

## Idaho's Strategic Highway Safety Plan Overview

### Toward Zero Deaths, Every Life Counts

#### What is a Strategic Highway Safety Plan (SHSP)?

An SHSP is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. The SHSP is developed by the State DOT in a cooperative process with Local, State, Federal, and private sector safety stakeholders. The SHSP is a data-driven, comprehensive plan that establishes statewide goals, objectives, and key emphasis areas. It integrates the four E's - engineering, education, enforcement, and crash response (EMS).

An SHSP is a major component and requirement of the Highway Safety Improvement Program (HSIP) which was established by SAFETEA-LU, 23 U.S.C. § 148 as a core federal program.

#### Benefits of an SHSP

An important benefit of an SHSP is better coordination of statewide goals and safety programs that most effectively reduce highway fatalities and serious injuries on all public roads through a comprehensive approach. The collaborative process of developing and implementing a State SHSP brings together and draws on the strengths and resources of all safety partners. The SHSP will allow the scheduling and implementation of safety improvement programs, comprehensive initiatives, and projects to be coordinated throughout the State.

More specifically, the SHSP will:

- ✓ Establish common statewide safety goals and priorities,
- ✓ Strengthen existing partnerships,
- ✓ Support the value of safety coalitions,
- ✓ Share data, knowledge, and resources,
- ✓ Quantify the existing and needed resources and activities to meet the State's safety goal,
- ✓ Avoid redundant activities,
- ✓ Leverage limited existing resources such as funds, people, and leadership attention, toward common objectives,
- ✓ Communicate the impact of investing additional resources for highway safety countermeasures, and
- ✓ Incorporate both behavioral and infrastructure strategies and countermeasures to have a greater impact on reducing highway fatalities and serious injuries on all public roads.

#### What are the SHSP Requirements?

The detailed requirements for SHSPs are described in section 1401 of SAFETEA-LU. In general, SAFETEA-LU requires that State Transportation Departments develop an SHSP that; includes consultation from a variety of stakeholders during the development process, be data driven, addresses the 4E's (engineering, education, enforcement, EMS), consider the safety needs on all public roads, include strategies to reduce traffic deaths and serious injuries, be implemented and evaluated.

#### Relationship between SHSPs and other safety plans and programs

To achieve the goal of the SHSP, it should be the guiding document for the emphasis areas and strategies of the other safety plans including the Highway Safety Improvement Plan, High Risk Rural Road Program, Highway Safety Plan, Safe Routes to School Program, rail program, commercial vehicle safety program, federal transit authority program and be consistent with ITD's Strategic Plan and the Statewide Transportation Improvement Programs (STIP).

#### Additional Information

The State Governor or responsible State agency must approve the SHSP.

## Highlights of Idaho's Strategic Highway Safety Plan

**Theme:** Toward Zero Deaths, Every Life Counts

**Overall Goal:** Fewer than 200 annual traffic deaths by 2012.

SHSP Emphasis Areas	Percent of Idaho Economic Costs of Crashes (2004-2008)*
<b>Behavior</b>	
Aggressive Driving	45%
Inattentive Driving	30%
Safety Restraints	29%
Impaired Driving	24%
Youthful Driver	18%
Vulnerable Users (bike 1%, pedestrian 3%, mature 13%)	17%
Commercial Vehicles	9%
Motorcycle	8%
<b>Infrastructure</b>	
Lane Departure (single vehicle run-off-road 35%, head-on/side-swipe 10%)	45%
Intersections	27%
<b>Other</b>	
Crash Response (EMS)	% not available

\* Economic costs by emphasis area are not mutually exclusive.

### Key Elements to Achieve Goals:

- Continued focus on behavioral safety utilizing programs proven effective.
- Development of the Idaho Highway Safety Coalition (IHSC) - a network of individuals, organizations and agencies throughout Idaho who are working together to create a culture of safety on Idaho's roads. With the overarching guidance from the Strategic Highway Safety Plan (SHSP), the IHSC will work on the ground level to implement activities, projects and educational components that support the SHSP goals and objectives. The combined planning of the SHSP at a policy level and the IHSC at the local level will increase program effectiveness. See <http://idahohighwaysafety.org/>.
- Improve safety with infrastructure improvements including the following elements -
  - Road Safety Audit Program
  - Implementation of Local Safety Corridors – develop data driven locally-requested safety corridors.
  - Utilize a system-wide approach to infrastructure safety issues by implementing low cost near term improvements.
- Marketing – Increase visibility of all partner's efforts to reduce traffic deaths and serious injuries by tagging events and programs with *Toward Zero Deaths, Every Life Counts*.

# Strategic Highway Safety Plan Emphasis Areas & Potential Effective Countermeasures

## Aggressive Driving

### The Definition

- Aggressive driving behaviors include: Failure to Yield Right of Way, Driving Too Fast for Conditions, Exceeding the Posted Speed, Passed Stop Sign, Disregarded Signal, and Following Too Close. Aggressive driving crashes are those where an officer indicates that at least one aggressive driving behavior contributed to the crash. Up to three contributing circumstances are possible for each vehicle in a crash, thus the total number of crashes attributed to these behaviors is less than the sum of the individual components.

### The Problem

- Aggressive driving contributed to 45% of the economic costs of crashes in Idaho from 2004-2008.
- With increasing vehicle miles of travel, traffic congestion and travel delays, the resulting frustration and impatience is reflected in driver behavior.
- In 2008, 100 people were killed in aggressive driving crashes. Aggressive driving was a factor in 54% of all crashes and 43% of all fatalities in 2008.
- Drivers, ages 19 and younger, are more than 4 times as likely to be involved in an aggressive driving collision as all other drivers.
- Aggressive driving crashes cost Idahoans nearly \$1.3 billion in 2008. This represented 49 percent of the total economic cost of crashes.

