CHEYENNE TRANSPORTATION SAFETY MANAGEMENT PLAN

New Frontiers in Safety

CHEYENNE METROPOLITAN PLANNING ORGANIZATION

1. Executive Summary

Transportation safety is a critical public health issue in Cheyenne. Over the past 20 years, 108 people died and 11,720 were injured on Cheyenne roadways. The impact to family and friends of losing a loved one is indescribable, and the impact to society is costly. For those injured in car crashes, the recovery can be long and painful, and individuals may never completely regain their former physical condition. The suffering and economic loss caused by traffic crashes is not inevitable. Preventing traffic crashes and improving roadway safety is an attainable goal.

Cheyenne has fully embraced its obligation to provide a safe transportation system. The Cheyenne Metropolitan Planning Organization (MPO) has taken a leadership role as one of the first MPOs in the country to develop a Transportation Safety Management Plan (TSMP). Cheyenne also has access to excellent safety data, which helped to identify transportation safety trends in the region and pinpoint the populations, infrastructure, and driver behaviors with the greatest need for safety improvement.

Crashes are not "accidents." In fact, most crashes are preventable. Improvement of transportation safety is most effectively addressed through both driver behavior and good roadway design. Providing alternative forms of transportation, including transit and bicycle and pedestrian facilities, also can promote safe mobility, especially for older and younger populations.

To develop the TSMP, the Cheyenne MPO convened a Transportation Safety Advisory Committee (TSAC) comprised of individuals with knowledge and involvement in the 4 Es of safety: enforcement, education, engineering, and emergency medical services. To guide the TSMP, the Committee developed a mission and goal. The mission of Cheyenne's TSMP is to **eliminate preventable traffic-related deaths and injuries**, and the goal is to **reduce fatal and injury crashes by 10 percent by 2020.**

The mission and goal helped direct the Advisory Committee as they identified the region's most serious transportation safety problems and the effective strategies to address them. Using regional crash data, the group identified the specific transportation safety problems that posed the greatest threat and those with the greatest opportunity for improvement in greater Cheyenne. Based on the data review, the following six emphasis areas were selected:

1. Impaired Driving;
2. Distracted Drivers;
3. Intersections and Other Hazardous Locations;
4. Occupant Protection;
5. Older Drivers; and
6. Younger Drivers.

To assist with the development the TSMP, Cheyenne held a Transportation Safety Summit on January 31, 2008 to review current safety strategies, identify nationally proven strategies for consideration in greater Cheyenne, and develop new safety approaches. Sixty people attended the Summit and identified a range of short-, medium-, and long-term transportation safety strategies for implementation in the Cheyenne area, which form the basis of the TSMP.

2. The Cheyenne Safety Problem

The impact of traffic crashes is devastating for the families and friends of those killed or injured and the cost to the Cheyenne economy is substantial. Over the past 20 years, 108 people have died and 11,720 have been injured on Cheyenne roadways. The National Highway Traffic Safety Administration (NHTSA) estimates that in 2000, motor vehicle crashes cost the Wyoming economy $424 million.

The suffering and economic loss caused by crashes is not inevitable. However, individuals, organizations, and agencies can stand up for traffic safety and declare the risk of injury or death is not an acceptable cost of mobility on our roadways.

The Cheyenne Metropolitan Planning Organization (MPO) has taken a leadership role as one of the first MPOs in the country to develop a regional transportation safety plan. The MPO views this plan as a logical extension of their efforts to improve transportation throughout the region. As noted in **Plan Cheyenne**, "It is vital that the Cheyenne area builds and maintains a transportation system that provides a safe and secure means of travel by all modes."

This recognition of the importance of safety places Cheyenne at the forefront in meeting requirements in the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU established safety as a core-funded program and revised the regulations governing metropolitan and state transportation plans. The new planning rule requires MPOs to consider the State's Strategic Highway Safety Plan (SHSP) (another requirement in SAFETEA-LU) when developing their transportation safety goals and objectives.

Economic Impact of Crashes

In 2006, the economic impact of crashes in Cheyenne was $66,599,500. This included 7 deaths, 46 incapacitating injuries, 285 nonincapacitating injuries, 405 possible injuries, and 4,003 people in crashes with property damage only.

2006 Annual Crash Report for the Greater Cheyenne Area

The development of the Cheyenne Transportation Safety Management Plan (TSMP) followed the same process recommended for development of state SHSPs and includes the state-level partners who led the development of the Wyoming SHSP. The TSMP also includes several of the state SHSP emphasis areas, which will help coordinate the implementation of the two plans.

Development of effective strategies to improve safety depends on accurate data that can be analyzed in multiple ways. The Cheyenne MPO has access to 20 years of high-quality crash data coded to enable historical analysis. This is vital to understanding transportation safety trends in the region and pinpointing the populations, infrastructure, and driver behaviors with greatest need for safety improvement.

Research in transportation safety has shown that nearly every crash is preventable. In most regions, including Cheyenne, the largest contributing factor in crashes is behavior. Every time a person gets into a car, there is an opportunity to make that trip as safe as possible by obeying traffic laws, focusing on the task of driving, not driving when too fatigued or impaired by alcohol and other drugs, and wearing a safety belt. Drivers must appreciate the skill, training, and attention required to maneuver a powerful two-ton vehicle in a safe manner.

Roadways also should be designed to be as safe as possible, which includes ensuring proper signage, adequate pavement markings, good visibility, minimal roadside hazards,

infrastructure for pedestrians and bicycles, and safety features that promote safe driving behavior such as rumble strips to alert drivers if they begin to leave the travel lane. The provision of alternative modes of transportation, including transit and bicycle and pedestrian facilities, also is important to safe mobility, particularly for older and younger populations.

In 2006, Cheyenne had the largest number of fatal crashes of any city in Wyoming with seven fatal crashes. The city of Casper, however, had more total crashes (2,146 versus Cheyenne's 1,836) and more injury crashes (544 in Casper versus 482 in Cheyenne). Over the past 20 years, Cheyenne has seen an increase in the number of fatal and injury crashes. As shown in Figure 2.1, the number of fatal crashes each year (crashes that result in one or more fatalities) has ranged from two to nine. While the number of fatal crashes fluctuates annually, the 10-year average has stayed the same when the periods from 1997 to 2006 and 1987 to 1996 are compared, with both periods having a 10-year average of five fatal crashes. However, when looking at the last five years (2002 to 2006), the annual average of fatal crashes is six. Therefore, the rate of fatal crashes is slightly trending upward.

The number of nonfatal injury crashes (crashes that result in one or more injuries) is much higher than fatal crashes, with 482 injury crashes in 2006, as shown in Figure 2.2. The 10-year average from 1987 to 1996 was 355, which has increased to an average of 423 from 1997 to 2006. Over the past five years (2002 to 2006), the annual average was 445 injury crashes, which indicates the injury crash trend is increasing.

The increase the in number of fatal and injury crashes also is related to Cheyenne's growing population as the region becomes an increasingly desirable place to live, particularly for retirees. Growth in the region is predicted to continue at a rate of between one and two percent annually. At that rate, the population of Laramie County would reach between 103,533 and 135,065 residents by 2030. If efforts are not made to improve safety, the number of people who are killed or injured on the region's roads also will increase at an unacceptable rate.

Figure 2.1 Fatal Crashes
1987-2006

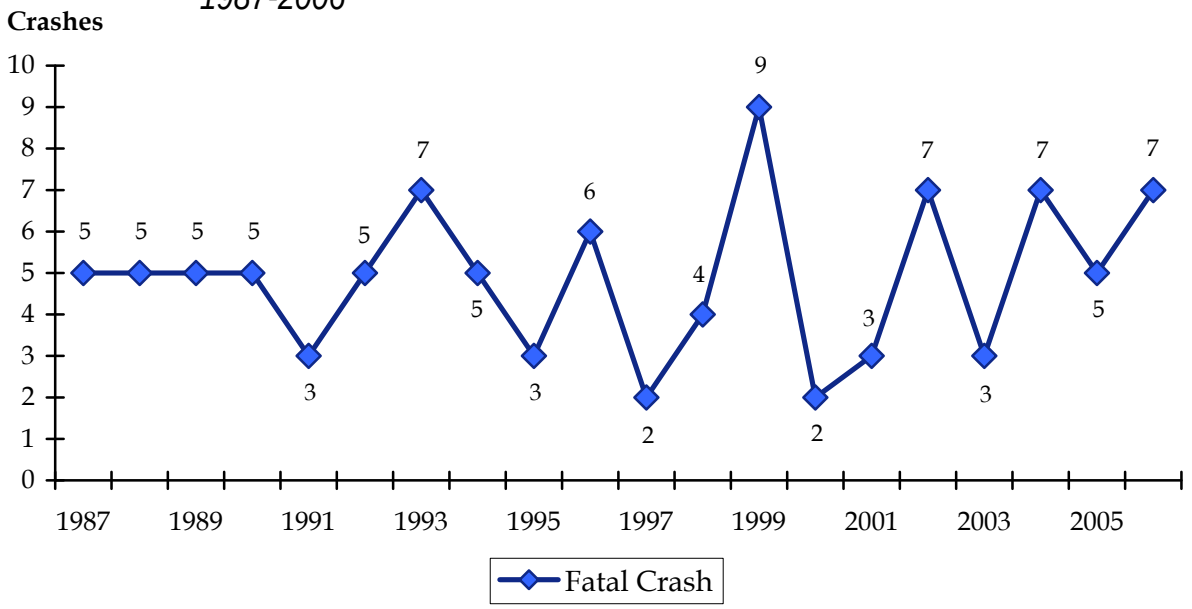
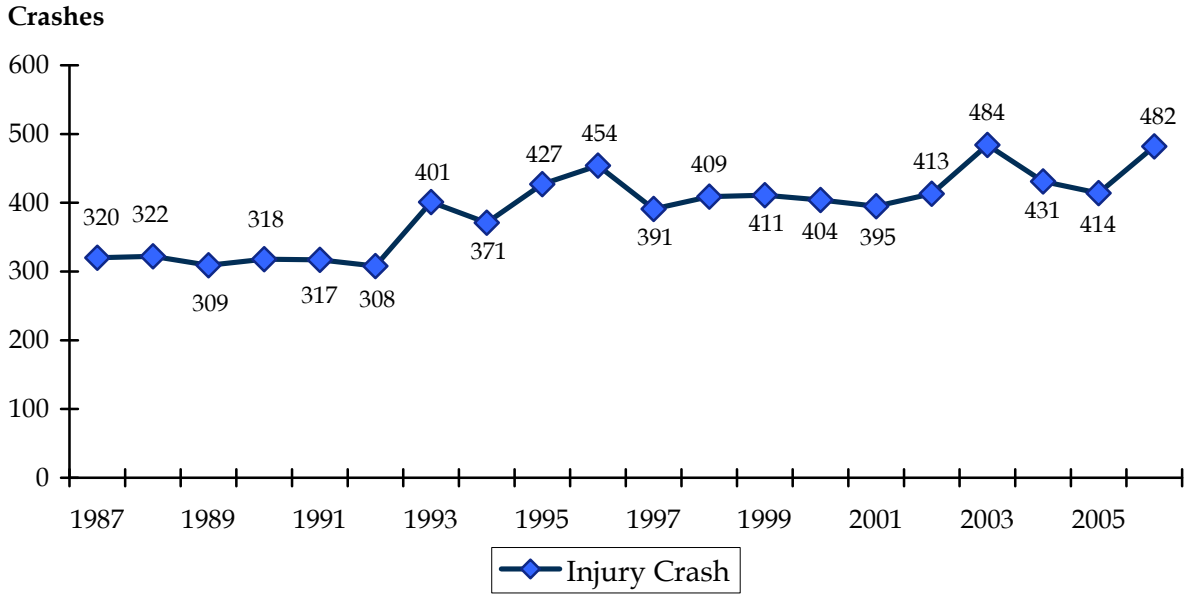


