalities. Looking at the rest of the passengers involved in the fatal crashes, 41% of the injured occupants were unbelted.

Time-of-Day & Day of Week

- The highest 3-hour period for unbelted vehicle occupant fatalities was between midnight and 3:00 a.m. (22%). The late afternoon (3:00 p.m. to 6:00 p.m.) and the early evening (6:00 p.m. to 9:00 p.m.) hours were next, with 15% of the fatalities each. 52% of unbelted fatalities occurred during dark driving conditions (compared to 45% of all fatalities).

Time of Day	Fatalities	Percentage
Midnight to 02:59	121	22%
3:00 to 05:59	42	8%
6:00 to 08:59	51	9%
9:00 to 11:59	48	9%
12:00 to 14:59	64	12%
15:00 to 17:59	82	15%
18:00 to 20:59	80	15%
21:00 to 23:59	60	11%
Unknown	17	3%

- 36% (204 of 565) of unbelted fatalities occurred on Saturday or Sunday. Another 16% of the unbelted fatalities were on Friday.

Day of Week	Fatalities	Percentage
Sunday	104	18%
Monday	69	12%
Tuesday	69	12%
Wednesday	64	11%
Thursday	68	12%
Friday	91	16%
Saturday	100	18%

Some Existing Safety Activities

- Periodic Statewide Enforcement Operations
- Click It or Ticket
- Rollover Demonstration Units
- Secondary Safety Belt Law
- Multi-Media Belt Use Campaign
- Child Passenger Protection Program

Fatal Roadway Departure Crashes

NEBRASKA STRATEGIC HIGHWAY SAFETY PLAN

How Significant is the Problem?

On Nebraska roadways, there were 584 fatal crashes during 2006-2010 in which the crash was classified as roadway departure (465 single vehicle run-off-the-road, 75 head-on, and 44 sideswipe opposite direction). These crashes resulted in a total of 670 fatalities (505 ROR, 101 HO, and 64 SS (Opp.)), which is an average of 134 fatalities per year. This accounts for nearly 58% of all traffic fatalities during the five year period.

What is the Nebraska Goal?

Nebraska's goal is to reduce the traffic fatality rate to 0.5 fatalities per 100 million VMT by 2016 (which is expected to save 103 lives annually). In order to achieve the goal, the number of annual fatalities in roadway departure crashes needs to be reduced by approximately 60.

What are the Contributing Factors?

Road and Area Type

- Roadway departure fatalities were primarily in rural areas (572 of 670, 85%).
- Combining rural and urban roadways, local roads accounted for the greatest number of roadway departure fatalities (293 of 670, 44%). The jurisdiction with the second highest number of fatalities was state-numbered highways with 22% (147 of 670).

Jurisdiction Classification	Rural	Urban
Interstates	13%	1%
U.S. Highways	18%	2%
State Highways	21%	1%
Local Roads	34%	10%
Total by Area Type	85%	15%
Total	100%	

Location

- Only 13% (88 of 670) of roadway departure fatalities occurred at an intersection.
- The top 5 counties represent only 28% (187 of 670) of roadway departure fatalities in Nebraska.

Top 5 Counties	Fatal Crashes	Fatalities
Douglas	63 (11%)	73 (11%)
Lancaster	31 (5%)	34 (5%)
Sarpy	26 (4%)	28 (4%)
Buffalo	24 (4%)	32 (5%)
Cass	16 (3%)	20 (3%)

Crash Type

- A majority of single vehicle run-off-the-road fatalities were overturned vehicles.

Run-Off-the-Road Crashes	Fatalities	Percentage
Overturned	267	53%
Tree	47	9%
Ditch	43	9%
Guardrail	29	6%
Fence	22	4%
All Single Vehicle ROR	505	100%

Contributing Factors

- Alcohol was reported as a contributing factor in 41% (273 of 670) of roadway departure fatalities.
- 73% of the vehicle occupant fatalities in roadway departure crashes were individuals not using safety belts. By gender, both 73% of males and 73% of females killed were not belted.

Weather

- A majority of roadway departure fatalities were during good weather conditions.

Weather Conditions	Fatalities	Percentage
Clear or Cloudy	583	87%
Rain	10	1%
Snow	21	3%
Sleet, hail, or freezing rain	22	3%
Other	34	5%

Time-of-Day & Day of Week

- 30% of roadway departure fatalities occurred between 9:00 P.M. and 3:00 A.M. Overall, 50% of lane departure fatalities occurred in "dark" driving conditions (compared to 45% of all fatalities).

Time of Day	Fatalities	Percentage
Midnight to 02:59	125	19%
3:00 to 05:59	48	7%
6:00 to 08:59	68	10%
9:00 to 11:59	52	8%
12:00 to 14:59	85	13%
15:00 to 17:59	103	15%
18:00 to 20:59	95	14%
21:00 to 23:59	75	11%
Unknown	19	3%

- 37% (249 of 670) of roadway departure fatalities occurred on Saturday or Sunday. An additional 15% (98 of 670) of the related fatalities were on Friday.

Day of Week	Fatalities	Percentage
Sunday	119	18%
Monday	86	13%
Tuesday	78	12%
Wednesday	70	10%
Thursday	89	13%
Friday	98	15%
Saturday	130	19%

Road Surface Conditions

- A majority of roadway departure fatalities occurred when the road surface was dry.

Road Surface Conditions	Fatalities	Percentage
Dry	546	81%
Wet or Water	36	5%
Snow, Ice or Slush	69	10%
Other or Unknown	19	3%

The Driver

- There were 727 drivers involved in a fatal roadway departure crash. Of these, approximately 74% were male.
- 21% of drivers involved in a fatal roadway departure crash were under the age of 21.