### Aggressive Driving in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Total Aggressive Driving Crashes	15,934	15,572	13,037	14,364	13,570	-3.5%
Fatalities	116	133	116	108	100	-3.1%
Serious Injuries	867	975	902	928	746	-2.9%
Visible Injuries	2,614	2,511	2,399	2,283	1,867	-7.9%
Possible Injuries	5,519	5,295	4,858	4,784	4,326	-5.9%
Number of Traffic Fatalities and Serious Injuries Involving:*						
Fail to Yield Right of Way	356	391	303	366	334	-0.2%
Driving Too Fast for Conditions	334	404	396	371	268	-3.8%
Exceeded Posted Speed	129	168	173	135	103	-3.1%
Passed Stop Sign	65	114	111	134	92	15.5%
Disregarded Signal	44	65	56	38	48	7.0%

Following Too Close	122	59	71	59	47	-17.1%
Aggressive Driving Fatal and Serious Injury Rate per 100 Million AVMT	6.63	7.40	6.67	6.54	5.54	-3.9%

*\* Three contributing circumstances possible per unit involved in each collision*

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## Potential Effective Countermeasures

- Speed limits
  - Followed if most drivers believe limits are reasonable
  - Threat of enforcement must be great enough to affect those drivers who will not comply voluntarily
  - Variable speed limits for adverse or changing environmental conditions
- Public information supporting enforcement
- Automated enforcement is used in many jurisdictions to reduce red-light running & speeding
  - Red light cameras to enforce red light running
  - Speed cameras
  - May provide a more generalized deterrent effect
  - May be harder to gain public acceptance
- High visibility enforcement
  - Officers focus on aggressive driving behaviors (mobilizations)
  - Enforcement publicized widely
- Technology
  - in-car cameras, allows officers to detect aggressive driving behaviors more accurately
  - Speed trailers have been shown to get the attention of drivers, causing them to slow down
- Communication and outreach programs
  - Media campaign to urge drivers to behave courteously; must be paired with enforcement

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# Inattentive or Distracted Driving

## The Problem

- Inattentive or distracted driving contributed to 30% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 71 fatalities resulted from inattentive or distracted driving crashes. This represents 31 percent of all fatalities. Only 14 (or 31 percent) of the 45 passenger vehicle occupants killed in inattentive or distracted driving crashes were wearing a seat belt.
- The other fatalities resulting from inattentive or distracted driving in 2008 were 14 motorcyclists, 4 commercial motor vehicle occupants, 3 pedestrians, 2 ATV riders, and 1 person on a riding lawn mower.
- Inattention and/or distraction was the most prevalent contributing circumstance for multiple vehicle crashes and the second most prevalent for single-vehicle crashes. Inattention/distraction contributed to about 1 out of 5 crashes for both single and multiple vehicle crashes.
- In 2008, drivers under the age of 25 comprised 39 percent of the drivers involved in all inattentive or distracted driving crashes and 32 percent of the drivers involved in fatal inattentive or distracted driving crashes, while they only comprised 15 percent of licensed drivers.
- In 2008, only 26 percent of the inattentive or distracted driving crashes involved a single vehicle, while 62 percent of the fatal inattentive or distracted driving crashes involved a single vehicle.
- Only 34 percent of the total inattentive or distracted driving crashes occurred in rural areas, while 82 percent of the fatal inattentive or distracted driving crashes occurred in rural areas.
- Inattentive or distracted driving crashes cost Idahoans just under \$828 million dollars in 2008. This represents 32 percent of the total economic cost of crashes.

## Inattentive or Distracted Driving Crashes in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Inattentive/Distracted Driving Crashes	8,324	8,033	7,059	7,515	6,672	-5.1%
Fatalities	89	81	84	79	71	-5.3%
Serious Injuries	650	634	607	677	527	-4.3%
Visible Injuries	1,781	1,591	1,520	1,484	1,144	-10.1%
Possible Injuries	3,063	2,910	2,790	2,802	2,411	-5.7%

## Potential Effective Countermeasures

- GDL requirements for younger drivers
  - Restrict number of teenagers in car with teenage driver
  - Restrict driving at night
- Distraction laws (sometimes included under inattentive or reckless driving laws)
  - Cell phone laws
  - Texting laws
  - Must be enforced to be effective
- Employer programs (effectiveness is limited with unknown outcomes, cost is low)
  - NHTSA and NCSDR workplace education program
- Public media campaign

- Rumble strips

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# Safety Restraints

## The Problem

- Lack of safety restraint use contributed to 29% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 77 percent of Idahoans were using seat belts, based on seat belt survey observations.
- In 2008, seat belt usage varied by region around the state from a high of 88 percent in District 3 (Southwestern Idaho) to a low of 60 percent in District 6 (Northeastern Idaho).
- Only 33 percent of the individuals killed in passenger cars, pickups and vans were wearing a seat belt in 2008. Seatbelts are estimated to be 50 percent effective in preventing serious and fatal injuries. By this estimate, we can deduce that 54 lives were saved in Idaho in 2008 because they were wearing a seat belt and an additional 53 lives could have been saved if everyone had worn their seat belt.
- There were 5 children under the age of 7 killed (3 were restrained) and 25 seriously injured (15 were restrained) while riding in passenger vehicles in 2008. Child safety seats are estimated to be 69 percent effective in reducing fatalities and serious injuries. By this estimate we can deduce that child safety seats saved 7 lives in 2008. Additionally, 33 serious injuries were prevented and 7 of the 10 unrestrained serious injuries may have been prevented if they had all been properly restrained.
- Unrestrained passenger motor vehicle occupants cost Idahoans just under \$799 million in 2008. This represents 31 percent of the total economic cost of crashes.