Figure 2.2 Nonfatal Injury Crashes
1987-2006

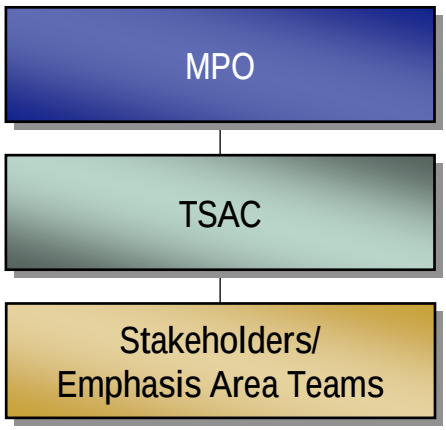


3. Methodology

Management Structure

The first step in developing the TSMP was to form a Transportation Safety Advisory Committee (TSAC) to oversee and guide the process. Members of the TSAC were selected based on their knowledge and involvement in the 4 Es of safety: enforcement, education, engineering, and emergency medical services. The group met twice over the course of the development process and participated in the Cheyenne Transportation Safety Summit. The TSAC developed a mission and goal for the TSMP, identified emphasis areas, played an active role in the Summit, and assisted with development of the final plan. Members of the TSAC are listed in Appendix A.

A wider set of stakeholders participated in the Safety Summit where safety emphasis area teams were formed. Leading the overall effort was the Cheyenne MPO, which coordinated all meetings, the Summit, and is the agency responsible for final development of the TSMP with approval by the TSAC.



Emphasis Areas

In the AASHTO Strategic Highway Safety Plan: A Comprehensive Plan to Substantially Reduce Vehicle-Related Fatalities and Injuries on the Nation's Highways, published in 2005, 22 safety emphasis areas were identified on a national level. The development of emphasis areas represents a new approach to roadway safety by including populations (e.g., older and younger drivers), crash types (e.g., roadway departure crashes, head-on collisions), infrastructure/hazards (e.g., intersections, tree and utility pole collisions), behavior (e.g., occupant protection, distracted/fatigued, impaired/alcohol), and modes (e.g., pedestrian, bicycle, motorcycle, heavy trucks).

At the first TSAC meeting, the group reviewed regional data on transportation crashes. Using Cheyenne's data on fatal, injury, and property damage-only crashes, the TSAC considered the safety results in multiple emphasis areas, shown in Figures 3.1 and 3.2. Primarily based on the number of fatalities and injuries, the TSAC selected six AASHTO emphasis areas for focus in Cheyenne, which were:

- Impaired Driving (primarily alcohol);
- Distracted Drivers;
- Intersections and Other Hazardous Locations;
- Occupant Protection;
- Older Drivers; and
- Younger Drivers.

Figures 3.3 and 3.4 show the numbers of fatal and nonfatal crashes in the six selected emphasis areas. A crash may be recorded in more than one category as it may involve multiple factors, e.g., one crash could involve a young, unbelted driver and occur at an intersection. These figures show trends in each area by displaying crashes for two five-year increments: 1997 to 2001 and 2002 to 2006.

Figure 3.1 Fatal Crashes by Emphasis Area

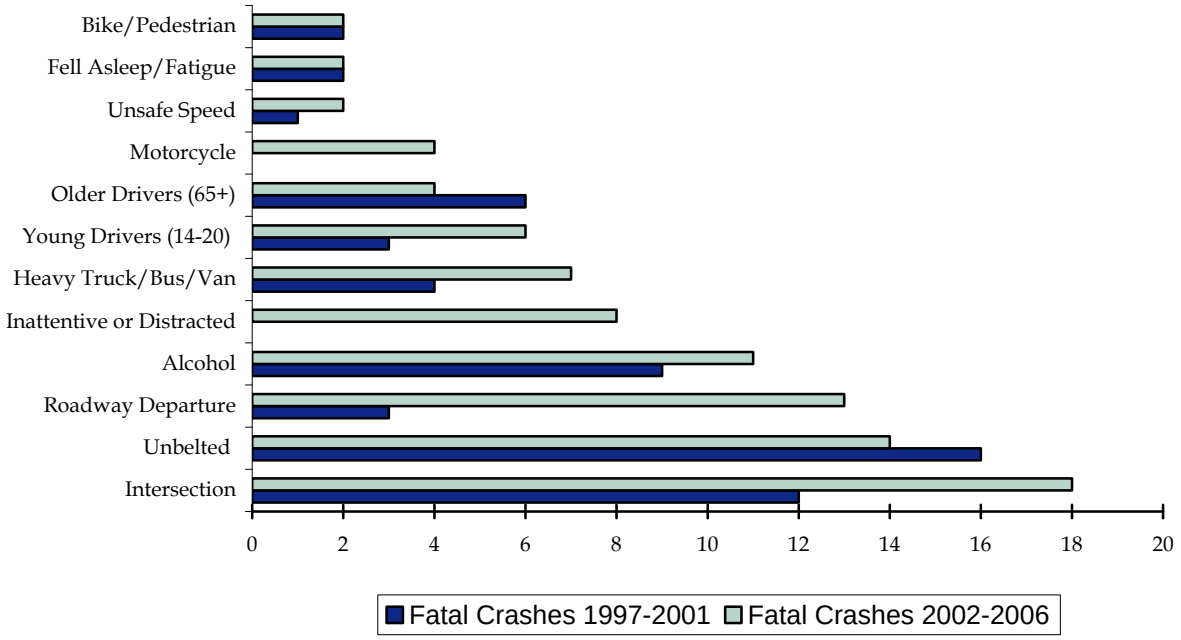
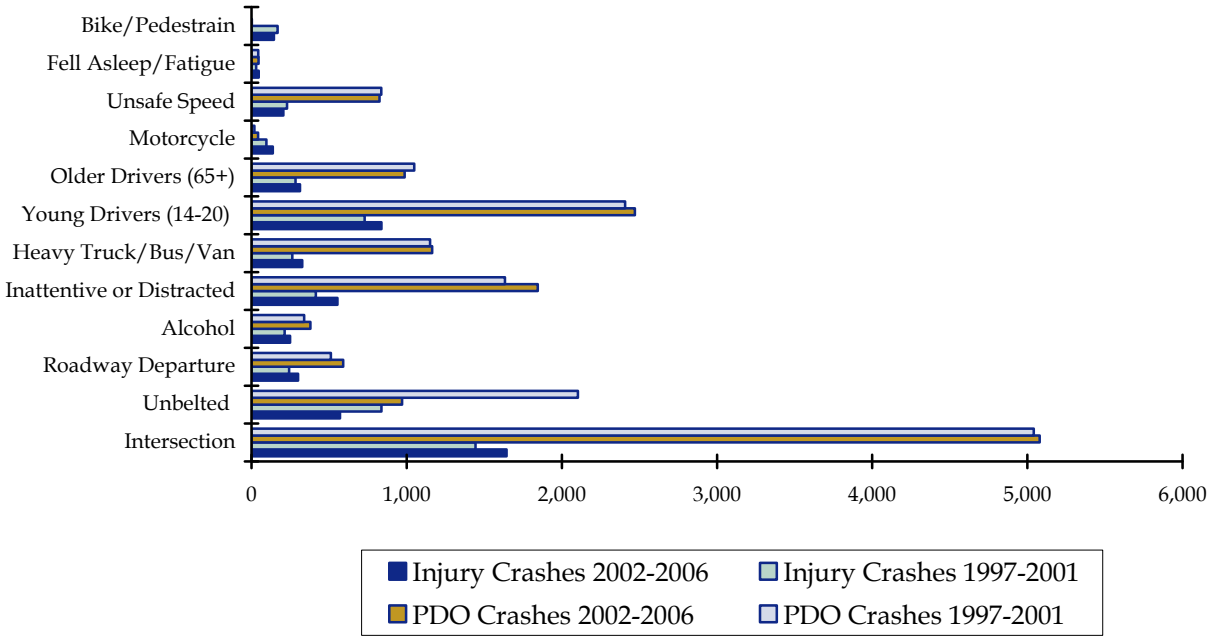


Figure 3.2 Injury and Property Damage Only Crashes by Emphasis Area



Note: Unbelted includes injured occupants in injury crashes only; non-injured occupant in PDO crashes only.

