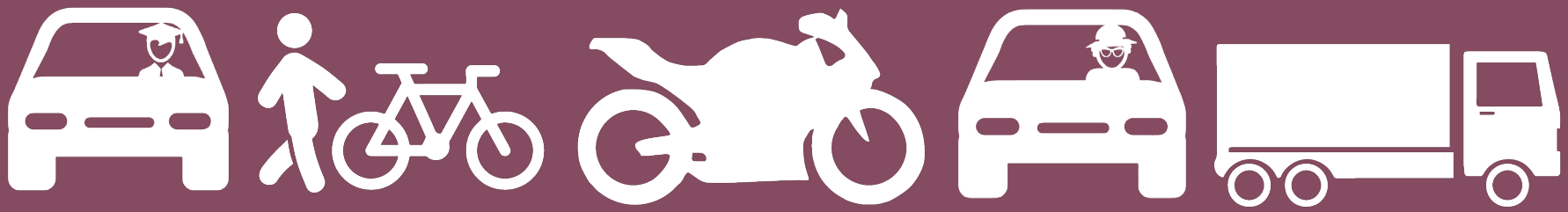
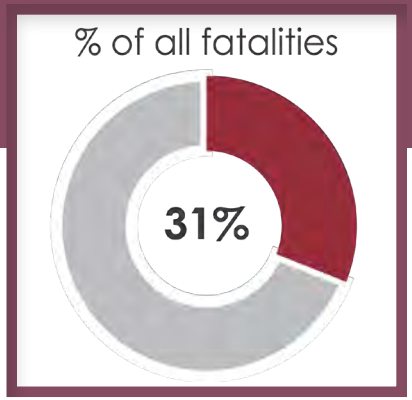
Road Users



Certain road users are more susceptible to fatal and serious injury crashes. Some are types of drivers, such as younger and older drivers. Others are more vulnerable in crashes, such as pedestrians, bicyclists, and motorcyclists.

Reducing crash potential for all users is an important aspect of health equity for Washington. In this section of the Target Zero plan, we analyze who are susceptible road users, why they are more likely to be involved in fatalities and serious injuries, and how to safeguard them.

Young Drivers (16–25 years old)

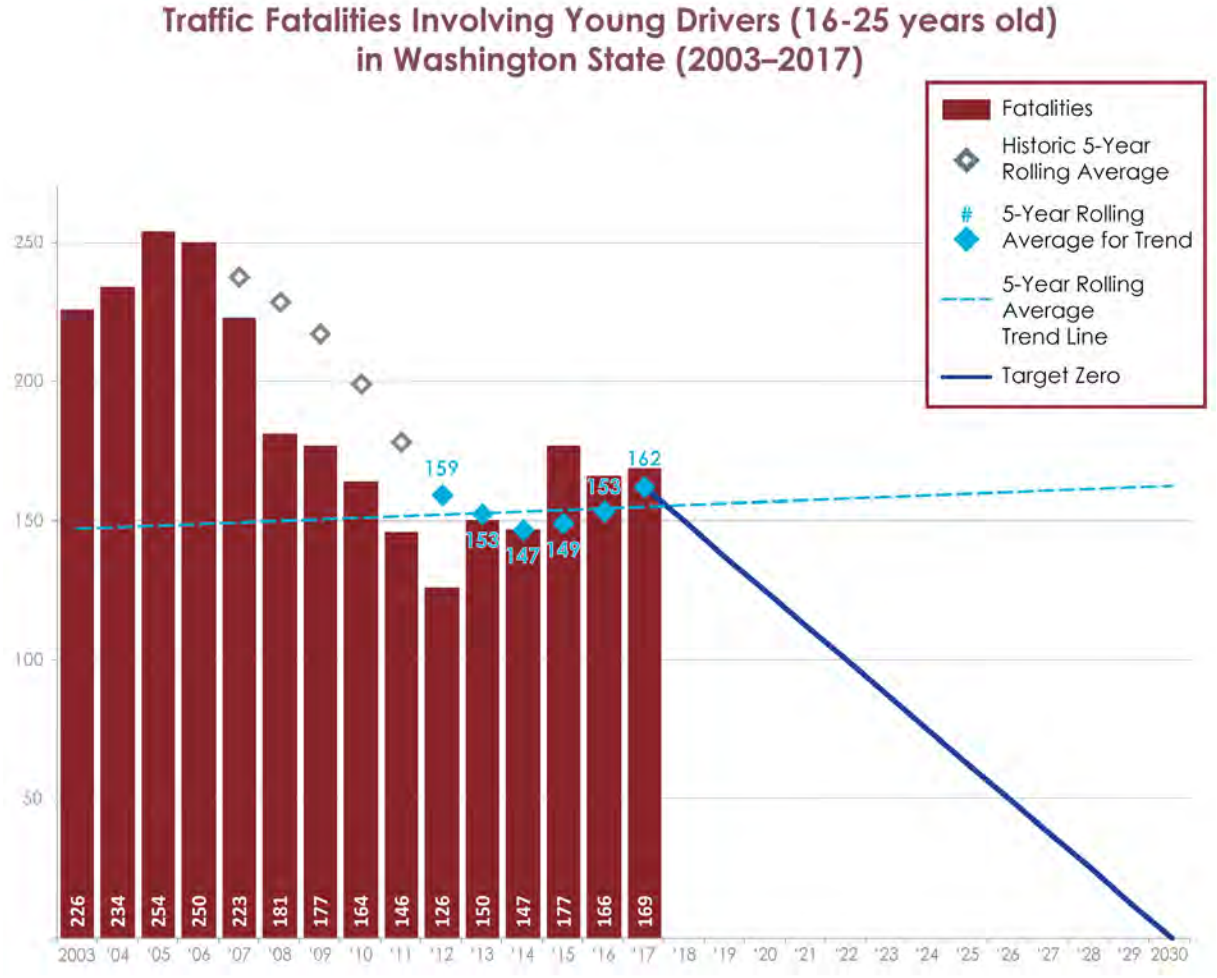


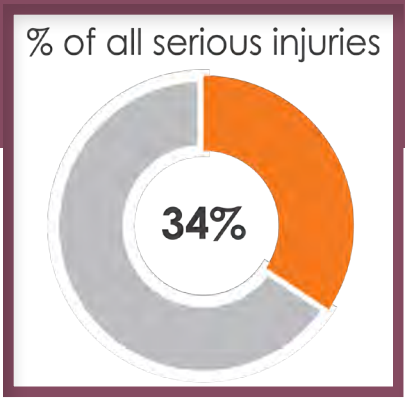
Compared to the average driver, young drivers are more than twice as likely to be in a crash resulting in either a fatality or serious injury. While young drivers make up just 13.5% of the driving population, they were involved in 31% of all fatalities and 34% of all serious injuries in 2015–2017.

Young drivers are defined as those between the ages of 16 and 25. This 10-year age span has three distinct sub-groups:

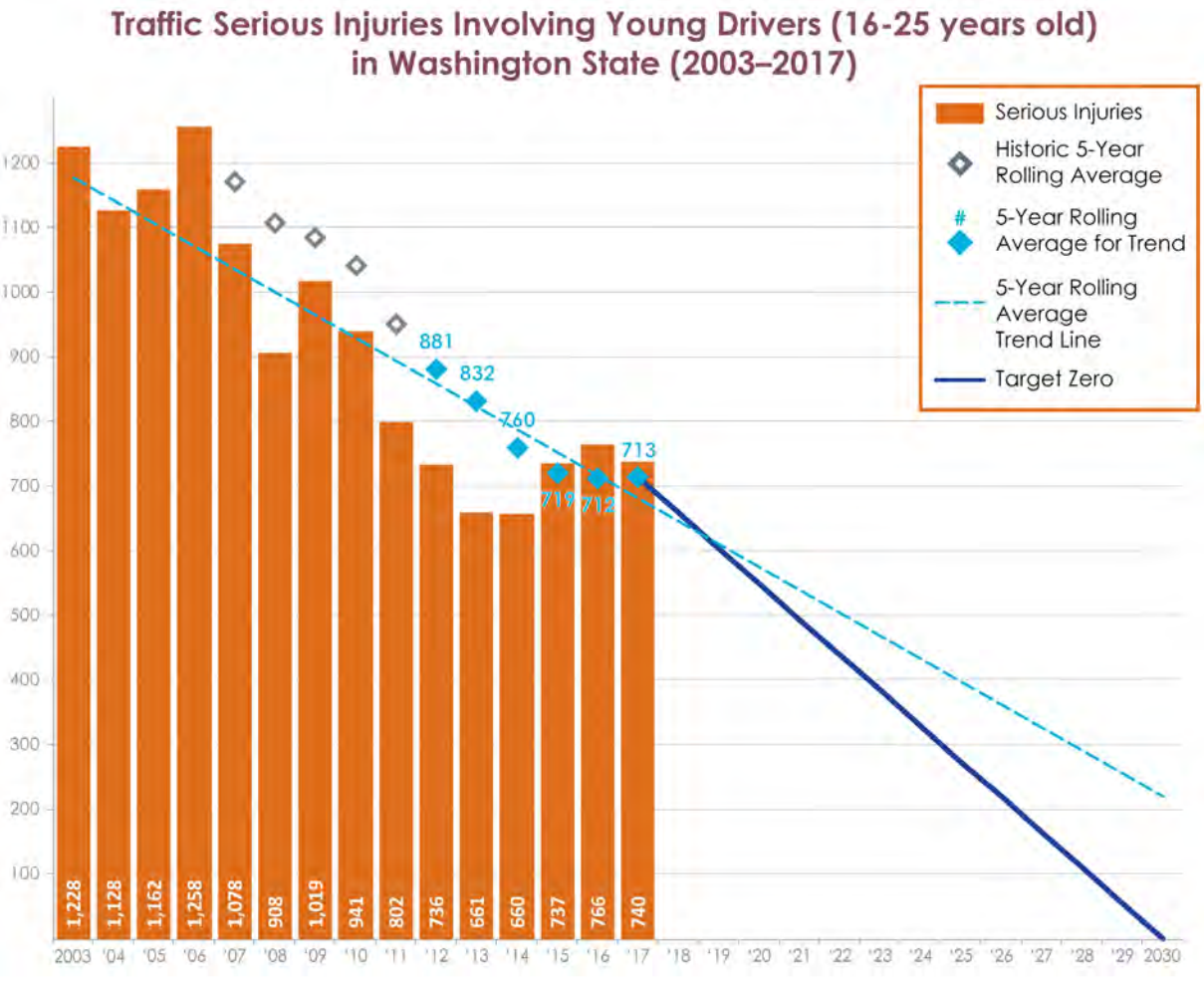
1. **Drivers aged 16- and 17-year-old,** newly licensed under the Graduated Driver Licensing (GDL) program. This group represents the largest number of newly licensed drivers annually in Washington.
2. **Drivers aged 18–20,** which includes newly licensed drivers who are not subject to driver training and GDL restrictions, as well as drivers who were licensed at 16 or 17 under the GDL.
3. **Drivers aged 21–25,** who often have driving experience but are of legal drinking age and are more likely to drive impaired.

Because of these unique characteristics, drivers in these three groups behave differently on the road. Reducing young-driver-involved fatalities and serious injuries requires different strategies based on these differences.





Priority 1



Key Countermeasures for Young Drivers include:

- Improve the GDL law.
- Publicize and enforce safety belt laws.

Drivers Testing

In 2016, the Department of Licensing (DOL) updated the Driver Guide and the knowledge exam to better address the top contributing factors for young drivers: distraction, impairment, and speeding. DOL also increased the number of knowledge exam questions from 25 to 40. This means the exam taker has to study more, have a better understanding of the traffic laws, and possess broader knowledge to pass the test. As a result of these changes, Washington State saw a sizeable decrease in the knowledge exam passing rates. DOL will also explore ways to continue to improve the driver skill test to increase the quality of our licensed drivers and reduce fatalities and serious injuries.

BETWEEN 2015–2017 THERE WERE

512 FATALITIES AND 2,243 SERIOUS INJURIES

INVOLVING A YOUNG DRIVER

FATALITIES INVOLVING YOUNG DRIVERS OFTEN INVOLVE OTHER FACTORS

The top two factors that overlap with Young Drivers are **LANE DEPARTURE** and **IMPAIRMENT**

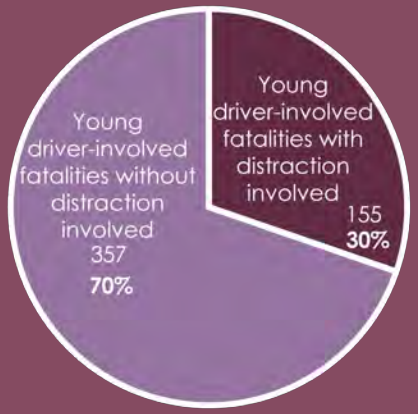
OUT OF **512 FATALITIES**:

53% also involved LANE DEPARTURE
61% also involved IMPAIRMENT
and 34% involved a combination of both