## Occupant Protection in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Observational Seat Belt Survey						
District 1	76%	76%	87%	87%	82%	2.2%
District 2	75%	81%	83%	82%	85%	3.1%
District 3	82%	85%	89%	87%	88%	1.6%
District 4	60%	71%	67%	69%	72%	5.1%
District 5	57%	55%	63%	62%	63%	2.8%
District 6	66%	68%	66%	60%	60%	-2.5%
<b>Statewide Average</b>	<b>74%</b>	<b>76%</b>	<b>80%</b>	<b>78%</b>	<b>77%</b>	<b>1.0%</b>
Seat Belt Use - Age 4 and Older*						
Cars, Pickups, Vans and SUV's						
In Fatal Crashes	42.4%	40.0%	38.8%	34.8%	32.9%	-6.1%
In Serious Injury Crashes	64.7%	64.7%	67.6%	66.1%	64.6%	0.0%
Self Reported Child Restraint Use*						
in Cars, Pickups, Vans and SUV's	87.3%	70.9%	76.2%	77.9%	81.6%	-1.1%

\*The child restraint law was modified in 2005 to include children under the age of 7. As of 2005, seat belt use

is for persons age 7 and older and child restraint use is for children 6 and younger.

## Potential Effective Countermeasures

- Primary seat belt law
- Local primary seat belt laws or ordinances
- Increased belt use law penalties
  - Higher fines will encourage nonusers to buckle up
  - Local communities could increase fines in their areas
- Short term, high-visibility seat belt enforcement (mobilizations)
  - Intense with a highly publicized media campaign
- Sustained seat belt enforcement
- Vigorous enforcement of seat belt and child safety seat laws
- Media campaign, earned and paid
- Enlist aid of public through coalitions or task forces for promoting seat belts
- Pre-crash sensing (i.e. non-pyrotechnic seat belt pre-tensioning)

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## **Impaired Driving**

### **The Definition**

- Impaired driving crashes are those where the investigating officer has indicated the driver of a motor vehicle, a pedestrian, or a bicyclist was alcohol and/or drug impaired or where alcohol and/or drug impairment was listed as a contributing circumstance to the crash.

### **The Problem**

- Impaired driving contributed to 24% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 96 fatalities resulted from impaired driving crashes. This represents 41 percent of all fatalities. Only 14 (or 18 percent) of the 76 passenger vehicle occupants killed in impaired driving crashes were wearing a seat belt.
- Nearly 15 percent of impaired drivers involved in crashes were under the age of 21 in 2008, even though they are too young to legally purchase alcohol.
- Impaired driving crashes cost Idahoans over \$725 million in 2008. This represents 28 percent of the total economic cost of crashes.

### **Impaired Driving in Idaho, 2004-2008**

	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>Avg. Yearly Change 2004- 2008</b>
Impaired Driving Crashes	1,944	1,952	1,877	1,936	1,783	-2.0%
Fatalities	103	100	110	101	96	-1.5%
Serious Injuries	331	367	316	309	285	-3.3%
Visible Injuries	559	522	610	568	433	-5.1%
Possible Injuries	603	630	593	628	569	-1.2%
Impaired Driving Crashes as a % of All Crashes	6.9%	6.9%	7.7%	7.3%	7.1%	1.2%
Impaired Driving Fatalities as a % of All Fatalities	39.6%	36.4%	41.2%	40.1%	41.4%	1.4%
Impaired Driving Injuries as a % of All Injuries	10.1%	10.5%	10.9%	11.1%	10.7%	1.5%
Impaired Driving Fatality & Serious Injury Rate per 100 Million AVMT	2.93	3.12	2.79	2.59	2.49	-3.7%
<b>Annual DUI Arrests by Agency*</b>						
Idaho State Police	1,461	817	1,744	1,654	1,977	20.9%

Local Agencies	8,674	8,255	9,637	9,997	10,195	4.4%
Total Arrests	10,135	9,072	11,381	11,651	12,172	5.5%
DUI Arrests per 100 Licensed Drivers	1.07	0.92	1.13	1.13	1.17	3.1%

\*Source: Idaho State Police, Bureau of Criminal Identification

## Potential Effective Countermeasures

- Administrative license revocation or suspension (ALR or ALS)
  - Swift and certain penalties
- High-BAC sanctions
  - Many high BAC drivers are habitual impaired driving offenders
  - High sanctions may encourage drivers to refuse BAC test unless refusal sanctions are as severe
- Alcohol-impaired driving law review
  - Impaired laws may be extremely complex
  - Require substantial staff time
- BAC test refusal penalties
- Saturation patrols (mobilizations)
  - Should be highly visible with a media campaign
  - Messages should clearly support enforcement
  - Integrated enforcement, DUI arrests are tracked during other emphasis area mobilizations
- Preliminary breath test devices (PBT's)
  - Mostly used by law enforcement for under-21 for alcohol use
- Diversion/plea agreement restrictions
  - Alcohol related offenses must be retained on driver's record
- Court monitoring
  - Track and report on court hearings (i.e. how many dismissed, plead down, sanctions imposed, etc.)
  - Relies on volunteers, typically part of MADD Idaho
- DWI Courts
  - Idaho currently has four dedicated DUI Courts, and four "HYBRID" courts (also includes drug convictions.)
- Alcohol problem assessment and treatment
- Vehicle and license plate sanctions
  - Alcohol interlocks
  - Special license plates for drivers with revoked or suspended licenses
  - Vehicle impoundment
  - Vehicle forfeiture
- DWI offender monitoring
  - Monitoring is done by probation
  - In the larger population area one probation officer may monitor 100 or more DUI offenders
- Alcohol screening and brief Interventions