Figure 3.3 Fatal Crashes by Selected Emphasis Area

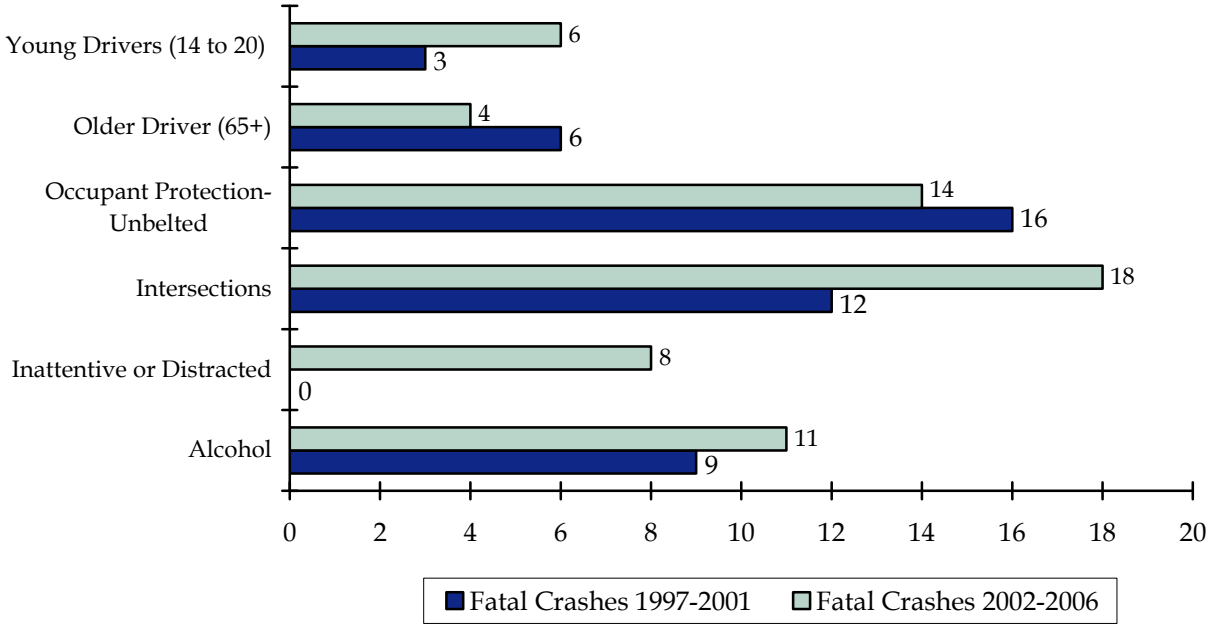
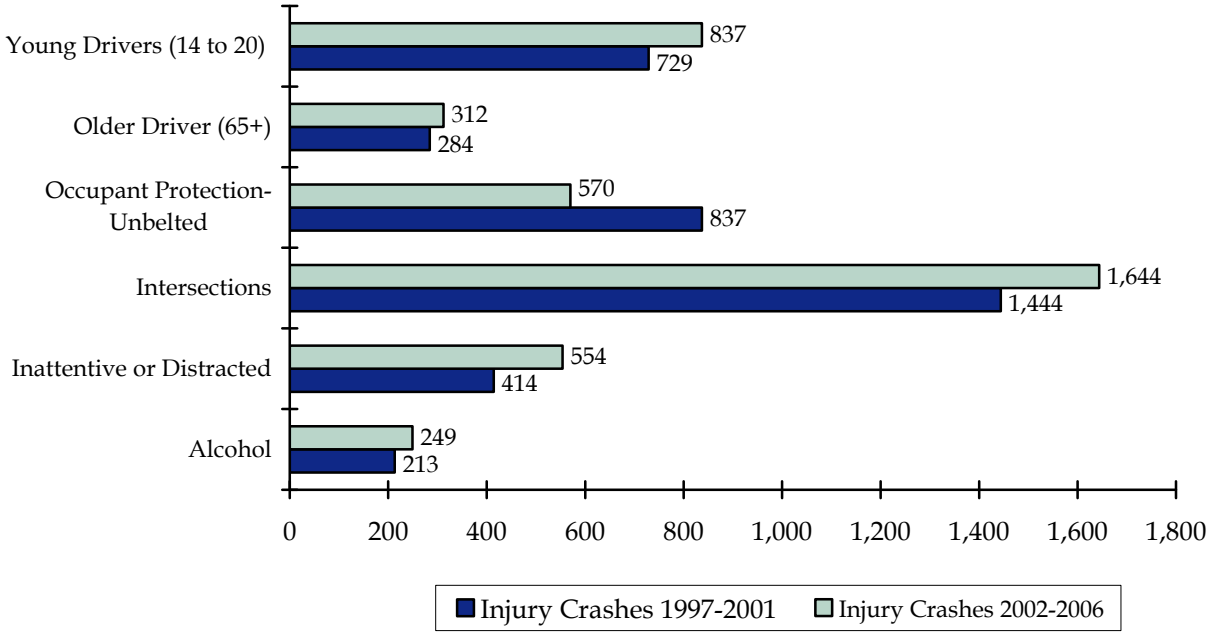


Figure 3.4 Nonfatal Injury Crashes by Selected Emphasis Area



Safety Stakeholders

Once the emphasis areas were identified, planning for the first Cheyenne Safety Summit began. The Summit planning process presented an opportunity for the Cheyenne MPO to begin functioning in its emerging role as coordinating agency for transportation safety in the region. A key aspect of transportation safety planning is communication and facilitation across the multiple agencies that have complementary roles in safety. MPO representatives initiated contact with numerous agencies, which resulted in conversations and in-person meetings with a number of individuals to explain the TSMP development process and build interest and excitement for safety planning and the Transportation Safety Summit.

The relationships built as a result of this process will be critical to long-term safety strategy implementation. As the developer of the TSMP and convener of the TSAC, the Cheyenne MPO will continue to take a leadership role and coordinate transportation safety activities in the region. Strong relationships among multiple agencies will be critical in ensuring the plan does not sit on the shelf but is implemented and safety progress is closely monitored.

Transportation Safety Summit

The Cheyenne MPO convened its first Transportation Safety Summit on January 31, 2008, and focused on the requirements outlined by SAFETEA-LU for a planning process that was data-driven and involved a wide range of safety stakeholders. The Cheyenne Summit built upon the work conducted by the TSAC at its first meeting when the six plan emphasis areas were chosen.

Safety is a multidisciplinary effort, and care was taken to include stakeholders from the engineering, enforcement, education, and emergency medical communities. Summit attendees also were identified based on experience with one or more of the emphasis area populations or issues. Sixty people participated in the Summit representing a wide range of Federal, state, regional, and local agencies and organizations. A list of Summit participants is included in Appendix B.

The Summit began with keynote speeches by Tom Mason, Executive Director of the MPO; Matt Carlson, WYDOT State Safety Engineer; Bob Fecht, Chief of the Cheyenne Police Department; and David Sneed, Executive Director of the Wyoming-Montana Safety Council. At the Summit, additional safety data were presented for each emphasis area, along with information on safety strategies that have been evaluated at the national level.

Transportation Safety Summit

"Members of the Cheyenne Metropolitan Organization, along with law enforcement, paramedics, trucking agencies, engineers, county commissioners and various other stakeholders in transportation safety brainstormed ideas for a highway safety plan (at the Summit)."

Wyoming Tribune Eagle, February 1, 2008

During the Summit, each emphasis area team was led by a facilitator from the Cheyenne community with expertise in the emphasis area. To ensure the breakout group discussions were multidisciplinary, an effort was made to include representatives from the 4 Es of safety. Participants reviewed fact sheets on Cheyenne transportation safety data specific to their emphasis area and then discussed current transportation safety efforts. Whenever possible, current statutes and policies were provided so groups could have a complete understanding of current laws and regulations, particularly concerning driving under the influence of alcohol (DUI), graduated driver licensing, and safety belt use. Participants also reviewed safety countermeasures that have been proven or tried on a national level and could be considered for application in Cheyenne. During the afternoon work session, groups discussed strategies they felt were needed in Cheyenne based on the safety data and gaps in existing programs. The strategies developed at the Summit are described in Section 5.

Participants in the Cheyenne Transportation Safety Summit participate in an emphasis area team discussion on January 31, 2008.

4. Mission and Goal

At the first TSAC meeting, the group discussed the mission of the TSMP and agreed on the following:

Eliminate preventable traffic-related deaths and injuries

The next step involved the development of a safety goal that would guide the choice of strategies in the plan. The group decided on the following as a TSMP goal:

Reduce fatal and injury crashes by 10 percent by 2020

To measure progress, the TSAC also determined they would track improvements starting with a five-year average from 2002 to 2006 of 451 fatal and injury crashes.

To achieve this goal, the Cheyenne region will need to eliminate an average of 3.5 fatal and injury crashes each year for the next 13 years (from 2008 to 2020). This will result in the prevention of more than 45 traffic deaths or injuries, given that in some crashes more than one individual is killed or injured. The group also plans to explore gathering data on vehicle miles traveled so that a crash rate also can be calculated to track progress over time as population increases.