Overlapping Factors

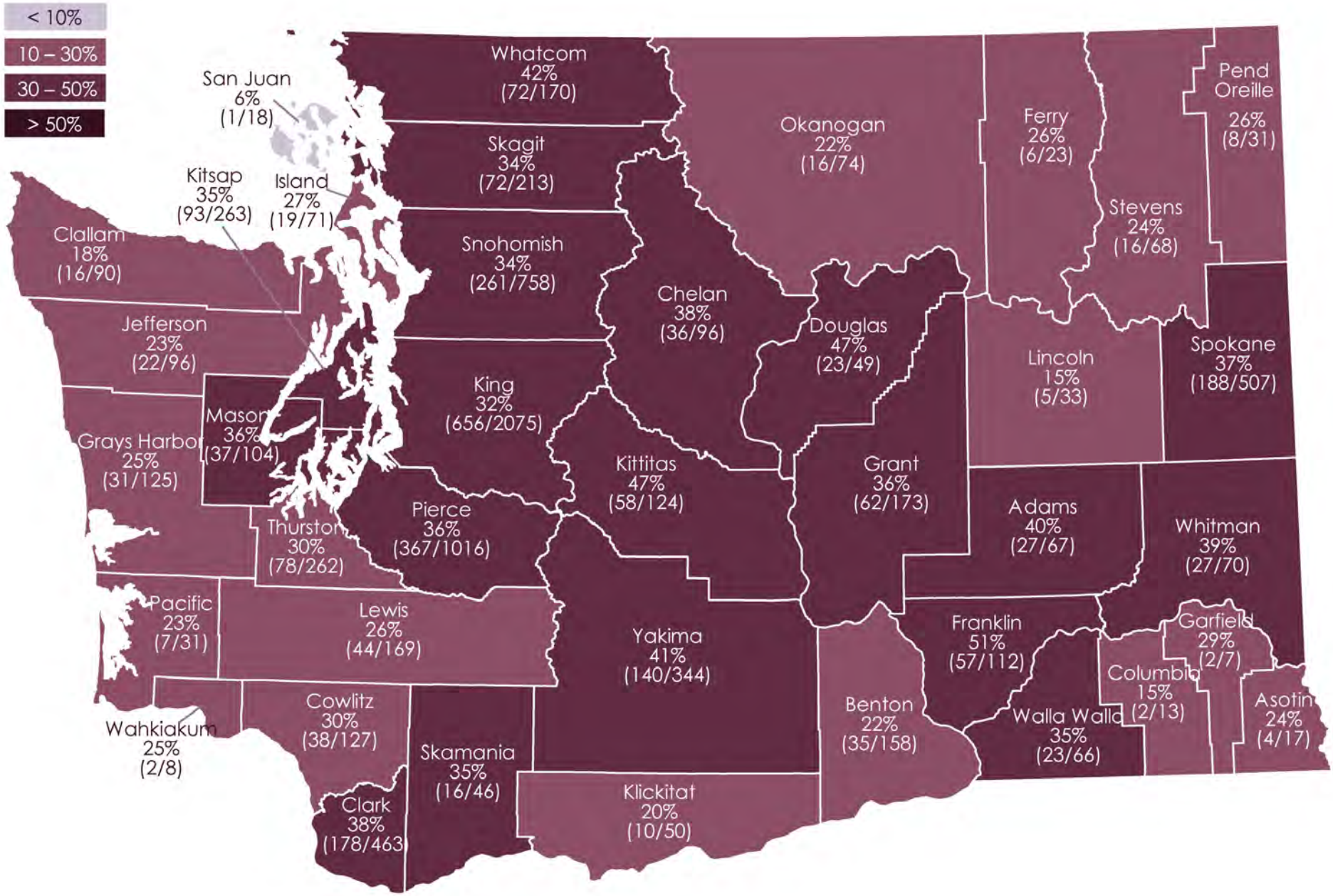
Speeding and distraction also emerge as high risk behaviors for young drivers in fatal crashes. When a young driver is in a crash and at least one driver was speeding, 86% of the time it was the young driver who was speeding. Finally, when both a young driver and distraction are involved in a fatal crash, 84% of the time the young driver is the one distracted.

Though lane departure is another top factor, this chapter specifically addresses high risk driver behaviors. For strategies related to lane departure, refer to the lane departure chapter.



When both a young driver and impairment are involved in a fatal crash, 78% of the time the young driver is the one impaired.

Percent of All Fatal and Serious Injury Crashes That Were Young Driver Related, by County (2015–2017)

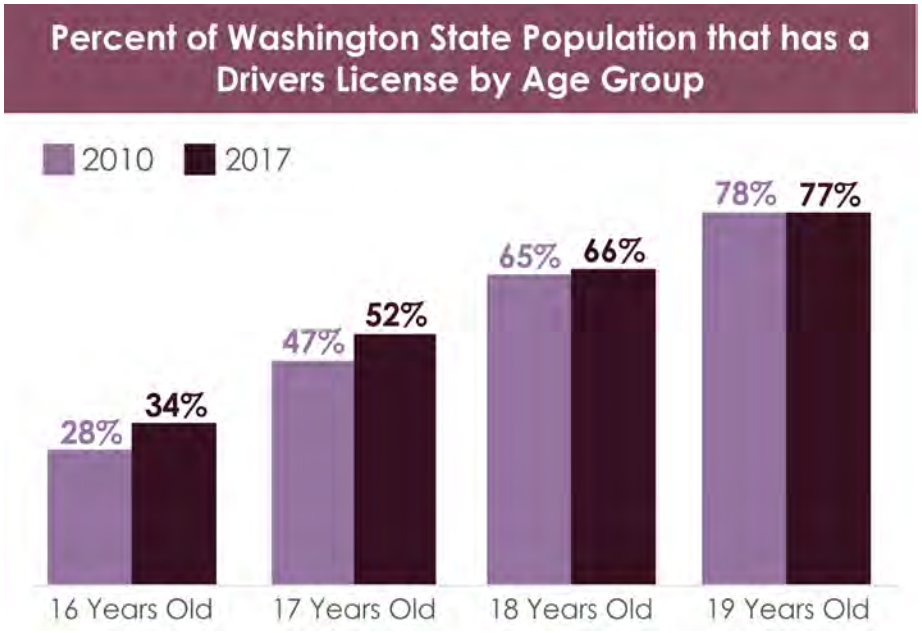


Key Issues for Young Drivers

Inexperience and Developmental Changes

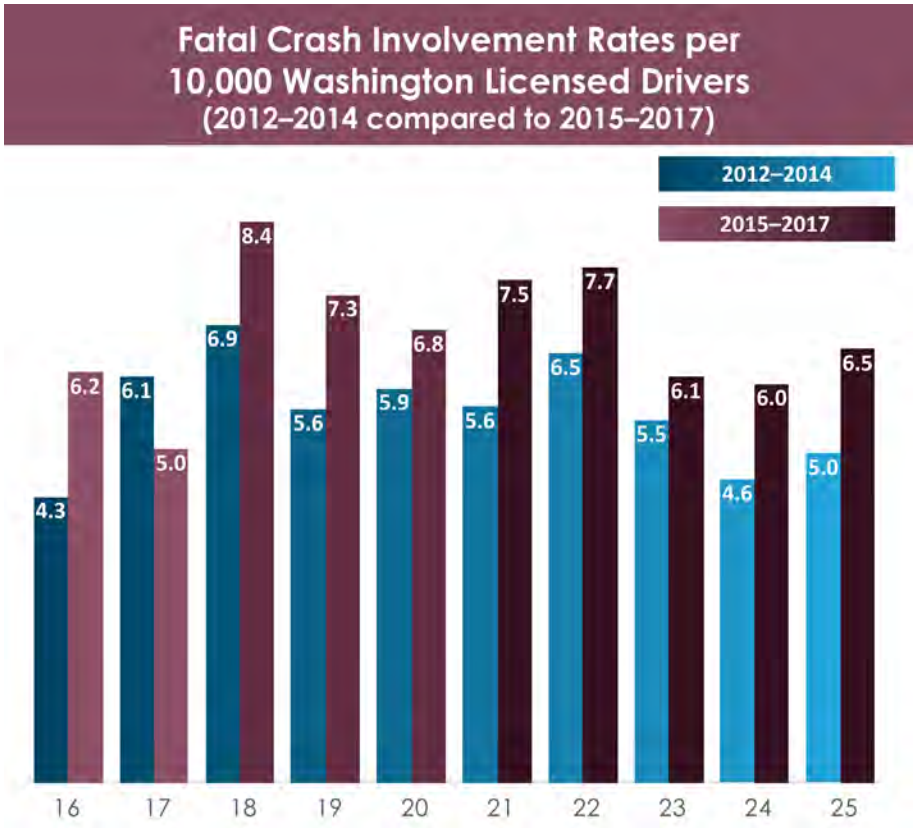
Young drivers face an increased crash risk due to both their inexperience and immaturity. Young drivers, who are just learning to drive, lack the skills and experience necessary to recognize and respond to risk appropriately. Additionally, their age-related immaturity and willingness to take risks, which is associated with adolescent brain development, is a key factor in dangerous decision-making on the road. Further research on adolescent development suggests key areas of the brain—especially in the prefrontal cortex, the brain center for judgment, decision-making, and deferring immediate reward—are not fully developed until about age 25.

For these reasons, the strategies to reduce young driver involved fatality and serious injury crashes must take a two-pronged approach: helping these drivers gain valuable experience, while mitigating their risk by keeping them out of dangerous situations.



Missing the Graduated Driver License Window

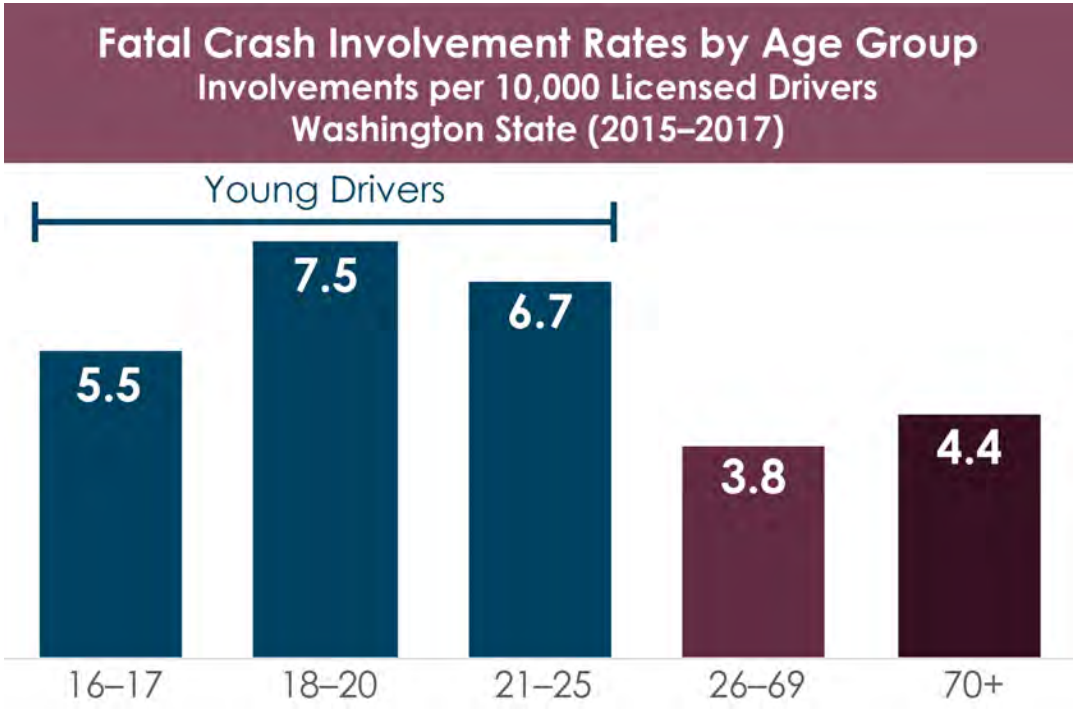
The GDL helps young drivers gain valuable experience safely, but a substantial proportion of Washington's young drivers are waiting until age 18 to get their licenses. In Washington, drivers aged 16–17 receive an intermediate (graduated) driver license that carries several restrictions, including around nighttime driving, passengers, and phone use. See page 212 of the Licensing and Regulation chapter for more information. As these newly-licensed drivers mature and gain experience, they're no longer subject to these restrictions. These young drivers can lose their driving privilege for certain violations, however. After a third violation, the young driver's license is suspended until age 18.



Parental Involvement

Parents play an important role in teaching teens to drive. Because of this, WTSC and DOL recently developed a resource page for parents of young drivers to share positive actions they can take to help educate and encourage safety behavior from their teen drivers (wadrivetozero.com/young-drivers). The page highlights the DOL Parent Guide to Teen Driving, lesson plans, driving tips, as well as the Road Ready app to track their teens driving experience. This site will continue to be improved to provide even more robust assistance for parents as they teach their teens to drive.

In 2018, the Washington Department of Health received a grant from the Centers for Disease Control and Prevention to address fatalities and serious injuries involving young drivers. In partnership with WTSC, they created a library of parent/teen driver graphics that were made available to all traffic safety partners (www.wtscpartners.com/teen-driver-safety-social-media). Some of these graphics were featured during Washington's participation in the 2018 National Teen Driver Safety Week.



Between 2010 and 2017, Washington has seen an increase in the percentage of 16- and 17-year-olds who have a driver license. This appears to be good news: a larger percentage of the population is getting licensed as a teen subject to driver training and GDL requirements. The percentage of 18 and 19 year olds who are licensed has remained relatively unchanged.

Even with this change, however, a substantial proportion of drivers are still waiting to get licensed at older ages. Further, that later licensure occurs disproportionately among low-income groups and people of color, who more frequently lack the resources to access classes and to pay for vehicle and driving costs. These equity issues create a barrier to safer driving. See page 217 for more information on health equity and traffic safety.

From 2015–2017, fatal crash involvement rates for young drivers peaked at age 18 and again at age 21-22, the ages at which young drivers can be licensed without a GDL and reach the legal drinking age, respectively. The peak at age 18 implies that young drivers newly licensed at age 16 or 17 and under a GDL have better safety outcomes than those who miss the GDL window.

GDL address both the inexperience and immaturity of young drivers. It provides a structure in which beginning drivers gain substantial driving experience in less-risky situations. GDL's effectiveness in reducing young driver crashes has been demonstrated many times.

A current topic of discussion in the traffic safety community is whether standard GDL policies that are applied in the United States for younger novice drivers should be applied to older

Health Equity and Youth Risk Behavior

Although not a perfect overlap with the 16–25 range of Target Zero, young adults ages 15–24 have highest age-adjusted traffic death rate of all ages. In 2016:

- 7% of high school students (surveyed 10th and 12th grade students) reported driving one or more times in the previous 30 days while they were under the influence of alcohol; 17% of high school students reported riding one or more times in the previous 30 days with someone else who had been drinking.
- I2% of high school students reported driving one or more times in the previous 30 days within three hours after using cannabis.
- 23% of high school students reported texting while driving one or more times in the previous 30 days.

Traffic Safety Culture: Young Drivers

WTSC is working with the Center for Health and Safety Culture to build tools to bolster the skills of parents to improve driving behaviors among their children as they learn to drive. These tools are based on positive culture framework that develops the social and emotional skills of children (as well as the adults).

novices not presently covered by them. For more details, please see page 213 of the Licensing and Regulation chapter.

Distracted Driving Among Young Drivers

In Washington, young drivers make up the highest proportion of distracted drivers involved in fatal crashes; therefore, enhanced efforts are needed for young drivers. Young drivers are avid users of cell phones and other technologies, are easily distracted by other young people in the car, are inexperienced, and are still undergoing development in areas of the brain responsible for decision-making and risk management.

Distraction is an ongoing dilemma in fatal crashes for young drivers, possibly due to increased cell phone use that is observed in naturalistic studies of young drivers. A National Institutes of Health (NIH) study found 58% of the teens who participated in the study engaged in driver distraction, with the most prevalent types being: interaction with a passenger, talking, external distraction, and texting/dialing the cell phone.

For more information on Distracted Driving, please see page 60.

Key Countermeasures for the 2019 Plan

Improve the GDL Law

To date, GDL systems have been the most effective way to reduce fatal and serious injury crashes involving young drivers in the United States. All states, including Washington, have adopted some type of GDL system, though the specific restrictions vary from state to state. Washington's GDL system was given a rating of Good by the American Association of Motor Vehicle Administrators (AAMVA), on a scale of Good to Poor. Nevertheless, there are several improvements that Washington could make to align with the national best practices for GDL systems. These include:

- Extending the nighttime driving restrictions to start at 9 p.m. or 10 p.m. instead of 1 a.m.
- Strengthening teen passenger restrictions.
- Increasing the number of required practice hours.