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# Youthful Drivers

## The Problem

- Youthful drivers contributed to 18% of the economic costs of crashes in Idaho from 2004-2008.
- Drivers, age 15 to 19, represented 6 percent of licensed drivers in Idaho in 2008, yet they represented nearly 14 percent of the drivers involved in fatal and serious injury crashes.
- In 2008, drivers age 15 to 19 constituted 11 percent of the impaired drivers involved in crashes, despite the fact they were too young to legally consume alcohol.
- National and international research indicates youthful drivers are more likely to be in single-vehicle crashes, to make one or more driver errors, to speed, to carry more passengers than other age groups, to drive older and smaller cars that are less protective, and are less likely to wear seat belts.
- Only 3 of the 17 (18 percent) youthful drivers killed were wearing a seat belt.
- Crashes involving youthful drivers cost Idahoans over \$536 million in 2008. This represents 21 percent of the total economic cost of crashes.

## Crashes involving Youthful Drivers in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Total Crashes Involving Drivers 15-19	7,408	7,309	6,216	6,734	5,909	-5.1%
Fatalities	39	38	38	42	39	0.2%
Serious Injuries	376	377	403	426	348	-1.4%
Visible Injuries	1,258	1,156	1,233	1,127	881	-8.0%
Possible Injuries	2,479	2,471	2,342	2,234	1,919	-6.1%
Drivers 15-19 in Fatal & Serious Injury Crashes	335	326	339	374	296	-2.3%
% of all Drivers involved in Fatal and Serious Injury Crashes	13.8%	13.5%	14.1%	14.9%	13.8%	0.1%
Licensed Drivers 15-19	65,391	66,637	66,038	65,173	63,451	-0.7%
% of Total Licensed Drivers	6.9%	6.8%	6.6%	6.3%	6.1%	-3.0%
Fatal & Injury Crash Involvement*	2.01	1.99	2.15	2.34	2.26	3.2%
Drivers 15-19 - Fatal Crashes	36	35	35	36	36	0.0%
Impaired Drivers 15-19 - Fatal Crashes	8	10	7	9	10	8.7%
% of Youthful Drivers that were Impaired in Fatal Crashes	22.2%	28.6%	20.0%	25.0%	27.8%	8.7%

\* Fatal & Injury Crash Involvement is the percent of fatal and injury crashes divided by the percent of licensed drivers.  
Over-representation occurs when the value is greater than 1.0., Under-Representation when the value is less than 1.

## Potential Effective Countermeasures

- Modify current GDL law to:
  - Increase the age requirement for obtaining a learner's permit and full license
  - Increase the learner's permit length of time and number of hours for supervision
  - During the Intermediate phase, restrict the number of passengers
- Enforce current seat belt use law to reduce risk of injury or death
- Enforce GDL and zero-tolerance laws
  - Emphasize seriousness of the laws
- Driver education
- Develop a law to restrict cell phone and texting while driving
- Improve education of parents and the public on dangers of risky youthful driving behaviors
  - Utilize coalition focus group to work in communities
  - Utilize Alive at 25 classes
  - Provide teen traffic safety conferences around the state
- Parent imposed restrictions for acceptable driving behaviors
  - Enforce driving behavior restrictions
  - Written parent-teen driving contract

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# Pedestrians and Bicyclists

## The Problem

- Crashes involving bicyclists contributed to 1% of the economic costs of crashes in Idaho from 2004-2008.
- Crashes involving pedestrians contributed to 3% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 11 pedestrians and 2 bicyclists were killed in traffic crashes. The 13 pedestrians and bicyclists killed represented 6 percent of all fatalities in Idaho.
- Children, ages 4 to 14, accounted for 21 percent of the fatalities and injuries sustained in pedestrian crashes and 21 percent of the fatalities and injuries sustained in bicycle crashes.
- Crashes involving pedestrians and bicyclists cost Idahoans over \$138 million dollars in 2008. This represents 5 percent of the total economic cost of crashes.

## Pedestrians and Bicyclists Involved in Crashes in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Pedestrian Crashes	235	206	224	244	212	-1.9%
Fatalities	18	9	8	17	11	4.0%
Serious Injuries	64	51	56	65	50	-4.4%
Visible Injuries	97	91	99	90	93	-0.8%
Possible Injuries	67	62	71	83	73	3.0%
Pedestrians in Crashes	249	218	236	259	230	-1.4%
Pedestrian Fatal and Serious Injuries	82	60	64	82	61	-4.4%
% of All Fatal and Serious Injuries	4.3%	2.9%	3.3%	4.0%	3.5%	-2.2%
Impaired Pedestrian F&SI	19	11	15	14	9	-12.0%
% of Pedestrian F&SI - Impaired	23.2%	18.3%	23.4%	17.1%	14.8%	-8.4%
Bicycle Crashes	276	321	328	321	344	5.9%
Fatalities	3	3	2	2	2	-8.3%
Serious Injuries	28	42	29	35	50	20.6%
Visible Injuries	142	167	180	161	146	1.4%
Possible Injuries	96	106	120	124	143	10.6%
Bicyclists in Crashes	279	327	333	333	352	6.2%
Bicycle Fatal and Serious Injuries	31	45	31	37	52	18.5%
% of All Fatal and Serious Injuries	1.6%	2.2%	1.6%	1.8%	3.0%	21.9%
Bicyclists Wearing Helmets in Collisions	35	56	55	58	58	15.9%

