Priority Level Two

Washington State 2009-2011	Fatalities Number	Fatalities % of Total	Serious Injuries Number	Serious Injuries % of Total
Priority Level Two				
Unrestrained Vehicle Occupants	348	24.8%	764	10.5%
Unlicensed Driver Involved	253	18.0%	n/a	n/a
Opposite Direction	221	15.7%	702	9.7%
Motorcyclists	206	14.7%	1,230	17.0%
Pedestrians	193	13.7%	869	12.0%
EMS and Trauma Care Systems	**	**	**	**
Total*	**1,406**		**7,247**	

** "Total" is for all fatalities and serious injuries in Levels One, Two and Three combined. More than one factor is commonly involved in fatal and serious injury collisions. Therefore, each fatality and serious injury in "Total" may be represented multiple times in the Level tables. For the Target Zero Priorities Chart with all three priority levels, see page 9.*

Unrestrained Vehicle Occupants

Executive Summary

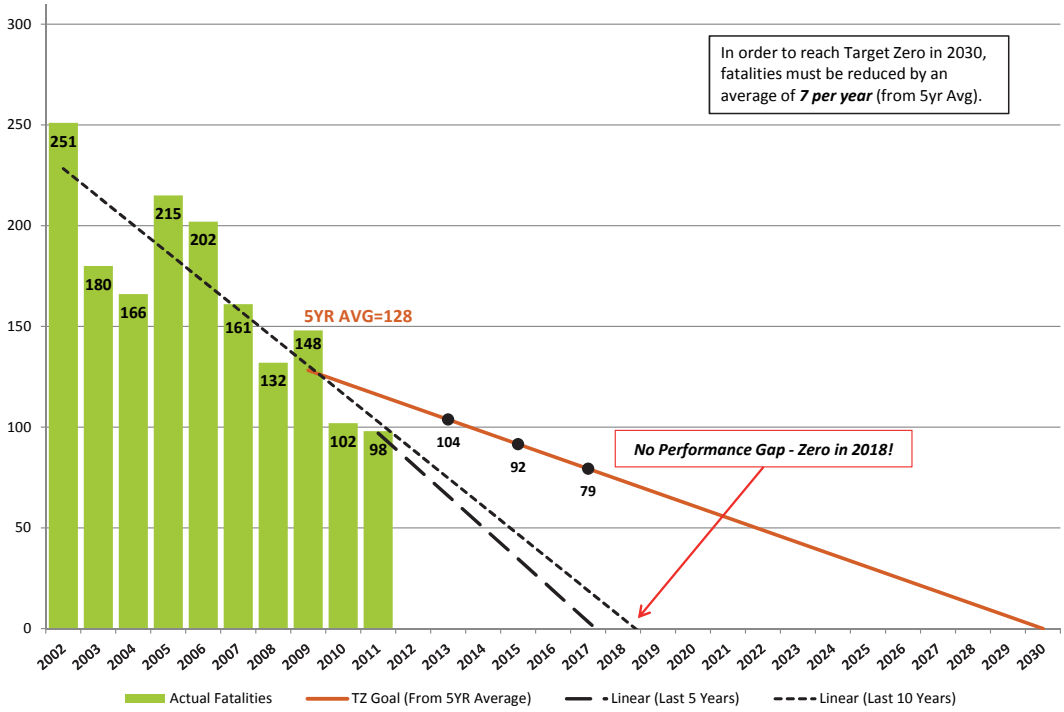
Washington has consistently been a national leader on seat belt use. Since the adoption of Click it or Ticket, and the primary enforcement seat belt law in 2002, Washington has had one of the highest rates of seat belt use in the country. Strong support from the law enforcement community, aggressive efforts to publicize seat belt patrols and assistance from Target Zero Managers in 22 local areas provide the backbone of this success. These efforts have done more to reduce traffic fatalities and serious injuries than any other behavioral project to date.

In Washington in 1986 seat belt use was at 36%. In 2012 it was at an astonishing 96.9%.

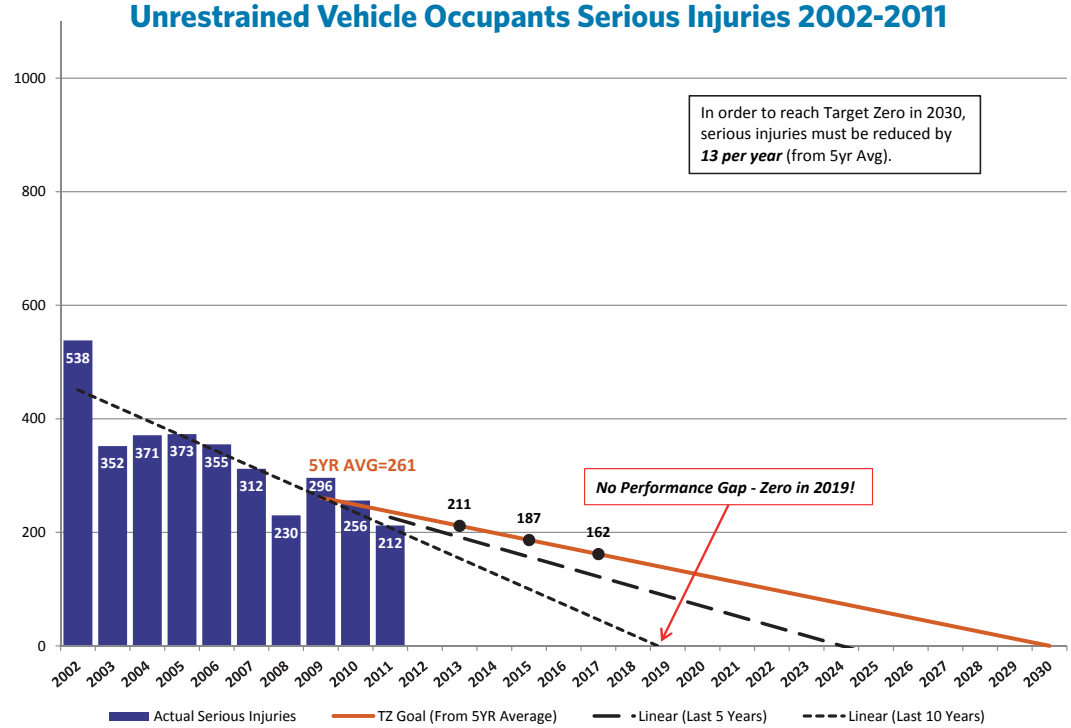
Unrestrained vehicle occupant fatalities were reduced by 29.7% in 2009-2011. However, fatality reductions for children in the 2009-2011 time period did not see the same considerable improvement.

Car collisions are the number one killer of children 1 to 12 years old in the United States.

Unrestrained Vehicle Occupants Fatalities 2002-2011



Unrestrained Vehicle Occupants Serious Injuries 2002-2011



Background

Fatalities and serious injuries resulting from unrestrained vehicle occupants have been steadily declining. In 2009-2011, unrestrained vehicle occupant fatalities decreased by 29.7% and serious injuries decreased by 14.8%, compared with 2006-2008. These types of declines in unrestrained vehicle passenger death and serious injury have been consistently occurring since the primary seatbelt law was passed in 2002, allowing an officer to stop a vehicle and issue a citation when they observe an unbuckled driver or passenger.

Washington's first seat belt law was adopted in 1986. It was a "secondary" law, meaning an officer couldn't stop a motorist for the offense, but could issue a citation if the motorist was stopped for a primary infraction such as speeding, a burned out tail light out or expired tabs. At that time the first survey was undertaken to measure and document seat belt use in the state. It showed a 36% seat belt use rate.

The observational survey has been repeated every year since, following the same design and methodology. The 2012 results showed an astonishing seat belt use rate of 96.9%. This number represents 6,683,204 Washington motorists buckled up. Despite these gains, the majority of unrestrained vehicle occupant deaths are coupled with other high risk behaviors, such as impairment and speeding.

Children

In 1971, the federal government established minimum standards for child safety seats and Washington adopted a child passenger safety law in 1983. It has since undergone numerous modifications and upgrades. According to the current law, children must ride in correct child restraints up to age eight, unless the child is 4'9" tall or taller. Children who are age eight or older, or 4'9" tall and taller, shall be properly restrained with the seatbelt properly adjusted and fastened -OR- continue using a child restraint system. Children under age thirteen must ride in a back seating position when practical to do so. (see inset box for further details).

Child safety seats reduce the risk of death in passenger vehicles by 71% for infants and by 54% for toddlers. Washington State collision data shows that children who incur either minor injuries or none at all in collisions are appropriately restrained at least 86% of the time. Despite the effectiveness of proper use of child restraints and adherence to Washington's strong child restraint law, many children are either not restrained or are incorrectly restrained. These children are at risk for injury or death.

Washington Child Restraint Law

RCW 46.61.687 covers all passengers under 16 years of age

- A child must be restrained in a child restraint system: if the passenger seating position equipped with a safety belt system allows sufficient space for installation, until the child is 8 years old, unless the child is 4 feet 9 inches or taller. The child restraint system must comply with standards of the U.S. Department of Transportation and must be secured in the vehicle in accordance with instructions of the vehicle manufacturer and child restraint manufacturer.
- A child who is 8 years of age or older or 4 feet 9 inches tall or taller: shall be properly restrained with the motor vehicle safety belt properly adjusted and fastened around the child body or an appropriately fitted child restraint system.
- The driver of a vehicle transporting a child who is under 13 years old: shall transport the child in the back seat positions in a vehicle where it is practical to do so.
- Does not apply to: 1) for hire vehicles, 2) vehicles designed to transport 16 or less passengers (including the driver) operated by transportation companies as defined in RCW 81.68, 3) vehicles providing shuttle service between parking, convention and hotel facilities and airport terminals, and 4) school buses.
- Required to use a booster seat: does not apply to any seat position where there is only a lap belt available and the child weighs more than 40 pounds.

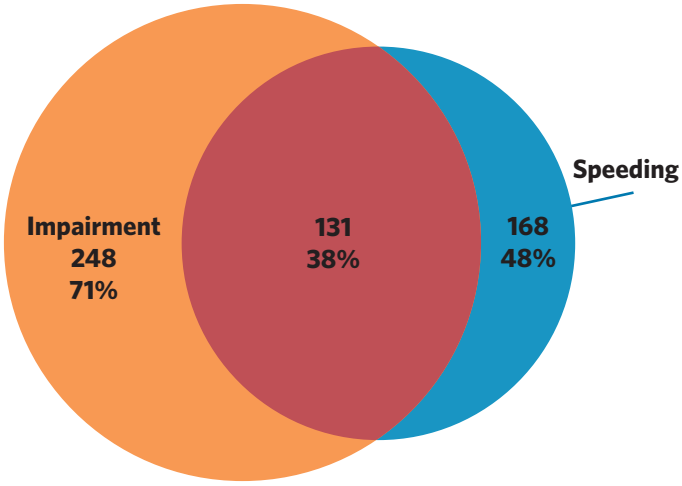
Contributing Circumstances and Factors

The majority of unrestrained vehicle occupant deaths are coupled with other high risk behaviors such as impairment and speeding. In 2009-2011, impairment was a factor in 71% of unrestrained vehicle occupant deaths and speeding contributed to 48%. Combined, speeding and impairment contributed to 38% of these deaths.

The collision death rate at night is at least three times higher than during the day. Seat belt use typically declines at night: it's often 6 to 8 percentage points lower at night than during the day. There are also more impaired driving deaths at night. From 2009-2011, 64% of unrestrained occupant deaths and 62% of unrestrained occupant serious injuries occurred at night (6 p.m. - 5:59 a.m.). Among unrestrained occupant deaths occurring at night, over 80% also involved impairment.

Additionally, based on National Highway Traffic Safety Administration (NHTSA) evaluation of a Washington nighttime seat belt project, people driving unbuckled at night have worse driving and criminal histories, more tickets and collisions on their driving records, and a greater likelihood of having violent criminal histories. Night unbelted drivers were found to be 2.7 times more likely than day-belted drivers to have a felony arrest on their criminal records and three times more likely to have an alcohol citation on their driving records.

Unrestrained Vehicle Occupant Fatalities
Total = 348



Of the 348 unrestrained vehicle occupant fatalities 2009-2011, 71% also involved impairment and 48% involved speeding. Combined, 38% of these fatalities involved both impairment and speeding.

Programs and Successes

Click It or Ticket

The Click it or Ticket (CIOT) program is a high visibility enforcement model involving law enforcement and publicity mobilizations. The effort begins with aggressive publicity to inform people that law enforcement will be ticketing seat belt law violators. This is followed by enforcement patrols statewide. Publicity efforts include public service announcements, paid advertising and encouragement of news media to cover the issue.

Additional opportunities are identified by the county level traffic safety program managers (called Target Zero Managers) located in 22 communities statewide. Banners, posters, flyers, law enforcement ride-alongs, press events to encourage media publicity, rented and borrowed variable message road signs, and other street level signage are all samples of the kinds of additional publicity the Target Zero Managers have obtained to increase exposure to the CIOT message at the community level.

The Washington Department of Transportation (WSDOT) has been an important partner in this effort with road signs on 125 freeways and highways across the state advertising CIOT during the mobilization periods. They also helped with the placement of 625 permanent signs along highways, county roads and city streets.

Seat Belt Patrols during Nighttime Hours

In Washington, about the same number of traffic deaths occur during the daytime hours as at night, even though traffic volumes at night are only 12-15% of what they are during the day.

In late 2005, the Washington State Patrol (WSP) developed a plan to conduct a nighttime seatbelt emphasis patrol. Before patrols began, baseline observational surveys were conducted during the day and at night using special night vision goggles. The findings were consistent with research conducted in other areas of the USA: nighttime seat belt use was 5% lower. The most pronounced difference was on Saturday night when it was 9% lower than during the daytime hours.