If Washington adopted these provisions for GDL components, our state would have an estimated 34% reduction in fatal crashes. For more information on Washington State's licensing requirements and GDL best practices, see page 212 of the Licensing and Regulation chapter.

Publicize and Enforce Seat Belt Laws

Properly worn seat belts can dramatically reduce the risk of injury or death to vehicle occupants in the event of a crash. Seat belt usage is lower among young drivers than among adult drivers. From 2015–2017, 35% of young drivers who were killed in crashes were not belted. Because young drivers have a substantially higher crash risk than adult drivers, failure to wear seat belts makes them especially vulnerable to death or injury.

Primary safety belt laws, which allow police officers to stop and cite a motorist solely for an observed seat belt violation, have also proven effective at increasing belt use among teens. Washington State has a primary seat belt law.

Well-publicized enforcement programs and primary seat belt laws have increased belt usage for all drivers, including teen drivers. Partners will consider how to employ social media communication channels such as Facebook, Twitter, and Instagram to more effectively publicize seat belt law to young drivers. For more information on seat belts, please see page 80.

Washington State Laws Relating to Young Drivers

- RCW 46.20.055 Instruction permit
- RCW 46.20.075 Intermediate license
- RCW 46.20.267 Intermediate licensees

Driver Training

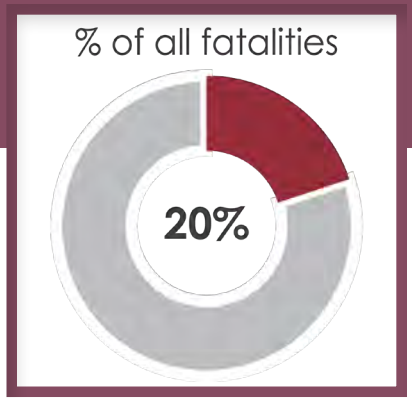
On August 1, 2018, DOL and the Office of Superintendent of Public Instruction (OSPI) jointly published the new Washington State Driver Training Required Curriculum to reduce fatalities and serious injuries on our roads (https://www.dol.wa.gov/business/drivertraining/docs/required-curriculum.pdf). The Curriculum describes the understanding, skills, and awareness needed for safe and responsible driving. We want novice drivers to increase their driving competencies and willingness to continue their learning process beyond the driving exam. To do this, students must also learn how to assess themselves as drivers – including their personal attitudes, beliefs, and behaviors – so they can identify areas for improvement based on the best practices found in the Required Curriculum. This driver training improvement work is being continuously evaluated and DOL and OSPI will implement additional improvements.

Strategies for Reducing Young Driver Involved (YDI) Fatalities and Serious Injuries		
Objective	**Strategies**	**Implementation Areas**
YDI.1. Foster compliance with Washington State's GDL laws.	YDI.1.1 Encourage tribes to pass GDL laws. (P, CTW)	Leadership
	YDI.1.2 Provide resources to the Young Driver Action Council to improve awareness — especially for parents and teens — and compliance with the GDL law. Highlight high risk situations where clear parental limit-setting will be most effective. (R, CTW)	Education
	YDI.1.3 Promote increased enforcement of GDL by passing legislation requiring a sticker program to identify vehicles used by GDL license holders. (R, LIT)	Enforcement, Leadership
	YDI.1.4 Provide local Target Zero Task Forces with information and materials about GDL for teens, parents, law enforcement, and driver education programs. (R, WTSC)	Education
	YDI.1.5 Facilitate parental supervision and management of learners and intermediate drivers. (R, NCHRP)	Education
YDI.2. Strengthen GDL restrictions.	YDI.2.1 Adjust nighttime restrictions to begin at 9 p.m. (P, CTW)	Leadership
	YDI.2.2 Lengthen permit holding period beyond six months. (R, CTW)	Leadership
	YDI.2.3 Extend passenger restriction to one full year after licensed. (R, NCHRP)	Leadership
	YDI.2.4 Strengthen requirements for parents around the documentation and certification of the 50-hour behind-the-wheel time young drivers are to complete before licensure. (U)	Leadership
	YDI.2.5 Strengthen restrictions so penalties kick in with the first ticket GDL driver gets. (U)	Leadership
P: Proven R: Recommended U: Unknown		

Strategies for Reducing Young Driver Involved (YDI) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
YDI.3. Improve young driver education and intervention.	YDI.3.1 Review and revise the Driver Guide, testing process, curriculum guidelines, and training standards to construct an overall driver training package focused more on hazard identification and less on skill training. (R, CTW)	Education, Leadership
	YDI.3.2 Support the development of traffic safety instructors through an improved training program, required regular instructor evaluations, required 3-year recertification, promoting continuing education that is meaningful and criteria-based, and developing a website containing both content and delivery resources. (R, DOL)	Education, Leadership
	YDI.3.3 Support novice driver mentorship by developing and promoting a full range of practical resources for parents and other mentors. (R, DOL)	Education
	YDI.3.4 Promote teen/parent safe driving contract. (R, DOL)	Education
	YDI.3.5 Facilitate parental supervision and management of learners and intermediate drivers (R, NCHRP)	Education
	YDI.3.6 Support expanding driver restrictions and driver education requirements to new drivers of all ages. (U)	Leadership
	YDI.3.7 Update model traffic safety education curriculum to match NHTSA standards. (U)	Education
	YDI.3.8 Support implementation of licensing standards used in countries with superior driving statistics such as the United Kingdom. (U)	Evaluation, Leadership
	YDI.3.9 Seek legislation to allow for financial assistance to underserved populations for some portion of the driver training curriculum. (U)	Leadership
YDI.4. Strengthen licensure exams for all novice drivers.	YDI.4.1 Implement an electronic delivery method for the knowledge exam for the licensing service office and all contracted testing locations. (U)	Evaluation, Leadership
	YDI.4.2 Improve the scoring of the skills exam to accurately account for high risk danger potentials. (U)	Evaluation, Leadership
	YDI.4.3 Review and revise the skills exam to incorporate standards used in countries with superior driving statistics such as the United Kingdom. (U)	Evaluation, Leadership
YDI.5. Make traffic safety culture change.	YDI.5.1 Implement traffic safety citizenship – an innovative approach that strategically shifts our focus to the engagement of the larger majority of safe road users to influence the behaviors of the smaller group engaging in risky behaviors. (U)	Education, Leadership
P: Proven R: Recommended U: Unknown		

For additional strategies affecting Young Drivers, refer to the Impairment, Speeding, Distraction, and Licensing and Regulation chapters.

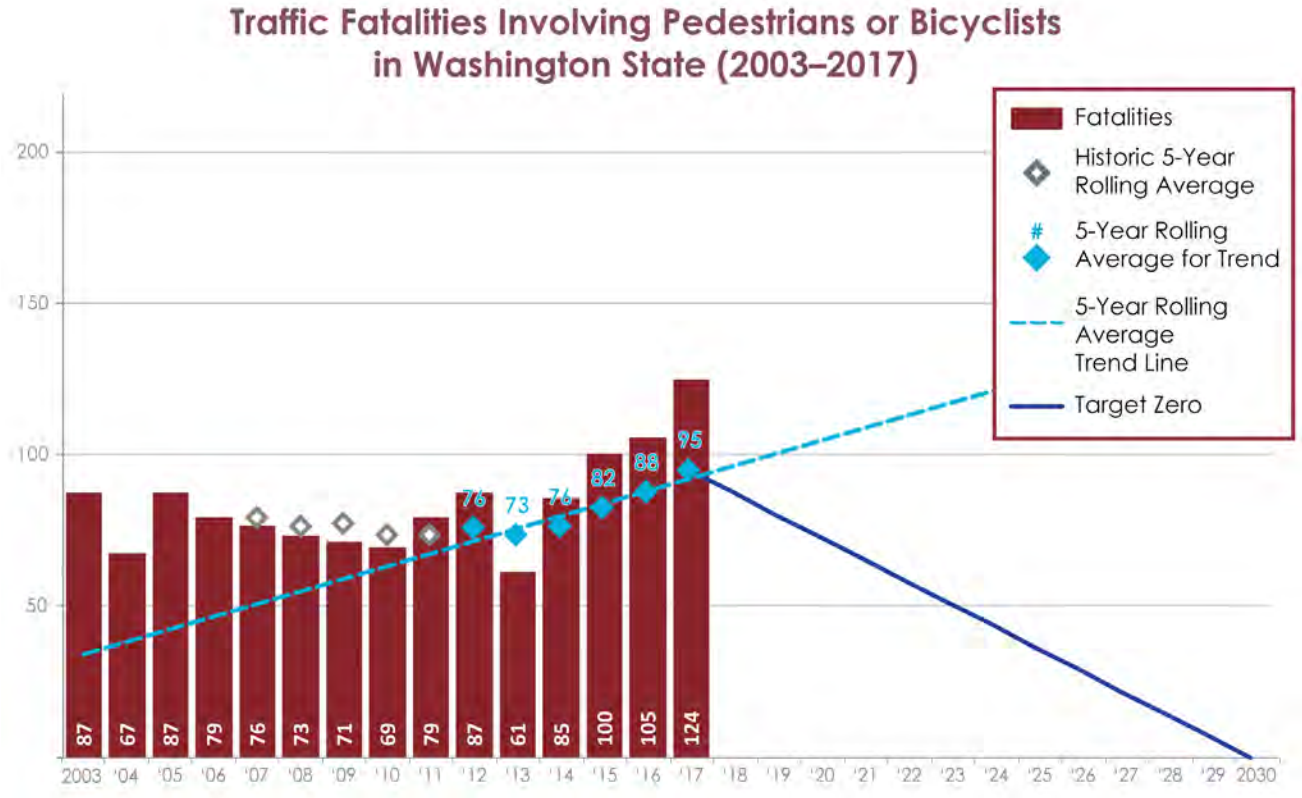
Pedestrians and Bicyclists

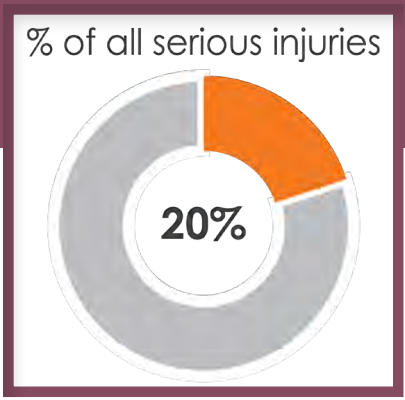


In 2015–2017, 20% of all traffic fatalities in our state, and 20% of all traffic serious injuries, were people walking or biking. These figures continued to climb in 2018. At 109 fatalities, pedestrian deaths reached their highest number in more than 30 years.

Compared to 2012–2014, the 2015–2017 figures show a 41% increase in fatalities for people who walk and bike, and an 11% increase in serious injuries. Unfortunately, Washington lacks complete data on the total number of people regularly walking and bicycling, as well as the distance that they travel in those modes. Therefore, it is difficult to say whether crashes have increased due to exposure—more people walking and biking for longer distances—or whether exposure has remained the same, but crash potential has grown due to other factors. Two potential contributing factors to the upward trend could be the increase in overall vehicle miles traveled in Washington, and the increase in larger passenger vehicles such as trucks and SUVs on the road.

It is important to note that walking and bicycling are distinct modes with some differences in trip characteristics, and in the infrastructure and operational strategies that may be recommended; they are combined here for purposes of discussion because they share many factors in common.

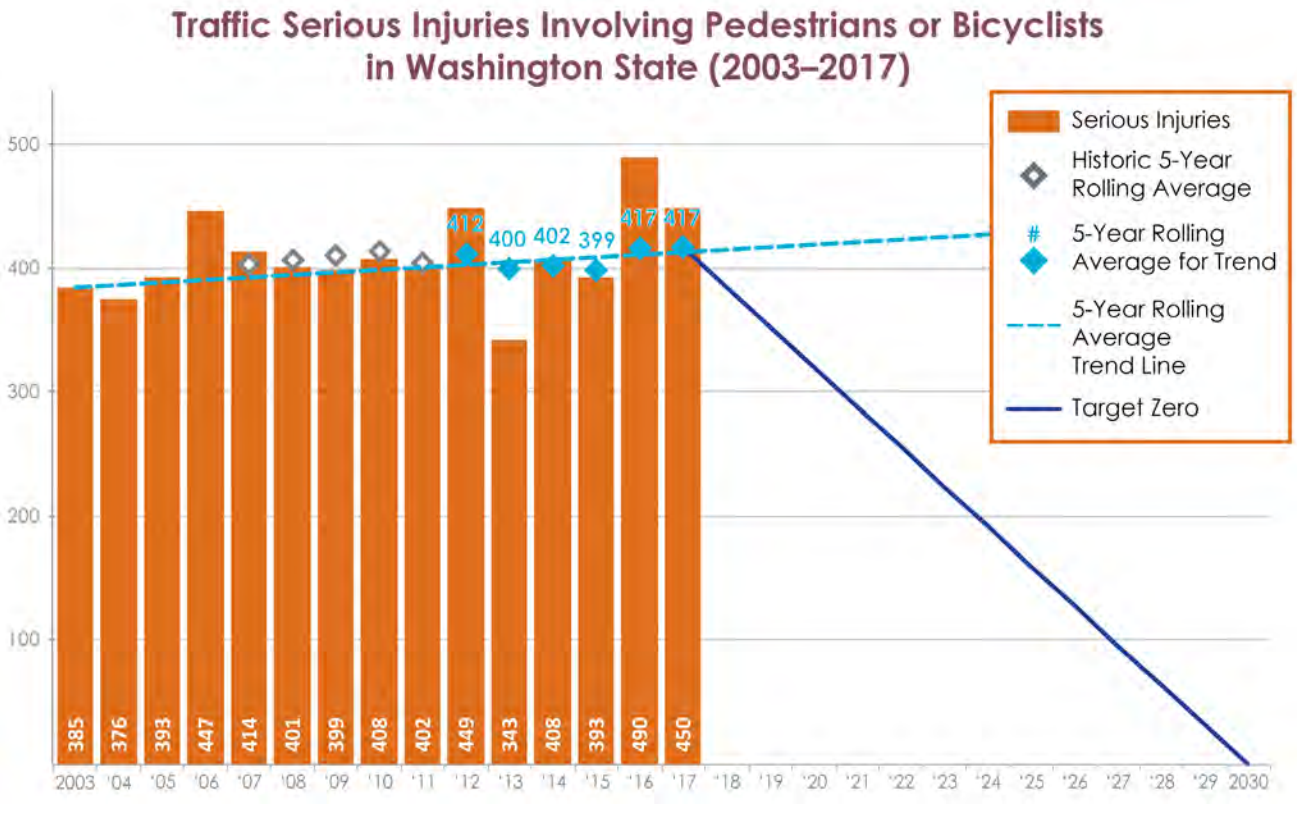




Priority 2

Key Countermeasures for Pedestrians and Bicyclists Include:

- Designing to reduce speeds
- Address crossings
- Separated infrastructure and complete networks
- Reducing the risk of impaired crashes



Who Is a Pedestrian?