% of Bicyclists Wearing Helmets	12.5%	17.1%	16.5%	17.4%	16.5%	8.3%
Impaired Bicyclist F&SI	0	3	0	3	3	25.0%
% of Bicycle F&SI – Impaired	0.0%	6.7%	0.0%	8.1%	5.8%	17.8%

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## Potential Effective Countermeasures for Pedestrian Safety

- Advanced yield markings for motorists
- Pedestrian countdown signals
- Rectangular rapid flashing beacons
- Paved shoulders for rural environments
- Proper sidewalks
- Pedestrian safety zones
  - Slow traffic and improve conditions
  - Change timing of traffic signal
  - Enhanced enforcement
- Targeted enforcement
  - Change walking or driving actions and behaviors
  - Highly visible and publicized
  - Raise expectations that failure to comply may lead to legal action

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## Potential Effective Countermeasures for Bicycle Safety

- Bicycle helmet laws for both children and adults
- Rider conspicuity
- Active bicycle lighting
- Bike fairs, bike rodeos
- Wide curb lane
  - Create on-street travel facilities for bicyclists
  - Create a lane wide enough where motor vehicles and bicycles have adequate room to share the lane during overtaking
- Intersection markings
  - Create on-street travel facilities and separated space for bicyclists
  - Increase awareness and safe behaviors by both cyclists and motorists
- Roundabouts
  - Provide good traffic management where the intersection is large and complex
  - Replace a traffic signal that is experiencing heavy traffic backup and congestion

- Reduce speeds at intersection

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# Mature Drivers

## The Problem

- Crashes involving mature drivers contributed to 13% of the economic costs of crashes in Idaho from 2004-2008.
- Mature drivers, over 65, were involved in 3,036 crashes in 2008. This represents 12 percent of the total number of crashes. Crashes involving mature drivers resulted in 13 percent of the total number of fatalities in 2008.
- Mature drivers are under-represented in fatal and injury crashes. Drivers over the age of 65 represent nearly 14 percent of licensed drivers, but represent 8 percent of drivers involved in fatal and injury crashes.
- National research indicates drivers and passengers over the age of 75 are more likely than younger persons to sustain injuries or death in traffic crashes due to their physical fragility.
- Crashes involving drivers, age 65 and older, cost Idahoans over \$332 million dollars in 2008. This represents 13 percent of the total economic cost of crashes.

## Crashes Involving Mature Drivers in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Total Mature Driver Crashes	3,378	3,362	2,853	3,307	3,036	-2.0%
Fatalities	43	48	43	42	30	-7.4%
Serious Injuries	224	224	240	244	192	-3.1%
Visible Injuries	575	533	531	540	415	-7.3%
Possible Injuries	1,052	1,067	1,088	1,063	928	-2.9%
Mature Drivers in Fatal & Injury Crashes	1,297	1,309	1,326	1,332	1,133	-3.1%
% of All Drivers in Fatal & Injury Crashes	7.5%	7.6%	8.0%	8.3%	8.1%	1.7%
Licensed Drivers 65 & Older	134,849	140,331	146,822	153,003	157,457	4.0%
% of Total Licensed Drivers	14.2%	14.3%	14.6%	14.9%	13.5%	-1.2%
Involvement* of Drivers 65 & Older in Fatal and Injury Crashes	0.53	0.54	0.55	0.55	0.60	3.1%
Mature Drivers-Fatal Crashes	38	44	39	42	28	-5.3%
Mature Drivers-Impaired Fatal Crashes	1	3	1	4	2	95.8%
% Fatal Impaired Crashes	2.6%	6.8%	2.6%	9.5%	7.1%	85.8%

\* Representation (or Involvement) is percent of fatal and injury crashes divided by percent of licensed drivers. Over-representation occurs when the value is greater than 1.0., Under-Representation when the value is less than 1.

## Potential Effective Countermeasures for Mature Driver Safety

- Formal courses for older drivers

- AARP's Driver Safety Program, 6-10 hours of basic safe driving practices and how to adjust to age-related cognitive and physical changes
- 34 States and District of Columbia mandated automobile insurance discounts for graduates of accredited courses.
- License screening and testing
- License restrictions
  - For excessive risks in only certain situations
  - Graduated de-licensing
- License renewal policies: In-person renewal, vision testing
- Law enforcement
  - Enforce traffic laws
  - Identify drivers with potential driving impairments and refer them to licensing agencies

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# Commercial Motor Vehicles

Commercial motor vehicles are buses, truck tractors, truck-trailer combinations, trucks with more than two axles, trucks with more than two tires per axle, or trucks exceeding 8,000 pounds gross vehicle weight that are primarily used for the transportation of property.

## The Problem

- Crashes involving commercial motor vehicles contributed to 9% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 36 people died in crashes with commercial motor vehicles. This represents 16 percent of all motor vehicle fatalities in Idaho. Of the persons killed in crashes with commercial motor vehicles, 61 percent were occupants of passenger cars, vans, sport utility vehicles and pickup trucks.
- In 2008, 56 percent of all crashes and 73 percent of fatal crashes involving commercial motor vehicles occurred on rural roadways. Rural roadways are defined as any roadway located outside the city limits of cities with a population of 5,000 or more.
- Local roadways had the most commercial motor vehicle crashes at 45 percent, while U.S. and State highways had the most fatal commercial motor vehicle crashes at 50 percent.
- Commercial motor vehicles crashes cost Idahoans nearly \$289 million in 2008. This represents 11 percent of the total economic cost of crashes.