The first nighttime seatbelt emphasis patrol (Vancouver, WA) consisted of a stationary officer observing unbuckled motorists and then notifying strategically parked officers who made the stop. In just a four hour period, on a Wednesday from 6 – 10 p.m., one WSP Sergeant (observer) and four WSP Troopers (chase cars) generated the following activity:

- 41 total contacts
- 29 seatbelt violations
- 1 DUI arrest
- 6 drug arrests
- 2 warrant arrests (1 felony/1 misdemeanor)
- 5 suspended driving arrests
- 6 uninsured motorist infractions
- 2 stolen vehicle recoveries

In 2006, the WTSC received a pilot grant from the National Highway Traffic Safety Administration to develop a seat belt promotional program targeting motorists who travel at night. The demonstration project involved two large-scale, statewide CIOT style mobilizations, along with smaller "sustained enforcement" projects: May 2007, October 2007, and May 2008.

Results showed people driving unbuckled at night had more: 1) driving and criminal histories, 2) tickets and collisions and 3) violent criminal histories. Notably, night unbelted drivers were 2.7 times more likely than day-belted drivers to have a felony arrest on their criminal records and three times more likely to have an alcohol citation. Based on the results of this program, the WTSC continues to promote annual nighttime-focused seat belt patrols.

Comprehensive Child Passenger Safety Program

Washington's comprehensive child passenger safety program is under the supervision of a project manager housed at the Bonney Lake Police Department. Under the new leadership, a grant process has been established and utilized to support child passenger safety efforts at the local level. The network of active members includes 22 Target Zero Traffic Safety Task Forces, 18 SafeKids Coalitions, and seven community child passenger safety teams. See the box on page 94 for Washington's Child Restraint Law (RCW 46.61.687) which covers all passengers under 16 years of age.

Grant funding is available to a qualifying school, government agency, or 501(c)(3) nonprofit that provides child passenger safety efforts intended to reduce the number of deaths and serious injuries to children resulting from traffic collisions on Washington roads. They must be able to demonstrate their commitment to child passenger safety and ensure efficient and effective management of funds.

This program also supports retention and recruitment of nationally certified child passenger safety technicians (CPSTs) and the statewide child restraint inspection stations. The project manager provides consistent communication of opportunities for Child Passenger Safety Technician courses, continuing education unit (CEU) training opportunities, available resources for conducting required seat sign-offs for recertification and funding to accomplish these activities.

In support of the Child Restraint Law, visual inspections by law enforcement help determine if the child restraint system in use is appropriate for the child's individual height, weight and age; children under 13 years are in appropriate seating positions; and restraints are being used in accordance with the instructions of the vehicle and the child restraint system manufacturers. A violation notice is issued for non-compliance.

However, if proof of acquisition of an approved child passenger restraint system or a child booster seat, as appropriate, is presented within seven days, and the person has not had a violation of this type previously dismissed, the jurisdiction shall dismiss the notice of traffic infraction.

A CIOT-style child car seat program pioneered by WTSC resulted in a significant increase in proper child restraint use, increased education and awareness in relation to child passengers, provided training of police officers and increased enforcement of the child restraint law.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
1. Strengthen efforts to increase compliance, enforcement, and adjudication of the seat belt and child restraint laws	1.1 Identify population groups with lower than average restraint use rates and provide enhanced public education targeted at these groups. (P, NCHRP)	Education
	1.2 Implement communications, outreach, and enforcement campaigns directed at groups/areas where restraint use is lowest, particularly rural areas. (P, CTW)	Education, Enforcement
	1.3 Engage and collaborate with all levels of law enforcement to effectively carry out high-visibility communications, outreach, and enforcement of seat belt use, such as the Click It or Ticket campaign. (P, CTW)	Education, Enforcement
	1.4 Promote nighttime patrols during the May Click it or Ticket statewide seat belt mobilization. Combine short-term, high-visibility seat belt use enforcement with nighttime enforcement programs. (P, CTW)	Enforcement
	1.5 Implement "Click It or Ticket-style" child car seat short-term, high-visibility enforcement campaigns. (P, CTW)	Education, Enforcement
	1.6 Encourage law enforcement and other emergency responders to adopt seat belt use policies for their employees. (R, NHTSA)	Education, Leadership/ Policy, EMS
	1.7 Promote car seat awareness and instruction classes in diverse community locations targeting child transport agencies, hospitals, daycare centers, PTAs, parent workplace, and counties with a Target Zero Task Force, SafeKids Coalition or local CPS team. (R, NCHRP)	Education
	1.8 Engage and educate prosecutors and judges about the importance of restraint programs, enforcement, and adjudication of these violations. (R, NHTSA)	Education, Enforcement
	1.9 Collaborate with WA's Criminal Justice Training Commission and the WA State Patrol Academy to conduct trainings for new law enforcement officers and seasoned officers on Washington's child restraint law, increasing comfort level for spotting and citing violations. (R, NCHRP)	Education, Enforcement
	1.10 Promote child restraint distribution programs including redistribution of previously owned child restraints. (U)	Education

Continued on next page.

Continued from previous page

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
2. Promote legislative and policy efforts to promote restraint use	2.1 Undertake policy and educational efforts to require proper restraint use by people who transport foster children and Medicaid transports. (R, ABACCL)	Leadership/Policy
	2.2 Enact law to make it illegal to transport unrestrained humans in the back of pickup trucks. (R, IIHS)	Leadership/Policy
	2.3 Explore the feasibility and effectiveness of using photo enforcement to increase seat belt compliance. (U)	Enforcement
	2.4 Strengthen CPS law with a legislative change to add $25 administrative fee for violators to fund CPS efforts, or allow local governments to initiate the change. (U)	Leadership/Policy
3. Maintain and support the statewide network of child passenger safety technicians	3.1 Establish CPS Team Leaders in every county/major city to coordinate and lead local efforts. Work collectively with Washington's Target Zero Task Forces, SafeKids Coalitions, and local child passenger safety teams. (R, WTSC)	Leadership/Policy
	3.2 Explore options for gaining a measure of statewide child restraint use, such as expanding the annual seatbelt observation survey to include observations of child restraint use. (R, DDACTS)	Leadership/Policy
	3.3 Continuously monitor fatality and serious injury collision data involving unrestrained or improperly restrained child passengers to help direct geographic/demographic areas of focus. (R, DDACTS)	Education
	3.4 Convene a group of CPS stakeholders from different disciplines and areas of the state to participate in product review, media efforts, trainings, and local project implementation. (U)	Leadership/Policy
	3.5 Support opportunities for child car seat inspection events, CPS Technician certification courses, and recertification of technicians. (U)	Education
	3.6 Establish a database to collect all of Washington's car seat inspection data. Analyze information received to determine major misuse issues; share with statewide CPS network; incorporate findings into media campaigns. (U)	Education

Continued on next page.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
4. Increase visibility of child passenger safety issues in Washington	4.1 Provide access to appropriate information, materials, and guidelines for implementing media and programs to increase child passenger safety. (U)	Education
	4.2 Develop and implement media campaigns targeting major misuse issues in Washington State; currently booster age children and riding in the front seat. (U)	Education
	4.3 Look for ways to offer positive reinforcement to parents correctly transporting children. (U)	Education

P = Proven **R = Recommended** **U = Unknown**

ABACCL = American Bar Association Center on Children and the Law
CTW = Countermeasures That Work
DDACTS = Data Driven Approaches to Crime and Traffic Safety
IIHS = Insurance Institute for Highway Safety
NCHRP = National Cooperative Highway Research Program
NHTSA = National Highway Traffic Safety Administration
WTSC = Washington Traffic Safety Commission

Additional Resources

2011 Washington State Collision Data Summary (Washington State Department of Transportation), http://www.wsdot.wa.gov/mapsdata/collision/pdf/Washington_State_Collision_Data_Summary_2011.pdf

2012 Certification Program Accomplishments (National Child Passenger Safety Certification), http://cert.safekids.org/

2012 Global Activity Report (SafeKids Worldwide), http://www.safekids.org/worldwide/news/Safe-Kids-2012-Global-Activity-Report.html

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition, Chapter 2 (National Highway Traffic Safety Administration), http://www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf

Evaluation of the First Year of the Washington Nighttime Seat Belt Enforcement Program (National Highway Traffic Safety Administration), http://www.nhtsa.gov/staticfiles/nti/pdf/811295.pdf

Unlicensed Driver Involved

Executive Summary

From 2009-2011, 18% of all fatalities involved a driver who was unlicensed. Unlicensed driver involved fatalities are showing a significant decline, as represented by the recent five-year trend. Unlicensed drivers involved in fatalities have declined 28% compared with 2006-2008.

Background

From 2009-2011, 14.4% of all drivers involved in fatal collisions were unlicensed, contributing to 18% of total fatalities. Among unlicensed drivers involved in fatal collisions, 78% were driving with a suspended license.

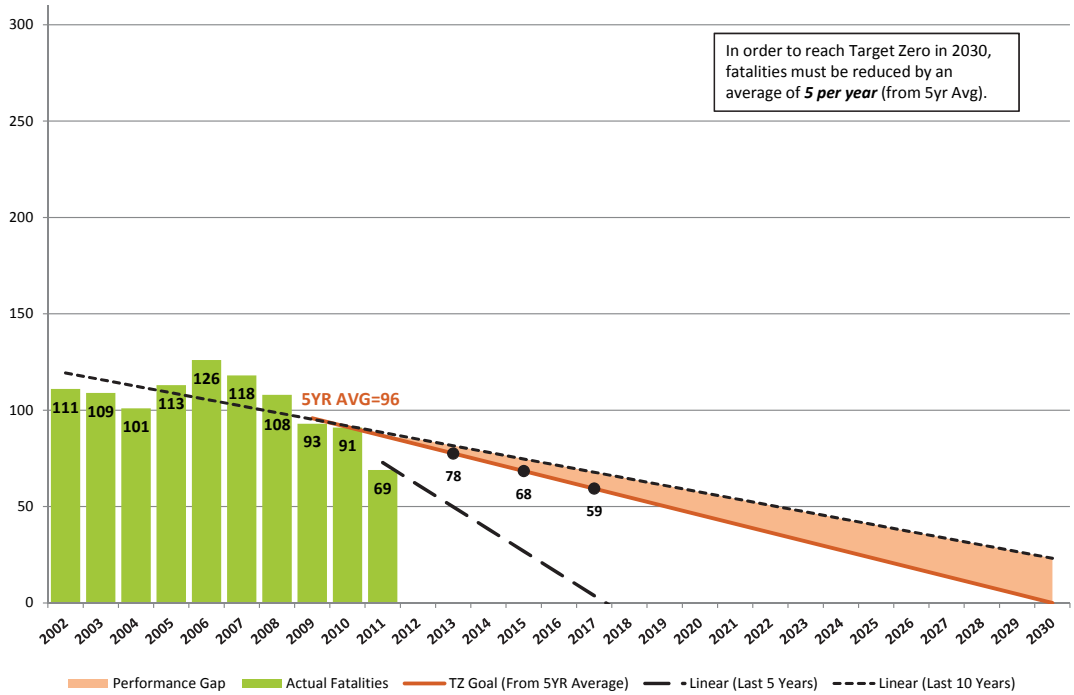
Driving while suspended seems to be on the rise. From 2006-2008, 62% of unlicensed drivers involved in fatal collisions had suspended licenses. In addition to suspensions, unlicensed drivers also include those having no license or an expired license, a revoked license, or issuance of a license refused or canceled. License status of unlicensed drivers involved in fatal crashes 2009-2011 were as follows:

- No license or expired license, 50 (21.4%)
- Suspended/revoked license, 184 (78%)

Seventy-five percent of unlicensed drivers involved in fatal crashes were also impaired.

Impairment and speed remain problematic among unlicensed drivers. Based on the prevalence of these additional factors in fatal crashes involving unlicensed drivers, applying strategies aimed at those contributing factors may reduce unlicensed driver involved deaths and serious injuries. However more also needs to be done on the challenging task of keeping unlicensed drivers off the road.

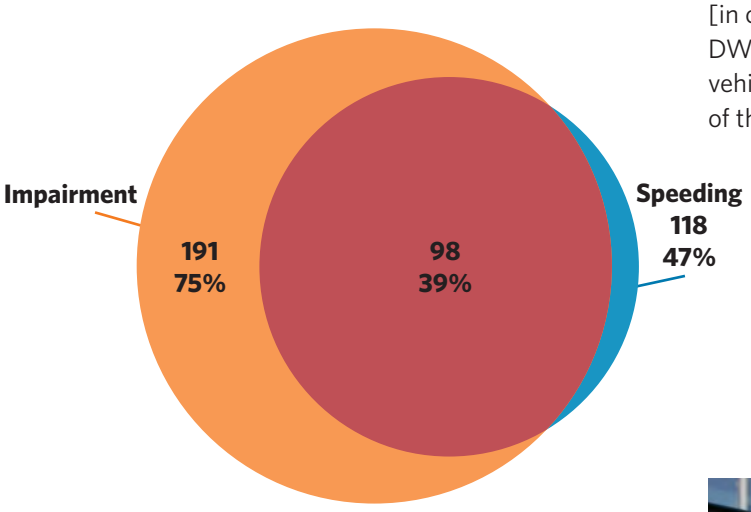
Unlicensed Driver Involved Fatalities 2002-2011



Contributing Circumstances and Factors

Among all fatalities 2009-2011 involving an unlicensed driver, 75% of these also included impairment as a contributing factor. Unlicensed drivers involved in fatal collisions have the highest rate of impairment involvement of any driver group. In addition, speeding was involved in 47% of these fatalities, and both impairment and speeding were involved in 39%.

Unlicensed Driver Involved Fatalities
Total = 253



Of the 253 unlicensed driver involved fatalities 2009-2011, 75% also involved impairment and 47% involved speeding. Combined, 39% of these fatalities involved both impairment and speeding.