In Target Zero, "pedestrians" and "people who are walking" are people who are on foot, as well as people using electric foot scooters, skateboards, in-line skates, etc. References to "pedestrians" or "walking" also include people using any type of mobility assistive device such as a wheelchair, walker, or scooter. Serious injury data are not available to fully account for these as separate categories.

BETWEEN 2015–2017 THERE WERE

329 FATALITIES AND 1,333 SERIOUS INJURIES

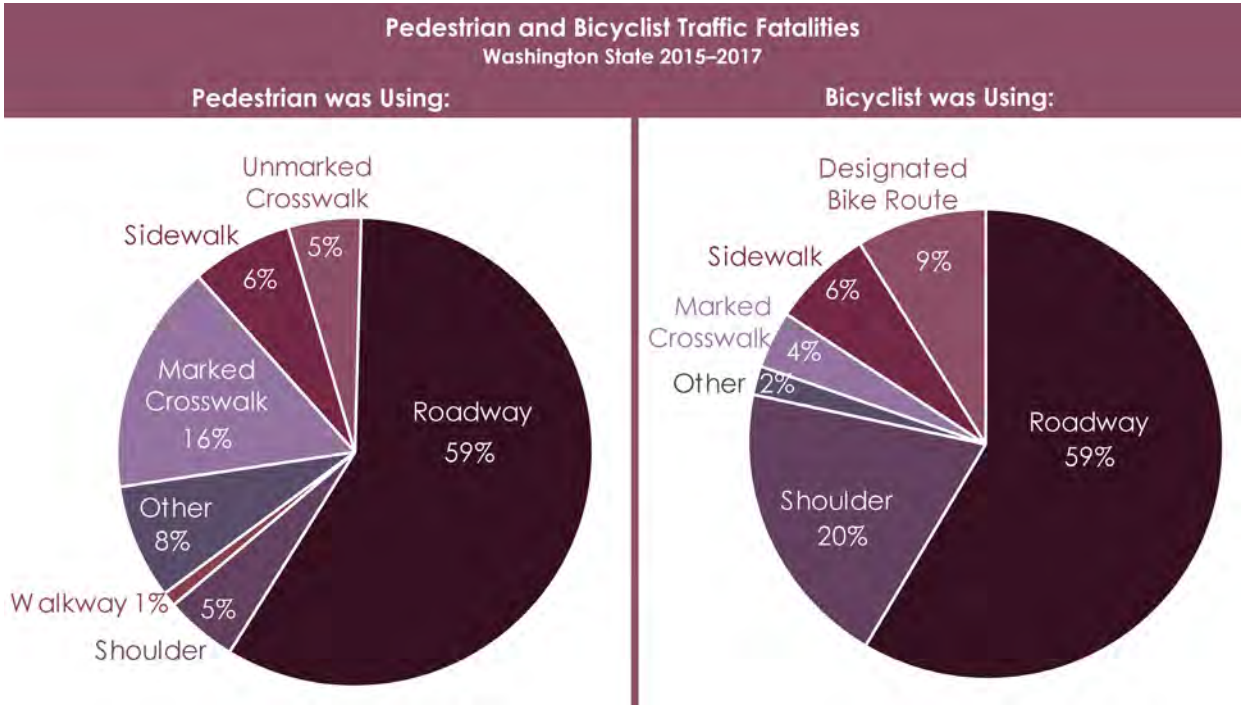
INVOLVING A PEDESTRIAN OR BICYCLIST

FATALITIES INVOLVING PEDESTRIANS OR BICYCLISTS OFTEN INVOLVE OTHER FACTORS

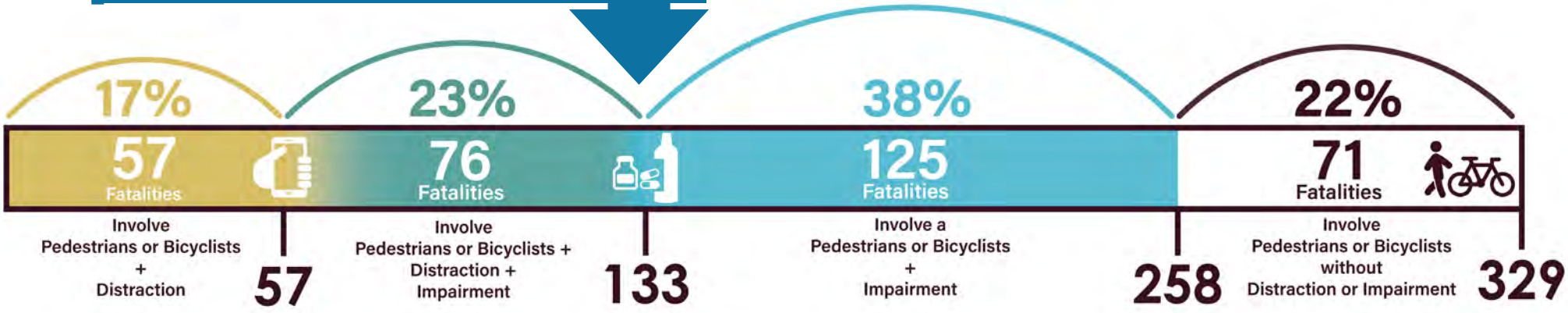
The top two factors that overlap with Pedestrians and Bicyclists are **DISTRACTION** and **IMPAIRMENT**

OUT OF **329 FATALITIES**:

40% also involved DISTRACTION
61% also involved IMPAIRMENT
and 23% involved a combination of both

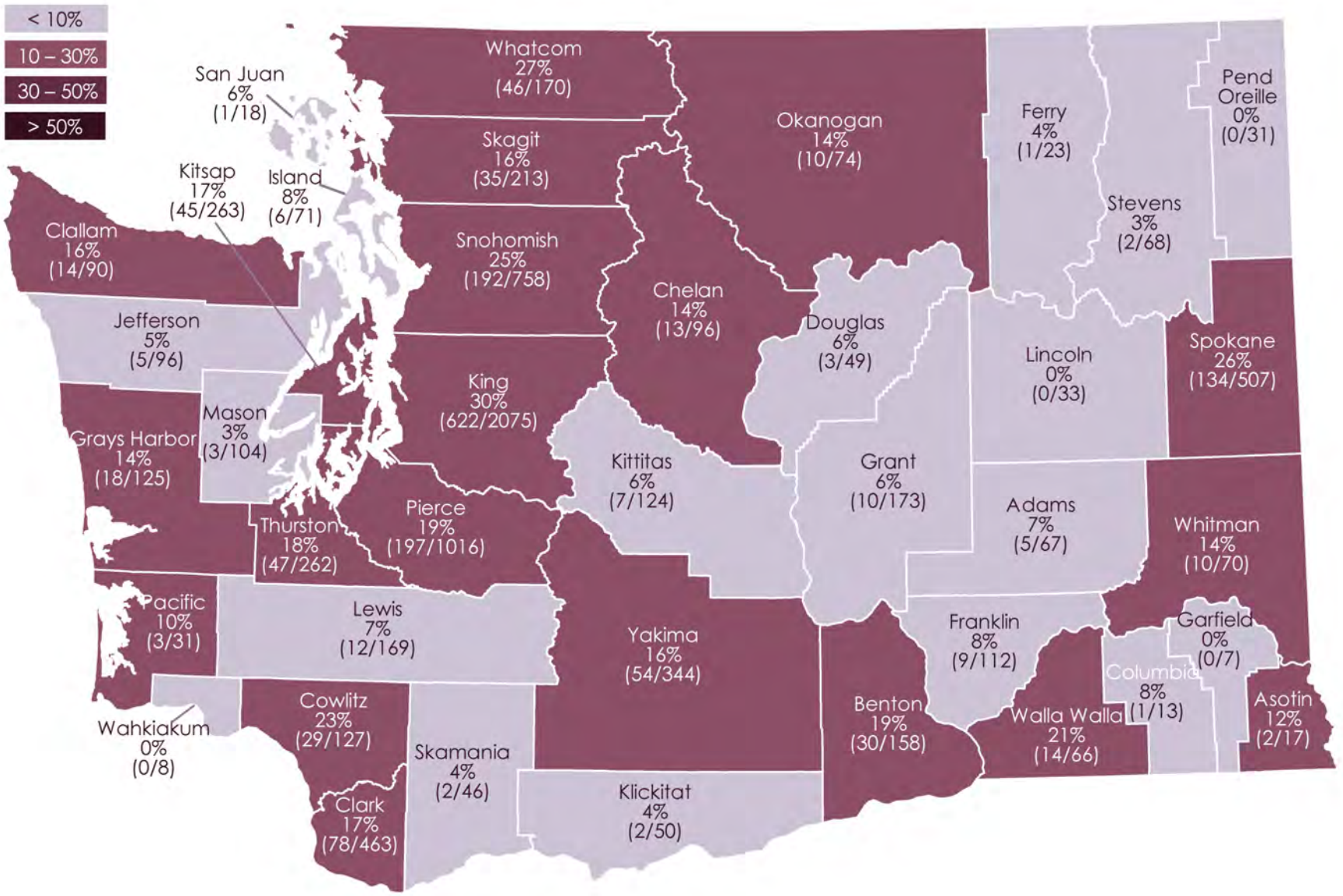


Total percentage adds up to 101% due to rounding



Of the 201 pedestrian and bicyclist deaths involving impairment, 26 (12.9%) involved only an impaired driver; 152 (75.6%) involved only an impaired pedestrian or bicyclist; and 23 (11.4%) involved both an impaired pedestrian or bicyclist and an impaired driver.

Percent of All Fatal and Serious Injury Crashes That Were Pedestrian or Bicyclist Related, by County (2015–2017)

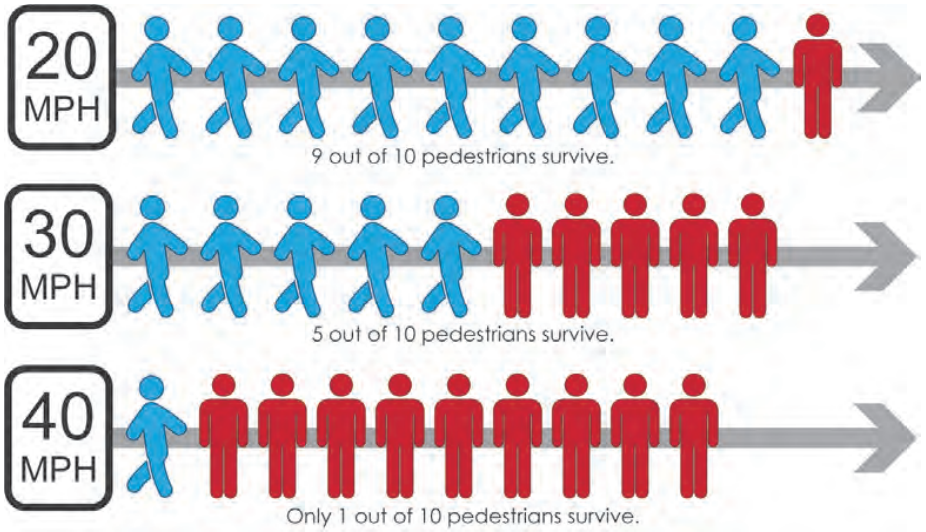


Key Issues for Pedestrians and Bicyclists

The following issues are major factors for pedestrian and bicyclist roadway safety outcomes. Addressing these areas will have the beneficial effect of reducing crash exposure not only for pedestrians and bicyclists, but for all road users.

Speed

Pedestrians and bicyclists who are struck by a motor vehicle are more likely to suffer a fatality or serious injury where drivers are traveling at higher speeds, regardless of whether or not the driver is traveling over the posted speed limit. Almost all of the bicyclist fatalities (93.5%) and most pedestrian fatalities (75.3%) occurred on roads with a posted speed greater than 25 mph. A motorist driving over 25 mph is less able to see and respond to other road users, which increases the likelihood of a crash, as seen on page 196 of the Safe Systems Approach chapter. In addition, high vehicle speeds have a major effect on the severity of injuries to all people involved in a crash, and especially people who are walking, biking, or using an assistive mobility device.



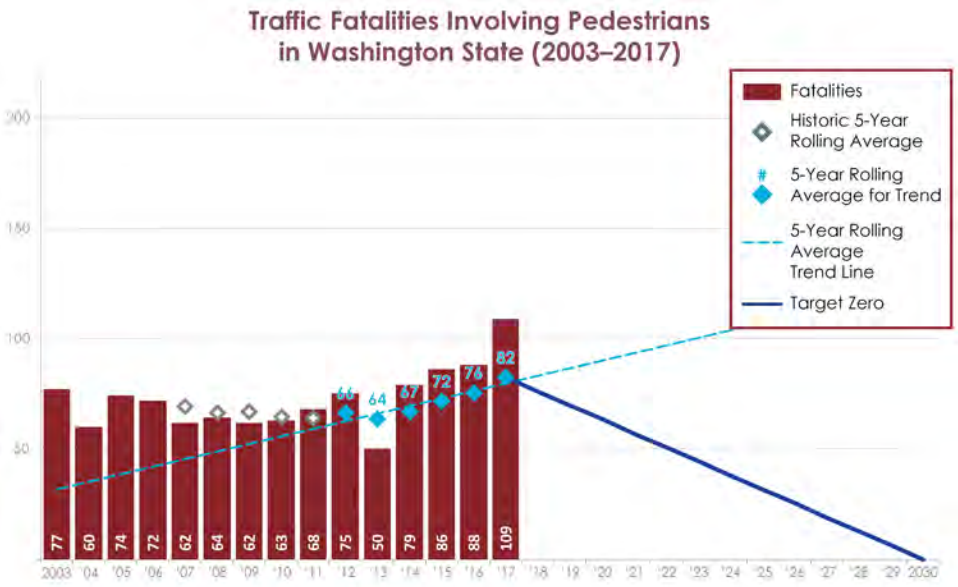
Crossings

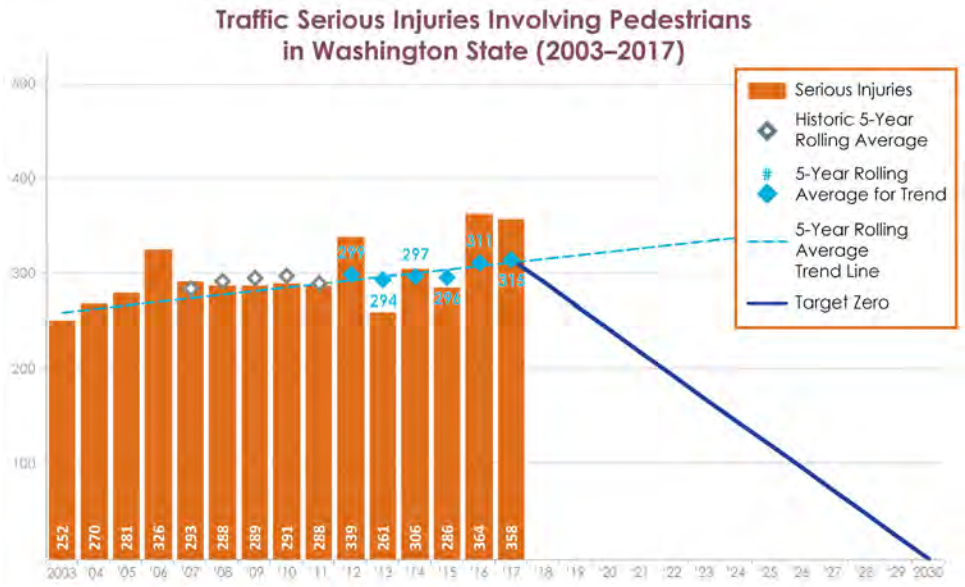
Many pedestrian and bicyclist fatalities and serious injuries occur when the pedestrian or bicyclist is crossing the road. Crossings that are appropriately located, designed for context, and ADA-accessible are not available everywhere they are needed, meaning people may cross in conditions that increase crash risk.