5. Strategies

The selection of the TSMP emphasis areas was determined by the number of fatal and injury crashes. The safety strategies in the region will be focused in these emphasis areas where the greatest amount of progress is needed. Based on research, available countermeasures, and the number of current crashes, fatalities, and injuries, these areas also represent the greatest opportunity for overall safety improvement.

Three of the emphasis areas are behavioral, two involve at-risk populations, and one focuses on infrastructure. Utilizing information from national sources on effective approaches and knowledge of what will work for Cheyenne, members of emphasis area teams selected the strategies listed in this section.

Impaired Driving

Enforcement of impaired driving involves a system that starts with effective laws which allow law enforcement officers to detect and arrest offenders; the prosecution and sentencing of offenders; and compliance or noncompliance with penalties. To make progress in this area culture change also is needed to make driving while impaired less socially acceptable.

In addressing the issues surrounding impaired driving, the emphasis area team examined the various at-risk groups, and enforcement and education strategies designed to reach those audiences. For example, youth who are engaging in underage drinking usually consume alcohol at parties, and adults are more likely to be at bars or other establishments. The drinking patterns of both groups must be taken into consideration in developing an effective plan.

Cheyenne Data

- Alcohol was a factor in 11 percent of fatal and injury crashes from 1997 to 2006.
- Twenty-eight percent of fatal crashes and 16 percent of injury crashes, with alcohol as a factor, involved drivers age 21 to 24.
- Seventeen percent of alcohol-impaired fatal crashes and 16 percent of injury crashes involved drivers under age 21.
- Forty-four percent of alcohol-involved fatal crashes and 29 percent of injury crashes involved individuals age 41 to 64. This age range differs from most other states which tend to see the highest percentage of alcohol-related fatal and injury crashes involving individuals at younger ages.
- Males were involved in 83 percent of fatal and 78 percent of injury crashes involving alcohol.

Short-Term Strategies

- Obtain a full-time grant writer or grant-writing support for the police department to obtain funding for additional DUI overtime and speed enforcement.
- Share data on alcohol-involved crash locations (e.g., crash maps such as in Figure 5.1) with the police department for use in targeting patrol routes.
  - Evaluate whether data on alcohol citation locations also would assist law enforcement.
- Integrate enforcement efforts so that the current speed task force also enforces DUI.
- Use crash data to help determine the best months, days, and times of day to conduct DUI saturation patrols.
- Review state and county statutes related to alcohol to identify needed changes and those that require increased enforcement.

Mid-Term Strategies

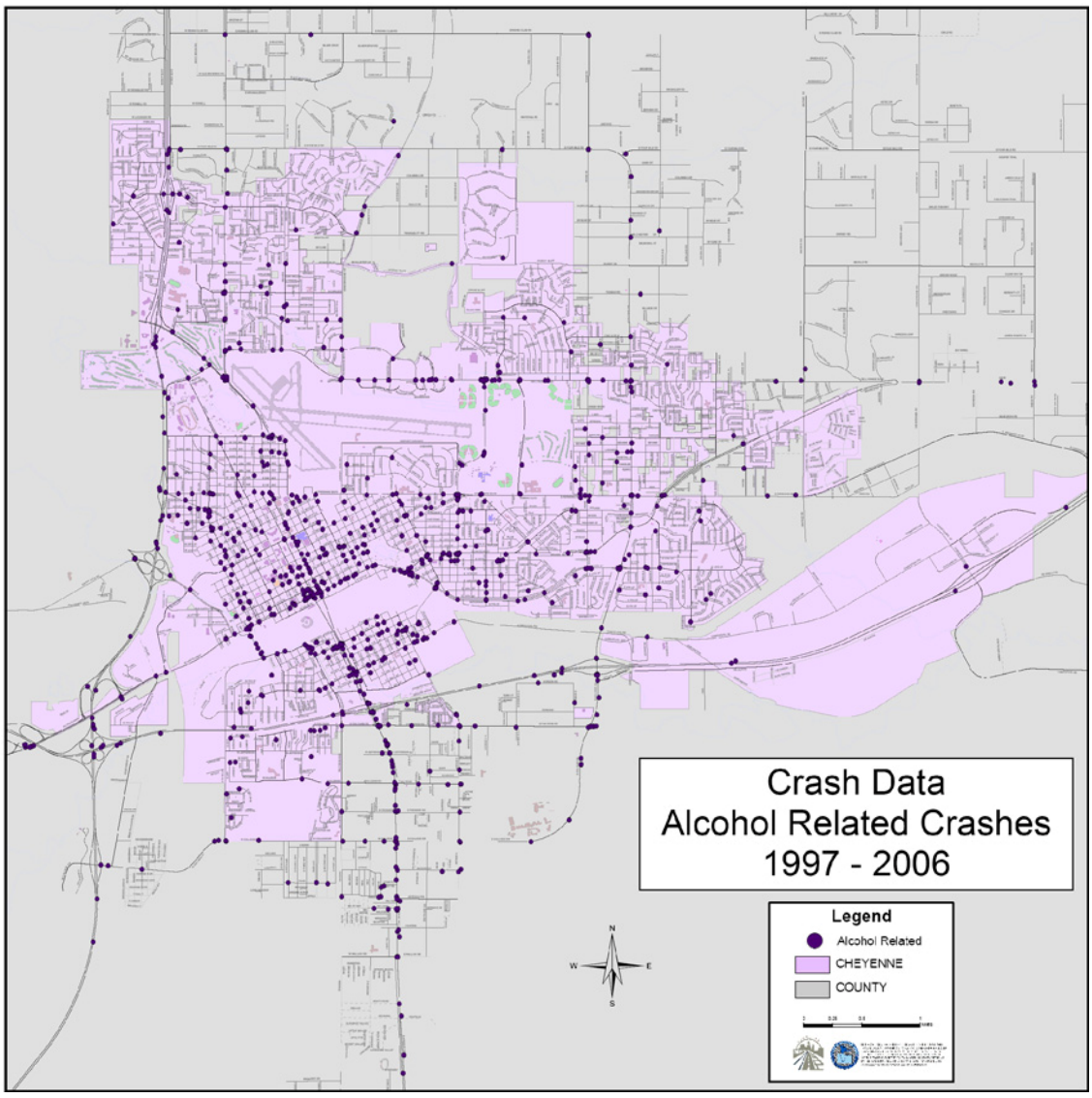
- Develop a year-round alternative transportation program.
  - Provide cards for free taxi rides to military base residents.
- Expand mass media campaigns (print advertising, public service announcements, etc.) targeting high-risk groups; ensure coordination with other outreach campaigns; and include information on:
  - Alternative transportation;
  - Social norming;
  - Consequences for parents hosting parties; and
  - First responder experiences at crash locations.
- Develop a designated driver program and partner with bars and other establishments selling alcohol to ensure that nonalcoholic drinks are served to these drivers.
- Increase youth education with a focus on the consequences of DUI, including the economic consequences.
- Conduct a program to promote Alcohol Screenings and Brief Intervention (SBIRT) with the Department of Health.
- Partner with the alcohol industry to educate the public on the risks of DUI.
- Review local ordinances on drive-through liquor sales and consider their elimination.

Long-Term Strategies

- Lower the legal Blood Alcohol Content (BAC) limit for repeat offenders.
- Add a second DUI court.
- Enact stronger sanctions for high BACs.
- Improve the BAC test refusal law.
- Determine the current prosecution and adjudication process for DUI offenses and identify potential improvements.

Figure 5.1 shows the location of alcohol-involved crashes that have occurred in Cheyenne over the past 10 years.

Figure 5.1 Alcohol-Involved Crashes
1997 to 2006



Distracted Drivers

The 2006, 100-Car Naturalistic Driving Study conducted by NHTSA and the Virginia Transportation Institute found that nearly 80 percent of crashes and 65 percent of near-crashes involved some form of driver inattention within three seconds before the event. Cell phones, DVD players, radios, and passengers are distracting and can prevent the driver from paying proper attention to the task at hand. The study tracked the behavior of the drivers of 100 vehicles equipped with video and sensor devices for more than one year and nearly two million miles of driving. The 241 drivers of the vehicles were involved in 82 crashes, 761 near crashes, and 8,295 critical incidents.

Driving instructors estimate that a driver makes 200 decisions for every mile of driving. For experienced drivers, these are often automatic. However, if a driver is mentally solving business or family problems, talking on the telephone, reading something, or looking at a map, the total cognitive workload adds up. The problem is exacerbated for novice drivers who lack the driving experience to deal with a problem caused by driver distraction.

During the Cheyenne Transportation Safety Summit, the Distracted Driver Emphasis Area team faced the greatest challenge in terms of crash data to document the problem and data on proven countermeasures. Given the fact that no universally accepted definition of distracted driving exists, those working to improve safety in this area recognized the need to coordinate with law enforcement to refine how distracted driving violations are recorded by enforcement personnel on the crash report so improved data analysis is possible. Since few studies exist on proven countermeasures to address distracted driving, the best approach for immediate implementation involved education on the very real risks of distracted driving.