Age Group	Male	Female	Total
≤ 20	19%	26%	21%
21 – 24	12%	9%	11%
25 – 34	17%	13%	16%
35 – 44	13%	16%	14%
45 – 54	18%	14%	17%
55— 64	12%	8%	11%
65+	9%	15%	11%

- The top driver contributing factors for roadway departure crashes were:

Top Contributing Factors	Number of Drivers
Failure to keep in lane or run-off-the-road	187
Operating vehicle in erratic manner	82
Driving too fast for conditions	48
Over-correcting or over-steering	41
Exceeded authorized speed limit	36
Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc.	15

Some Existing Safety Activities

- Hardware Inventory and Replacement
- Rural Road Design Training
- Centerline Rumble Strips
- Shoulder Rumble Strips
- Median Barriers

Fatal Crashes Involving Alcohol Impairment

NEBRASKA STRATEGIC HIGHWAY SAFETY PLAN

How Significant is the Problem?

On Nebraska roadways, there were 336 fatal crashes during 2006-2010 classified as "alcohol-related." These crashes resulted in 377 fatalities, an average of 75 fatalities per year. This accounts for approximately 33% of all traffic fatalities during the five year period.

What is the Nebraska Goal?

Nebraska's goal is to reduce the traffic fatality rate to 0.5 fatalities per 100 million VMT by 2016 (saving 103 lives annually). To achieve the goal, the annual alcohol-related fatalities need to be reduced by 34.

What are the Contributing Factors?

Road and Area Type

- Alcohol-related fatalities were primarily in rural areas (267 of 377, 71%) and 79% were outside of Omaha and Lincoln.
- Combining rural and urban roadways, local roads accounted for over half of all alcohol-related fatalities (208 of 377, 55%). The jurisdiction with the second highest number of fatalities was state-numbered highways with 21% (80 of 377). Only 5% (17 of 377) of alcohol-related fatalities were on Interstate routes.

Jurisdiction Classification	Rural	Urban
Interstates	3%	2%
U.S. Highways	16%	3%
State Highways	18%	3%
Local Roads	34%	21%
Total by Area Type	72%	28%
Total	100%	

Location

- 24% (92 of 377) of alcohol-related fatalities occurred at an intersection.
- The top 5 counties contained 37% (140 of 377) of the alcohol-related fatalities in Nebraska.

Top 5 Counties	Fatal Crashes	Fatalities
Douglas	71 (21%)	77 (20%)
Lancaster	22 (7%)	23 (6%)
Sarpy	16 (5%)	17 (5%)
Cass	9 (3%)	12 (3%)
Scotts Bluff	9 (3%)	11 (3%)

Crash Type

- Over half of alcohol-related fatalities occurred during a single vehicle run-off-the-road crash (244 of 377, 65%). Overall, single vehicle crashes accounted for 73% (277 of 377) of alcohol-involved fatalities and roadway departure crashes (i.e., ROR plus head-on) were 72% (273 of 377). Angle crashes accounted for 15% of fatalities.

Crash Type	Alcohol-Related Fatalities	Total Fatalities
Single Vehicle: Run-off-the Road	244 (65%)	505 (44%)
Single Vehicle: Other	33 (9%)	47 (4%)
Rear End and Sideswipe (Same)	9 (2%)	75 (7%)
Head-On and Sideswipe (Opposite)	29 (8%)	165 (14%)
Angle	56 (15%)	262 (23%)
Left Turn (Leaving)	5 (1%)	46 (4%)
Other	1 <1%)	6 (<4%)

- A majority of alcohol-related run-off-the-road fatalities were overturned vehicles.

Run-off-the-Road Crashes	Fatalities	Percentage
Overturned	124	51%
Tree	25	10%
Ditch	18	7%
Utility Pole	14	6%
Fence	10	4%
Embankment	10	4%

Total	244	100%

The Driver

- There were 446 drivers involved in an alcohol-related fatal crash. Of these, just over 79% were male.
- 18% of the alcohol-impaired drivers were under the age of 21.

Age Group	Male	Female	Total
≤ 20	18%	24%	20%
21 – 24	17%	10%	16%
25 – 34	23%	21%	23%
35 – 44	12%	20%	13%
45 – 54	16%	20%	17%
55 – 64	10%	4%	9%
65+	3%	1%	2%

- Other than alcohol use, the top contributing factors for alcohol-impaired drivers involved in a fatal crash were:

Top Contributing Factors	Number of Drivers
Failure to keep in lane or run-off-the-road	86
Operating vehicle in erratic manner	78
Disregarded traffic sign, signals, or road markings	20
Over-correcting/Over-steering	20
Failure to yield right of way	14
Driving too fast for conditions	14

- 67% of drivers in an alcohol-related fatal crash were not wearing a safety belt. Men represented 76% of the drivers that were unbelted and involved in an alcohol-related fatal crash.

The Passenger

- There were 359 vehicle occupant fatalities from alcohol-related crashes. Of these, 247 or approximately 69% were unbelted (Statewide: 49% of occupant fatalities were unbelted).

Time-of-Day & Day of Week

- Most alcohol-related fatalities occurred between 6:00 P.M. – 6:00 A.M. (305 of 377, 81%). Overall, 75% (268 of 359) of alcohol-related fatalities occurred in “dark” driving conditions (compared to 45% of all fatalities).