These trends are concerning, clearly suggesting unlicensed drivers not only operate a vehicle knowing they do not have the legal right to do so, they also engage in other high-risk, deadly behaviors, putting themselves and innocent others in harm's way.

Unlicensed drivers are also more likely to drink excessively and then drive than licensed drivers. Among all drivers involved in fatal collisions 2009-2011, nearly 40% of unlicensed drivers had a Blood Alcohol Concentration (BAC) at twice the legal limit or higher, compared to only 13% of licensed drivers. Equally alarming, 3.5% of unlicensed drivers involved in fatal collisions had a BAC in excess of 0.3, compared to less than 1% of licensed drivers.

From 2009-2011, 52% of unlicensed drivers involved in fatal collisions were age 21-35. This age group also comprised 50% of the impaired (BAC above 0.08) unlicensed drivers involved in fatal collisions. Among unlicensed drivers with a suspended license, 57% were age 21-35.

Statistically, an unlicensed driver is more likely to be involved in a collision than a licensed driver. According to Rand's 2003 "Evaluation of the Impact of Seattle's DWLS Impound Law" prepared for the city of Seattle, people charged with Driving While License Suspended (DWLS) offenses "were more important predictors of involvement [in collisions] than gender or age." The summary reported DWLS three drivers (charged with operating a motor vehicle after their license was suspended, the most minor of the suspension violations) were 2.9 times more likely to be involved in a collision than a driver with no suspensions.

Challenges Tracking Unlicensed Driver Data and Traffic Safety Impact

Data collection is problematic for unlicensed drivers. The databases at the Department of Licensing (DOL) can provide the current status of a citizen's driving privileges, but can only determine license status retrospectively via an individual record manual review process.

In the case of fatalities, the license status review is conducted and recorded, but for the thousands of injury and non-injury collisions, it is not. This limitation makes serious injury data collection impossible, and therefore this publication does not include serious injury data for unlicensed drivers.

One area of concern that continues to grow and deserves discussion is unlicensed drivers who are licensed in another country. In the US, all states share the license status of their drivers so that if a driver is involved in a collision in Washington while suspended in another state, authorities in Washington will immediately know of the suspension. This reciprocity agreement suspends driving privilege in Washington if a driver is suspended in another state.

The problem arises when a reciprocity agreement does not exist, as is the case between the US and British Columbia (BC). Canadian drivers from BC can get a ticket in Washington and fail to pay it, but their driving privileges remain in place in BC. Washington technically "suspends" the Canadian's driving privilege in Washington, but cannot take any action unless the driver is again stopped while in Washington State.

In a 2011 review of all out-of-state drivers who have been suspended in Washington for failure to pay a ticket, 41% were from BC and 21% were from a combination of our Oregon and Idaho neighbors.

Programs and Successes

Ignition Interlock Licenses

In 2009, an interlock program was initiated to allow persons who received a DUI to legally drive during their suspension period. This is called the Ignition Interlock License (IIL). A first time offender will have a mandatory 90 day suspension period following a DUI conviction.

Data showed many people who received a DUI citation continued driving, often resulting in additional citations for driving with a suspended license. The intent of IIL is to require the person to partake in treatment programs, remain infraction free, establish support group participation, and have the ability to drive to and from work without violating the law.

Since January 2009 there have been over 35,000 IIL's issued, averaging about 7,800 per year. These people took the steps to legally retain their driving privileges during their suspension period while abiding by the rules of the IIL. This program has contributed to the reduction of unlicensed drivers on the road.

No Suspension for Failure to Appear on Non-Moving Violations

In 2013, the Washington State Legislature revised suspension criteria for Failure to Appear (FTA) violations. The previous practice of suspending driving privileges for failure to pay non-moving violations has been rescinded, leaving suspensions for FTAs only applicable to moving violations.

This change will have a two-pronged impact. The court caseloads will be lessened by eliminating a large number of DWLS 3 cases for FTA of a non-moving violation. Additionally, the recipients of non-moving violations will not run the risk of suspension for failure to pay. This will likely contribute to a reduction in unlicensed drivers.

Unlicensed Driver Definition

An "unlicensed driver" is a person who does not have driving privileges in Washington State. These include drivers who:

- Never obtained a license
- Had their license invalidated by a court of law, another state's licensing agency, or the Washington State Department of Licensing (suspension and revocation)
- Have an expired license
- Voluntarily surrendered their license
- Have a valid out of state license but had a driving incident in Washington, resulting in Washington based restrictions

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
1. Restrict mobility of unlicensed drivers through administrative actions and vehicle modifications	1.1 Mandatory incarceration period for repeat unlicensed driving offenders. (P, NCHRP)	Enforcement
	1.2 Impose electronic monitoring of repeat unlicensed driving offenders. (P, NCHRP)	Enforcement
	1.3 Expand the use of ignition interlock for drivers suspended due to a DUI. (P, CTW)	Enforcement
	1.4 Impound or destroy license plates of vehicles registered to repeat unlicensed driving offenders. (P, NCHRP)	Enforcement
	1.5 Immobilize or impound vehicles registered to repeat unlicensed driving offenders. (P, NCHRP)	Enforcement
	1.6 Allow registrations of vehicles operated by unlicensed drivers to be cancelled and license plates denoted with stickers. (P, NCHRP)	Enforcement
2. Educate public through public awareness initiatives	2.1 Provide alternative transportation and encourage reduced fares for persons without driving privileges. (P, NCHRP)	Leadership/Policy
	2.2 Emphasize administrative and criminal sanctions for unlicensed driving offenders and re-offenders. (R, NCHRP)	Education
	2.3 Expand public awareness of public transportation options. (U)	Education
3. Enhance enforcement	3.1 Standardize vehicle actions against unlicensed drivers with mandatory immobilization/impound. (P, NCHRP)	Enforcement
	3.2 Perform enhanced selective enforcement during times and in areas where unlicensed driving has been detected. (R, NCHRP)	Enforcement
	3.3 Create and distribute "hot sheets," a frequently updated list of current unlicensed drivers who live in the vicinity and distribute to area enforcement agencies. (R, NCHRP)	Enforcement, Education
	3.4 Enact laws to allow for stopping a vehicle registered to an unlicensed driver (without other cause for stop) to ensure unlicensed driver is not at the wheel. (U)	Enforcement
	3.5 Evaluate the impact of the removal of suspension for failure to appear on non-moving citations. (U)	Leadership/Policy
4. Enhancement of data gathering and reporting ability	4.1 Make system changes necessary at WSDOT and DOL to enable analysts to identify unlicensed drivers involved in serious injury collisions. (R, DDACTS)	Leadership/Policy
	4.2 Ensure routine linkage of citations to driver records so appropriate citations may be added to the collision being investigated. (R, NCHRP)	Leadership/Policy

P = Proven **R = Recommended** **U = Unknown**

CTW = Countermeasures That Work **DDACTS** = Data Driven Approaches to Crime and Traffic Safety
NCHRP = National Cooperative Highway Research Program

Additional Resources

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition (National Highway Traffic Safety Administration), http://www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf

"Evaluation of the Impact of Seattle's DWLS Impound Law" (RAND Safety and Justice Program, 2003), http://www.dol.wa.gov/about/docs/DWLSreport.pdf

NCHRP Report 500, Volume 2: A Guide for Addressing Collisions Involving Unlicensed Drivers and Drivers with Suspended or Revoked Licenses (National Cooperative Highway Research Program, Transportation Research Board), http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v2.pdf

Washington State laws (RCWs) relating to unlicensed drivers:

Restricting the Driving Privilege:
RCW 46.20.207 – Cancellation.
RCW 46.20.215 – Nonresidents – Suspension or revocation – Reporting offenders.
RCW 46.20.245 – Mandatory revocation – Notice – Administrative, judicial review – Rules – Application.
RCW 46.20.265 – Juvenile driving privileges – Revocation for alcohol or drug violations.
RCW 46.20.270 – Conviction of offense requiring withholding driving privilege – Procedures – Definitions.
RCW 46.20.285 – Offenses requiring revocation.
RCW 46.20.289 – Suspension for failure to respond, appear, etc.
RCW 46.20.300 – Extraterritorial convictions.
RCW 46.20.305 – Incompetent, unqualified driver – Reexamination – Physician's certificate – Action by department.
RCW 46.20.3101 – Implied consent – License sanctions, length of.
RCW 46.20.311 – Duration of license sanctions – Reissuance or renewal.
RCW 46.20.315 – Surrender of license.
RCW 46.20.317 – Unlicensed drivers.
RCW 46.20.320 – Suspension, etc., effective although certificate not delivered.

Driving or Using License while Suspended or Revoked:
RCW 46.20.338 – Display or possession of invalidated license or identicard.
RCW 46.20.341 – Relicensing diversion programs – Program information to administrative office of the courts.
RCW 46.20.342 – Driving while license invalidated – Penalties – Extension of invalidation.
RCW 46.20.345 – Operation under other license or permit while license suspended or revoked – Penalty.
RCW 46.20.355 – Alcohol violator – Probationary license.

Ignition Interlock, Temporary Restricted, Occupational Licenses
RCW 46.20.385 – Ignition interlock driver's license – Application – Eligibility – Cancellation – Costs – Rules.
RCW 46.20.391 – Temporary restricted, occupational license – Application – Eligibility – Restrictions – Cancellation.
RCW 46.20.394 – Detailed restrictions – Violation.
RCW 46.20.400 – Obtaining new driver's license – Surrender of order and current license.
RCW 46.20.410 – Penalty – Violation.

Opposite Direction

Executive Summary

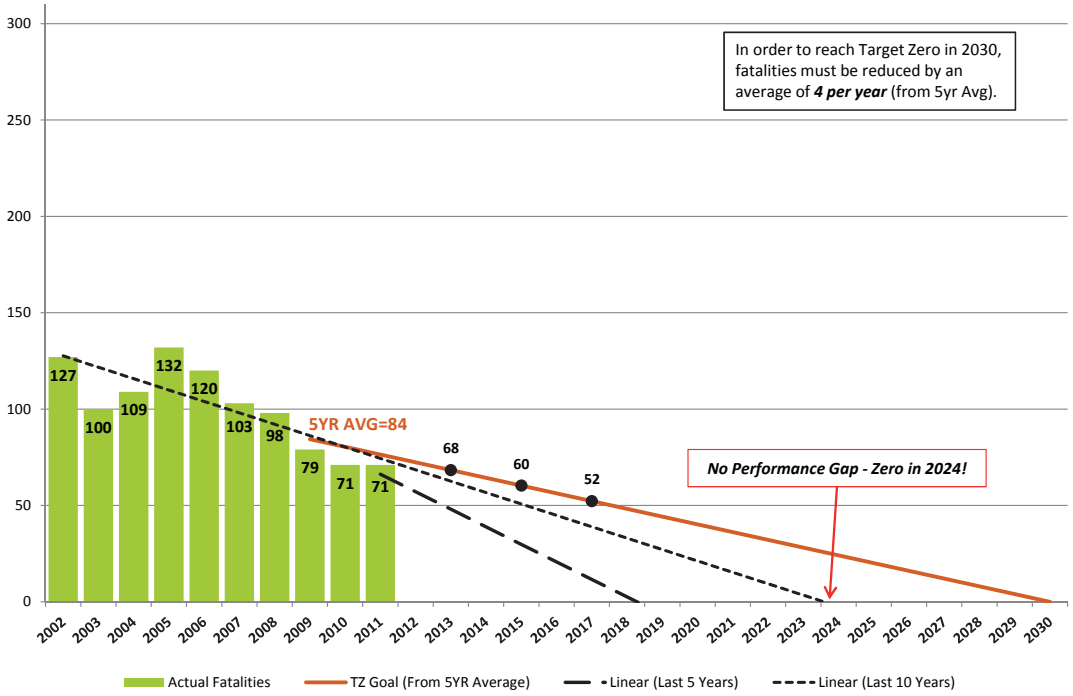
From 2009-2011, 16% of all fatalities and 10% of all serious injuries were from opposite direction collisions. The numbers are declining at a rate (22%) which will achieve our target of zero deaths or serious injuries by 2030.

Installation of rumble strips and median barriers are reducing the frequency of these collisions. Continued expansion of these efforts is needed to continue this trend.

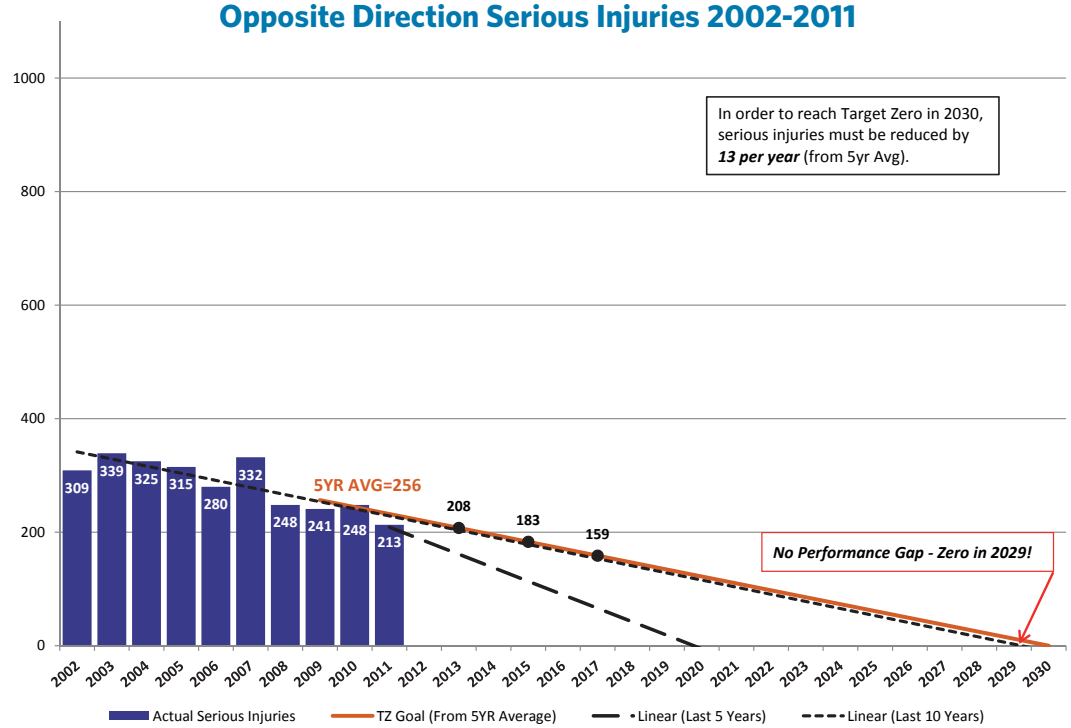
The reduction of opposite direction collisions on state highways is 2.5 times greater than the reduction on county roads. There was a decrease of 30% on state routes (31% for fatal collisions and 24% for serious injury collisions) compared to a decrease of only 12% on county roads (28% decrease in fatal collisions and a 2% increase in serious injury collisions). These numbers are derived from comparing 2009-2011 to 2006-2008. The greater decrease on state routes is likely a factor of the comprehensive coverage (more than 1,400 miles) of center line rumble strips installed on these roads in the past decade.