Between 2015 and 2017, 54% of pedestrian and bicyclist fatalities and serious injuries occurred when the pedestrian or bicyclist was crossing the road.

- About 67% of these pedestrian and bicyclist crossing fatalities and serious injuries occurred at or related to intersections.
- In 52% of these pedestrian and bicyclist crossing fatalities and serious injuries, there were no stop signs or traffic signals requiring motorists to stop. This requires pedestrians and bicyclists to find a gap in the flow of passing drivers in order to cross.
- In about 35% of crossing pedestrian and bicyclist fatalities and serious injuries there were traffic signals present, and in 5% there was a stop sign.
- In 43% of crossing pedestrian and bicyclist fatalities and serious injuries, the pedestrian or bicyclist was using a marked crosswalk.

The Intersections chapter on page 100 has additional information on crossings.





Lack of Separated Infrastructure and Incomplete Networks

The most fundamental concept of transportation is network connectivity: connecting people to where they want to go. Those using cars, heavy trucks, and motorcycles can rely on having access to a complete network. However, this is not the case for people who are walking or riding a bike. Lack of connected infrastructure creates conflict zones with drivers, and higher potential for crashes. Access to a complete separated or protected network of walking and biking facilities is especially important where there are large numbers of motorists traveling at higher speeds. Sometimes this requires the removal of parking spaces.

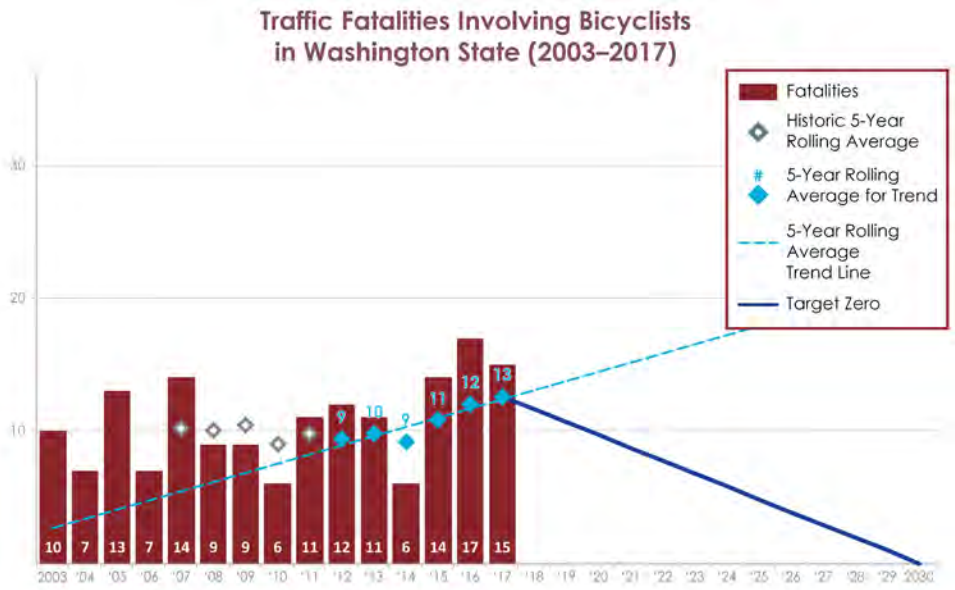
Additionally, motorized electric scooters, powered skateboards, solo-wheels, hoverboards, and other new personal mobility devices will require our transportation system to consider new lanes, protected lanes, or multi-use paths to accommodate them in order to decrease the possibility of conflicts on roads and sidewalks.

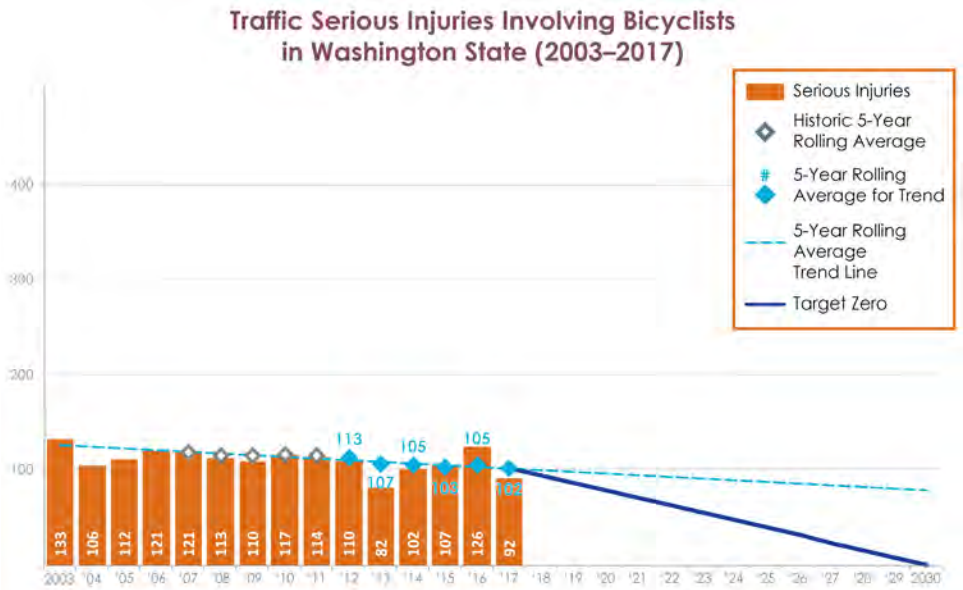
Crash data from 2015–2017 indicate that the network in Washington State is not complete for people who walk and bike: the most common action that bicyclists are taking during fatal and serious injury crashes is riding in the road in the same direction as motorists, with no bicycle infrastructure noted in the crash report.

Impairment

Of all of the behavioral circumstances, impairment was the most common factor in fatal pedestrian and bicyclist crashes in Washington State. In 54.1% of all traffic fatalities involving pedestrians, the person walking was impaired; in 47.8% of all traffic fatalities involving bicyclists, the person biking was impaired.

In order to provide thorough evaluation of contributing factors for bicyclists and pedestrians, Target Zero must consider all factors, including impairment. However, discussing impairment as a contributing factor should not be confused with blaming pedestrians and bicyclists for their death or injury. The goal of this review is to understand the





types of crashes that are occurring, so partners are able to design effective interventions.

Among drivers striking pedestrians or bicyclists, only those who demonstrate impairment at the crash scene or volunteer are subject to blood tests to determine if they have used alcohol or other drugs. An impaired driver is more likely to cause a serious injury or fatality because of their impaired state than impaired individuals who are walking, bicycling, or using other active transportation modes. At least 12.7% of drivers fatally striking pedestrians and 23.9% of drivers fatally striking bicyclists were impaired at the time of the crash.

Infrastructure changes that separate and protect vulnerable road users such as walkers and bicyclists—regardless of their impairment—reduce the number and severity of crashes for all.

Additional information can be found in the Impairment chapter on page 40.

Key Countermeasures for the 2019 Plan

Reduce Speeds Through Design and Speed Limits

Although it has emerged at the national level as an essential strategy, the practice of setting and designing for speed limits to minimize injuries and fatalities for pedestrians and bicyclists is relatively new for Washington State. See the Safe Systems Approach chapter on page 192 for more information. The Washington State Department of Transportation (WSDOT) has convened a group of state and local transportation professionals who are working together to better understand this approach, and to create policy and guidelines for its implementation. That work is scheduled to be complete by the end of 2019.

Pedestrians, Bicyclists, and Health Equity

Crash statistics for pedestrians and bicyclists show that risk is not evenly distributed. Crashes resulting in fatalities and serious injuries for pedestrians and bicyclists disproportionately affect certain groups. More detail about health equity and traffic safety can be found in the Transportation and Health Equity chapter on page 217.

Design roadways to reduce speed. To achieve Target Zero, partners must prioritize self-enforcing speed reduction countermeasures wherever pedestrians, bicyclists, and motorists are likely to interact on the roadway. The pictures on this page and the following pages show several types of infrastructure that reduce motorist speeds. One of the best approaches is to use road reconfigurations (road diets) to narrow the travel lanes, reduce the number of motor vehicle lanes while providing space for bicyclists and pedestrians, or a combination thereof.

This work is particularly important where there are community destinations, such as schools, parks, libraries, and shopping centers, within three miles of each other. This is a short enough trip, with enough density of uses—including access to connections to other methods of transportation such as transit—to make active transportation more efficient and thus more attractive. In Washington State, 89% of fatal crashes and 95% of serious injury crashes occur within a half-mile of a community destination.

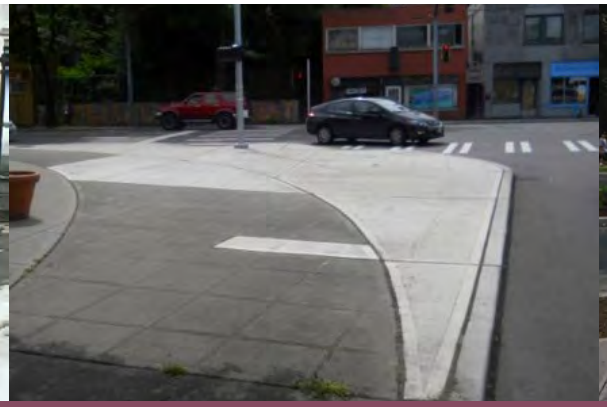
Speed reduction countermeasures should focus on these destination types regardless of location. The urban core, as well as urban, suburban, and rural town center areas, should also be prioritized for speed reduction. Demographic, density, crash, and infrastructure data can help identify areas with the highest overall need.

Self-enforcing road infrastructure design treatments have been implemented throughout Washington. Perhaps the best examples are in the City of Seattle. The city has installed road reconfigurations (road diets) on several arterials, resulting in reductions in driver speed and all crash types. A road reconfiguration in Seattle on Rainier Avenue resulted in a 16% reduction in 50th percentile speeds, a 52% reduction in all speeding, and an 80% reduction in top-end speeders. Other jurisdictions have seen similar results.

Where it is not possible or appropriate to reduce driving speeds to 25 mph or less, a complete network of separated pedestrian and bicyclist facilities is essential. Strategies include installation of separated facilities adjacent to the roadway, as well as a sufficient number of appropriately designed and operated roadway crossing treatments, installed with a frequency consistent with destination and connection crossing needs.

Roundabout

Reduced Curb Radii



Raised Crossings

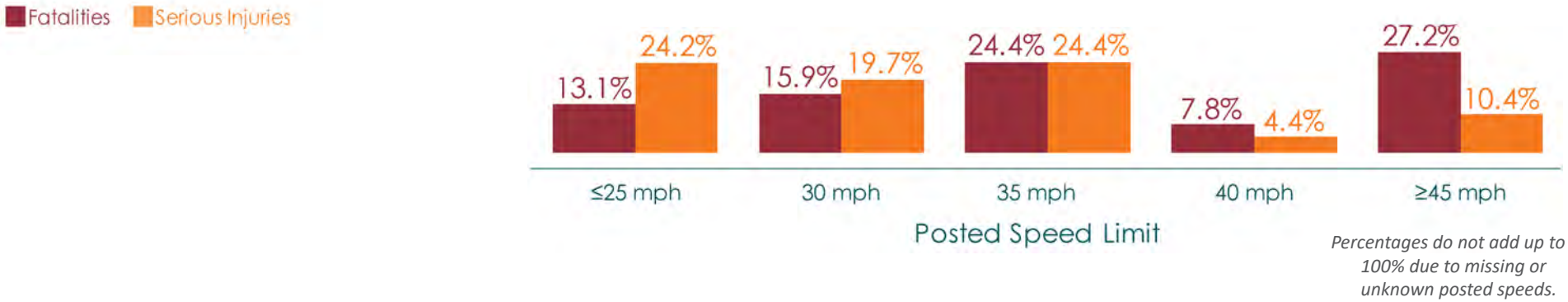
Pedestrian Fatalities and Serious Injuries

Road Characteristics, Driver/Pedestrian Actions and Circumstances

Posted Speed Limit Where Pedestrian Fatalities and Serious Injuries Occurred

Washington State 2015–2017

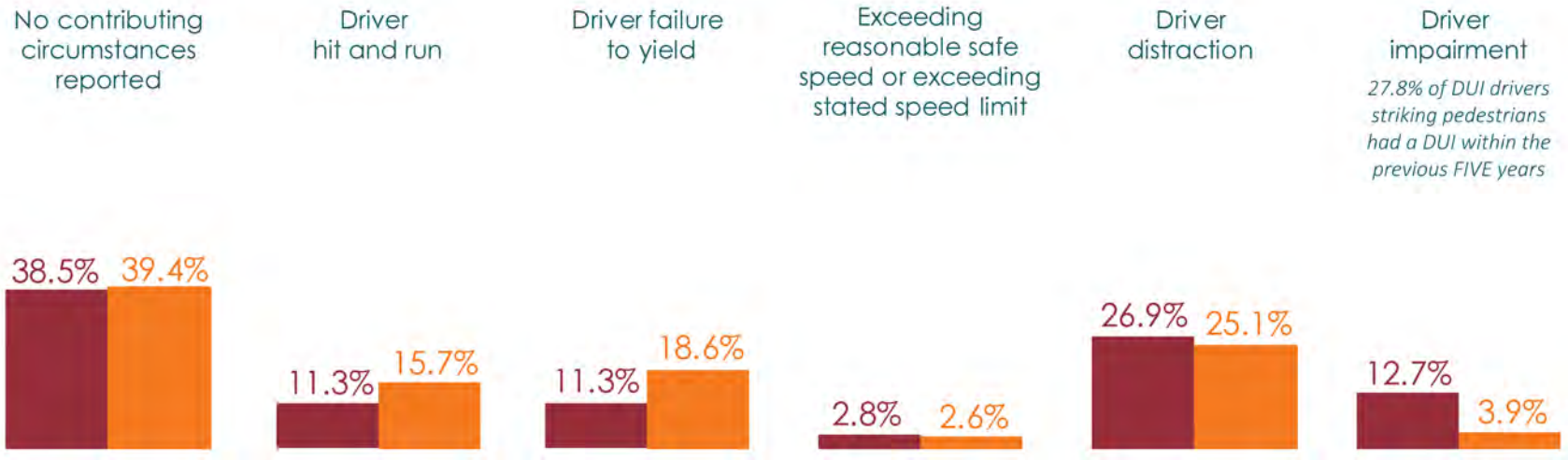
75.3% of pedestrian fatalities and 58.9% of serious injuries occurred on roads with posted speed limits above 25 mph.