Time of Day	Fatalities	Percentage
Midnight to 02:59	139	37%
3:00 to 05:59	34	9%
6:00 to 08:59	13	3%
9:00 to 11:59	12	3%
12:00 to 14:59	12	3%
15:00 to 17:59	35	9%
18:00 to 20:59	63	17%
21:00 to 23:59	59	16%
Unknown	10	3%

- 48% (181 of 377) of the alcohol-related fatalities occurred on Saturday or Sunday. An additional 16% (59 of 377) of the alcohol-related fatalities were on Friday.

Day of Week	Fatalities	Percentage
Sunday	92	24%
Monday	35	9%
Tuesday	31	8%
Wednesday	30	8%
Thursday	41	11%
Friday	59	16%
Saturday	89	24%

Some Existing Safety Activities

- Selective Overtime Enforcement Operations
- Conduct Sobriety Checkpoints (average 2 per month)
- Open Container and Repeat Offender Laws
- Judicial and Prosecution Training
- Drug Recognition Expert Training
- Alcohol Server/Seller Training
- Administrative License Revocation Law
- 0.08 BAC and Zero Tolerance Laws.
- Underage Alcohol Enforcement Operations

Fatal Crashes at Intersections

NEBRASKA STRATEGIC HIGHWAY SAFETY PLAN

How Significant is the Problem?

At Nebraska's intersections, there were 357 fatal crashes during 2006-2010, resulting in a total of 385 traffic fatalities, which is an average of 77 fatalities per year. This accounts for approximately 34% of all traffic fatalities during the five year period.

Of these intersection fatalities, 130 fatalities could be identified as occurring at an unsignalized intersection. 138 fatalities were identified at signalized intersections. With the remaining 117 intersection fatalities, the traffic control was not reported with enough detail so that the type of intersection could be identified.

What is the Nebraska Goal?

Nebraska's goal is to reduce the traffic fatality rate to 0.5 fatalities per 100 million VMT by 2016 (which is expected to save 103 lives annually). In order to achieve the goal, the number of annual intersection fatalities needs to be reduced by approximately 35.

What are the Contributing Factors?

Road and Area Type

- Intersection fatalities were primarily in rural areas (249 of 385, 65%).
- Combining rural and urban roadways, local roads accounted for 42% (160 of 385) of intersection fatalities. The jurisdiction with the second highest number of fatalities was U.S. highways with 31% (118 of 385).

Jurisdiction Classification	Rural	Urban
Interstates	4%	3%
U.S. Highways	21%	10%
State Highways	16%	5%
Local Roads	23%	18%
Total by Area Type	65%	35%
Total	100%	

Location

- The top 5 counties represent 43% (165 of 385) of intersection fatalities in Nebraska.

Top 5 Counties	Fatal Crashes	Fatalities
Douglas	79 (22%)	85 (22%)
Lancaster	33 (9%)	35 (9%)
Platte	13 (4%)	14 (4%)
Sarpy	13 (4%)	21 (5%)
Cass	9 (3%)	10 (3%)

Crash Type

- 51% (197 of 385) of intersection fatalities occurred during an angle collision. Single vehicle run-off-the-road crashes were the second most frequent crash type and accounted for 20% (78 of 385) of fatalities. For fatalities at signalized intersections, 60% were from angle crashes and 25% were from left-turn crashes. Of the unsignalized fatalities, 83% were in angle crashes.

Crash Type	Int. Fatalities	Total Fatalities
Single Vehicle: Run-off-the-Road	78 (20%)	505 (46%)
Single Vehicle: Other	24 (9%)	47 (4%)
Rear End and Sideswipe (Same)	34 (9%)	75 (7%)
Head-On and Sideswipe (Opposite)	10 (3%)	165 (15%)
Angle	197 (51%)	262 (24%)
Left Turn (Leaving)	42 (11%)	43 (4%)
Other	0 (0%)	1 (<1%)

Weather

- A majority of intersection fatalities were during good weather conditions.

Weather Conditions	Fatalities	Percentage
Clear or Cloudy	365	95%
Rain	5	1%
Snow, sleet, hail, etc.	9	2%
Other or Unknown	6	2%

Road Surface Conditions

- A majority of intersection fatalities occurred when the road surface was dry.

Road Surface Conditions	Fatalities	Percentage
Dry	336	87%
Wet or Water	35	9%
Snow, Ice or Slush	11	3%
Other or Unknown	3	1%

The Driver

- There were 642 drivers involved in fatal intersection crashes. Of these, 74% were male.
- The most involved age group was the 65 year olds and over. Drivers under the age of 21 were the second highest driver age group.

Age Group	Male	Female	Total
≤ 20	19%	19%	19%
21 – 24	9%	7%	9%
25 – 34	17%	13%	16%
35 – 44	13%	13%	13%
45 – 54	13%	15%	14%
55 – 64	10%	8%	10%
65+	18%	24%	20%

- The top driver contributing factors for fatal intersection crashes were:

Top Contributing Factors	Number of Drivers
Failure to yield right of way	132
Disregarded traffic signs, signal, and road markings	62
Operating vehicle in erratic manner	36
Inattention	21

Contributing Factors

- Alcohol was reported as a contributing factor in 33% (128 of 385) of intersection fatalities.
- 42% (156 of 385) of the vehicle occupant fatalities in intersection crashes were not using safety belts. By gender, 44% of males and 39% of females killed were not belted.

Time-of-Day & Day of Week

- Unlike the other four Critical Emphasis Areas, there was not an overrepresentation of intersection fatalities late at night or early morning. In fact, 62% (239 of 385) of intersection fatalities occurred between 9:00 A.M. and 9:00 P.M. Overall, only 37% of intersection fatalities occurred in "dark" driving conditions (compared to 45% of all fatalities).