Cheyenne Data

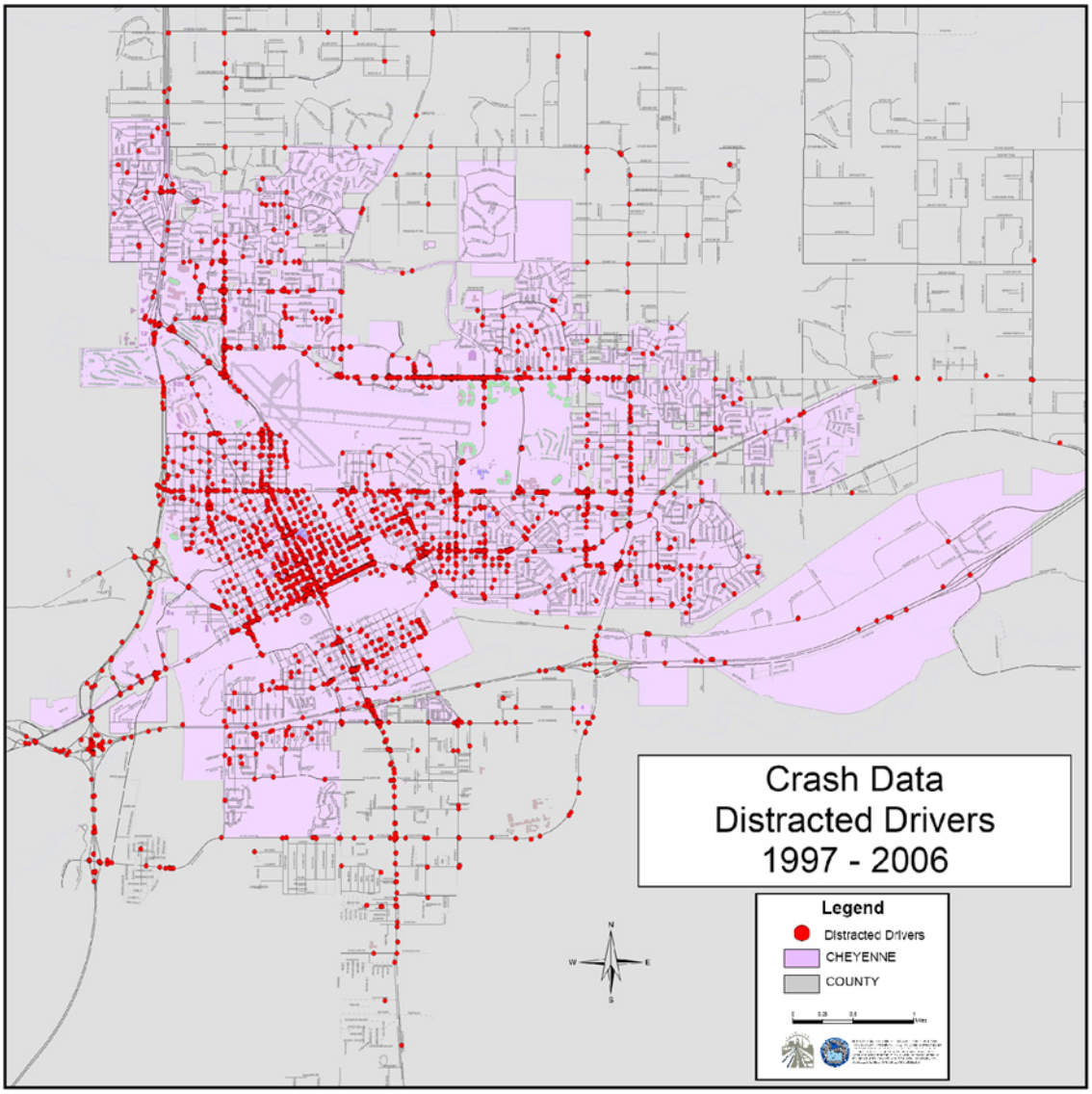
- From 1997 to 2001 no fatal crashes involved distraction, but from 2002 to 2006, eight fatal crashes were reported with distraction as a factor, as shown in Table 5.1. The number of injury crashes involving distraction also increased during the past five years. This may be related to increased reporting of distraction as a factor in crashes or the increased use of devices in vehicles in recent years. Locations of distracted crashes are shown in Figure 5.2
- Twenty-three percent of all Cheyenne area fatal and injury crashes involve distraction or inattentiveness.
- For 14 percent of drivers in intersection crashes, inattention or distraction was a factor.
- Younger drivers are disproportionately impacted by distraction, as shown in Table 5.1.

Table 5.1 Ages of Distracted/ Inattentive Drivers

Driver Age	PDO[a]	Injury	Fatal	Total
01-13	1	17	0	18
14-15	13	8	0	21
16-17	452	142	1	595
18-20	493	161	0	654
21-24	435	101	3	539
25-30	388	122	2	512
31-34	233	69	0	302
35-40	357	95	1	453
41-44	231	39	0	270
45-54	448	105	0	553
55-64	225	77	1	303
65-69	94	27	0	121
70-74	88	21	0	109
75+	184	45	0	229

[*] *PDO are property damage only crashes with no injuries and damage of $1,000 or more.*

Figure 5.2 Distracted Driver Crashes
1997 to 2006



Short-Term Strategies

- Develop a public awareness campaign to communicate the dangers of distracted driving.
  - Target parents and encourage them to educate their teen drivers about avoiding distractions when driving.
- Increase enforcement, including stopping distracted drivers and issuing warnings to educate drivers on the need to pay attention while driving.

The above shows a concept for a Distracted Driver billboard developed by the Distracted Driver Emphasis Area Team.

Mid-Term Strategies

- Increase and improve the content on distracted driving in driver education courses.
- Collaborate with fast food restaurants to educate customers about the risks of eating and driving.
- Close high school campuses so that students cannot leave during lunchtime, or provide a longer lunch period to avoid driving while eating.
- Consider restricting cell phone use by teens while driving based on further review of national data, potentially as part of the Graduated Driver's License law.

Distracted Driver Education

In addition to print materials, public service announcements, billboards, and other typical mediums for a public information and awareness campaign, The National Cooperative Highway Research Program (NCHRP) encourages states to incorporate information on drowsy and distracted driving in their driver license manuals, as is done in Wyoming, and on their driver license tests.

Intersections and Other Hazardous Locations

Intersections are the place in the transportation system where all roadway users – cars, trucks, buses, and vulnerable road users (pedestrians, bicyclists, motorcyclists) – come together in a mix that has the greatest potential for conflict. In Cheyenne over the past 10 years, 73 percent of crashes occurred at or near intersections or driveways.

Research indicates low-cost safety improvements such as improved sight distance, channelization, signage, and other infrastructure treatments can produce positive results. Additionally, roundabouts can be effective infrastructure improvements because they eliminate some of the conflicting traffic movements, such as left turns, as shown in Figure 5.3. Because roundabout traffic only enters or exits through right turns, the occurrence of severe crashes is substantially reduced.

While infrastructure improvements can improve safety, it is often the behavior of the road user that can cause a crash, e.g., speeding, red light and stop sign running, failure to use a pedestrian crosswalk, etc. The crossing and turning maneuvers at intersections create multiple opportunities for conflict

Cheyenne Data

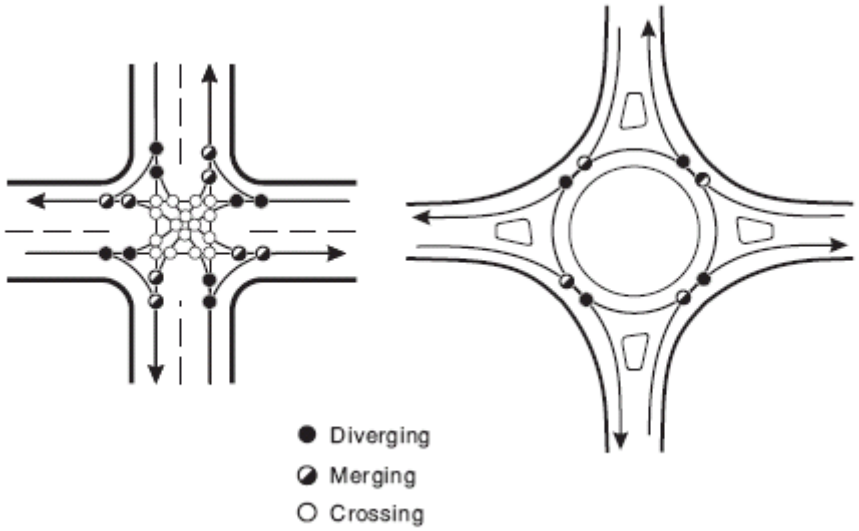
- Crashes at intersections with traffic signals represented 45 percent of fatal, 44 percent of injury, and 41 percent of PDO crashes at intersections. These intersections also are those with the largest volumes of traffic.
- Crashes at intersections with stop signs represented 24 percent of fatal, 24 percent of injury, and 23 percent of PDO crashes at intersections.
- Crashes at intersections with no traffic control represented 14 percent of fatal, 16 percent of injury, and 19 percent of PDO crashes at intersections.
- Alcohol is the most significant contributing human factor in fatal intersection crashes; alcohol was involved in 11 fatal crashes and 199 injury crashes.
- Driver inattention or distraction was involved in four fatal crashes, 670 injury crashes, and 2,268 PDO crashes, at intersections.
- For nearly half of drivers in intersection crashes, no apparent traffic violations were observed.

Intersection Improvements

Intersection treatments that have been shown to improve safety include the following:

- Dedicated turn lanes;
- Changing from two-way stop control to all-way stop control;
- Roundabouts;
- Pedestrian countdown signals;
- Raised medians; and
- Red-light running cameras.

Figure 5.3 Illustration of Conflict Points for Roundabouts and Intersections



Source: *Roundabouts: An Informational Guide*, Federal Highway Administration, 2000.

Note: A four-leg, single-lane roundabout has about 75 percent fewer conflict points than a conventional intersection.

Short-Term Strategies

- Improve crash data and access.
  - Allow direct access to WYDOT crash data by local jurisdictions;
  - Combine crash data with roadway geometric data; and
  - Obtain supplemental crash reports from police departments on fatal crashes.
- Prioritize hazardous intersections for potential safety improvements.
  - Develop new criteria/methodology for prioritizing hazardous intersections.
- Once intersections are prioritized, conduct Road Safety Audits at the most hazardous locations for all modes.
  - As part of the detailed analysis of intersection locations, consider advanced warning techniques such as larger signs and advance street name signs.
- Conduct before/after studies when improvements are made.