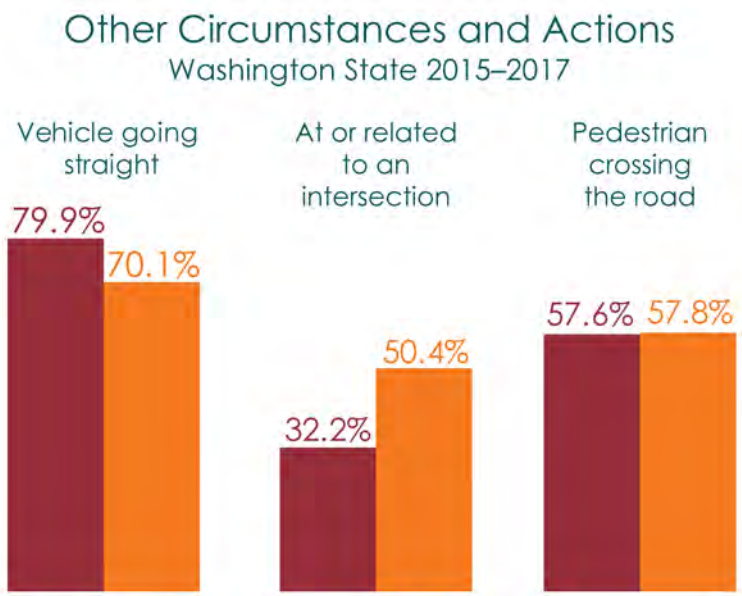
Percentages do not add up to 100% due to missing or unknown posted speeds.

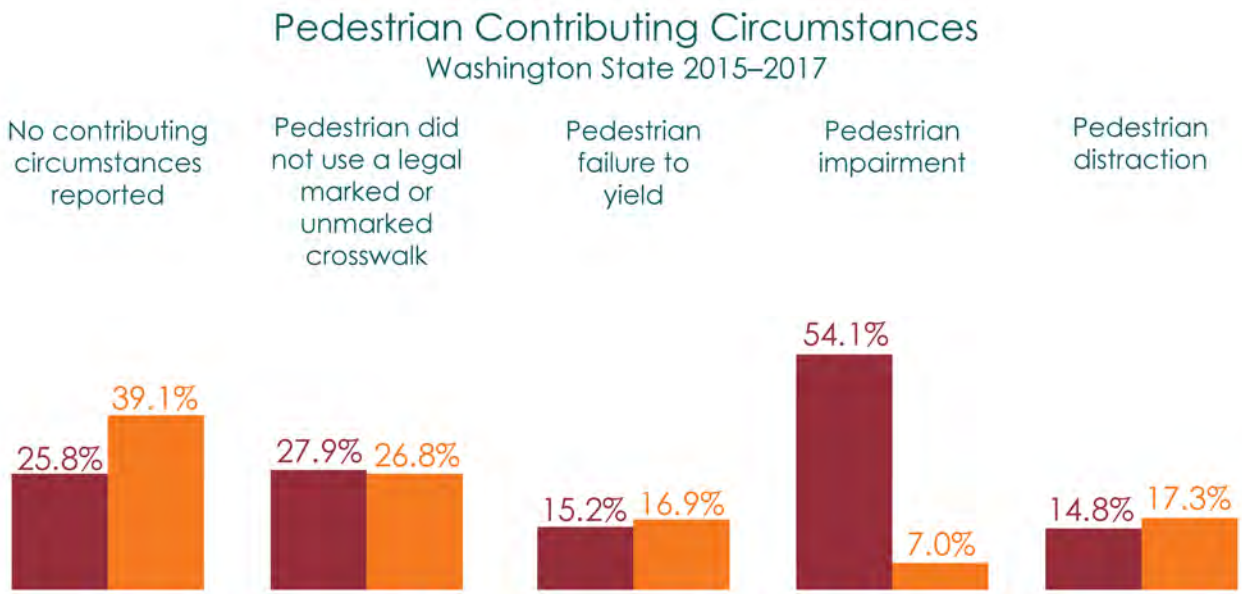
Driver Contributing Circumstances

Washington State 2015–2017



27.8% of DUI drivers striking pedestrians had a DUI within the previous FIVE years





Exposure Data for Pedestrians and Bicyclists

One difficulty with evaluating crashes related to pedestrians and bicyclists is we only have partial counts of the actual number of people who are walking and biking. Are crashes going up because there is more overall walking and riding in our state than in past years? Currently, it is not possible to answer that question.

We would like to have more complete information about where, when, and how much people are walking and biking. First, we will know the level of exposure: have the rates of crashes, fatalities, and serious injuries changed because the number of people walking and biking has changed? This information is also important because it will allow us to determine where crashes might occur, and whether countermeasures we have implemented are effective.

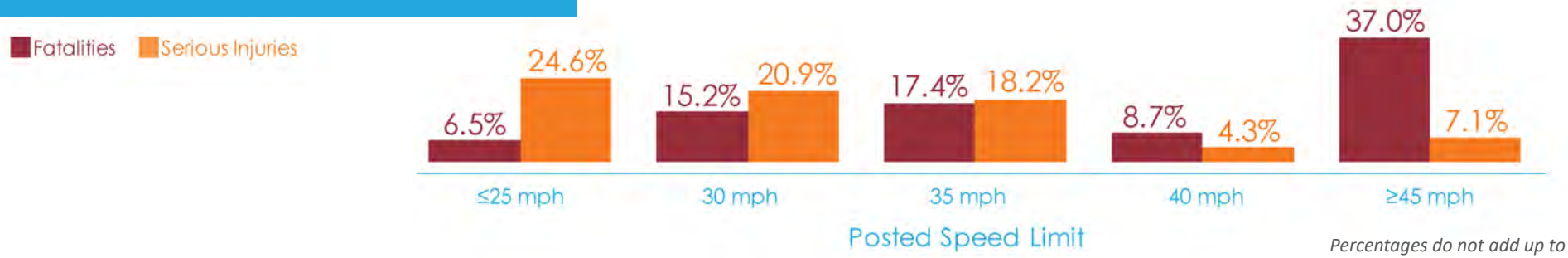
WSDOT's bicyclist and pedestrian documentation project is working to provide more comprehensive data through automated counters of pedestrians and bicyclists. There are currently 53 permanent counters located across the state as well as 402 manual sample count sites active in 56 Washington cities. Through partnerships with local agencies, WSDOT is working to add 20 more permanent counters to the network by September 2019. Additionally, WSDOT is exploring a statewide household travel survey to collect walk and bike data.

As these efforts expand, Washington will have better data to analyze crashes involving people who walk and bike.

Bicyclist Fatalities and Serious Injuries

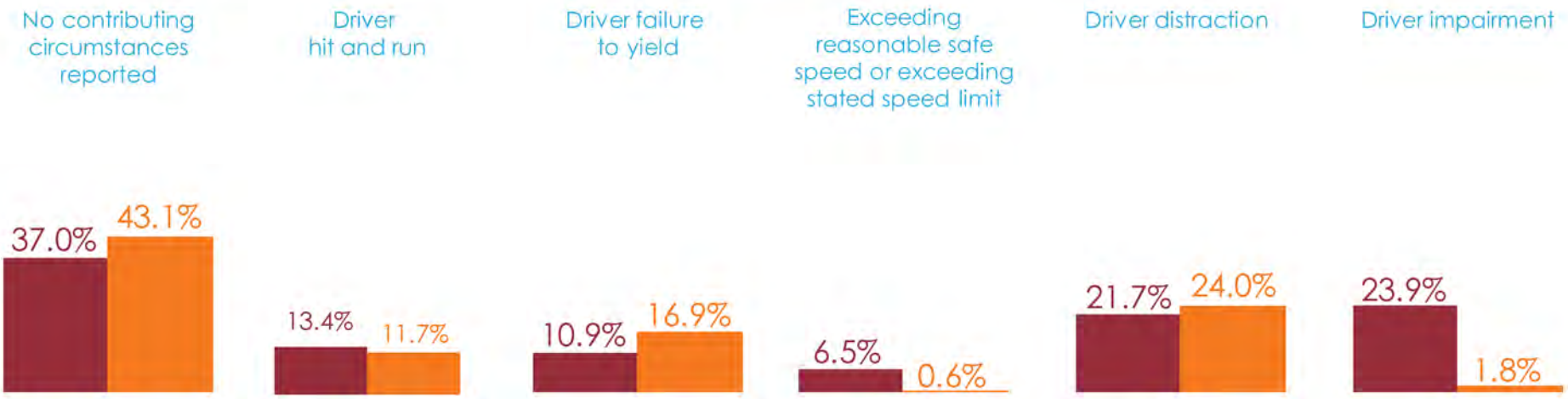
Road Characteristics, Driver/Bicyclist Actions and Circumstances

Posted Speed Limit Where Bicyclist Fatalities and Serious Injuries Occurred
Washington State 2015–2017

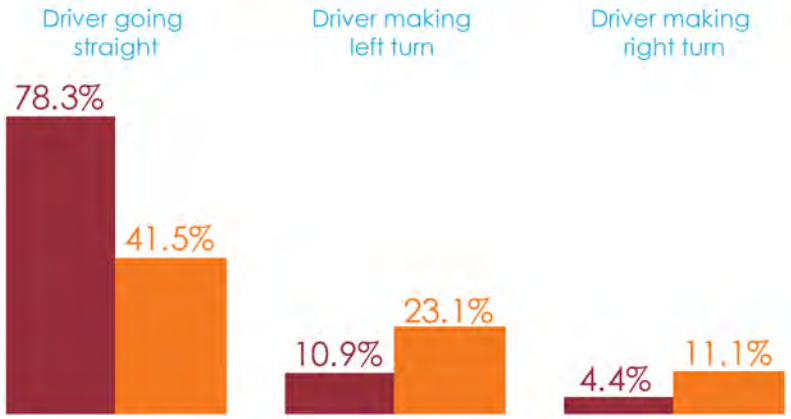


Percentages do not add up to 100% due to missing or unknown posted speeds.

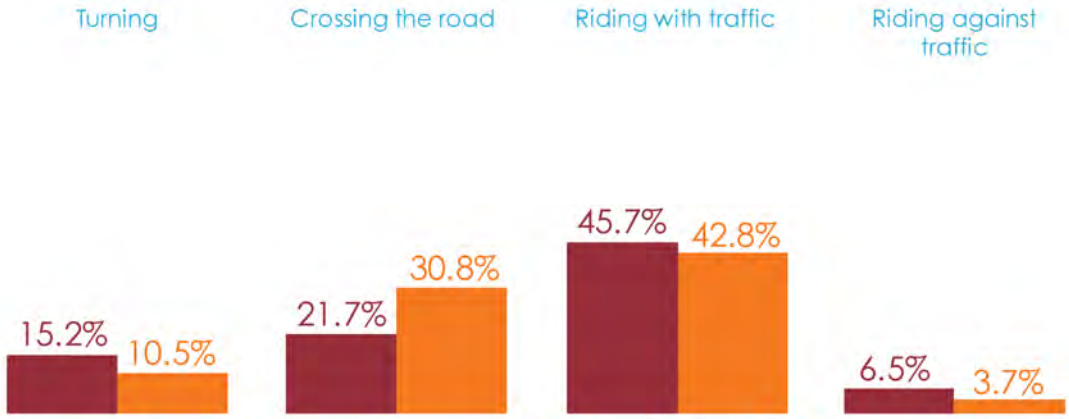
Driver Contributing Circumstances
Washington State 2015–2017



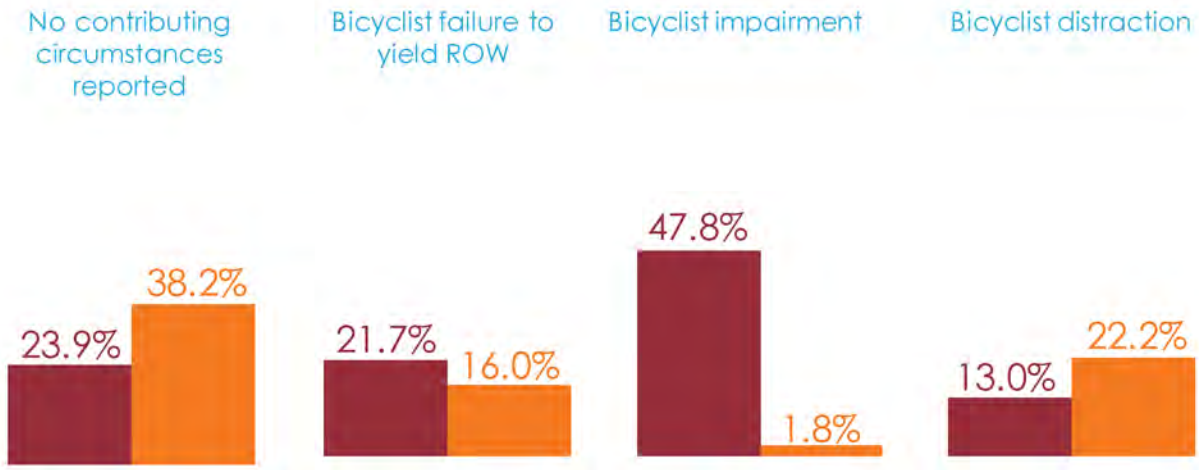
Driver Actions
Washington State 2015–2017



Bicyclist Actions
Washington State 2015–2017



Bicyclist Contributing Circumstances
Washington State 2015–2017



Safety in Numbers

There is a growing body of research indicating that more people walking and biking leads, unexpectedly, to fewer crashes with vehicles for these road users. Although research is not clear, one leading theory is that drivers become more cautious when they see more people walking and biking in their vicinity, and adapt their behavior to be safer.