Opposite direction collisions are declining more quickly on state routes (30% decrease) than on county roads (12% decrease).

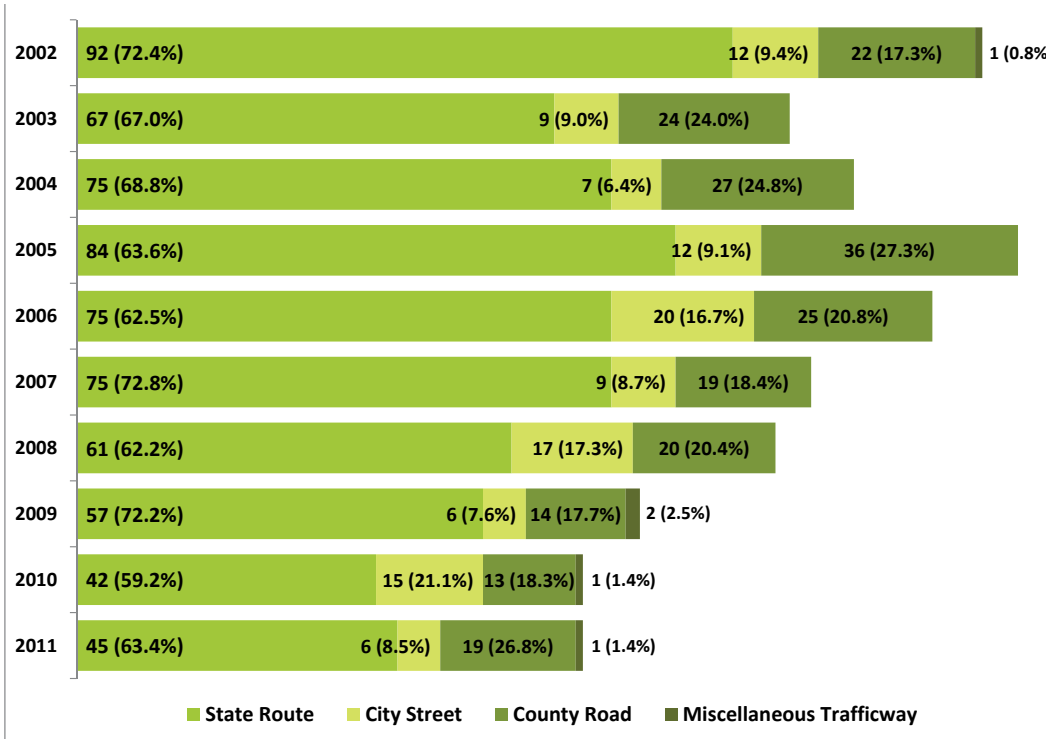
Opposite Direction Fatalities 2002-2011



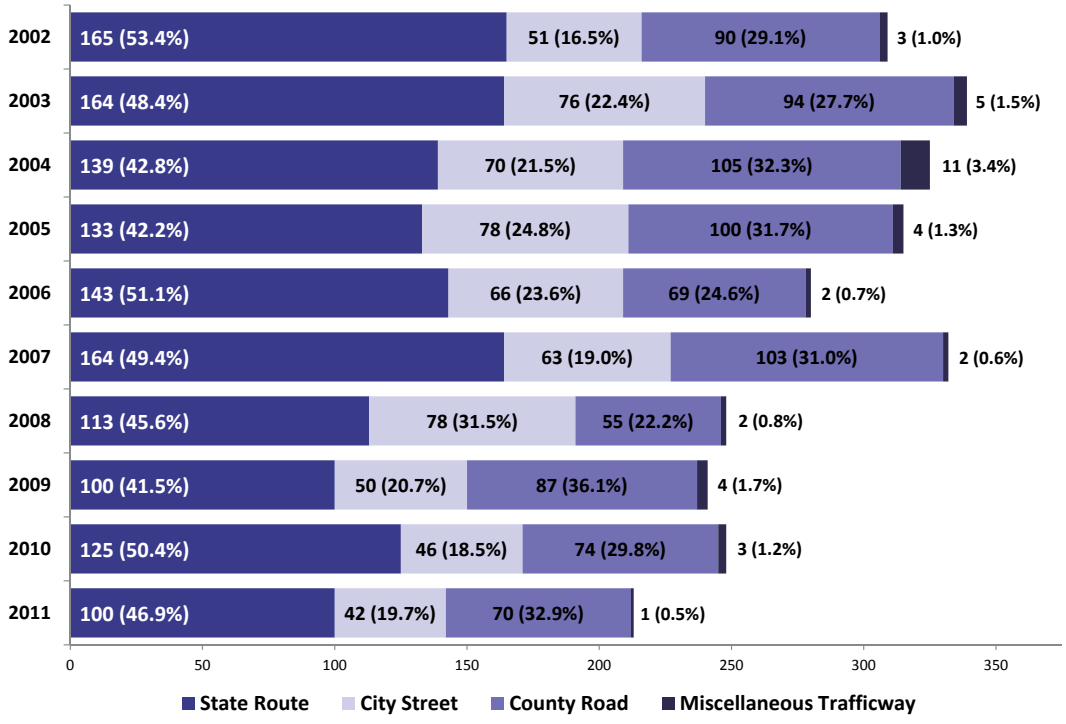
Opposite Direction Serious Injuries 2002-2011



Opposite Direction Fatalities by Jurisdiction 2002-2011



Opposite Direction Serious Injuries by Jurisdiction 2002-2011



Background

While opposite direction collisions are less frequent than collisions in some other areas, it is worth noting they tend to be a severe type of crash. There is one opposite direction fatality for every three serious injuries. By comparison, when looking at fatalities across all Target Zero priority areas, there is one fatality for every five serious injuries.

An Opposite Direction Crash...

...typically occurs when one vehicle crosses over a roadway center line or a median and collides into a vehicle traveling in the opposite direction. It does not include wrong way drivers on freeways.

Comparing 2009-2011 to 2006-2008, the decrease (22%) in opposite direction fatalities and serious injuries has been more significant than the decrease (13%) in overall fatalities and serious injuries across all Target Zero areas. There has been a 31% decrease in opposite direction collision fatalities versus an overall decrease of 18%. There has been an 18% decrease in opposite direction serious injuries versus an overall decrease of 12%.

The majority (48%) of opposite direction collisions occurred on state routes, resulting in 144 fatalities and 325 serious injuries. Smaller numbers occurred on county roads (31%, 46 fatalities and 231 serious injuries) and city streets (20%, 27 fatalities and 231 serious injuries). To achieve Target Zero for opposite direction collisions, there need to be four fewer fatalities and 13 fewer serious injuries each year until 2030.

Contributing Circumstances and Factors

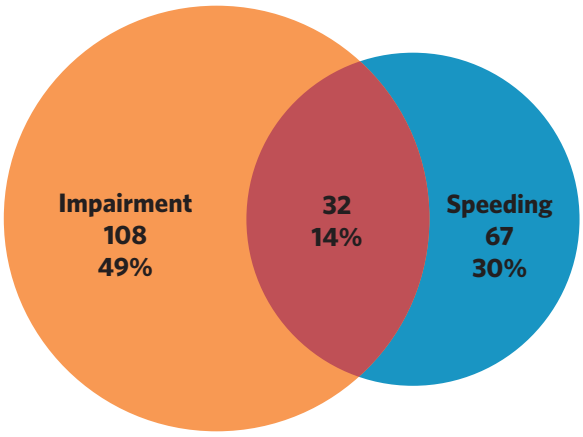
From 2009-2011, the top contributing factors in fatal or serious injury opposite direction collisions (not including over center line) were impairment (35%), speeding (30%), inattention or distraction (15%), falling asleep (6%) and improper passing (5%). Impairment, and inattention or distraction, are more frequent in fatal collisions.

Impairment contributed to 49% of opposite direction fatalities and 31% of serious injuries. Impairment is underreported in serious injury collisions compared to fatalities, where impairment is confirmed by toxicology. Inattention or distraction contributed to 27% of fatalities and 7% of serious injuries.

Younger drivers, age 16-25, were involved in 46% of the fatal and serious injury opposite direction collisions.

The majority of opposite direction collisions are on undivided two- and four-lane roadways, with a minority involving crossover collisions on divided highways (freeways).

Opposite Direction Fatalities
Total = 221



Of the 221 opposite direction fatalities 2009-2011, 49% also involved impairment and 30% involved speeding. Combined, 14% of these fatalities involved both impairment and speeding.

Programs and Successes

Driver Behavior

Occasionally, a driver's actions (such as making an unsafe pass on a two-lane road) can cause an opposite direction collision. More frequently, this type of collision is caused by a driver's impairment, speed or distraction. By implementing effective strategies to combat these driver behaviors, Washington hopes to reduce opposite direction collisions. Strategies to address these behaviors are listed in their respective chapters.

Engineering

Engineering strategies can help reduce opposite direction fatalities and serious injuries. Major initiatives in recent years have included the use of more center line rumble strips and the installation of barriers in the medians of divided highways (freeways).

Centerline rumble strips are especially effective when the contributing factors of a crash include distracted, drowsy or asleep drivers. An on-going analysis indicates that centerline rumble strips are a cost-effective approach to reducing cross-centerline collisions.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
1. Reduce opposite direction collisions	1.1 Install center line rumble strips. (P, WSDOT)	Engineering
	1.2 Add raised medians or other access control on multi-lane arterials. (P, CMF)	Engineering
	1.3 Install median barriers for narrow-width medians on multilane roads. (R, NCHRP)	Engineering
	1.4 Improve center line delineation by adding raised pavement markers or profiled center lines. (R, NCHRP)	Engineering
	1.5 Increase the widths of center medians where possible. (U)	Engineering

P = Proven **R = Recommended** **U = Unknown**

CMF = Crash Modification Factors
NCHRP = National Cooperative Highway Research Program **WSDOT** = Washington State Department of Transportation

Additional Resources

Crash Modification Factors Clearinghouse, http://www.cmfclearinghouse.org/

NCHRP Report 500, Volume 4, A Guide for Addressing Head-On Collisions (National Cooperative Highway Research Program), http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v4.pdf

Roadway Departure Safety Resources (Federal Highway Administration), http://safety.fhwa.dot.gov/roadway_dept/

The Gray Notebook, Edition 38 (Washington State Department of Transportation), http://wsdot.wa.gov/publications/fulltext/graynotebook/Jun10.pdf#page=20

Motorcyclists

Executive Summary

Motorcycle fatalities have not been decreasing like other traffic fatalities in Washington. This mirrors a national trend and is alarming. In our state, motorcycles make up just 4% of the registered vehicles, but account for 14.7% of the traffic fatalities. Impairment and speeding are major contributing factors, and most fatalities are male. On a positive note, endorsements have increased considerably and motorcycle training prior to endorsement has increased as well. However, with a growing numbers of riders on the road, reducing the number of motorcycle fatalities is an uphill challenge.

Background

There were 68 rider deaths in Washington State in both 2009 and 2010. That number rose to 70 in 2011, comprising 14.7% of the state's total traffic fatalities. Preliminary data for 2012 shows 83 motorcyclist fatalities, one of the highest in our state's history.

Motorcycles represent only 4% of registered vehicles, and yet motorcyclists represented nearly 15% of fatalities.

When we compare 2006-2008 to 2009-2011 data, there was an 8.4% decrease in motorcyclist fatalities and a 14.8% decrease in serious injuries. However, the 10-year trend shows fatalities rising, taking us further from our goal of zero deaths and injuries by 2030.

While motorcyclist fatalities are not trending downward, there are areas in which progress is being made. Alcohol and drug impairment is showing slight decreases, and endorsements and motorcycle trainings are increasing.

A license endorsement is required in Washington to ride a motorcycle. Endorsed riders have fewer infractions and are less likely to be involved in fatal collisions when compared to unendorsed riders.