Mid-Term Strategies

- Ensure consistency in the way driving techniques are taught and how traffic laws are enforced.
  - Improve communication among the enforcement, engineering, and driver education communities.
- Increase public education on proper driving skills.
  - Increase enforcement of minor traffic violations and utilize each traffic stop to educate drivers on proper driving maneuvers.

Effectiveness of Red Light Cameras

According to the Federal Highway Administration (FHWA), red light camera systems provide a crash-cost benefit of approximately $50,000 per site per year. The study found this benefit can be improved through careful selection of the sites to be treated (e.g., sites with a higher ratio of right-angle to rear end crashes), the presence of warning signs at both the intersection and the city limits, and increased publicity.

  - Develop a list of the key knowledge drivers need for safe driving and communicate this information to drivers at license renewal. This could take the form of developing a document with questions and answers on safe driving skills and requiring drivers to pass a quiz before license renewal. Education should include information on recent changes in traffic laws.
  - Increase media coverage of the issue of safe driving by using law enforcement in regular features on traffic safety. Current efforts such as monthly media interviews with the Chief of Police should be continued and expanded.
  - Promote defensive driving courses more widely to the public so that more people receive refresher training.
- Involve enforcement personnel in the intersection design phase to ensure there is sufficient space for police cars to be visibly parked during enforcement initiatives.

Long-Term Strategies

- Obtain legislative approval for automated enforcement.
- Aggressively implement existing access management policies.
- Ensure all jurisdictions are involved in planning/corridor studies.
- Plan for future land use and development so that key transportation corridors can be

preserved and their development can be managed proactively.

- Evaluate local codes on parking proximity to intersections and clear zone regulations at intersections.

Occupant Protection

Occupant protection includes the use of safety belts, motorcycle helmets, and child restraints. NHTSA estimates that safety belts can reduce fatalities and serious injuries to front seat occupants by nearly 50 percent. Since 1983, safety belt use has grown from 14 percent nationwide to 82 percent in 2005. Wyoming has a secondary safety belt law, which means a police officer cannot stop a driver only for nonuse of a safety belt.

In Wyoming, safety belts are used by 70 percent of residents, a rate that is below the nationwide use rate. The single most effective way to increase safety belt use rates is to enact a primary safety belt law, which allows enforcement to stop a driver for nonuse of a safety belt in the absence of any other violations. While such legislation is being pursued, education and enforcement will be key to increasing the use of these devices that research has shown save lives and prevent injury.

Primary Safety Belt Law

Changing from secondary to primary enforcement of a safety belt law was associated with increased safety belt use during both the daytime and nighttime hours in five of six states included in a recent study.

NHTSA, Traffic Safety Facts, March 2007

Cheyenne Data

- More than one-half (54 percent) of people who died in crashes between 1987 and 2006 were not wearing safety belts. For some of these people, a safety belt could have saved their lives.
- One in five people injured in a crash was unbelted. Some of these injuries could have been prevented or minimized if safety belts had been worn.

- Novice drivers and their passengers are more likely not to wear safety belts and be injured in a crash. Young vehicle occupants (age 16 to 20) represented 29 percent (600 of 2,099) of the unbelted persons in injury crashes and 8 percent (4 of 53) of unbelted persons in fatal crashes.
- One fifth of all people who died in a crash and were not wearing a safety belt were between age 21 and 24 (11 of 53 unbelted deaths). Twelve percent (242 of 2,099) of unbelted people in injury crashes were age 21 to 24. This age group has not fully developed decision-making skills, but is legally able to drink, so alcohol is often partially to blame for lack of safety belt use.
- Vehicle occupants over age 80 represented 11 percent (6 of 53) of unbelted persons in fatal crashes and one percent (15 of 2,099) of unbelted persons in injury crashes. Older persons often do not wear a safety belt because of comfort issues. Nevertheless, a safety belt helps reduce injury, particularly for older people who are more frail and vulnerable to injury.

Short-Term Strategies

- Provide incentives for youth to wear safety belts such as providing a card for music downloads when a young driver is

stopped by police and is wearing a safety belt.

- Provide consistent enforcement of safety belt nonuse across all levels of law enforcement, with particular focus by county and city officers. Consider a law enforcement summit to promote safety belt enforcement.

Mid-Term Strategies

- Increase penalties for safety belt violations and increase the amount the fine is reduced when a safety belt is worn.
- Increase education about the importance of wearing safety belts, especially to at-risk populations. Conduct "lifetime driver's education," including discussion at the hospital when a child is born, in parenting classes, in young driver education, and beyond.
  - Identify the top 10 excuses for not wearing a restraint and refute them in an educational campaign.
- Increase the number of child-seat installation technicians by marketing technician training to a wider audience. Ensure that technicians reinforce the value of safety belts to adults during the child-seat inspection process.
- Determine whether nonuse of helmets is an issue and potentially conduct education on helmet use.

Long-Term Strategies

- Amend Wyoming's safety belt law to allow primary enforcement.
- Investigate making the nonuse of a safety belt a primary offence via City ordinance.

Older Drivers

Although older drivers ages 65 and older may drive fewer miles than other drivers, they have an increased rate of crashes based on miles traveled. The safety risk is higher for older persons when driving because of reduced visual, cognitive, and perceptual capabilities. Also, older persons are more frail and at a higher risk for injury in the event of a crash. The population of Wyoming is aging, and ensuring safe mobility for older persons will be increasingly important in the future. Providing alternatives to driving also will be an important factor for Cheyenne. Locations of older driver crashes are shown in Figure 5.4.

Some states address driving by older persons through a Medical Advisory Board. No Medical Advisory Board currently exists in Wyoming that could provide oversight of health and safety screenings for older drivers. Currently, any member of law enforcement, a family member, or WYDOT has the authority to ask for an in-person driver retest at any time.

Cheyenne Data

- Fourteen percent of fatal and injury crashes from 1996 to 2007 involved older drivers.
- The median age of residents in Laramie County rose, from 31.9 in 1990 to 35.3 in 2000.
- All 10 older driver fatal crashes and 86 percent of older driver injury crashes were collisions with another moving vehicle.
- Failure to yield right-of-way was a factor in 31 percent of fatal and 21 percent of injury crashes involving older drivers.
- Disregard for traffic control was a factor in 23 percent of fatal and seven percent of injury crashes involving older drivers.

Short-Term Strategies

- Improve medical testing of older drivers, including more frequent and stringent exams of health and vision, via state statutes and city ordinances.
- Educate older drivers about the range of educational and self assessment tools currently available.
- Improve the quality of driver education.
  - Ensure that professional instructors are used to teach courses; and
  - Include education about sharing the road safely with all users since driving styles vary between older and younger drivers.
- Increase participation in older driver education courses.
- Increase affordable alternative transportation options. Consider expanded public transit, cabs, and volunteer transportation services.

Model Driver Screening and Evaluation Program

The Maryland Pilot Older Driver Study implemented a battery of functional screening measures in Motor Vehicle Administration field offices and in community settings. Results provided strong evidence that functional capacity screening, conducted quickly and efficiently in office settings, can yield scientifically valid predictions about the risk of driver impairment.

Mid- to Long-Term Strategies

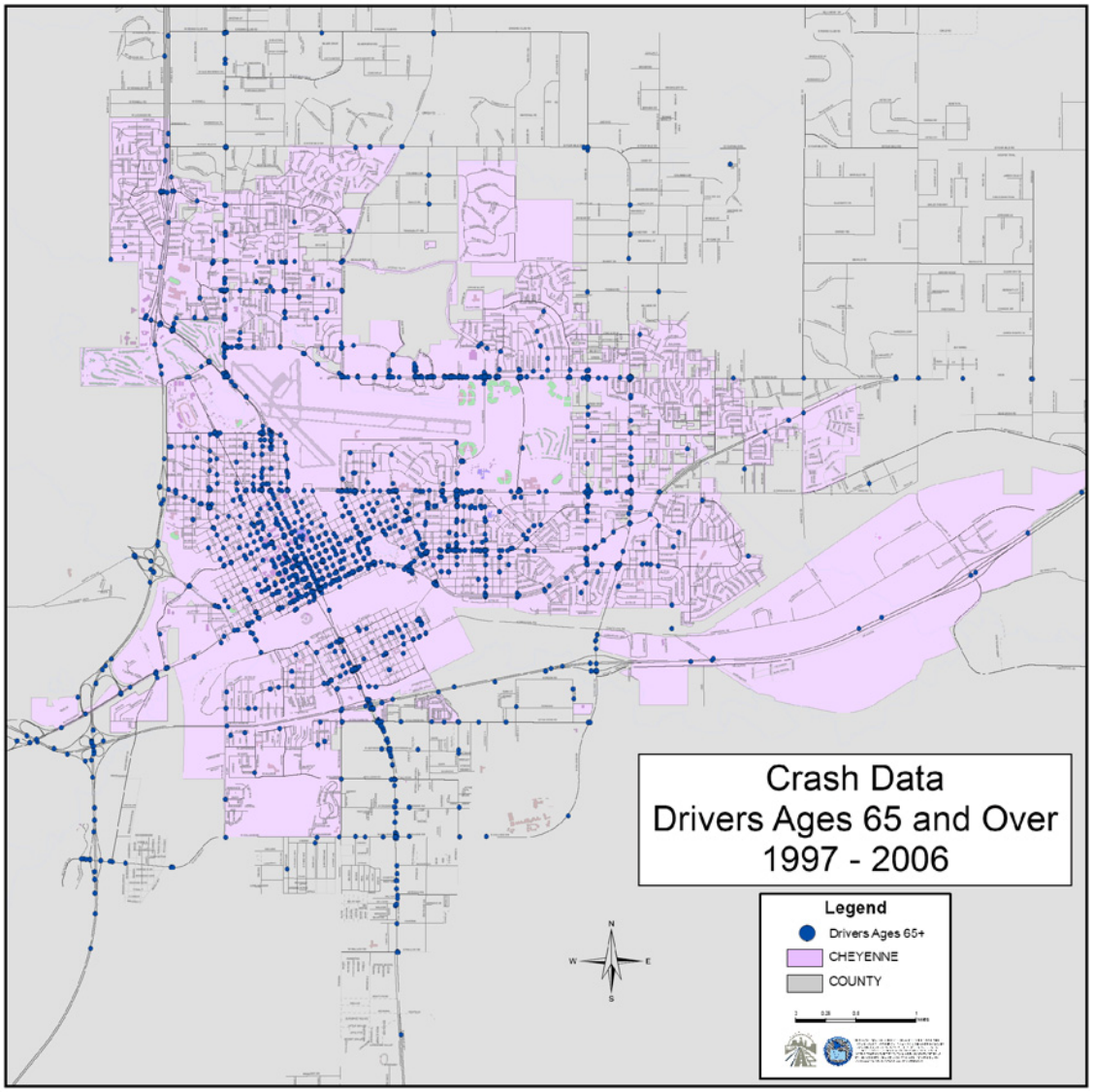
- Implement a Medical Advisory Board, which would require legislative action.
- Improve the roadway and driving environment for older drivers.
- Improve pavement markings so that they are more visible.
- Consider adopting recommendations in the FHWA manual "Highway Design Handbook for Older Drivers and Pedestrians."
- Replace old signs with retroreflective signs, according to FHWA regulations.
- Increase enforcement, particularly of minor violations by older drivers, and use traffic stops as an opportunity for education.