Time of Day	Fatalities	Percentage
Midnight to 02:59	49	13%
3:00 to 05:59	11	3%
6:00 to 08:59	44	11%
9:00 to 11:59	49	13%
12:00 to 14:59	72	19%
15:00 to 17:59	64	17%
18:00 to 20:59	54	14%
21:00 to 23:59	37	10%
Unknown	5	1%

- 48% of intersection fatalities occurred on Saturday and Sunday. An additional 16% were on Friday.

Day of Week	Fatalities	Percentage
Sunday	54	14%
Monday	47	12%
Tuesday	55	14%
Wednesday	50	13%
Thursday	45	12%
Friday	60	16%
Saturday	74	19%

Some Existing Safety Activities

- Red Light Running Campaigns
- Roundabouts
- Advance Warning Detection
- Engineering Studies Upon Request by Law Enforcement
- Intersection Improvement Projects

Fatal Crashes Involving Young Drivers

NEBRASKA STRATEGIC HIGHWAY SAFETY PLAN

How Significant is the Problem?

On Nebraska roadways, there were 260 fatal crashes during 2006-2011 in which a young driver (i.e., under the age of 21) was involved. These crashes resulted in a total of 313 fatalities, which is an average of 63 fatalities per year. This accounts for 27% of all traffic fatalities during the five year period.

What is the Nebraska Goal?

Nebraska's goal is to reduce the traffic fatality rate to 0.5 fatalities per 100 million VMT by 2016 (which is expected to save 103 lives annually). In order to achieve the goal, the number of annual fatalities involving young drivers needs to be reduced by approximately 28.

What are the Contributing Factors?

Road and Area Type

- Fatalities where a young driver was involved occurred primarily in rural areas (230 of 313, 76%) and 85% were outside of Omaha and Lincoln.
- Combining rural and urban roadways, local roads accounted for more than half of all young driver involved fatalities (60%). The jurisdiction with the second highest number of fatalities was U.S. highways with 18%. Only 6% of young driver involved fatalities were on interstate routes.

Jurisdiction Classification	Rural	Urban
Interstates	4%	2%
U.S. Highways	15%	3%
State Highways	12%	4%
Local Roads	42%	18%
Total by Area Type	74%	26%
Total	100%	

Location

- 42% (132 of 313) of young driver involved fatalities occurred at an intersection.
- The top 6 counties represent 35% (123 of 352) of young driver involved fatalities in Nebraska.

Top 6 Counties	Fatal Crashes	Fatalities
Douglas	42 (15%)	45 (14%)
Lancaster	23 (8%)	26 (8%)
Sarpy	18 (6%)	19 (6%)
Cass	9 (3%)	13 (4%)
Seward	8 (3%)	12 (4%)
Platte	10 (4%)	10 (3%)

Crash Type

- 42% (132 of 313) of young driver involved fatalities occurred during a single vehicle run-off-the-road crash. Overall, single vehicle crashes accounted for 44% (137 of 313) and roadway departure crashes (i.e., ROR plus head-on) were 57% (179 of 313). Angle crashes were the second most frequent crash type and accounted for 31% (96 of 313) of fatalities.

Crash Type	Young Driver Involved Fatalities	Total Fatalities
Single Vehicle: Run-Off-the-Road	132 (42%)	505 (46%)
Single Vehicle: Other	5 (2%)	47 (4%)
Rear End and Sideswipe (Same)	20 (6%)	75 (7%)
Head-On and Sideswipe (Opposite)	47 (15%)	165 (15%)
Angle	96 (31%)	262 (24%)
Left Turn (Leaving)	12 (4%)	43 (4%)
Other	9 (3%)	1 (<1%)

- Of the single vehicle run-off-the-road fatalities: 57% were overturn, 12% were a collision with a ditch or embankment, 8% were a collision with a tree, and 7% were a collision with a light support.

The Driver

- There were 278 young drivers involved in a fatal crash. Of these, approximately two-thirds were male (192 of 278, 69%).
- There is a noticeable increase in the involvement of young drivers at the age of 16.

Age Group	Male	Female	Total
14	1%	1%	2%
15	5%	5%	6%
16	10%	26%	18%
17	12%	20%	18%
18	15%	20%	21%
19	11%	11%	14%
20	14%	17%	19%

- The top contributing factors for young drivers involved in a fatal crash were:

Top Contributing Factors	Number of Drivers
Failure to keep in lane or running-off-the-road	33
Failure to yield right of way	30
Driving too fast for conditions	20
Disregarded traffic sign, signals, or road markings	19
Over-correcting or over-steering	16
Exceeded authorized speed limit	13

- Of young drivers involved in a fatal crash, 30% (83 of 278) had been alcohol-impaired. Males made up 72% (60 of 83) of the young alcohol-impaired drivers.
- 51% (143 of 278) of young drivers involved in a fatal crash were not wearing safety belts. Of these, males represented 68% of the young unbelted drivers. In comparison, 38% of drivers 21-years or older and involved in a fatal crash were not wearing safety belts.

Time-of-Day & Day of Week

- Most young driver involved fatalities occurred between 6:00 P.M. – 3:00 A.M. (132 of 278, 47%). Overall, 40% of fatalities where a young driver was involved happened during dark driving conditions (compared to 45% of all fatalities).
- There were also noticeable peaks in the morning when many young drivers may be heading to school and also peaks in the early afternoon right after school is dismissed.

Time of Day	Fatalities	Percentage
Midnight to 02:59	41	15%
3:00 to 05:59	17	6%
6:00 to 08:59	38	14%
9:00 to 11:59	14	5%
12:00 to 14:59	30	11%
15:00 to 17:59	41	15%
18:00 to 20:59	54	19%
21:00 to 23:59	37	13%
Unknown	6	2%

- 37% (103 of 278) of young driver involved fatalities occurred on Saturday or Sunday. An additional 18% of young driver involved fatalities were on Friday.