Reduce and enforce speed limits. Another approach to addressing speed includes measures to reduce and enforce speed limits. For instance, Washington State law gives cities and towns the authority to establish 20 mph speed limits on non-arterial roadways that are within a residential or business district. A related step is enforcing existing limits through law enforcement officers and automated speed enforcement.

Address Pedestrian and Bicyclist Crossings

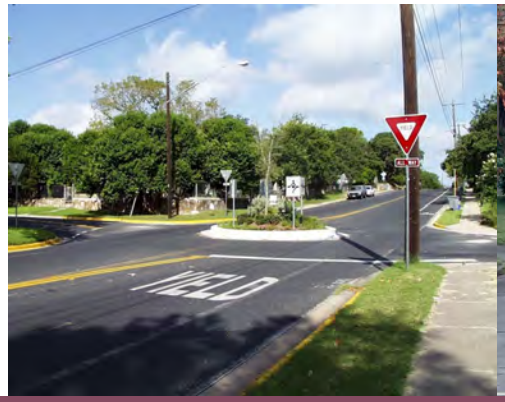
There are a variety of strategies to address crossing issues for pedestrians and bicyclists.

First, policymakers should use demographics, land use, infrastructure, and crash data to identify areas with highest overall need for crossing strategies. This would likely be any locations where the pedestrian and bicyclist network, sidewalks, bike lanes, shared use paths, or designated walkways are interrupted by roads that do not have sufficient traffic control devices to accommodate pedestrian or bicyclist crossings. It should also include locations lacking ADA-accessible infrastructure. With funding from the Federal Highway Administration (FHWA), WSDOT is currently conducting a study of approaches to identify and prioritize crossing needs on state highways; this study will be completed in 2019.

Once the locations are identified, they will be prioritized and specific recommended countermeasures will be chosen based on road conditions. These countermeasures will draw from current best practices for crossing safety, including:

- Pedestrian hybrid beacons.
- Road reconfiguration.
- Rectangular rapid flashing beacons.
- Pedestrian refuge islands and curb extensions.
- Reduced curb radii.
- In-street pedestrian crossing signs.
- Raised crosswalks.
- Pedestrian-scale lighting.
- Accessible pedestrian signals.
- Curb cuts, curb ramps, and other ADA accessibility measures.
- High visibility crosswalks with illumination.
- Gateway treatments.

Traffic Circles



Chicanes

Leading Pedestrian Interval Phase

Pedestrian Hybrid Beacons

Pedestrian Refuge Islands

Rectangular Rapid Flashing Beacons

Modifications to reduce crash potential at signalized crossing locations may include:

- Accessible pedestrian signals.
- Bicycle detection.
- Implementation of leading pedestrian intervals or exclusive pedestrian phasing.
- Bicycle traffic signals.
- Updated signal timing for appropriate crossing time for all users.

Many of these countermeasures are seen in the pictures within this chapter.

The City of Federal Way has successfully implemented several crossing treatments, including rectangular rapid flashing beacons, which resulted in 43% fewer crashes.

Separated Infrastructure and Complete Networks

Building separated facilities for people who are walking and biking is a critical strategy to reduce fatal and serious injury crashes. For pedestrians, these include sidewalks and multi-use paths. For bicyclists, these include buffered bike lanes, protected separated bicycle lanes where motorists are prevented from entering the bike lane, and separated bicycle facilities or shared-use paths, especially in urban areas. It could also include bicycle boulevards, sometimes called neighborhood greenways or quiet streets, on low volume, low speed streets.

Within efforts to reduce bicycle crashes, the most valuable countermeasures are those that prevent crashes from occurring and reduce the severity of the crash when it does occur. Bicycle crashes and injuries can be reduced by programs that make helmets, headlights, and taillights widely available, especially for those who have financial barriers to obtaining bicycle safety equipment.

Washington State Laws Relating to Bicyclists

RCW 46.04.169, 46.61.710, 46.61.723 Electric-assisted bicycles. E-bikes are defined as bicycles, with some restrictions on where Class 3 e-bikes may be ridden unless permitted under local ordinance.

RCW 46.61.110 Overtaking on the left. Drivers overtaking a pedestrian or bicyclist must pass at a safe distance and not return to the right side of the roadway until safely clear.

RCW 46.61.620 Opening and closing vehicle doors. Drivers may not open their car door into the path of oncoming traffic, including bicyclists.

RCW 46.04.670 Bicycles defined as vehicles.

RCW 46.61.700 Parents or guardians may not knowingly permit bicycle traffic violations by children.

RCW 46.61.755 Traffic laws apply to bicyclists. When riding on a roadway, a bicyclist has all the rights and responsibilities of a vehicle driver. When in a crosswalk, a bicyclist has all the rights and responsibilities of a pedestrian.

RCW 46.61.750 Bicyclists who violate traffic laws may be ticketed.

RCW 47.04.330 Street projects, consultation with local jurisdictions, and context-sensitive design solutions.

RCW 47.36.025 Traffic control signals are required to detect bicycles.

RCW 46.61.770 On roadways and bicycle paths, bicyclists may ride side by side, but not more than two abreast. Bicyclists may choose to ride on the path, bike lane, shoulder, or travel lane as suits their safety needs.

RCW 46.61.780 Night bicycle riding requires a white front light visible for 500 feet, plus a red rear reflector.

Protected Bike Lane

Bicycle Boulevard

Reducing the Risk of Impaired Crashes

Strategies specific to crashes involving impaired pedestrians and bicyclists should focus on providing infrastructure that reduces the likelihood of a crash occurring, and the severity of a crash if one does occur.

The strategies described on the preceding pages provide benefits for all users, including those who are impaired. This includes lowering vehicle speeds, providing crossing opportunities, and developing separated and complete infrastructure for people who walk and bicycle.

Another approach is to identify locations and corridors with the presence of places where people buy liquor, which suggests the potential for a higher number of people who will be using the roadway while impaired. These locations can then be evaluated for appropriate engineering, education, and enforcement countermeasures.

In addition, the Impairment chapter on page 40, and the Washington Impaired Driving Advisory Council (WIDAC) strategic plan, go into depth about reducing driving under the influence of drugs and alcohol.

Washington State Laws Relating to Pedestrians

RCW 46.61.050 Pedestrian responsibilities

RCW 46.61.235 Marked and unmarked crosswalks

RCW 46.61.240 Pedestrians yield the right-of-way to vehicles at non-crosswalk locations.

RCW 46.61.245 Driver responsibility to avoid colliding with any pedestrian

RCW 46.61.250 Pedestrians must use sidewalks, or walk on the left side of the roadway or shoulder facing traffic.

RCW 46.61.261 Drivers and bicyclists must yield to pedestrians on sidewalks and in crosswalks.

RCW 46.61.526 Negligent driving and vulnerable user victims (pedestrians and bicyclists)

RCW 46.61.415 (3)(a) Cities and towns may establish a maximum speed limit of 20 mph on certain roads.

RCW 46.61.606 Driving on sidewalk prohibited

RCW 46.61.710 Mopeds and gas powered bikes and scooters are not allowed on sidewalks or trails.

Vulnerable Users Law

In 2019, the Legislature passed a bill amending several RCWs that address traffic safety and vulnerable road users. It included language to strengthen the law specific to passing movements and intersection/driveway right-of-way. It doubles the fine when a motor vehicle driver is found to be in violation and a vulnerable road user is involved. Funds raised will be used to train law enforcement officers, prosecutors, judges and the public.

Washington State's Cooper Jones Active Transportation Safety Council

In 2019, the Washington State Legislature created the Cooper Jones Active Transportation Safety Council. With this act, they combined the Pedestrian Safety Advisory Council (formed by legislation in 2015) and the Cooper Jones Bicyclist Safety Advisory Council (formed by legislation in 2017). The Cooper Jones Active Transportation Safety Council is named in honor of Cooper Jones, a 13-year-old boy who died after a driver struck him from behind while he participated in a bicycle road race in Spokane County.

The new, combined council's purpose is to:

- Review and analyze data and programs related to fatalities and serious injuries involving pedestrians, bicyclists, and those using other forms of active transportation.
- Identify points at which the transportation system can be improved, including when possible privately-owned areas of the system such as parking lots.
- Identify patterns in pedestrian, bicyclist, and other active transportation fatalities and serious injuries.

Additionally, the Council may monitor progress on implementation of existing recommendations, and seek opportunities to expand consideration and implementation of the principles of systematic safety, including areas where data collection can be improved.

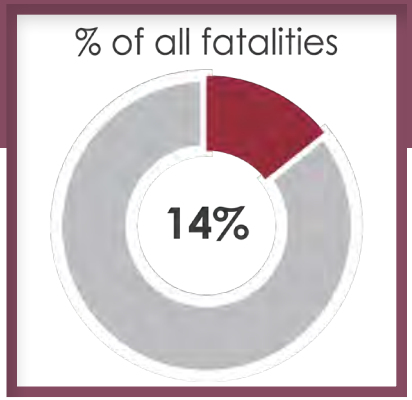
Strategies for Pedestrian and Bicyclists (PAB) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
PAB.1. Reduce the effect of motorist speeds where pedestrians or bicyclists are expected.	PAB.1.1 Increase public awareness of the significance of speed on pedestrian and bicyclist injury severity. (R, NCHRP)	Education
	PAB.1.2 Invest in and construct roadway reconfigurations, roundabouts and other recommended FHWA safety countermeasures specific to pedestrian and bicyclist safety. (R, FHWA)	Engineering
	PAB 1.3 Revise design practices to emphasize context and target speed to reflect the needs of people walking and biking. (R, FHWA)	Engineering
PAB.2. Expand and improve pedestrian and bicyclist crossing opportunities.	PAB.2.1 Reduce crash exposure safety at pedestrian and bicyclist crossings by investing in and installing refuge islands and raised crossings, and shortening crossing distances with bicycle friendly curb extensions where these crosswalk enhancements are needed. (P, NCHRP)	Engineering
	PAB.2.2 Invest in and increase the use of rectangular rapid flashing beacons and pedestrian hybrid beacons where these crosswalk enhancements are needed. (R, CMF)	Engineering
	PAB.2.3 Increase sight distance and visibility at pedestrian and bicyclist crossings by clearing vegetation, extending crossing times, adding pedestrian and bicyclist leading intervals and/or adding pedestrian scale illumination. At mid-block locations, provide adequate distance between stop bars and the crossing. (R, NCHRP).	Engineering
PAB.3. Complete a network of pedestrian and bicyclist facilities.	PAB.3.1 Invest in and construct separated pedestrian facilities (sidewalks and multi-use paths), especially in urban areas and adjacent to schools, bus stops, and school walk areas. (P, NCHRP)	Engineering
	PAB.3.2 Create neighborhood greenways with pedestrian and bicyclist priority on low volume, low speed streets. (R, CMF)	Engineering
	PAB.3.3 Invest in and construct more buffered bike lanes, protected separated bicycle lanes, and separated bicycle facilities or shared-use paths, especially in urban areas and adjacent to schools, bus stops, and school walk areas. (U)	Engineering
	PAB.3.4 Increase infrastructure investments in underserved areas. (U)	Leadership
	PAB.3.5 At traffic signals, use bicycle signal heads. At intersections install colored bicycle boxes. (U)	Engineering
	PAB.3.6 Remove permissive left turn signals that conflict with pedestrian/bicyclist movements and eliminate right turn on red at signals. (U)	Engineering
P: Proven R: Recommended U: Unknown		

Strategies for Pedestrian and Bicyclists (PAB) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
PAB.4. Improve safety for children walking and bicycling to school.	PAB.4.1 Expand automated speed enforcement cameras to locations outside of school zones that are included in safe routes to school plans. (P, CTW)	Enforcement, Leadership
	PAB.4.2 Expand high visibility speed enforcement in school zones. (R, CTW)	Education, Enforcement
	PAB.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
	PAB.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" to assist in creating school walk route maps. (R, WSDOT)	Education
	PAB.4.5 Implement pedestrian and bicycle safety training curriculum in schools. Develop and implement an additional module focused on teachers, parents, volunteers, and other school personnel. (R, CTW)	Education
	PAB.4.6 Implement education, enforcement, and engineering elements of the Safe Routes to School program, including campaigns such as Walking School Buses and Bike Trains. (R, CTW)	Education, Leadership
	PAB.4.7 Invest in and implement the Safe Routes to School Program to construct pedestrian and bicyclist facilities near schools. (R, CTW)	Engineering
	PAB.4.8 Provide liability protections to school districts who develop school walk route maps. (U)	
PAB.5. Improve data and performance measures.	PAB.5.1 Develop performance measures to evaluate completeness and quality of pedestrian and bicyclist networks, including levels of traffic stress, infrastructure inventory, and other appropriate metrics. (P, NCHRP)	Evaluation
	PAB.5.2 Expand the bicyclist and pedestrian count program to collect miles walked/biked data (similar to collecting VMT), where people walk/bike, and walk/bike demand. (P, NCHRP)	Evaluation
	PAB.5.3 Initiate a statewide household travel survey to collect walk and bike data. (P, NCHRP)	Evaluation
	PAB.5.4 Continue to conduct the Washington State Student Travel Survey. (P, NCHRP)	Evaluation
P: Proven R: Recommended U: Unknown		

Strategies for Pedestrian and Bicyclists (PAB) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
PAB.6. Improve traveler behavior.	PAB.6.1 Support passing a state law requiring bicycle helmet use for children. (P, CTW)	Leadership
	PAB.6.2 Support local jurisdiction ordinances requiring bike helmets. (R, CTW)	Leadership
	PAB.6.4 Provide bicyclist and pedestrian safety awareness as part of driver education programs. (U)	Education
	PAB.6.5 Develop a pedestrian/bicyclist safety education module for use by state agencies; phase in a requirement for completion of this module for utilization of a state vehicle. Make the module available to other jurisdictions, Commute Trip Reduction, and the private sector. (U)	Education
	PAB.6.6 Strengthen the vulnerable user law. (U)	Leadership
	PAB.6.7 Revise lane restrictions for passing that would require motorists to change lanes (including when there is a double yellow line) when passing people riding bicycles when there are no oncoming roadway users and travel lanes do not have sufficient width to provide a minimum of three feet of separation. (U)	Leadership
	PAB.6.8 Conduct education and outreach regarding the risks of using active transportation modes while impaired or distracted. (U)	Education
	PAB 6.9 Encourage bicycle helmet use for children and adults. (R, DOH)	Education
PAB.7. Improve education and enforcement of laws pertaining to motorists, pedestrians, and bicyclists.	PAB.7.1 Implement pedestrian and bicyclist safety zones, targeting geographic locations and audiences with pedestrian/bicyclist crash concerns. (R, CTW)	Education, Enforcement, Engineering, Evaluation
	PAB.7.2 Expand the use of high visibility crosswalk enforcement of motorists who fail to yield to pedestrians combined with culturally appropriate campaigns designed to take into account equity issues in underserved high-need communities with high crash rates. (R, CTW)	Education, Enforcement, Evaluation
	PAB.7.3 Improve training on pedestrian and bicyclist laws for law enforcement officers at state, tribal, and local levels, including training on equity issues for enforcement. (R, CTW)	Education, Enforcement
P: Proven R: Recommended U: Unknown		

For additional strategies affecting Pedestrians and Bicyclists, refer to the Intersections, Safe Systems Approach, and the Transportation and Health Equity chapters.