Two methods are available to become an endorsed rider:

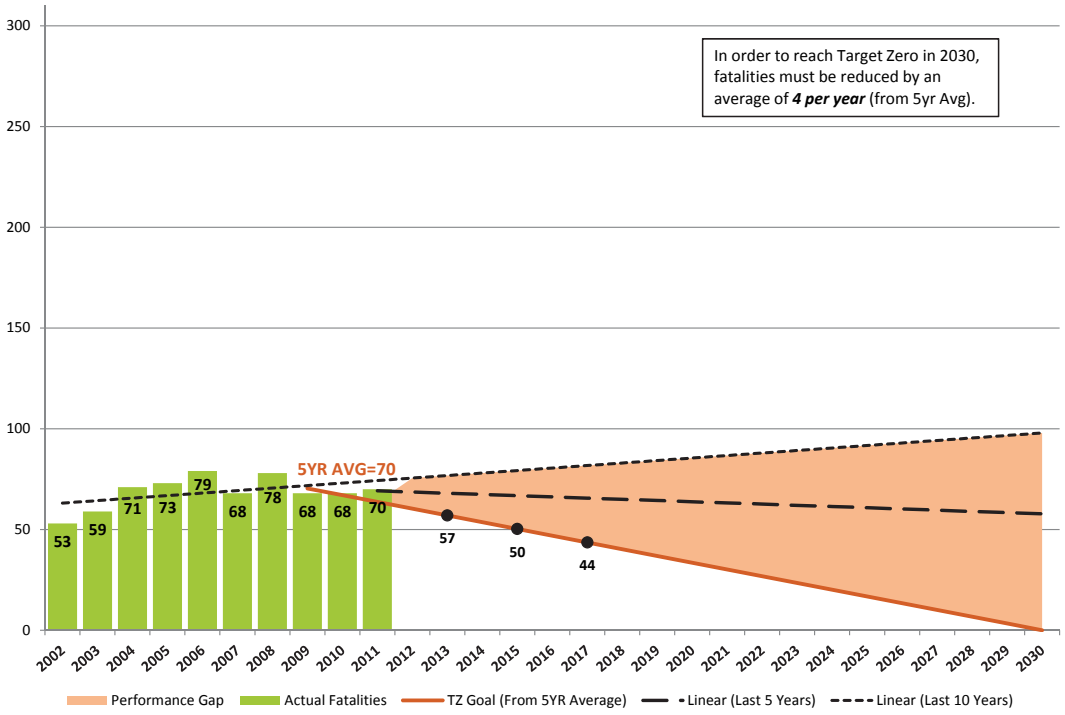
1. Successfully complete a motorcycle safety course at an approved training school
2. Pass the knowledge and riding skills test (the traffic safety community prefers riders complete a training course)

In 2007 legislation was passed to strengthen the likelihood riders would be endorsed. The law allows law enforcement to impound unendorsed riders' bikes when they've been pulled over for a routine traffic stop. The result in 2007 was a dramatic increase in new riders taking training courses on their path to endorsement.

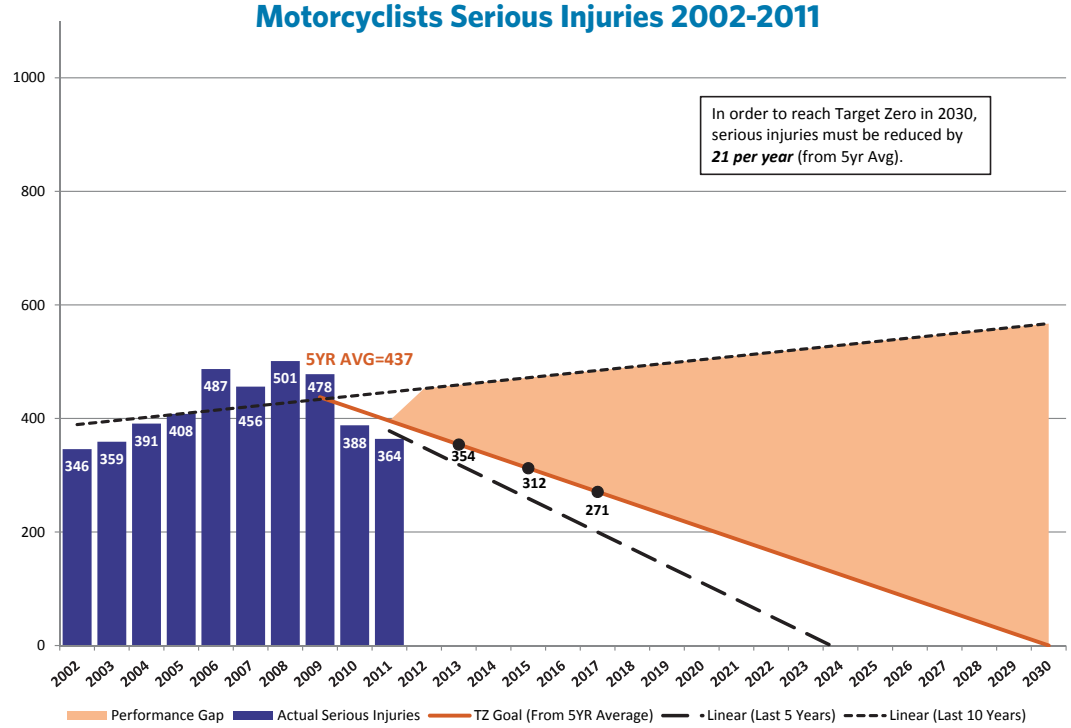
Motorcycle helmets are highly effective in protecting riders' heads in a crash. State universal helmet laws are effective at increasing helmet use, and are recommended by NHTSA as a "countermeasure that works". Yet year after year, legislation is introduced to repeal Washington's helmet law. Washington must maintain its current helmet law as we work toward Target Zero.

Additional legislation has been introduced to allow motorcyclists to ride between lanes of traffic and to stop and proceed through traffic signals under certain conditions. So far these attempts have been unsuccessful.

Motorcyclists Fatalities 2002-2011



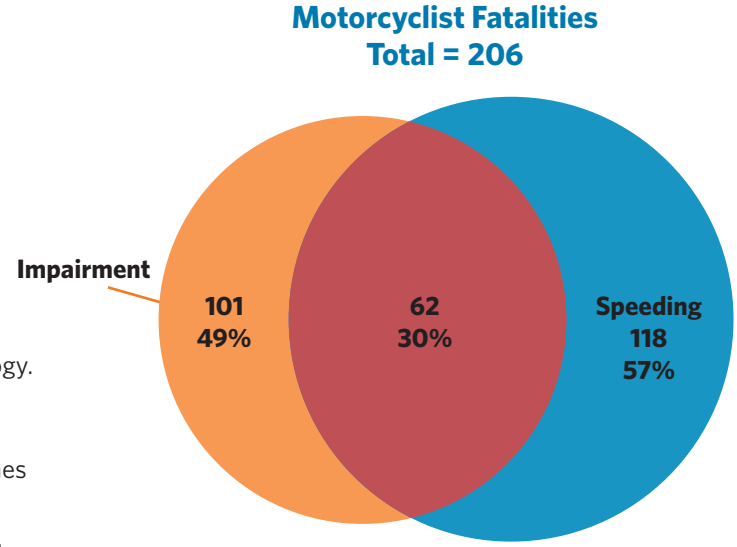
Motorcyclists Serious Injuries 2002-2011



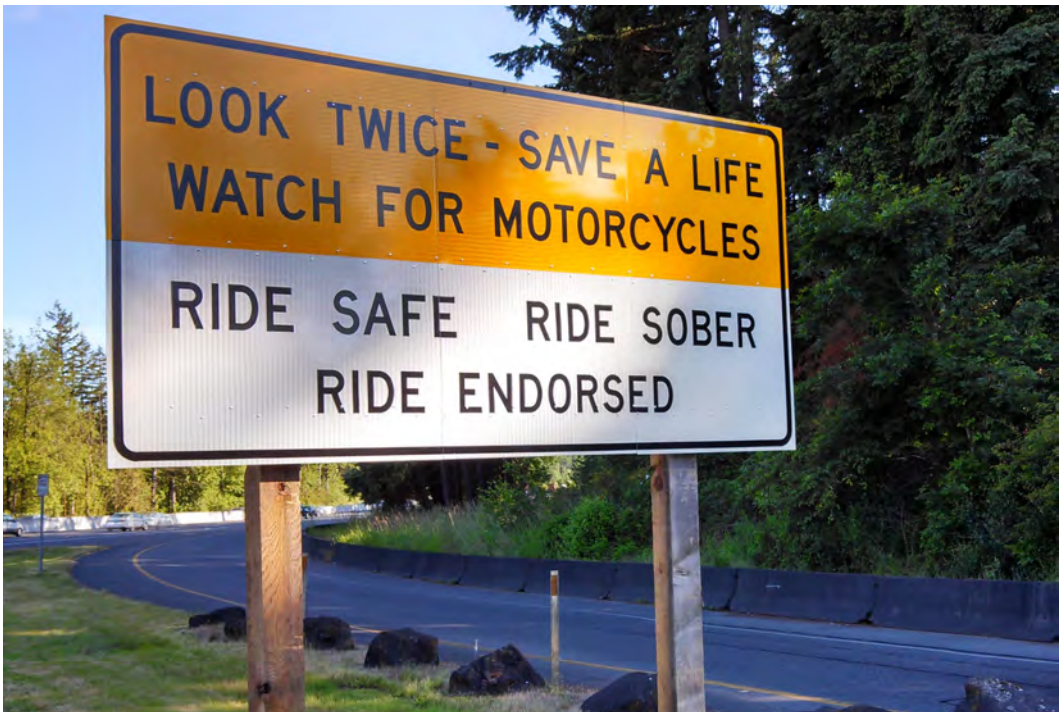
Contributing Circumstances and Factors

Speeding and impairment continue to be major contributing factors in motorcyclist crashes. Speeding was involved in 57% of fatalities and 30% of serious injuries among motorcyclists in 2009-2011. Alcohol impairment was involved in 25% of fatalities and in 10% of serious injuries. Impairment is underreported in serious injury collisions compared to fatalities where impairment is confirmed by toxicology.

Motorcycle operators are the only group of drivers in which drug impairment is more prevalent in fatal crashes than is alcohol use. Currently 29% of fatal motorcycle crashes involve drugs, down from 36% in 2006–2008. While the reduction is encouraging, still more than one in four motorcyclists killed on our roads was under the influence of drugs.



Of the 206 motorcyclist fatalities 2009-2011, 49% also involved impairment and 57% involved speeding. Combined, 30% of these fatalities involved both speeding and impairment.



Young and middle aged riders are over-represented in fatal crashes. Overwhelmingly younger riders choose a "sport bike," a lightweight, high-performance race-replica type motorcycle. Middle aged riders frequently choose "cruisers" which are heavy, large, highway type motorcycles designed for comfort and longer rides.

Compared to the number of endorsed riders by age group, younger riders represent a higher proportion of fatalities, but a much smaller proportion of endorsed riders. Experience levels are predictive in fatal crashes. On average, approximately 30-40% of motorcyclist fatalities are untrained, unendorsed riders.

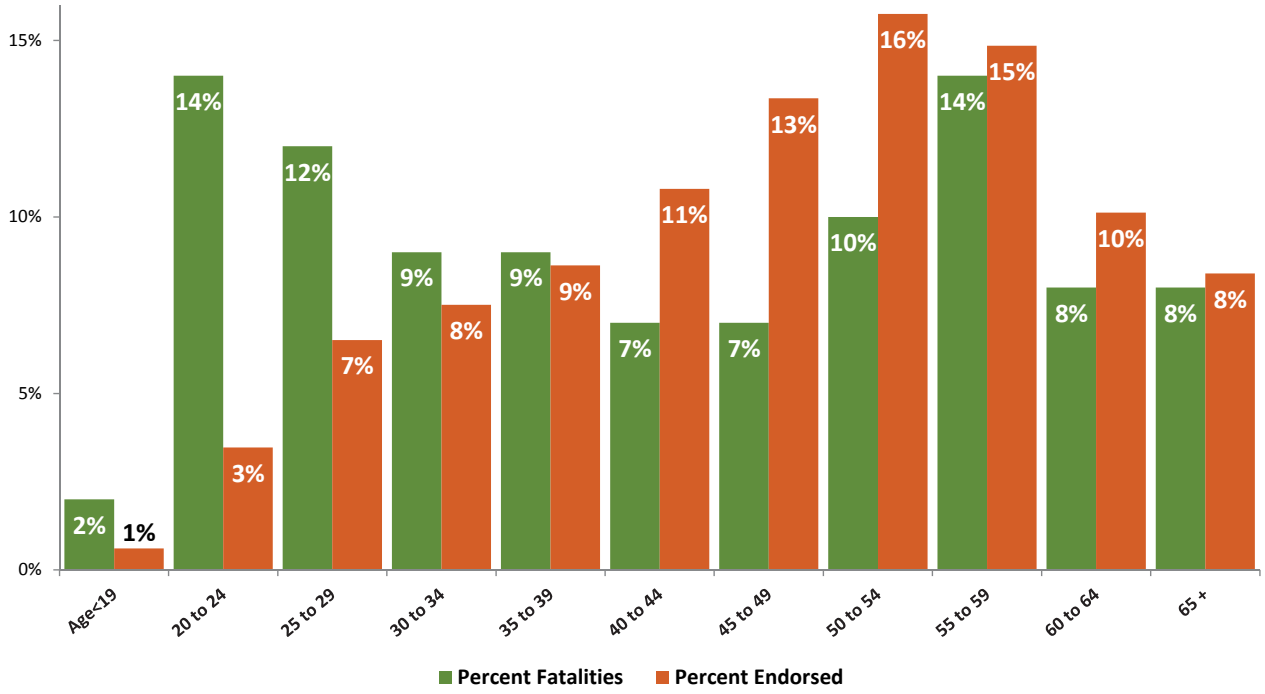
Around 75% of fatalities involve one or more of the following:

1. Rider with less than two years' experience
2. Unendorsed rider
3. Rider with unknown experience level

Of all endorsed riders in Washington, about 85% are male and 15% are female. In 2009-2011, male riders were involved in 92% of motorcyclist fatalities and 83% of serious injury collisions. Alternatively, female riders experience a higher rate of motorcyclist serious injuries (14.6 per 10,000 endorsed females) than males do (10.8 per 10,000 endorsed males).

Prior violation history also sheds light on crash risk. The average number for all endorsed motorcyclists is just over one (1.1) violation. The average for endorsed riders involved in fatal collisions is just over four (4.1) violations.