Alternative Transportation

"Alternative transportation, including public transportation, is a vital component to improving the safety and mobility of older road users. Without viable alternatives to driving, older adults who are no longer capable of operating a motor vehicle safely will either continue to drive, placing themselves and others at risk, or stop driving and suffer health and quality of life consequences that often accompany a loss of mobility."

NCHRP Synthesis 348, Improving the Safety of Older Road Users

Figure 5.4 Older Driver Crashes
1997 to 2006



Younger Drivers

Younger drivers ages 14 to 24 are involved in more than one-third of all fatal and injury crashes in Cheyenne. It is widely known that novice drivers do not have sufficient experience to handle the complex task of driving when they are first licensed. Young drivers are also more likely to engage in risky behaviors and to have more passengers in their vehicles. Teen drivers are not only a risk to themselves but also to others, as nearly two of every three people killed in teen-driver crashes are people other than the teen driver.[1]

Wyoming has taken a great stride forward in helping young drivers manage the learning process by recently implementing a graduated driver licensing (GDL) program. Enforcement of GDL, however, is difficult because officers report it is challenging to accurately gauge the age of a driver before making a traffic stop.

Driver's education is not mandatory in Wyoming and evidence suggests many parents will not pay for driving time with an instructor; less than 30 percent of youth in the State are participating in formal driver's education. Wyoming also has no standards for driver education curriculum content. However, ensuring that all youth participate in a high-quality formal driver education program is viewed by the community as a key to long-term safe driving by all age groups. Every young driver who has solid driving skills and knowledge carries those skills forward for a lifetime. The younger population should be targeted to become an example for society of good driving behavior.

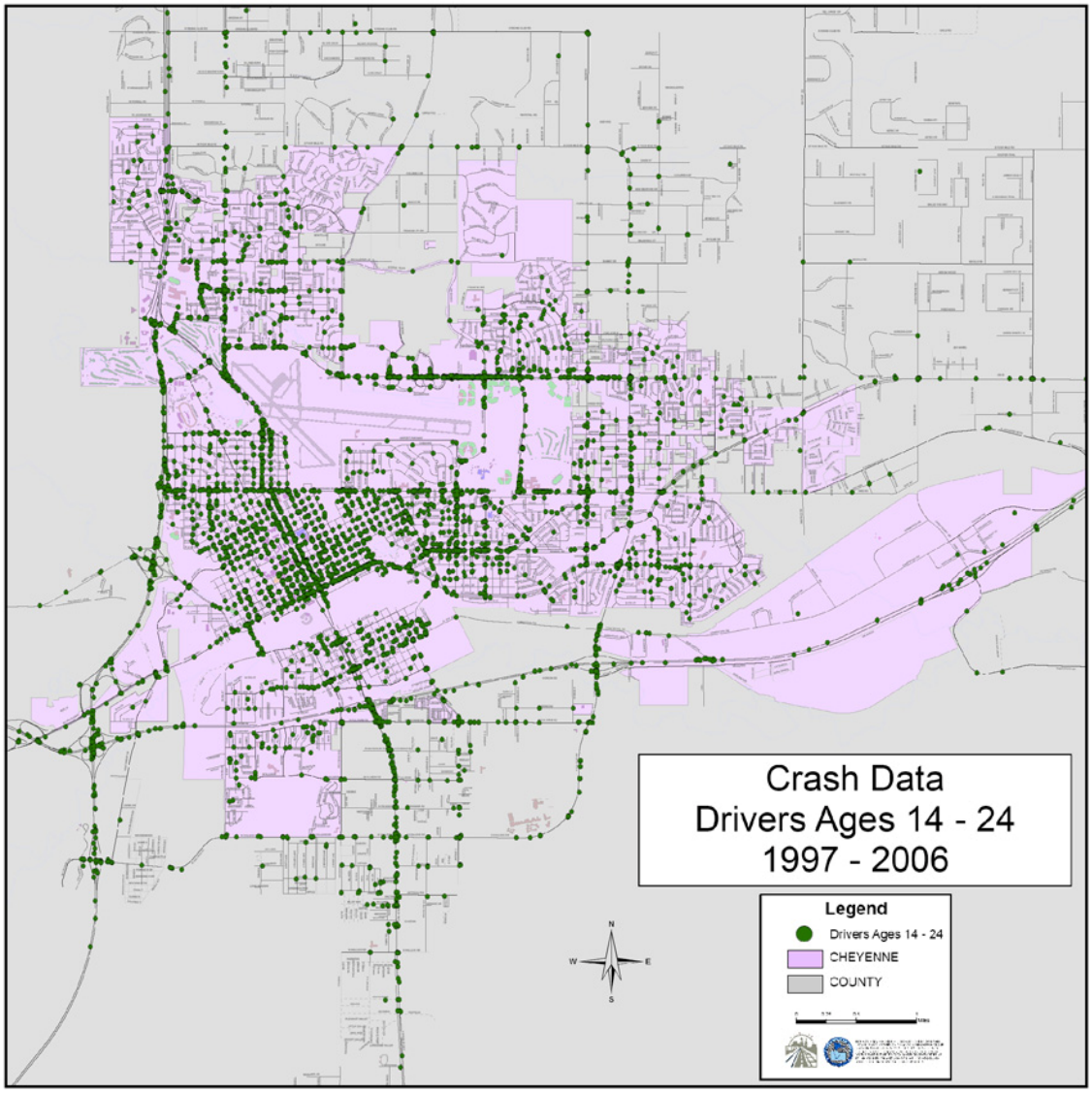
Parental involvement in young driver training is critical and is encouraged by the GDL program. However, parents often do not monitor their children's activities closely enough and do not fully understand the consequences of allowing youth to drink, thinking it is "a right of passage." A law was recently passed, however, that fines parents who host a party where underage drinking is permitted. Locations of younger driver crashes are shown in Figure 5.5.

Cheyenne Data

- Thirty-seven percent of fatal and injury crashes involved drivers ages 14 to 20.
- Sixteen of 19 fatal young driver crashes involved males.
- Nearly one-half of fatal crashes occurred in the early morning hours between midnight and 6:00 a.m.
- For seven out of 19 young drivers in fatal crashes, alcohol was a factor. Five fatal crashes involving alcohol were among those ages 21 to 24, and three fatal crashes involved those under 21.
- Driver inattention/distraction was a factor for 412 young drivers in injury crashes and for four young drivers in fatal crashes.

[1] *Teen Crashes – Everyone is at Risk*, AAA.

Figure 5.5 Younger Driver Crashes
1997 to 2006



Short-Term Strategies

- Conduct stronger enforcement of GDL.
  - Assist law enforcement by helping them identify drivers in the GDL program; and
  - Focus on enforcing passenger restrictions.

Parent Involvement

An important component of both driver education and graduated driver licensing laws is the active involvement of parents. Most parents care about their children and are concerned about their health and well being. However, when it comes to driving there appears to be some level of ambivalence. Parents are concerned about the risks of driving, but want to reduce the time they spend transporting teens. There also appears to be a perception that their teenage children are generally responsible.

National Institute of Child Health and Human Development

- Improve and increase parent education.
  - Develop materials on topics such as selecting a safe vehicle. Provide Practice Logs for parents and teens and utilize parent-child contracts.
- Conduct school-based education and incentive programs.
  - Implement innovative programs based on safety data such as linking academic performance to driving freedoms. Replicate the program that prohibits high school parking privileges to sophomores with grade point averages below a specified level;
  - Increase the use of peer education programs; and
  - Continue Alive at 25, Change Attitudes Now (CAN), and the First Lady's Initiative.
- Develop teen/peer solutions, use positive role models, keep information credible, and use youth to get the message across.

Mid-Term Strategies

- Increase the number of individuals participating in formal driver education training.
  - Make driver education training mandatory; and
  - Offer incentives for participating in driver education courses and conduct courses in the summer.

SAFE*Guard* is a Maine law enforcement effort to create a police-parent partnership through better communication for early intervention to prevent teen drivers and teen vehicle occupants from being killed and injured in motor vehicle crashes. Parents of teens may be notified by police when teen drivers and passengers are engaged in unsafe, high-risk behavior, i.e., speeding, failing to use seat belts, aggressive driving, and the use of alcohol and other drugs.