Day of Week	Fatalities	Percentage
Sunday	40	14%
Monday	32	12%
Tuesday	30	11%
Wednesday	34	12%
Thursday	30	11%
Friday	49	18%
Saturday	63	23%

Some Existing Safety Activities

- Special Selective Traffic Enforcement
- Graduated Licensing Law
- Monitor and Oversight of Driver Training Schools
- Enforcing Underage Drinking Laws Program
- Community Coalition Support Program
- Distracted Driving Campaign and Enforcement

TABLE 3.3
Nebraska SHSP Critical Strategies

Objective	Strategy [1]	Relative Cost to Implement	Effectiveness	Typical Timeframe for Implementation
Roadway Departure Strategies				
Keep vehicles in their lane	Use cost effective treatments to keep vehicles in their lane. This may include: (1)centerline rumble strips for two-lane roads, (2) shoulder rumble strips on roads with paved shoulders, (3) edgeline "profile marking", edgeline rumble strips or modified shoulder rumble strips on sections with narrow or no paved shoulders, (4) profiled thermoplastic strips, raised pavement markers, or other methods for centerlines in order to provide better day, night, and wet visibility, and (5) enhanced pavement markings, such as 6" or 8" markings instead of 4" markings or improved day/night/wet visibility.	Low (Note: some DOTs consider these moderate if extensively applied)	Tried	Short (<1 yr.) to Medium (1-2 yrs.)
Keep vehicles from encroaching on the roadside	Eliminate shoulder drop-offs by (1) paving shoulders, (2) widening substandard shoulders, and (3) maintaining gravel shoulders along pavement edges in order to keep vehicles from encroaching on the roadside. Assist drivers with a safe recovery area by (4) adding "safety wedges" to the edge of pavements.	Low	Proven/Tried	Medium (1-2 yrs.)
Minimize the likelihood of crashing into an oncoming vehicle	On divided roadways with a narrow-width median, high volumes, high speeds, and/or a combination of these factors, minimize the likelihood of a vehicle crossing the median and crashing into an oncoming vehicle by installing cable median barriers.	Moderate	Tried	Medium (1-2 yrs.)
Reduce the severity of the crash	For run-off-the-road crashes, reduce the crash severity by (1) improving/updating barriers and attenuation systems and/or (2) shielding roadside objects (such as trees, utility poles, light poles) and steep slopes.	Moderate to High	Proven/Tried	Short (<1 yr.) to Medium (1-2 yrs.)
Reduce Driver Distractions	Implement/support distracted driving educational campaigns Increase awareness of dangers with special young driver emphasis Promote employer cell phone/driving policies with training	Moderate to High	Proven	Medium (1-2 yrs.)
	Reduce use of cell phones in cars	Moderate to High	Proven	Long (>2 yrs.)
	Enforce current law/update current law	Low to Moderate	Proven/Tried	Medium (1-2 yrs.)

[1] The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

TABLE 3.3
Nebraska SHSP Critical Strategies

Objective	Strategy [1]	Relative Cost to Implement	Effectiveness	Typical Timeframe for Implementation
Alcohol-Impaired Driving Strategies				
Enforce Driving Under Influence (DUI) laws	Use enforcement to reduce the number of alcohol-related crashes by increasing the number of highly publicized and coordinated (1) DUI checkpoints or (2) saturation patrols. Also enhance DUI enforcement through the use of (3) traditional traffic enforcement. (4) Form state and local law enforcement partnerships to provide greater coverage during enforcement campaigns and also work with regional safety partners to help identify target locations, times, etc. for enforcement efforts. Provide training to local law enforcement and court officials.	Low to High	Proven/Tried	Short (<1 yr.)
Enforce DUI laws	(1) Publicize and enforce zero tolerance laws for drivers under age 21. (2) Encourage parental involvement and attendance in programs/classes and emphasize education and training through the graduated licensing programs. To further discourage drinking and driving, (3) work with courts to discourage diversion programs and plea bargains to non-alcohol offenses (i.e., improve DUI process and conviction rate).	Moderate	Proven/Tried	Short (<1 yr.) to Long (>2 yrs.)
Reduce excessive drinking and underage drinking	(1) Encourage the use of required responsible beverage service policies and training for alcohol servers and retailers, (2) continue to educate the general public, business owners, and alcohol servers on the dangers of alcohol-impaired driving, (3) consider public policies that would make parents accountable for minors who consume alcohol at their place and then drive, and (4) use targeted education techniques (such as billboards) to reduce excessive drinking and underage drinking.	Moderate to High	Proven/Tried	Short (<1 yr.) to Long (>2 yrs.)
	To reduce underage drinking (and driving), increase the number of well-publicized compliance checks of alcohol retailers to reduce sales to underage persons.	Low	Tried	Short (<1 yr.)