Motorcyclists Fatalities and Endorsed Riders By Age Group 2009-2011



According the Department of Licensing, younger motorcyclists make up only a small portion of endorsed riders, yet account for a larger proportion of motorcyclist fatalities.

Programs and Successes

Motorcycle Taskforce

Beginning in 2006, a multi-agency Motorcycle Taskforce began to research motorcycle fatalities. The collision reports were studied and common factors determined. Speed, lane changes and impairment were found to be the top contributing factors. The most unexpected revelation was the contribution of rider related factors in fatal collisions. From 2009-2011, among fatal collisions involving a motorcyclist AND another vehicle, 32% of motorcyclists had driver related factors contributing to the collision, compared to 49% of drivers in other motor vehicles. However, 52% of motorcycle involved fatalities did not involve any other vehicles.

Impound Law and Endorsement Reminder Mailings

The 2007 Impound Law, a result of the Motorcycle Taskforce, allows law enforcement officers to impound the motorcycles of those motorcyclists operating without a proper motorcycle endorsement. This has had the effect of increasing rider training and rider endorsements.

When the law first went into effect in 2007, the Washington State Department of Licensing (DOL) launched a friendly reminder campaign where unendorsed owners of registered motorcycles were mailed a reminder notice of endorsement requirements. DOL service offices reported an increase in customers coming in to get their motorcycle endorsement after receiving the postcard. Many motorcycle training schools reported an influx of new students who claimed they were inspired to pursue endorsement because of the DOL notice. In the summer of 2013, DOL repeated that effort and expects to see a similar jump in endorsements.

Media Campaigns and High Visibility Enforcement

The "Look Twice–Save a Life" media campaign involves billboards, messaging on buses, and radio ads. Although most motorcycle crashes in Washington are caused by rider error (not by another motorist), this campaign was designed to increase automobile driver awareness of traffic safety as it relates to motorcycles. Usually motorcycle crashes involve rider impairment, speeding, run-off-the-road or a combination of these factors. To address these factors, High Visibility Enforcement (HVE) is a model that has proven successful.

HVEs are statewide media campaigns focused on informing drivers of emphasis enforcement efforts regarding a targeted behavior, accompanied by a large, organized, law enforcement effort. HVE summer DUI campaigns target all impaired motorists with a special emphasis on impaired motorcycle riders.

Motorcycle Strategy Group

Currently a multi-agency Motorcycle Strategy Group is studying ways to reduce motorcycle fatalities and serious injuries. The entire traffic safety community is engaged in this effort, including WTSC, DOL, WSP, WSDOT, Motorcycle Dealers Association, representatives from several law enforcement agencies and NHTSA Region 10. Each motorcycle crash that resulted in a serious injury or fatality for the last several years is being reviewed to determine the best ways to utilize our resources to change rider behavior and raise awareness of this increasing problem.

Impairment and Reckless Behavior Enforcement Emphasis

Three factors contribute to almost every fatal and serious injury motorcycle crash: impairment, speed and operator error or loss of control. Impairment is a contributing factor in 50% of all traffic fatalities. This includes motorcycle fatalities. As of July 1, 2013, Target Zero Teams in five of the largest counties in the state – King, Pierce, Snohomish, Yakima, and Spokane Counties – are dedicated to finding and arresting impaired drivers, including motorcycle riders.

In addition to the Target Zero Teams, law enforcement traffic officers statewide receive special training to detect impaired motorcycle riders. Many agencies also have taken a zero tolerance stance on reckless motorcycle rider behaviors such as speeding, recklessness and aggressive riding. Officers are encouraged to give citations and no warnings for this potentially deadly behavior.

Free Safety Clinics: Law Enforcement and Dealership Partnerships

There are various law enforcement partnerships with motorcycle dealers and law enforcement officers, where free safety tips and training are provided. These free clinics usually occur on a Saturday or Sunday morning when large numbers of riders are gathered at dealerships preparing for a weekend ride. While these clinics are free, data isn't collected on the number of attendees. Anecdotally we know hundreds of riders have participated in these safety training sessions.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
1. Reduce numbers of unendorsed and untrained riders	1.1 Collaborate with dealers and manufacturers to promote motorcycle training and endorsement. (R, NCHRP)	Education
	1.2 Increase number of riders participating in safety training. (U)	Education
	1.3 Provide training tuition incentives for riders' completion of training. (U)	Education
	1.4 Conduct targeted safety/endorsement media outreach and education. (U)	Education
	1.5 Outreach to motorcycle registration owners who are not endorsed. (U)	Education
	1.6 Emphasis on impoundment policy and education. (U)	Education, Leadership/ Policy
	1.7 Increase opportunities for motorcyclist field training. (U)	Education
2. Reduce numbers of impaired, unskilled, and unsafe riders	2.1 Lower the per se BAC limit for motorcycle riders from .08 to .05 (P, META)	Leadership/Policy
	2.2 Increase motorcyclist awareness of the risks of impaired motorcycle operation. Promote self-policing within the motorcycle community by expanding existing prevention programs to include motorcycle riders and at specific motorcycle events. (R, NCHRP)	Education, Leadership/ Policy
	2.3 Target law enforcement to specific motorcycle rider impairment behaviors that have been shown to contribute to crashes. (R, NCHRP)	Enforcement
	2.4 Re-establish endorsements by class size. Three-tier program according to motorcycle engine size. (U)	Leadership/Policy
	2.5 Re-testing for endorsement every five years. (U)	Enforcement, Leadership/ Policy
3. Increase driver awareness	3.1 Increase visibility of motorcyclists through use of bright reflective clothing. (P, CTW)	Education
4. Increase rider safety awareness	4.1 Promote use of owner's actual motorcycle in training courses. (R, DOL)	Education
5. Improve enforcement	5.1 Support specialized law enforcement training in motorcycle DUI detection and motorcycle crash investigation. (R, CTW)	Education, Enforcement
	5.2 Increase use of WSP aviation for enforcement of high risk behaviors. (U)	Enforcement
	5.3 Mandatory motorcycle impound if riding without an endorsement. (U)	Enforcement

Continued on next page.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
6. Continue convening DOL's Motorcycle Advisory Committee	6.1 Promote public forums to share/receive feedback concerning safety strategies and/or needs. (U)	Education, Leadership/ Policy
7. Work with Legislature/ Judicial System	7.1 Promote the option for motorcyclists to take a safety class in lieu of a traffic ticket being added to his/her driving record. Currently some county courts offer drivers of other vehicles the option of traffic school to dismiss certain driving violations from their record and insurance. (U)	Education, Leadership/ Policy
	7.2 Require mandatory motorcycle insurance coverage—minimum of liability just as automobiles require. (U)	Leadership/Policy

P = Proven **R = Recommended** **U = Unknown**

CTW = Countermeasures That Work
META = Meta Study
DOL = WA State Dept. of Licensing
NCHRP = National Cooperative Highway Research Program

Additional Resources

An Examination of Washington State's Vehicle Impound Law for Motorcycle Endorsements (National Highway Traffic Safety Administration), www.nhtsa.gov/staticfiles/nti/pdf/811698.pdf

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition, Chapter 5 (National Highway Traffic Safety Administration), http://www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf

NCHRP Report 500, Volume 22: A Guide for Addressing Collisions Involving Motorcycles (National Cooperative Highway Research Program), http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v22.pdf

Promising Practices in Motorcycle Rider Education and Licensing (National Highway Traffic Safety Administration, 2005), http://icsw.nhtsa.gov/people/injury/pedbimot/motorcycle/MotorcycleRider/pages/PromisingPractices.pdf

Washington State laws (RCWs) relating to motorcyclists:

- *RCW 46.37.530 – Motorcycles – Helmets, other equipment.*
- *RCW 46.81A – Motorcycle skills education program.*
- *RCW 46.61.608 – Operating motorcycles on roadways laned for traffic.*
- *RCW 46.61.610 – Riding on motorcycles.*
- *RCW 46.61.611 – Motorcycles – Maximum height for handlebars.*
- *RCW 46.61.612 – Riding on motorcycles – Position of feet.*
- *RCW 46.61.614 – Riding on motorcycles – Clinging.*

Pedestrians

Executive Summary

In 2009-2011 there were 193 pedestrian fatalities and 869 serious injuries, accounting for 13.7% of traffic deaths and 12% of serious injuries. The rate of decrease for pedestrian deaths and serious injury collisions has been slower than that of overall fatalities and serious injuries.

Background

In 2009 through 2011, pedestrian fatalities decreased by 2.5% compared to 2006-2008, while overall traffic fatalities decreased by 18.5%. Likewise, serious injuries to pedestrians decreased by 4.2% during the same period, while serious injuries overall decreased by 11.4%.

Since pedestrians and bicyclists share common characteristics, they are discussed together in some instances. In order to better assess pedestrian and bicycle collisions in Washington State, the traffic safety community is trying to assess the number of people walking and biking statewide to determine pedestrian or bicycle exposure rates.

In 2008, Washington State Department of Transportation (WSDOT) initiated the Washington State Bicycle and Pedestrian Documentation Project to collect data on walking and biking. WSDOT completed its fifth annual documentation project in 2012. Volunteers counted more than 40,000 pedestrians and 20,000 bicyclists at 200 locations in 38 cities. According to WSDOT, counts at selected locations showed walking and biking in Washington increased by 10% between 2008 and 2012.

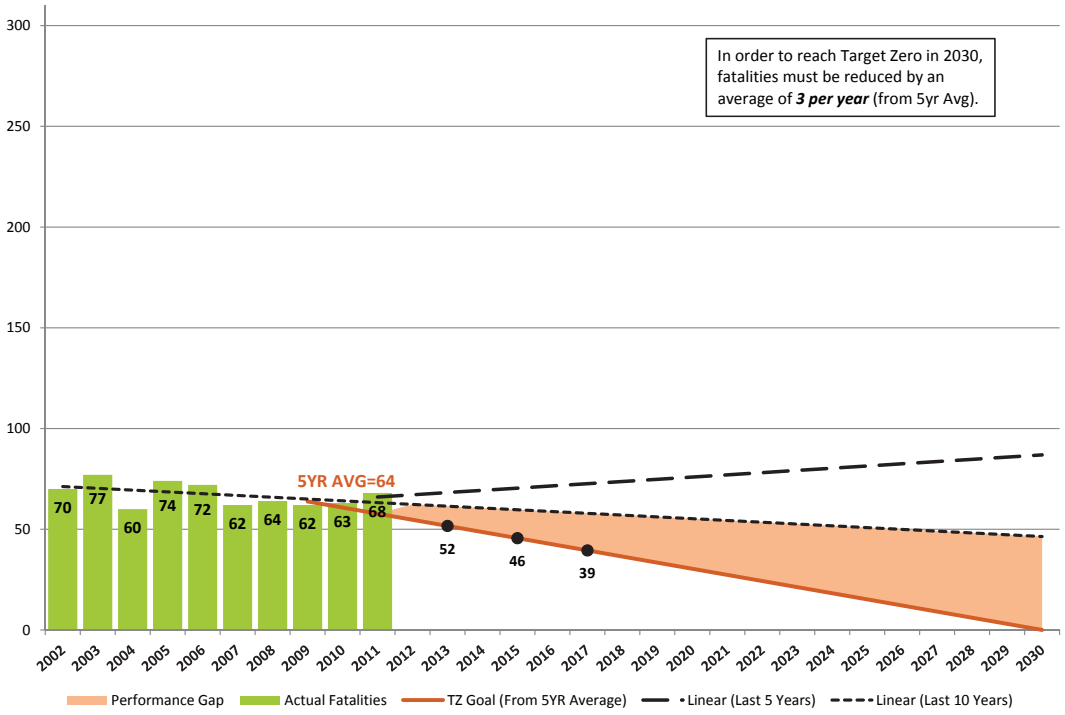
Walking is an integral component of our transportation system. Almost everyone is a pedestrian at one time or another—going to school or work, running errands, recreating and connecting with transit or other services. For some without access to vehicles, particularly children and older citizens, walking is a necessity.

According to WSDOT, most crosswalk locations are unmarked. Approximately 10% of all legal crosswalk locations are marked and 4% are signalized. A sampling of city and county roads indicates a similar percentage of marked legal crossings, and a higher percentage of signalized locations.

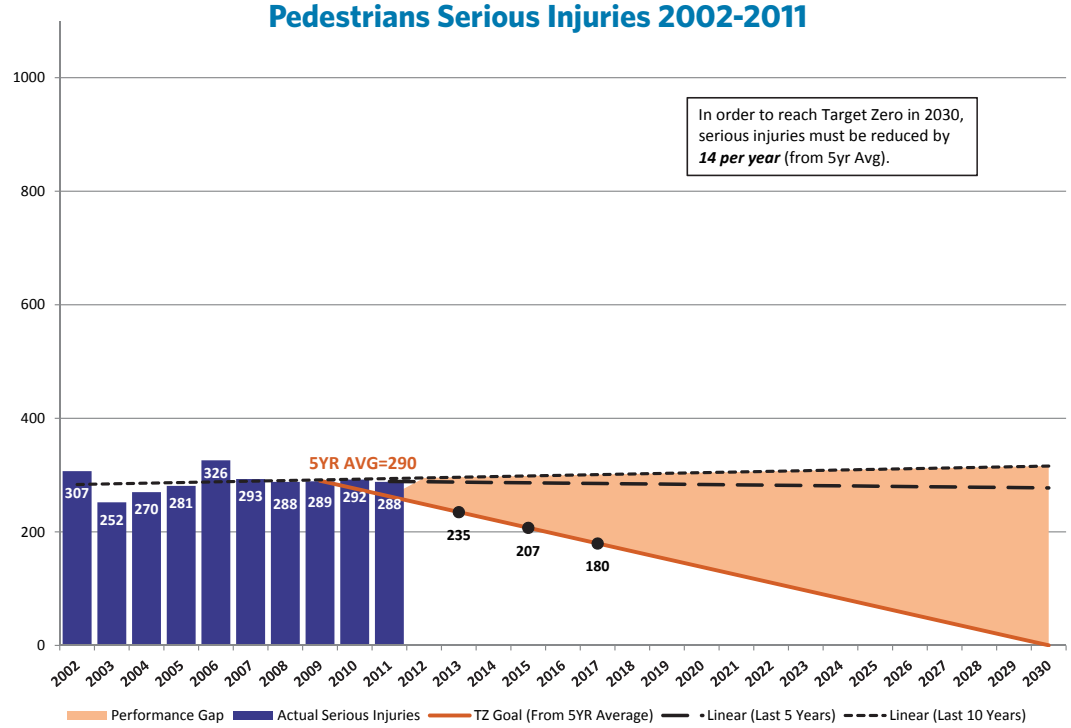
A joint research project between WSDOT and the University of Washington identified a subset of state highways that operate as city main streets in more than 180 cities. These city main street highways account for 9% of the state highway system (600 miles out of 7,044). In 2009-2011, these routes experienced 26% of pedestrian and bicyclist fatalities occurring on state highways.