- Improve the content of driver education courses.
  - Use simulators and provide for more road time to develop experience;
  - Add information on the risks of distraction and make information relevant to teens through use of shock factors to capture teens' attention (e.g., graphic photographs);
  - Communicate consequences of poor driving choices;
  - Use mental anchors in teaching (e.g., the time to cover a 100 yards when two cars are both going 60 mph in opposite directions is three seconds);
  - Explore use of new technologies for monitoring/educating young drivers; and
  - Consider MADD as a partner in developing programs aimed at young drinking drivers.

Long-Term Strategy

- Consider prohibiting cell phone use by young drivers, potentially via the GDL program or via a Statute.

Graduated Driver Licensing

A study conducted by the Johns Hopkins University found states with comprehensive graduated driver licensing programs experienced reductions in fatal crashes rates of 16 to 21 percent. Comprehensive programs include a minimum age for a learner's permit; a mandatory waiting period before an application can be made for an intermediate license; a minimum number of supervised driving hours; a minimum age for intermediate license; nighttime and passenger restrictions; and a minimum age for full licensing.

Johns Hopkins University
Bloomberg School of Public Health, 2006

6. Implementation

The Transportation Safety Management Plan is the culmination of thoughtful contributions by many committed individuals in greater Cheyenne and throughout the State. During the TSMP process, a group of safety stakeholders was engaged, key transportation safety needs in Cheyenne were identified, stakeholder collaboration was initiated, reviews of existing safety programs were conducted, and new strategies were identified. However, the development of a safety plan is only the initial step in making real improvements to safety on Cheyenne's roadways.

Implementation of the plan requires a sustained commitment to the safety process. The goal is to maintain the momentum achieved at the Summit and bring safety strategies to fruition. The six emphasis area teams formed at the Summit should be retained and each group should identify leadership for the long-term. These teams will continue their focus on their respective emphasis areas and develop the detailed steps for implementation.

Team leaders should convene additional group meetings to review and refine the strategies, define tactics for implementation, identify responsible agencies/individuals to lead the implementation of tasks, define process measurements, and determine performance measurements.

The safety effort will require champions to drive the process and to ensure that progress is measured, both in terms of executing the strategy and measuring its impact on safety. Oversight of the process by the MPO will be critical. A good option to carry out the safety plan is to ensure the safety function is formalized, either through making the Transportation Safety Advisory Committee a formal MPO committee, or by addressing safety more formally within one of the MPOs technical committees. Therefore, safety will be further integrated as a core function of the MPO and will be monitored on an ongoing basis. As safety implementation moves forward, refinement will occur and the process will improve. By staying focused on the safety goal for 2020 many lives will be saved and individuals spared serious pain and injury.

Appendix A

Transportation Safety Advisory Committee Members

Don Beard, Laramie County Public Works
Nathan Beauheim, City of Cheyenne Traffic Engineer
Matt Carlson, WYDOT Highway Safety
Sreyoshi Chakraborty, Cheyenne MPO
Lt. Glen Crumpton, Laramie County Sheriff's Department
Bart Evans, Wyoming Technology Transfer Center
Linda Fleming, Wyoming-Montana Safety Council
Alfrieda Gonzales, Laramie County Community Partnership
Paul Harker, FHWA
Darren Horstmeier, F.E. Warren AFB
Perry Jones, WYDOT Highway Patrol
Khaled Ksaibati, Wyoming Technology Transfer Center
Gary Kranse, Laramie County Planning Department
Ken Lewis, City of Cheyenne Planning and Development
Gus Lopez, Cheyenne Laramie County Health Department
Gary Lowe, Federal Motor Carrier Safety Administration
Kim Maes, Cheyenne Housing Authority, Senior Center Representative
Tom Mason, Cheyenne MPO
Carol Matteson Pascal, Representative of Greenway Advisory Committee
Kevin McCoy, WYDOT
Mark Munari, Cheyenne Police Department
Phyllis Sherard, Cheyenne Regional Medical Center
James Sims, Cheyenne MPO
Jan Spires, Urban Planning
Dave Thompson, EMS Laramie County
Jeff Wiggins, Cheyenne Parks and Recreation

Appendix B

Transportation Safety Summit Attendees

January 31, 2008
Little America Hotel
Cheyenne, WY

Matt Ashby, City of Cheyenne
Pat Bates, Senior Center
Pamela Beer, Cambridge Systematics
Nathan Beauheim, City of Cheyenne
Guy Cameron, City of Cheyenne Fire Department
Matt Carlson, WYDOT Highway Safety Program
Kerry Casner, WYDOT Driver Services
Sreyoshi Chakraborty, Cheyenne MPO
Joe Chenchar, Mayor's Youth Council
Rob Cleveland, Cheyenne/Laramie County Emergency Management Agency
Gary Coe, NHTSA
Nancy Coyle, WYDOT Driver Services
Kent Davis, Cheyenne Police Department
Baylie Davis, Tribune Eagle
Terry Dimon, Cheyenne Regional Medical Center
Don Edington, WYDOT Driver Services
Bob Fecht, Cheyenne Police Department
Lorie Graham, Mountain West Farm Bureau Insurance
Jay Guerin, Cheyenne Greenway Advisory Committee
Paul Harker, FHWA
Darren Horstmeier, F.E. Warren AFB
Diane Humphrey, Laramie County Commissioner
Mike Hutton, Wyoming Trucking Association
Rita Inoway, AARP
Perry Jones, Wyoming Highway Patrol
Jeff Ketcham, Laramie County Commissioner
Martin Kidner, WYDOT
Bill King, AARP
Ryan Kolb, Mayor's Youth Council
Jack Knudson, Laramie County Commissioners
Gary Kranse, Laramie County Planning

Roy Kroeger, Cheyenne/Laramie County Health Department
Gus Lopez, Cheyenne/Laramie County Health Department
Stephanie Lucero, WYDOT Highway Safety Program
Kim Maes, Cheyenne Housing Authority
Terry Martin, Driver's ED, Central High
Tom Mason, Cheyenne MPO
Kevin McCoy, WYDOT Planning
Sam Mirich, East High School
Mark Munari, Cheyenne PD
Jim Olsen, Cheyenne PD
Nancy Olson, Cheyenne MPO
Jeff Pallak, City of Cheyenne Fire Department
Dale Pawling, City of Cheyenne Fire Department
Dee West Peterson, WYDOT Highway Safety Program
Mario Ramos, NHTSA
Juliette Rule, Department of Family Services
Alfonso S. Sanchez, Senior Center
Luke Seebaum, Mayor's Youth Council
Phyllis Sherard, Cheyenne Regional Medical Center
Dave Simkins, City of Cheyenne Fire Department
James Sims, Cheyenne MPO
David Sneed, Wyoming Montana Safety Council
Jan Spires, City of Cheyenne
Matt Strannigan, Central High School
David Thompson, Cheyenne/Laramie County Emergency Management Agency
Roxanne Vigil, Mayor's Youth Council
Audrey Wennink, Cambridge Systematics
Tim Woodard, Drivers ED, East High School
Ashley Woods, East High School

Approved as to form only
7-8-08

RESOLUTION NO. 5056

ENTITLED: "A RESOLUTION TO SUPPORT AND ADOPT THE RECOMMENDATIONS OF THE CHEYENNE TRANSPORTATION SAFETY MANAGEMENT PLAN".

WHEREAS, the Cheyenne Transportation Safety Management Plan dated July, 2008 and prepared by Cambridge Systematics included the analysis of existing crash data and recommendations to reduce crash rates in Cheyenne in the future; and

WHEREAS, the Cheyenne Metropolitan Planning Organization is designated as the lead agency to manage and coordinate the plan; and

WHEREAS, the Cheyenne Metropolitan Planning Organization is one of the first MPOs in the nation to develop a Transportation Safety Management Plan as per the guidelines set forth in SAFETEA-LU; and

WHEREAS, over the past 20 years, 108 people have died and 11,720 have been injured on Cheyenne roadways; and

WHEREAS, a Transportation Safety Advisory Committee was formed to guide the development of the plan which included several agencies working for transportation safety; and

WHEREAS, the Transportation Safety Advisory Committee identified a mission of eliminating all preventable deaths and injuries that are traffic related; and

WHEREAS, six transportation safety emphasis areas were developed including impaired drivers, occupant protection, young drivers, old drivers, intersections and hazardous locations, and distracted drivers; and

WHEREAS, a Transportation Safety Summit was held during the planning process on January 31st, 2008 to involve safety stakeholders in developing recommendations for each emphasis area; and

WHEREAS, short, medium and long term recommendations to reduce crash rates for each emphasis areas were developed in the plan.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF CHEYENNE, WYOMING:

That the City of Cheyenne Governing Body supports and adopts the recommendations of the Cheyenne Transportation Safety Management Plan.

BE IT FURTHER RESOLVED that the Governing Body will work with and support the Wyoming Department of Transportation, Laramie County, Cheyenne City Departments and

other agencies involved with the "4 E's" of safety (Education, Engineering, Enforcement, and Emergency Medical Services) to implement and fund the recommendations of this plan to reduce crashes and fatalities within each emphasis area of the plan.

BE IT FURTHER RESOLVED that the Governing Body recommends that the Cheyenne MPO, through the Transportation Safety Advisory Committee, continue to work on the implementation of this plan in the future and monitor the progress of the plan.

BE IT FURTHER RESOLVED that the Governing Body recommends that the Cheyenne MPO and the City of Cheyenne pursue available Grants to help implement transportation safety programs to reduce traffic related deaths and injuries in Cheyenne.

PRESENTED, READ AND ADOPTED THIS 28th DAY OF July, 2008.

Jack Spiker, Mayor

(Seal)

ATTEST:

Carol A. Intlekofer, City Clerk