[1] The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

TABLE 3.3
Nebraska SHSP Critical Strategies

Objective	Strategy [1]	Relative Cost to Implement	Effectiveness	Typical Timeframe for Implementation
Unbelted Vehicle Occupant Strategies				
Maximize use of occupant restraints by all vehicle occupants	To increase safety belt use rate: (1) provide enhanced public information and education to population groups with lower than average occupant restraint use rates, (2) conduct highly publicized enforcement campaigns, and (3) ensure that child and infant restraints are properly used by providing community locations for instruction in proper child restraint use and conducting high profile "child restraint inspection" events at multiple community locations (involving EMS personnel at inspection locations).	Low to High	Proven/Tried	Short (<1 yr.) to Medium (1-2 yrs.)
	To increase safety belt use rate, (1) support adoption of a primary safety belt law and/or (2) strengthen penalties for safety belt violations.	Low	Proven/ Experimental	Medium (1-2 yrs.)
Reduce Driver Distractions	Implement/support distracted driving educational campaigns Increase awareness of dangers with special young driver emphasis Promote employer cell phone/driving policies with training	Moderate to High	Proven	Medium (1-2 yrs.)
	Reduce use of cell phones in cars	Moderate to High	Proven	Long (>2 yrs.)
	Enforce current law/update current law	Low to Moderate	Proven/Tried	Medium (1-2 yrs.)
Intersection Strategies				
Improve management of access near unsignalized intersections	Near unsignalized intersections, use access management techniques to manage conflicts in the influence area of intersections.	Moderate	Tried	Medium (1-2 yrs.)
Improve sight distance at intersections	Improve sight distance at intersections by clearing sight triangles.	Low to Moderate	Tried	Short (<1 yr.)

[1] The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

TABLE 3.3
Nebraska SHSP Critical Strategies

Objective	Strategy [1]	Relative Cost to Implement	Effectiveness	Typical Timeframe for Implementation
Improve driver awareness of intersections on approaches	Increase a driver awareness's when approaching an intersection; whether a STOP controlled, signalized, or thru approach. Techniques for consideration include (1) enhanced warning and guide signing, (2) street lighting, (3) dynamic mainline warning flashers, and (4) advance warning flashers for traffic signals on high speed roadways.	Low to Moderate	Proven/Tried	Medium (1-2 yrs.)
Choose appropriate intersection traffic control to minimize crash frequency and severity	At appropriate locations, choose non-conventional intersection designs, such as roundabouts, indirect left-turn treatments (such as J-turns on expressways).	Moderate to High	Proven/Tried	Medium (1-2 yrs.) to Long (>2 yrs.)
Reduce operating speeds on intersection approaches	Use targeted speed enforcement to reduce operating speeds on specific intersection approaches.	Moderate	Proven	Short (<1 yr.)
Improve safety through data analysis and coordination with local agencies	Through crash analysis, identify intersections with a disproportionately large number of fatal and serious injuries crashes. As necessary, improve data collection to enhance analysis of intersection crashes.	Low	Tried	Short (<1 yr.)
Reduce Driver Distractions	Implement/support distracted driving educational campaigns Increase awareness of dangers with special young driver emphasis Promote employer cell phone/driving policies with training	Moderate to High	Proven	Medium (1-2 yrs.)
	Reduce use of cell phones in cars	Moderate to High	Proven	Long (>2 yrs.)
	Enforce current law/update current law	Low to Moderate	Proven/Tried	Medium (1-2 yrs.)

[1] The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

TABLE 3.3
Nebraska SHSP Critical Strategies

Objective	Strategy [1]	Relative Cost to Implement	Effectiveness	Typical Timeframe for Implementation
Young Driver Strategies				
Implement/improve Graduated Driver Licensing (GDL) systems	Establish a more comprehensive graduated licensing system	Low	Proven/Tried	Medium (1-2 yrs.)
Publicize, enforce, and adjudicate laws pertaining to young drivers	Conduct more (1) public information and (2) enforcement campaigns pertaining to young drivers.	Moderate to High	Proven/ Experimental	Short (<1 yr.)
Improve young driver training	(1) Require driver training for new drivers and (2) improve driver training materials.	Moderate to High	Tried/ Experimental	Medium (1-2 yrs.) to Long (>2 yrs.)
Employ community or school-based strategies	Develop community coalition programs focused on young drivers.	Low to Moderate	Tried	Short (<1 yr.)
Reduce Driver Distractions	Implement/support distracted driving educational campaigns Increase awareness of dangers with special young driver emphasis Promote employer cell phone/driving policies with training	Moderate to High	Proven	Medium (1-2 yrs.)
	Reduce use of cell phones in cars	Moderate to High	Proven	Long (>2 yrs.)
	Enforce current law/update current law	Low to Moderate	Proven/Tried	Medium (1-2 yrs.)

[1] The strategies are based on material and guidance in the NCHRP Report 500 series, were prioritized by Safety Partners at a workshop on May 16, 2006 and with concurrence by the Nebraska Interagency Safety Committee.

4. Technical Information and Resources

The following are links to website with additional information on each of the five Critical Emphasis Areas.

Occupant Restraint –

http://www.transportation.nebraska.gov/nohs/areas/op.html

Alcohol-Impaired Driving –

http://www.transportation.nebraska.gov/nohs/areas/al1enf.html

Younger Drivers -

http://www.transportation.nebraska.gov/nohs/areas/tn.html

Intersection Crashes –

Proven Safety Countermeasures | Federal Highway Administration - (http://safety.fhwa.dot.gov/provencountermeasures/)

Intersection Safety Issue Briefs - FHWA Safety Program - (http://safety.fhwa.dot.gov/intersection/resources/fhwasa10005/brief_17.cfm)

Innovative Intersection Safety Improvement Strategies and Management Practices: A Domestic Scan – (http://safety.fhwa.dot.gov/intersection/)

Toolbox on Intersection Safety and Design – (http://www.ite.org/emodules/scriptcontent/Orders/ProductDetail.cfm?pc=IR-117)

Roadway Departure Crashes –

Proven Safety Countermeasures | Federal Highway Administration - (http://safety.fhwa.dot.gov/provencountermeasures/)

FHWA - Roadway Departure Safety – http://safety.fhwa.dot.gov/roadway_dept/

Alternative Intersection Design - FHWA Safety Program – (http://safety.fhwa.dot.gov/intersection/alter_design/)

Other Alternative Intersection Treatments – http://www.fhwa.dot.gov/publications/publicroads/10mayjun/newpubs.cfm\

Highway Safety Improvement Program –

Highway Safety Improvement Program – http://safety.fhwa.dot.gov/hsip/

5. Deployment Plan

5.1 Objective

The primary goal of the 2012-2016 SHSP is to reduce the traffic fatality rate in Nebraska by approximately 50% from 1.0 fatalities per 100 million VMT in 2010 to 0.5 by 2016. Achieving this goal is expected to reduce the annual number of traffic fatalities by 103 from the number of traffic fatalities forecasted for 2016. The reduction in the fatality rate would result in 103 lives saved per year by 2016.