Pedestrian deaths account for 14% of all traffic fatalities, up from 11% in 2006-2008.

Pedestrians Fatalities 2002-2011



Pedestrians Serious Injuries 2002-2011



Contributing Circumstances and Factors

The top contributing factors in pedestrian-vehicle collisions are different from those in other types of vehicle collisions.

In 2007-2011, vehicle driver actions were not a factor in 57% of pedestrian fatalities. Among the 43% of pedestrian fatalities involving driver contributing factors, the following were most common:

1. Driver distraction (21%)
2. Failure to yield right-of-way (13.5%)
3. Driver impairment (12%)
4. Speeding (6.9%)

Consistent with all traffic fatalities, young drivers (age 16-25) were involved most frequently (21%). Drivers age 26-35 and 46-55 were both involved in 17% of pedestrian fatalities.

Pedestrian contributing factors were not involved in 38% of pedestrian fatalities. Of the 62% of fatal pedestrian collisions involving a pedestrian factor, the following were the most common:

1. Pedestrian impairment (50.8%)
2. Not visible to the driver (31%)
3. Crossing improperly (28.5%)
4. Improper action in the road, including standing, lying, and playing (21%)

Nearly two-thirds (63.3%) of pedestrians killed were male. Looking at age, the highest percent of pedestrian fatalities occurred among those age 46-55 (17.9%), followed by those age 56-65 (15.4%). Just over two percent (2.2%) of pedestrian deaths involved those under age 10, and 4.7% were age 11-15.

Nearly one-third of pedestrian deaths occur in the winter months of October – March, between the hours of 3-9 p.m. This time period constitutes the deadliest time for pedestrians, as do the months of April – September.

Location of Pedestrian Collisions

From 2007-2011, almost half (46%) of pedestrian fatalities occurred at or were related to an intersection. Statewide, 70% of pedestrian deaths occurred in urban areas. However, when developing targeted countermeasures, it is important to note that two-thirds of Native American pedestrian deaths occurred in rural settings. Over half (54.2%) of all pedestrian fatalities occurred in areas with posted speeds of 25-35 mph, and 16.6% occurred on roadways with 60-70 mph posted speeds.

Programs and Successes

High Visibility Enforcement

A High Visibility Enforcement (HVE) campaign helped reduce annual pedestrian deaths in Spokane County from 11 in 2009 to two in 2010. The campaign focused on both drivers and pedestrians in cities. The locations were selected based on crash and complaint data. Education and publicity targeted drivers and pedestrians using a multi-pronged approach with news coverage, television advertising, rackcards, giveaways, and a presence at large events.

Enforcement used previously developed protocols for three operational plans: vehicle driver/pedestrian sting, pedestrian education/enforcement operation, and pedestrian enforcement operation. Motorcycle police were so successful that their usage was expanded during the project. As motorcycle officers handed out rackcards, giveaways and citations by shopping malls, hundreds of people approached them to learn what was happening (Spokane County Pedestrian Safety Project, Engineers Office, March 2011).

Safe Routes to School Program

Washington's Safe Routes to School (SRTS) program is designed to get more children walking and bicycling to school safely, reduce congestion around schools and improve air quality. The program provides technical assistance and resources to cities, counties, schools, school districts and state agencies.

Through WSDOT's SRTS Grant Program, between 2005 and 2012:

- A total of $32 million was made available for 96 projects from the over $137 million in requests
- Forty-one Safe Routes to School projects have been completed, 51 are underway, three are pending and one was cancelled.
- Almost 70% of projects awarded in the first three cycles have been completed
- A statewide bicycle and pedestrian safety educating program had reached approximately 25 school districts and over 10,000 children in 5th through 8th grades by spring of 2012

According to WSDOT, SRTS projects that have provided evaluation results show:

- An average increase of 20% in the number of children walking and biking to school
- Completion of about 75,000 additional feet of sidewalks near schools
- A reduction in motorist travel speeds and traffic citations in school zones
- Increased student compliance with safe crossing behaviors
- No collisions occurring at completed project locations

Nickerson Street Rechannelization

In the summer of 2008, Seattle removed three marked crosswalks along Nickerson Street that no longer met marked crosswalk guidelines. After analysis, Seattle Department of Transportation (SDOT) determined reconfiguring Nickerson Street from four lanes to three, with a center turn lane, would accommodate traffic and allow better pedestrian crossings. In addition to the rechannelization, two new marked crosswalks were added. The project improved traffic safety dramatically while maintaining traffic volumes.

There was a 27% reduction in total collisions compared to the previous five-year average. In the 18 months following the rechannelization, there was more than a 67% reduction in vehicle-bicycle collisions and no vehicle-pedestrian collisions (2011 Seattle Traffic Report, SDOT).

Aurora Traffic Safety Project

Using short-term, low-cost engineering, education, and enforcement tactics, collisions on Aurora Avenue North in Seattle dropped more than 20%, with all fatal and serious injury collisions down by 28%. The two-year project (2009-2011) used education and enforcement efforts to bring attention to behaviors like failure to yield to pedestrians, speeding and inattention/distracted driving. This focus paid off with the following reductions, according to Seattle DOT:

- Failure to yield collisions down by 34%
- Inattention/distracted driving collisions down by 28%
- Speeding involved collisions down by 20%

Longview Elementary – Moses Lake, WA

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
1. Improve pedestrian safety awareness and behaviors	1.1 Promote the use of reflective apparel among pedestrians (conspicuity enhancement). (R, CTW)	Education
	1.2 Educate pedestrians about the risks of distracted walking. (U)	Education
	1.3 Develop and conduct communication and outreach efforts, including the proven 'brief intervention and screening' approach to contact crash-involved impaired pedestrians, as well as local law enforcement agencies, alcohol servers, social and health service providers, and other involved parties for reducing impairment as a factor in pedestrian crash-related injuries and deaths. (U)	Education
2. Increase enforcement of laws pertaining to pedestrians	2.1 Implement pedestrian safety zones, targeting geographic locations and audiences with pedestrian crash concerns. (P, CTW)	Education, Enforcement, Engineering
	2.2 Expand targeted crosswalk enforcement and education for both vehicles and pedestrians. (R, CTW)	Education, Enforcement
	2.3 Reduce and enforce speed limits. Implement traffic calming features to reduce speeds in locations with a high number of pedestrians. (R, CTW)	Education, Enforcement, Engineering
	2.4 Improve pedestrian rights and responsibilities training for law enforcement officers at state, Tribal, and local levels. (R, WSDOT)	Education
3. Expand and improve pedestrian facilities	3.1 Improve safety at pedestrian crossings by installing refuge islands, scale lighting, and shortening crossing distances. (R, CMF)	Engineering
	3.2 Increase the use of rectangular rapid flashing beacons and pedestrian hybrid beacons. (R, CMF)	Engineering
	3.3 Follow national guidelines on the use of reflective markings and sign materials. (R, FHWA)	Engineering Education, Enforcement,
	3.4 Implement programs that improve the built environment. Solutions should focus on appropriate zoning, crossing treatments, and pedestrian connections to public transit. (R, LIT)	Engineering
	3.5 Improve sight distances and/or visibility between motor vehicles and pedestrians at high risk and high volume pedestrian crossings. Move the stop bar farther back from the intersection, clear vegetation, extend crossing times, and implement pedestrian lead intervals. (U)	Engineering
	3.6 Implement Complete Streets to provide for all modes of transportation. (R, NCSC)	Leadership/Policy, Engineering

Continued on next page.

Objectives & Strategies		
Objectives (What)	**Strategies (How)**	**Implementation Arena(s)**
4. Improve safety for children walking to school	4.1 Expand high visibility speed enforcement in school zones, including automated speed photo enforcement. (R, CTW)	Education, Enforcement
	4.2 Implement elementary and middle school pedestrian training curricula in schools. (R, CTW)	Education
	4.3 Apply consistent signing and other pedestrian crossing features in school zones as appropriate (based on the number of lanes, speeds, age of pedestrians, etc.). (R, FHWA)	Engineering
	4.4 Distribute and encourage the use of "School Walk and Bike Routes: A Guide for Planning and Improving Walk and Bike to School Options for Students" and assist schools in creating school walk route maps. (R, WSDOT)	Education, Engineering
	4.5 Encourage and support school districts to implement elements in the Safe Routes to School program including Walking School Buses, walking campaigns. (U)	Education, Engineering
5. Improve data and performance measures	5.1 Enhance the collection of a measure of 'miles walked' (similar to VMT). Continue to track pedestrian counts through Washington's Pedestrian and Bicycle Documentation Project. (R, DDACTS)	Leadership/Policy

P = Proven **R = Recommended** **U = Unknown**

CMF = Crash Modification Factors
CTW = Countermeasures That Work
DDACTS = Data Driven Approaches to Crime and Traffic Safety
FHWA = Federal Highway Administration
LIT = Literature (Although we could not locate a meta study, there is sufficient independent literature with favorable results to justify as a recommended strategy)
WSDOT = Washington State Department of Transportation

Additional Resources

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition, Chapter 8 (National Highway Traffic Safety Administration), www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf

Effectiveness of a Safe Routes to School Program in Preventing School Aged Pedestrian Injury (Charles DiMaggio, PhD, MPH and Guohua Li, MD, DrPH, in *Pediatrics* journal)

NCHRP Report 500, Volume 10: A Guide for Reducing Collisions Involving Pedestrians (National Cooperative Highway Research Program, Transportation Research Board), http://safety.transportation.org/guides.aspx?cid=29

Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants (UK Department for Transport), http://assets.dft.gov.uk/publications/pgr-roadsafety-research-rsrr-theme5-researchreport16-pdf/rswp116.pdf

State Highways as Main Streets: A Study of Community Design and Visioning (Washington State Department of Transportation and University of Washington), http://www.wsdot.gov/research/reports/fullreports/733.1.pdf

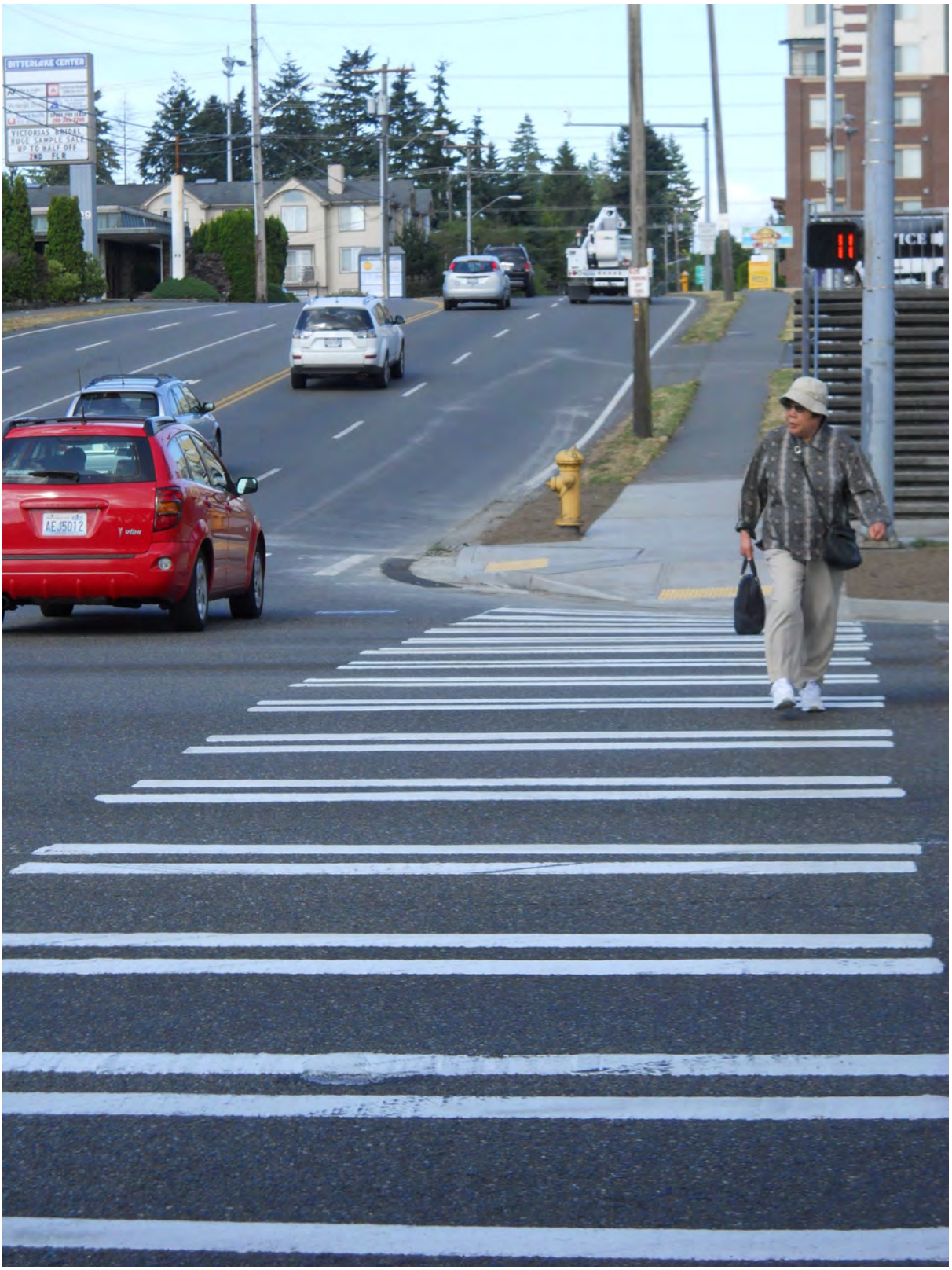
The Gray Notebook, Edition 48, page 5-8 (Washington State Department of Transportation), http://wsdot.wa.gov/publications/fulltext/graynotebook/Dec12.pdf