## Commercial Motor Vehicle Crashes in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Total CMV Crashes	1,918	1,983	1,710	1,878	1,838	-0.7%
Fatalities	32	37	30	32	36	4.0%
Serious Injuries	132	133	144	118	99	-6.3%
Visible Injuries	293	257	249	262	207	-7.8%
Possible Injuries	379	353	322	444	374	1.6%
Commercial AVMT (millions)	2,641	2,735	2,833	2,957	2,737	1.0%
% of Total AVMT	17.8%	18.3%	18.6%	18.7%	17.9%	0.2%
Fatalities per 100 Million CAVMT	1.21	1.35	1.06	1.08	1.32	3.4%
Injuries per 100 Million CAVMT	30.44	27.17	25.24	27.87	24.85	-4.6%

## Potential Effective Countermeasures

- Company driver's manuals
- Driver training aids
- Planning schedules, loads and routes

- Assisting the driver with pre-trip planning avoids overburdening the driver with unusual driving conditions caused by tight schedules, unusual cargoes, and unfamiliar or hazardous routes
- Driver safety infractions
  - The objective is to improve fleet safety by remedial training or termination of unqualified drivers.
  - Driving is a profession requiring skill, knowledge, physical and mental health and character as well as integrity.
  - Public Safety and company reputation requires that drivers be fully qualified.
  - Drivers who are not qualified should receive remedial training or be terminated if they cannot be brought up to the necessary level of competence.
- Road worthiness
- Load restraint
  - Education and information.
  - Enforcement

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# Motorcyclists

## The Problem

- Crashes involving motorcyclists contributed to 8% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, motorcycle crashes represented just 3 percent of the total number of crashes, yet accounted for just less than 13 percent of the total number of fatalities and serious injuries.
- Just over half (55 percent) of all motorcycle crashes involved a single vehicle, while just under half (48 percent) of fatal motorcycle crashes involved a single vehicle.
- Idaho code requires all motorcycle operators and passengers under the age of 18 to wear a helmet. In 2008, only 27 of the 36 (75 percent) motorcycle drivers and passengers, under the age of 18 and involved in crashes, were wearing helmets.
- The National Highway Traffic Safety Administration estimates helmets are 37 percent effective in preventing motorcycle fatalities. In 2008, only 61 percent of all motorcyclists killed in crashes were wearing helmets.
- Motorcycle crashes cost Idahoans over \$262 million dollars in 2008. This represents 10 percent of the total economic cost of crashes.

## Motorcycle Crashes in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Motorcycle Crashes	508	549	516	615	678	7.9%
Fatalities	24	26	38	29	29	7.7%
Serious Injuries	145	185	149	194	192	9.3%
Visible Injuries	216	224	212	271	281	7.5%
Possible Injuries	110	110	119	123	180	14.5%
Motorcyclists in Crashes	578	625	589	718	773	8.0%
Registered Motorcycles	52,614	60,202	51,842	45,752	62,673	6.4%
Motorcyclists Wearing Helmets	246	270	286	343	423	14.7%
% Motorcyclists Wearing Helmets	42.6%	43.2%	48.6%	47.8%	54.7%	6.7%

## Potential Effective Countermeasures

- Motorcycle Helmets
  - NHTSA estimates that helmets reduce fatalities by 22 to 42%
  - NHTSA estimates that helmets reduce brain injuries by 41 to 69%
  - Helmet use laws effectively increase helmet use
- Operator Licensing (effectiveness unknown)
  - Assures that riders have basic riding knowledge and skills
  - Waive skills and knowledge tests for graduates of approved education and training courses.
  - Actively enforce motorcycle operator licensing requirements

- Operator Education and Training (effectiveness unknown)
  - Broad support for the motorcycle industry
  - Available courses have not been evaluated for effectiveness

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# Lane Departure

Lane departure crash incidents include single-vehicle-run-off road crashes, head-on crashes, and sideswipe crashes.

## Single-Vehicle Run-Off-Road Crashes

### The Problem

- Single-vehicle run-off-road crashes contributed to 35% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 24 percent of all crashes involved a single-vehicle leaving the roadway. The majority of these crashes (73 percent) occurred on rural roadways.
- Single-vehicle run-off-road crashes resulted in 50 percent of all fatalities in Idaho. Impaired driving was a factor in 50 percent of the 108 fatal single-vehicle run-off-road crashes.
- Overturning was attributed as the most harmful event in 75 percent of the fatal single-vehicle run off road crashes. Rollovers were responsible for 64 percent of the single-vehicle run-off road fatalities and nearly one-third (32%) of all fatalities in 2008. Of the 74 people killed in single-vehicle run-off-road rollovers, 59 (80 percent) were not wearing a seat belt.
- Run-off-road crashes cost Idahoans more than \$1.0 billion in 2008. This represents 39 percent of the total economic cost of crashes.