	2012	2013	2014	2015	2016	Total
Projected at 1.0	199	201	203	205	207	1,015
Projected Reduction to 0.5	190	176	156	133	104	759
Lives Saved	9	25	47	72	103	256

Projections assume a 2% annual increase in traffic volume and a straight line decrease to a fatality rate of 0.5 deaths per hundred million vehicle miles traveled by 2016.

The process for the 2012-2016 SHSP focuses on using Nebraska's crash records to incorporate strategies most directly linked to the factors contributing to fatal and life changing injury crashes. In addition, the IASC and a wide variety of safety partners will continue to screen the universe of potential safety strategies for new and innovative ways to help achieve the state's overall goal. Even with the short list of strategies listed in the twenty Critical Strategies in Chapter 3, there are still hundreds of possible safety investment scenarios. However, experience suggests that only a few combinations of strategies will be the most effective at achieving the stated fatal crash reduction goal. As a result, the final component of the Nebraska SHSP and the objective of this Chapter will be to provide guidance on how to invest safety funds and resources among the Critical Strategies in order to offer insight on how to achieve the safety goal and to provide proof that the goal is in fact attainable.

5.2 Overview of Funding Available for Safety Programs

In Nebraska, there are several available sources for funding the implementation of the Critical Strategies. For example, the Highway Safety Improvement Program (HSIP) provides approximately $18 million annually in federal funds to Nebraska through FHWA, which designates $13 million as HSIP funding. There is also approximately $4 million for the Highway-Rail program, $1 million for the High Risk Rural Roads Program, and the necessary State matching funds. Note: The new federal transportation legislation, MAP-21, that becomes effective October 1, 2012, may change some of the HSIP funding categories.

Nebraska was one of the initial five states (now eight) electing to flex 10% of their Highway Safety Improvement Program funding for non-infrastructure projects. Since 2007, the NDOR

has obligated over $4 million for stakeholder projects addressing occupant restraint, alcohol-impaired driving and younger drivers. The NDOR provided a major portion of this funding in conjunction with the Nebraska Office of Highway Safety grants to fund over 30,000 additional hours of overtime traffic enforcement operations targeted at occupant restraint usage, and almost 30,000 hours toward alcohol-impaired driving.

SAFETEA-LU also established the Safe Routes to School (SRTS) program. This $612 million program created a statewide program in each state, including a full-time coordinator. Nebraska receives $1 million annually in SRTS funds. The intention of the SRTS program is to encourage children to walk or bike to school, and fosters this by ensuring that programs and projects are in place to make the trip as safe as possible. Improving safety for children will include traditional pedestrian engineering improvements, but public education and community outreach are also important components. A successful program will not only have the benefit of improving children's health by increasing their activity, but it will also help reduce traffic, which will reduce fuel consumption, air pollution, and possibly even improve traffic safety.

In addition to NDOR, other agencies have made significant investments to improve Traffic Safety. In the 2010 fiscal year, there was an additional $5.5 million spent by the NOHS and $2.4 million from the Nebraska State Patrol Carrier Enforcement. A one-year breakdown of how each agency invested these funds in the 2010 fiscal year is available in **Appendix III**.

5.3 Implementing, Evaluating, Revising, and Reporting on the Nebraska SHSP

Nebraska will implement the 2012-2016 SHSP through the normal statewide transportation planning and programming process. Funding for identified safety projects will come from a number of different sources, including the FHWA HSIP funds administered by NDOR, the various NHTSA funds (Section 402, etc.) administered by the Nebraska Office of Highway Safety (NDOR), and the Motor Carrier Safety Assistance funds administered by the Nebraska State Patrol. Each agency will be responsible for following the planning and programming process required by its federal counterpart. NDOR lists HSIP projects on the Safety Schedule of Improvements, an attachment to the Statewide Transportation Improvement Program (STIP).

The Safety Schedule of Improvements (SSI) is produced annually and updated as needed, allowing safety projects, which often have a quicker turnover than regular highway projects, to be programmed on a more flexible basis. FHWA must approve the Safety Schedule of Improvements.

To guide implementation of HSIP projects and to maximize safety benefits, the IASC Working Committee will annually review fatal and injury crashes to determine if changes or additions to the CEAs in the SHSP are appropriate. If needed, they will forward their recommendations to the IAS Leadership Committee for their review and approval. Additionally, NDOR will continue to work on implementing the Highway Safety Manual (HSM) methodology. As stated in the Introduction to the manual, "The HSM introduces a science-based technical approach that takes the guesswork out of safety analyses. The HMS provides tools to conduct quantitative safety analyses, allowing for quantitative evaluation of safety alongside other transportation

performance measures such as traffic operations, environmental impacts, and construction costs.