Washington State Bicycle and Pedestrian Documentation Project (Washington State Department of Transportation), http://www.wsdot.wa.gov/bike/Count.htm

Washington State Bicycle Facilities and Pedestrian Walkways Plan (Washington State Department of Transportation), http://www.wsdot.wa.gov/bike/bike_plan.htm

Washington State Laws (RCWs) relating to pedestrians:

- *RCW 46.61.050 – Traffic signals*. Pedestrians must obey traffic signals and traffic control devices unless otherwise directed by a traffic or police officer.
- *RCW 46.61.235 – Crosswalks*. No pedestrian or bicycle shall suddenly leave a curb and move into traffic so that the driver cannot stop. Vehicles shall stop at intersections to allow pedestrians and bicycles to cross the road within a marked or unmarked crosswalk. See Washington's Crosswalk Law for more information.
- *RCW 46.61.240 – Yield to vehicles outside intersections*. Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right of way to all vehicles upon the roadway.
- *RCW 46.61.245 – Drivers exercise due care*. Every driver of a vehicle shall exercise due care to avoid colliding with any pedestrian upon any roadway and shall give warning by sounding the horn when necessary.
- *RCW 46.61.250 – Pedestrians on roadways*. Pedestrians must use sidewalks when they are available. If sidewalks are not available, pedestrians must walk on the left side of the roadway or its shoulder facing traffic.
- *RCW 46.61.261 – Sidewalks, crosswalks*. Drivers and bicyclists must yield to pedestrians on sidewalks and in crosswalks.
- *RCW 47.04.330 – Street projects – Consultation with local jurisdictions – Context sensitive design solutions.*


BITTERLAKE CENTER
VICTORIAS BRIDAL
HUGE SAMPLE SALE
UP TO HALF OFF
2ND FLR
AEJ5012

Emergency Medical Services (EMS) and Trauma Care System

Nearly 40% of all deaths from trauma occur within hours of injury. Washington's trauma care system strives to assure the "right" patient arrives at the "right" facility in the "right" amount of time.

Executive Summary

Unintentional injury is the leading cause of death for young people age 15-24. In Washington in 2011, there were 483 deaths in this age group, approximately 40% of them due to unintentional injury. Almost half of those unintentional injuries were from motor vehicle collisions. Many of these types of deaths are preventable with access to an effective trauma system.

Nearly 40% of all deaths from trauma – defined as a major injury requiring medical or surgical care to prevent death or permanent disability – occur within hours of injury. Timely and appropriate emergency medical response to collisions saves lives and reduces disability.

Our comprehensive, statewide EMS and trauma system provides a continuum of care for patients with severe injuries, and in-hospital mortality rates are significantly lower at trauma centers than at hospitals without trauma centers. It gets the right patient to the right care in the right amount of time.

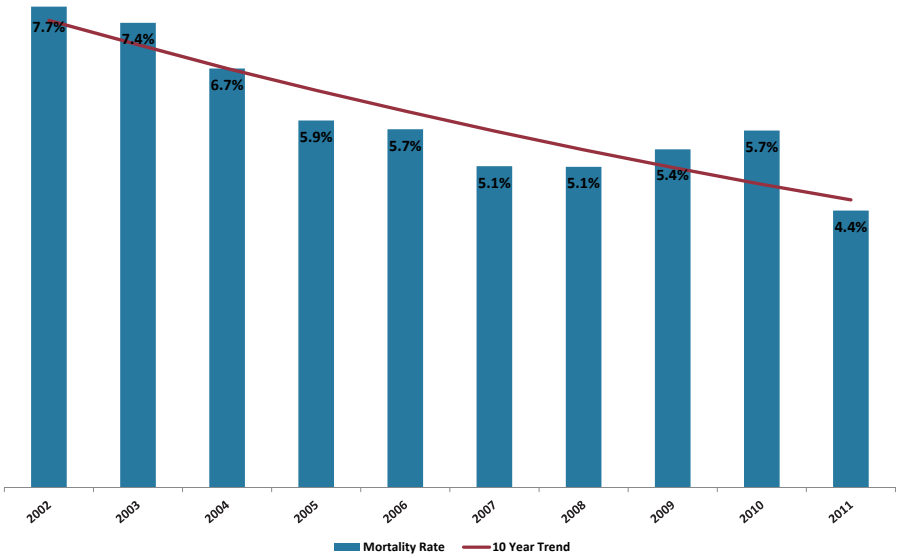
Background

Washington's Emergency Medical Services (EMS) and Trauma Care System is a coordinated system to assure appropriate and adequate care with the goal of reducing death and disability.[1,2,3,4,5,6,7] By providing emergency care as soon as possible, EMS helps reduce deaths and serious injuries. The minutes directly following a traumatic injury are often critical to saving lives or minimizing the long term effects of serious injury. Timeliness and clinical expertise are critical factors in the success of post trauma care.

In addition to the minutes immediately following an injury, a patient's outcome is dependent on other important facets of trauma care. These include prevention activities, hospital care and rehabilitation resources. These components work together to reduce death and disability of injured people throughout Washington.

Washington's trauma care system strives to assure the "right" patient arrives at the "right" facility in the "right" amount of time. Nearly 40% of all trauma deaths occur within hours of injury, and in-hospital mortality rates are significantly lower at trauma centers than at hospitals without trauma centers. Many of these deaths are preventable with access to an effective, organized trauma system.

Mortality of Trauma Patients Involved in Traffic Crashes 2002-2013



There is a downward trend for inpatient death from trauma, defined as a major injury requiring medical or surgical care to prevent death or permanent disability. During 2002-2011, similar downward trends were evident in most age groups. Younger (ages 15-24) and older (age 65+) groups had the most significant decreases in hospital deaths.

1 Chiara, O. and S. Cimbanassi. "Organized trauma care: does volume matter and do trauma centers save lives?" *Current Opinion in Critical Care*. 2003; 9(6):510-514.

2 Miller, T.R. and D.R. Levy. "The effect of regional trauma care system on costs." *Archives of Surgery*. 1995; 130(2):188-193.

3 Celso, B., J. Tepas, B. Langland-Orban. "A systematic review and meta-analysis comparing outcomes of severely injured patients treated in trauma centers following the establishment of trauma systems." *Journal of Trauma*. 2006; 60(2):371-378.

4 Mann, N.C., R.J. Mullins, et al. "Systematic review of published evidence regarding trauma system effectiveness." *Journal of Trauma*. 1999; 47(suppl 3):S25-S33.

5 Mullins, R.J. and N.C. Mann. "Population-based research assessing the effectiveness of trauma systems." *Journal of Trauma*. 1999; 47(suppl 3):S59-S66.

6 Mackenzie, E.J. "Review of evidence regarding trauma system effectiveness resulting from panel studies." *Journal of Trauma*. 1999; 47(suppl 3):S34-S41.

7 MacKenzie, E.J., F.P. Rivara, et al. "A national evaluation of the effect of trauma-center care on mortality." *New England Journal of Medicine*. 2006; 354(4):366-378.

In a national evaluation of the effect of trauma center care on mortality, MacKenzie et. al., discussed the importance of triaging severely injured patients to the highest level trauma center.[4,6,7] Their results underscored the fact that overall risk of death is "significantly lower when care is provided in a trauma center than when it is provided in a non-trauma center." This highlights the importance of a well-coordinated system that ensures severely traumatized patients arrive at the most appropriate level trauma center in the most optimum time span.

The EMS and Trauma System currently consists of:

- 466 trauma verified pre-hospital (EMS) agencies
- 8 EMS and trauma regions
- 85 designated acute care trauma centers
- 14 trauma rehabilitation centers

This system has contributed to a steady decrease in the number of motor vehicle related deaths. The death rate for trauma patients involved in traffic collisions decreased from 7.7% in 2002 to 4.4% in 2011. The Washington State Department of Health (DOH) translates this downward trend into 147 additional lives saved by Washington's EMS and Trauma Care system.

Data Driven

Developing forward thinking strategies and making decisions based on empirical data is critical to the continued success of Washington's EMS and Trauma Care System. Any goals and performance measures should incorporate the gathering, analysis and archiving of data related to EMS and trauma incidents. This evidence based focus will ensure that EMS realizes its full potential and continues to favorably impact the outcomes of injured people.

Data must be collected on the care provided by the EMS and hospital-based providers treating the patient. This includes the amount of time the patient remains on the scene after the arrival of EMS, whether or not the patient was transported to the appropriate level of trauma hospital, and whether the patient survived or not. These three points of analysis – on scene time, patient destination and patient outcome – allow us to evaluate the effectiveness of pre-hospital EMS and trauma care.

This data is collected through two sources: the Washington EMS Information System (WEMSIS) and the Washington Trauma Registry (WTR). WEMSIS is Washington's version of the national EMS database. As the number of EMS agencies contributing data to WEMSIS increases, better analysis will be possible. The WTR collects demographic and clinical data only on trauma patients from EMS agencies and trauma-designated acute care hospitals. These two data sources together capture a comprehensive picture of EMS and hospital care received by trauma patients.

The data integration subcommittee of the State's Traffic Records Committee is exploring linking data from the WEMSIS and the WTR, as well as hospital inpatient discharge records, with collision records. Linking these datasets will provide insights on how to best deliver care to those severely injured in collisions.

Partnerships

Washington's EMS and Trauma Care System has been built upon broad consensus amongst a diverse group of health care professionals and industry experts. These groups have continuously worked to address the complex political, economic, logistical, legal and clinical issues associated with trauma care in the state. Addressing the challenges in a collaborative approach allows us to continue reducing the number of collision related fatalities and serious injuries.

Objectives & Strategies

Objectives (What)	Strategies (How)	Implementation Arena(s)
1. Reduce injury deaths and hospitalizations through EMS response and access to trauma care	1.1 Ensure efficient and adequate distribution of Level 1 and Level 2 Designated Trauma Centers. Increase the number of Level 2 trauma centers in the state, especially in eastern Washington. (P, META)	EMS
	1.2 Ensure that all major trauma patients are transported to the highest appropriate level of designated trauma center within a 30-minute transport. (R, DOH)	EMS
	1.3 Identify funding strategies that assist air medical services in filling gaps in coverage for emergency air medical response as identified in the state EMS and Trauma System Plan. (R, DOH)	Leadership/Policy, EMS
	1.4 Increase injury prevention programs that reduce traffic related injuries and death. (R, LIT)	Education
	1.5 Increase the percentage of EMS on-scene arrival responses that are within state requirements. (R, DOH)	EMS
	1.6 Ensure adequate and efficient distribution of pre-hospital EMS resources at all levels (aid and ambulance) according to the EMS and Trauma State and Regional Plans. (R, DOH)	Leadership/Policy, EMS
	1.7 Improve enforcement and public understanding of 'move-over' law. (U)	Education, Enforcement
	1.8 Consider EMS access in engineering development plans. (U)	EMS, Engineering
2. Increase communication and data capacity	2.1 Assure that seamless communications capabilities among EMS, law enforcement, and fire services agencies are achieved through interoperability. (R, NCHRP)	EMS, Enforcement, Leadership/Policy
	2.2 Ensure that the Washington State EMS and Trauma Care System has a statewide comprehensive, robust prehospital data system utilizing the prehospital data set with standard definitions - WEMSIS. (R, NCHRP)	Leadership/Policy, EMS
	2.3 Increase the number of EMS agencies reporting to WEMSIS. (R, NCHRP)	Leadership/Policy, EMS
	2.4 Prioritize WEMSIS availability for linking to collision records. (R, DOH)	Leadership/Policy, EMS
	2.5 Ensure that the Washington State EMS and Trauma Care System collects, integrates, links, and analyzes data from all system components. (R, DOH)	EMS

P = Proven **R = Recommended** **U = Unknown**

DOH = WA State Dept. of Health
META = Meta Study
LIT = Literature (Sufficient independent literature with favorable results)
NCHRP = National Cooperative Highway Research Program

Additional Resources

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition (National Highway Traffic Safety Administration),
http://www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf

Death Data (Washington State Department of Health, Center for Health Statistics, 2012),
http://www.doh.wa.gov/DataandStatisticalReports/VitalStatisticsData/DeathData.aspx

EMS and Trauma (Washington State Department of Health),
http://www.doh.wa.gov/PublicHealthandHealthcareProviders/EmergencyMedicalServicesEMSSystems/EMSandTrauma.aspx

NCHRP Report 500, Volume 15: A Guide for Reducing Alcohol-Related Collisions (National Cooperative Highway Research Program, Transportation Research Board),
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v15.pdf

Proposed National Unified Goal on Traffic Incident Management (National Traffic Incident Management Coalition),
http://downloads.transportation.org/Proposed_National_Unified_Goal.pdf

Washington State laws (RCWs) relating to EMS and Trauma Care System:

- *RCW 18.71 – Physicians.*
- *RCW 18.73 – Emergency medical care and transportation services.*
- *RCW 70.168 – Statewide trauma care system.*