### Crashes on Idaho Highways Involving One Vehicle that Ran Off the Road, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Ran-Off-Road Crashes	6,156	6,272	5,471	5,940	5,985	-0.4%
Fatalities	116	134	126	132	116	0.5%
Serious Injuries	564	582	546	625	515	-1.5%
Visible Injuries	1,308	1,254	1,236	1,169	1,026	-5.8%
Possible Injuries	1,670	1,566	1,504	1,507	1,415	-4.0%
Most Harmful Events of Fatal and Serious Injury Ran Off Road Crashes						
Overturn	383	367	362	377	339	-2.9%
Ditch/Embankment	37	55	35	37	41	7.2%
Tree	37	46	44	47	33	-0.7%
Poles/Posts	25	28	24	37	25	4.9%
Fence/Building/ Wall	13	15	15	16	17	7.1%
Other Fixed Object	15	14	14	8	14	6.4%
Guardrail	7	11	11	17	12	20.6%
Immersion	6	5	13	8	3	10.6%
Culvert	2	6	1	5	4	124.2%

Bridge Rail/Abutment/End	4	3	1	3	1	10.4%
All Other Most Harmful Events	21	28	33	44	40	18.9%

## Head-On and Side Swipe Opposite Direction Crashes

### The Problem

- Head-on and side swipe opposite direction crashes contributed to 10% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, just 3% of all crashes were a head-on or side swipe opposite direction crash, while 17% of fatal crashes were the result of a head-on or side swipe opposite direction.
- While all head-on and sideswipe opposite crashes were pretty evenly distributed between urban (48%) and rural (52%) roadways in 2008, 84% of the fatal head-on and sideswipe opposite crashes occurred on rural roadways.
- Drivers involved in a head-on or side swipe opposite crash that drove left of center were primarily just driving straight ahead (55%), while another 35% were negotiating a curve.
- Of the 42 people killed in head on or side swipe opposite crashes, 34 were passenger motor vehicle occupants. Of the 34 passenger motor vehicle occupants, 13 (38%) were not restrained.
- Head-on and side swipe opposite direction crashes cost Idahoans more than \$330 million in 2008. This represents 13 percent of the total economic cost of crashes.

### Head-On and Side Swipe Opposite Crashes on Idaho Highways, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Head-On/Side Swipe Opposite Crashes	902	826	815	823	841	-1.6%
Fatalities	45	49	34	26	42	4.1%
Serious Injuries	186	205	180	165	138	-6.7%
Visible Injuries	274	279	252	244	222	-5.0%
Possible Injuries	384	370	348	356	352	-2.1%

### Potential Effective Countermeasures

- A minimum four-foot paved shoulder on major roads
- Providing edge line and centerline rumble stripes
- Using six-inch stripes for all edge line and multilane skips on all major roads
- Using curve speed plaques for every curve/turn sign to indicate appropriate speeds
- Providing guardrail and median guard cable delineation on major roads
- Install raised delineation (profiled thermoplastic strips) for centerlines
- Reallocate two-lane roadway width to include a narrow buffer median

### Lane Departure References

AASHTO. (2008) Driving Down Lane-Departure Crashes - A National Priority. [downloads.transportation.org/PLD-1.pdf](https://downloads.transportation.org/PLD-1.pdf)

# Intersection Crashes

## The Problem

- Crashes at or in relation to an intersection contributed to 27% of the economic costs of crashes in Idaho from 2004-2008.
- In 2008, 40% of all crashes occurred at or were related to an intersection, while 17% of fatal crashes occurred at or were related to an intersection.
- The majority of all intersection-related crashes (82%) occurred on urban roadways in 2008, while 60% of the fatal intersection-related crashes occurred on rural roadways.
- While total intersection related crashes were fairly evenly split among intersections with stop signs, signals, and no control, 51% of fatal intersection crashes occurred at intersections with stop signs, 35% at intersections with no control, and 11% at intersections with traffic signals. There was 1 fatal crash that occurred at a pedestrian crossing signal. All of the fatal intersection related crashes at traffic signals occurred in urban areas, while 60% of the fatal intersection related crashes at stop signs occurred in rural areas and 85% of the fatal intersection related crashes with no control device occurred in rural areas.
- Of the 38 people killed in crashes at intersections, 26 were passenger motor vehicle occupants. Of the 26 passenger motor vehicle occupants, 12 (46%) were not restrained.
- Intersection related crashes cost Idahoans nearly \$733 million in 2008. This represents 28 percent of the total economic cost of crashes.

## Intersection–Related Crashes on Idaho Highways, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Intersection Crashes	11,355	11,514	9,818	10,972	9,974	-2.7%
Fatalities	42	53	69	49	38	1.2%
Serious Injuries	575	645	651	619	545	-0.9%
Visible Injuries	1,820	1,745	1,767	1,738	1,391	-6.1%
Possible Injuries	3,920	4,042	3,917	3,914	3,504	-2.6%
Traffic Control Device at Intersection						
Stop Sign	4,236	4,241	3,764	4,039	3,506	-4.3%
%	37%	37%	38%	37%	35%	-1.4%
Signal	3,775	3,903	3,189	3,709	3,543	-0.8%
%	33%	34%	32%	34%	36%	1.7%
None	2,956	3,000	2,563	2,848	2,612	-2.6%
%	26%	26%	26%	26%	26%	0.2%
Yield	214	219	160	213	187	-0.9%
%	2%	2%	2%	2%	2%	0.6%

All Other	174	151	142	163	126	-6.8%
%	2%	1%	1%	1%	1%	-4.1%

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## Potential Effective Countermeasures

- Roundabouts
  - Transition traffic from high speed to low speed
- Left turn lanes at stop-controlled intersections
  - Reduces crash potential
  - Reduces motorist inconvenience
  - Improves operational efficiency
- Right turn lanes at stop-controlled intersections
  - provide a separation between right-turning traffic and adjacent through traffic at intersection approaches
  - Reduces conflict
- Yellow change intervals
  - increasing yellow time to meet the needs of traffic can dramatically reduce red light running
- In lane rumble strips
- Higher visibility signs
- Aggressive driving campaigns
  - Failure to yield
  - Passed stop sign
  - Ran Red Light