After the completion of the SHSP, the Interagency Safety Committee will continue to meet regularly to set priorities for and to oversee implementation of the safety program. IASC member agencies will select individual projects to further the goals of the SHSP and assign a responsible agency to each project. This agency will be responsible for implementation of the project, reporting on the progress of the project at future Interagency Safety Committee meetings and, after the project is completed, performing an evaluation of the effectiveness of the project. NDOR will attempt to evaluate all HSIP projects chosen based on actual crash data. Evaluation results should help guide the committee in making future project decisions.

The majority of the CEAs and Critical Strategies identified in the Nebraska 2012-2016 SHSP appear to be relevant for the next five years, although data may show the IASC needs to update some of these strategies after several years. The expectation is that no drastic changes in the highway safety problems identified will happen in the near term. In addition, time will be needed to implement the new projects identified, and to determine their effectiveness. The Interagency Safety Committee will periodically review the crash data to look for new safety initiatives.

The NDOR will report annually to FHWA on the HSIP. This will include types of projects initiated, funds expended, and evaluation results.

6. Key Conclusions

Nebraska's Strategic Highway Safety Plan (SHSP) was prepared in accordance with the Federal Highway Administration's (FHWA) guidance and using an analytical process driven by crash data. State safety partners representing enforcement, education and emergency services participated in the entire process. The Plan addresses the following four key items:

Statewide Safety Goal

The Nebraska Interagency Safety Committee has adopted a safety performance measure to use fatal and life changing injury crashes in analyzing crash data for this report and in developing a goal for the 2012-2016 SHSP. The overall goal is to reduce the state's fatality rate from a baseline of 0.95 fatalities per 100 million VMT in 2011 to 0.5 fatalities per 100 million VMT by 2016. The IASC estimated that achieving this reduction in the fatality rate would result in saving approximately 100 or more lives per year compared to the number of traffic fatalities in 2010.

Critical Emphasis Areas

Nebraska used crash records to identify the areas emphasized in the Plan based on the number of related fatal crashes—the notion being that these Emphasis Areas represent the greatest opportunity for successfully reducing the number of severe crashes. The Interagency Safety Committee then used the same screening process as in the 2007-2011 SHSP that ultimately resulted in the continuation of the same five areas of focus for the 2012-2016 SHSP. Those Critical Emphasis Areas for the Plan are:

1. Increasing Safety Belt Usage
2. Keeping Vehicles on the Roadway, Minimizing the Consequences of Leaving the Road, & Reducing Head-On and Across-Median Crashes
3. Reducing Alcohol-Impaired Driving
4. Improving the Design and Operation of Highway Intersections
5. Addressing the Over Involvement of Young Drivers

Critical Safety Strategies

The selection of the five CEAs focused the vision of the Plan from an initial universe of more than 500 alternative safety strategies to approximately 160 strategies that directly relate to the factors contributing to severe crashes in Nebraska. A list of 20 Critical Strategies addresses the Four Safety E's—about one-half of the strategies address engineering issues and the rest evenly divided between enforcement and education. This distribution is consistent with the results of the analysis of factors contributing to severe crashes in Nebraska and with research at the national level (*7*) that indicates driver behavior is a primary factor in more than one-half of all crashes.

Most of the Critical Strategies dealing with engineering and emergency medical services are implementable almost immediately, with the cooperation of the responsible agency and the allocation of the necessary financial resources. However, several strategies dealing with enforcement and young drivers (enhancing safety belt law, automated enforcement and an enhanced Graduated Drivers License program) would require new legislation before implementation.

Safety Investment Options

The initial process for screening safety strategies narrowed the focus of the Plan from hundreds of potential strategies to the twenty highest priority strategies. However, even after this prioritization there are still thousands of possible ways to invest safety dollars in different combinations of strategies. The analysis of alternative safety investment scenarios, using a specially developed spreadsheet tool, identified six key characteristics that are associated with the most effective investment of safety dollars and therefore most likely to result in Nebraska achieving the adopted safety goal. Nebraska's six keys to safety investment include:

1. Invest in all Four Safety E's.

2. Focus the safety investment in the few strategies that are associated with the largest pool of fatal and disabling injury crashes.

3. Invest heavily in strategies that have proven to produce crash reductions, have relatively high safety effectiveness ratios, are relatively low cost and therefore can be widely deployed across Nebraska's entire system of highways.

4. Find a balance between the traditional reactive approach to safety and a proactive approach expected to be more effective at addressing the few widely distributed serious crashes over represented in rural areas.

5. Develop a method to direct safety resources to local road systems, which account for almost 40% of the fatal crashes in Nebraska.

6. The enforcement and young driver strategies that require new legislation linked to large pools of severe crashes that are susceptible to correction, have low to moderate deployment costs and relatively high effectiveness ratios. As a result, the addition of these strategies to an overall safety plan would significantly increase Nebraska's ability to meet the adopted safety goal.

Although the IASC did not identify additional investments to improve data systems as being highly effective at reducing severe crashes, improving the crash data remains a high priority in Nebraska. Without accurate data, both from the perspective of crash location and integrated across a variety of state agencies, the task of identifying crash prone locations and linking causative factors to mitigation strategies becomes far too speculative. As a result, Nebraska has chosen to include data systems as a key part of the SHSP, and will continue to make the necessary investment of safety dollars in order to support the development of a crash system highly accurate and integrated across the State's safety agencies.

Finally, the greatest challenge facing traffic safety professionals in Nebraska is the need to acknowledge that the effort to reduce fatal and life changing injuries is tied to continuing to implement an effective safety program that is different from what has been done in the past. This includes investing in additional enforcement, education and emergency services, being more proactive, engaging the legislature to improve dealing with safety belts, electronic enforcement, young drivers, and focusing safety investments on the small subset of low cost strategies linked to large pools of severe crashes and that can be widely deployed across all road systems in Nebraska.