## Intersection References

*Desktop Reference for Crash Reduction Factors, FHWA-SA-07-015, 2007*

<http://www.transportation.org/sites/safetymanagement/docs/Desktop%20Reference%20Complete.pdf>

*NCHRP Report 500, Volume 5, A Guide for Addressing Unsignalized Intersection Collisions*

[http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp\\_rpt\\_500v5.pdf](http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_500v5.pdf)

*NCHRP Report 572: Roundabouts in the United States*

[onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_572.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_572.pdf)

*NCHRP Project 03-91, Left-Turn Accommodations at Unsignalized Intersections (underway) Guide for the Planning, Design, and Operation of Pedestrian Facilities. American Association of State Highway and Transportation Officials. 2004.*

*Roundabouts: An Informational Guide (Report No. FHWA-RD-00-067)*

<http://www.tfrc.gov/safety/00068.htm>

*Safety Effectiveness of Intersection Left- and Right Turn Lanes (FHWA-RD-02-089)*

<http://www.tfrc.gov/safety/pubs/02089/index.htm>

## Crash Response (Emergency Medical Services)

The availability and quality of services provided by local EMS agencies may mean the difference between life and death for someone injured in a traffic crash. Improved post-crash victim care reduces the severity of trauma incurred by crash victims. The sooner someone receives appropriate medical care, the better the chances of recovery. This care is especially critical in rural areas because of the time it takes to transport a victim to a hospital.

ITD seeks to address the following:

- Quick and effective response to address care of crash victims
- Safety of emergency responders, incident victims, and the public
- Appropriate training and equipment to provide most effective medical care
- Re-open the roadway as quickly as possible
- Provide for accurate crash data (accurate investigation must not be compromised)

### Crash Response (EMS) in Idaho, 2004-2008

	2004	2005	2006	2007	2008	Avg. Yearly Change 2004- 2008
Total Crashes	28,332	28,238	24,225	26,452	25,002	-2.7%
EMS Response to Fatal & Injury Crashes	6,624	6,550	6,519	6,471	5,826	-3.1%
% of Fatal & Injury Crashes	65.7%	65.2%	66.7%	68.5%	69.0%	1.3%
Persons Injured in Crashes	14,734	14,436	13,950	13,594	12,227	-4.5%
Injured Transported from Rural Areas	3,549	3,234	3,063	3,110	2,761	-6.0%
Injured Transported from Urban Areas	2,643	2,740	2,777	2,871	2,480	-1.3%
Total Injured Transported by EMS	6,192	5,974	5,840	5,981	5,241	-3.9%
% of Injured Transported	42.0%	41.4%	41.9%	44.0%	42.9%	0.5%
Trapped and Extricated	568	651	586	566	495	-2.8%
Fatal and Serious Injuries Transported by Helicopter	271	258	201	233	173	-9.2%

### Potential Effective Countermeasures

#### General -

- Effective partnerships and programs
  - A strong inter-agency planning process is necessary for the success of a traffic incident. All agencies have a role to play in program development, ensuring that the program is implemented successfully.

- Technology
  - Partners at the state, regional, and local level work together to coordinate successful implementation of new technology that will manage traffic incidents efficiently.
- Personnel, equipment, training, and funding
  - Promote well trained and equipped responders, regardless if they are volunteer, paid employee, in order to effectively manage a traffic incident on a 24/7 basis.
- Effective policies
  - Partners at the state, regional, and local level should come together to raise awareness of upcoming, proposed legislation and changing policies that will ultimately affect achievement objectives of *Responder Safety, Safe Quick Clearance, and Prompt Reliable Traffic Incident Communications*.

#### **Responder Safety -**

- Recommended practices for responder safety
  - To be developed and widely published, distributed, and adopted.
- Driver training and awareness
  - Programs to teach drivers how to react to emergencies on the roadway, with the intent of preventing secondary incidents, including traffic incident responder injuries and death.

#### **Safe & Quick Clearance -**

- Traffic Incident Management Procedures
  - Partners at the state, regional, & local levels should develop & adopt procedures for coordination of traffic incident management operations.
- Response and clearance time goals
  - Partners at the state, regional, & local levels should commit to achieving goals for traffic incident response and clearance times.

#### **Prompt, Reliable Incident Communications -**

- Prompt and reliable responder notification
  - All traffic incident responders should receive prompt reliable, notification of incidents to which they are expected to respond.
- Interoperable voice and data networks
  - State, regional, and local Traffic Incident Management stakeholders should work together to develop interoperable voice and data networks.
- Reliable traveler information systems
  - All partners involved should encourage development of more prompt and reliable traveler information systems that will enable drivers to make travel decisions that will reduce the impact of emergency incidents on traffic flow.
- Partnerships with the news media and information providers
  - All stakeholders involved should actively partner with news media and information service providers to provide prompt and reliable incident information to the public.

### **Crash Response (Emergency Medical Services) References**

*National Unified Goal for Traffic Incident Management (National Traffic Incident Management Coalition)*

<http://www.timcoalition.org/?siteid=41&pageid=1973>



# Idaho Strategic Highway Safety Plan Workshop

**Emphasis Area:**

**Team Leader:**

**Strategy:**

**Possible Funding:**

The emphasis area team should brainstorm and fill-in the top three action step that will support the strategy listed above. Each action step should be supported by a responsible person/agency. The responsible person/agency is the person or office that will be working on the action step.

Action Steps	Responsible Person/Agency

**Next Steps:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_