Motorcyclists

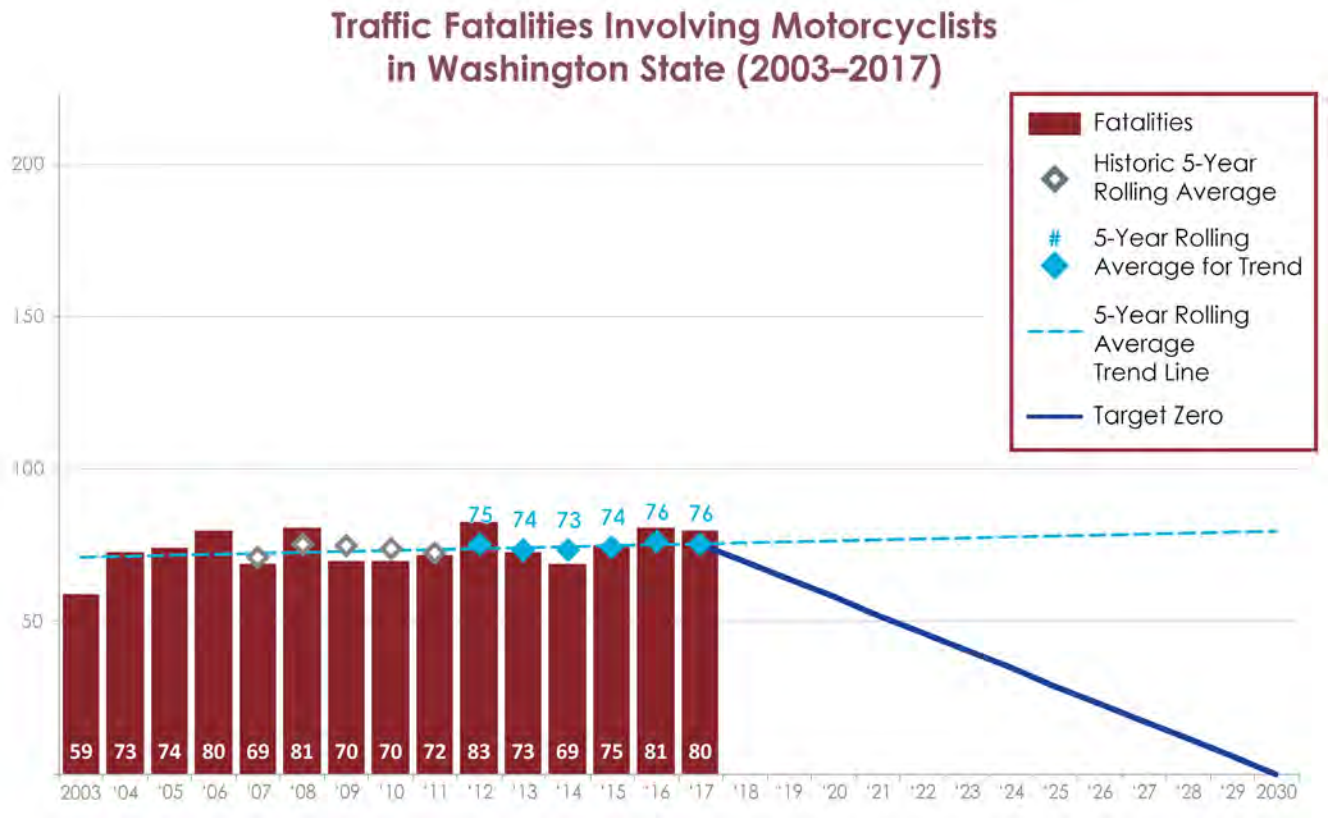


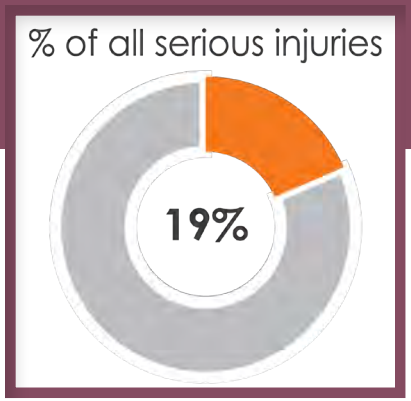
Motorcycles only comprise 3% of the vehicles registered in Washington State, but accounted for 14% of all fatalities and 19% of serious injuries in crashes in the last three years (2015–2017). About one in five motorcycle crashes result in a fatality or serious injury and, on average, 75 riders die every year in crashes on Washington roads. Of the motorcyclist fatalities from 2015-2017, 42% involved a crash with only the motorcyclist and no other vehicle. There has been no meaningful reduction in motorcycle fatalities for at least the last 15 years. An internal review of motorcyclist-involved crash reports conducted by the Department of Licensing (DOL) revealed that in 75% of the motorcyclist-involved crashes, the rider is at fault.

Washington motorcycle riders want the freedom to ride, and Washington wants riders to have the freedom to ride safely. Both can be accomplished through trained and disciplined riding, with the support of an engaged community. Linking a safe riding culture with training and education, best practices, and community involvement creates an environment where riders can enjoy a lifelong, safe riding experience.

Key Issues for Motorcyclists

- Behavior and motorcycle types
- Endorsement and training
- Other high risk behaviors

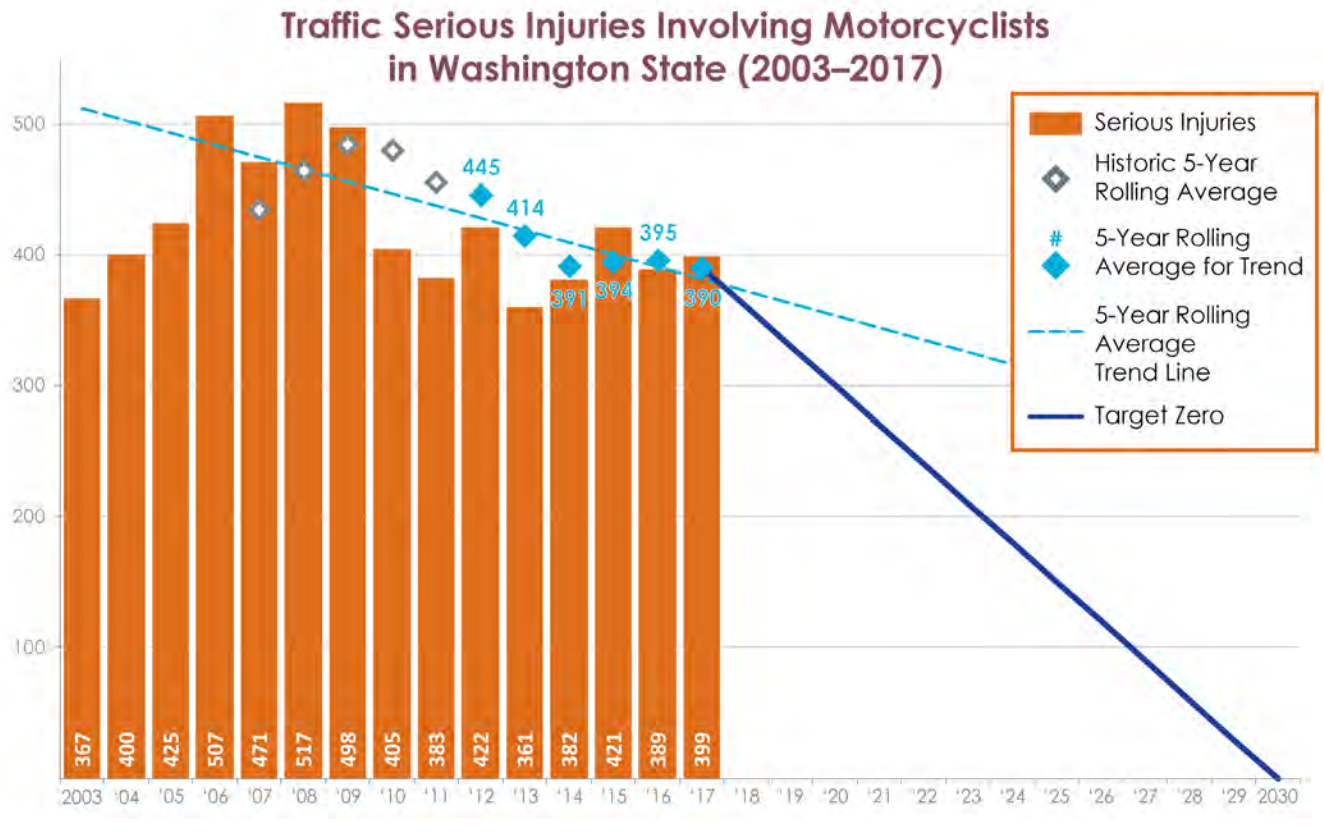




Priority 2

Key Countermeasures for Motorcyclists Include:

- Improved training and endorsement.
- Universal helmet laws and enforcement.
- Developing a culture of rider safety in Washington.



Motorcycles, unlike passenger vehicles, offer no protection to the rider in the event of a crash, and therefore riders are more susceptible to fatalities and serious injuries in crashes. The risk of injury to motorcyclists is elevated when the rider chooses to not wear additional personal protective equipment or to engage in other high risk behaviors such as impairment or speeding.

BETWEEN 2015–2017 THERE WERE

236 FATALITIES AND 1,209 SERIOUS INJURIES

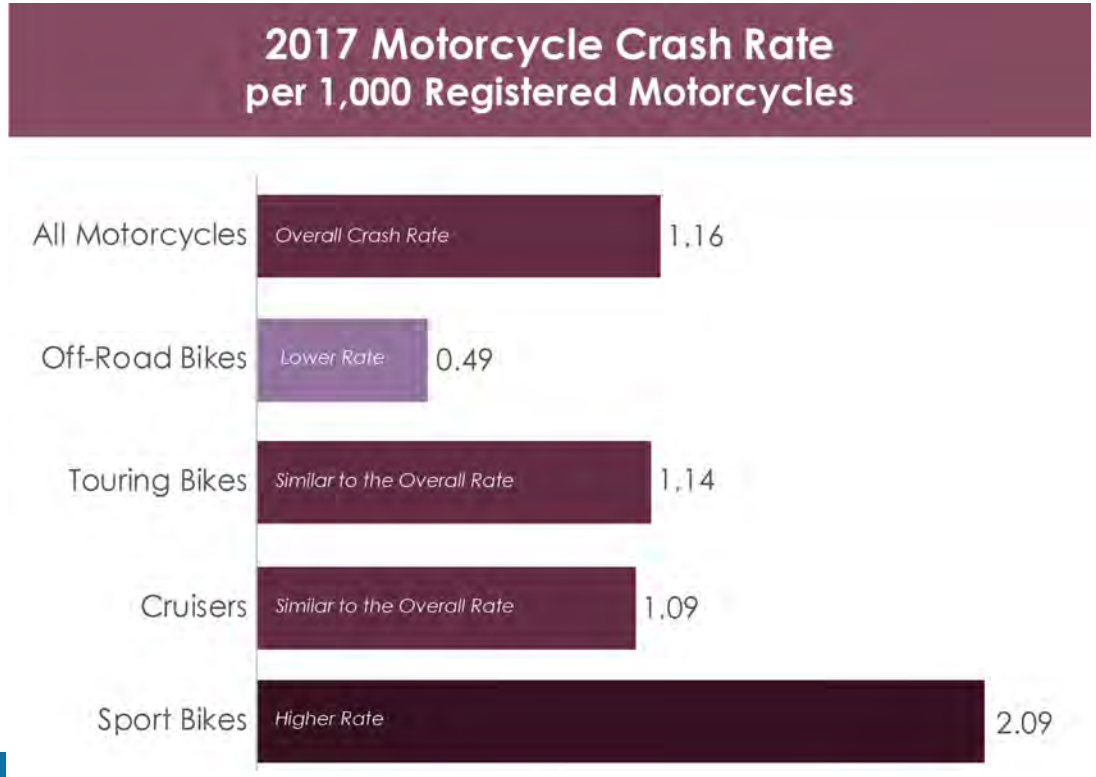
INVOLVING A MOTORCYCLIST

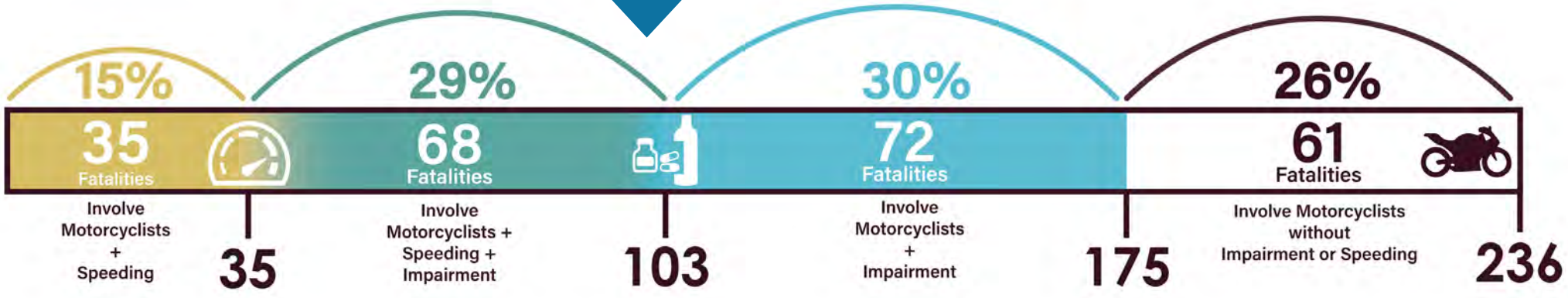
FATALITIES INVOLVING **MOTORCYCLISTS** OFTEN INVOLVE **OTHER FACTORS**

The top two factors that overlap with Motorcyclists are **SPEEDING** and **IMPAIRMENT**

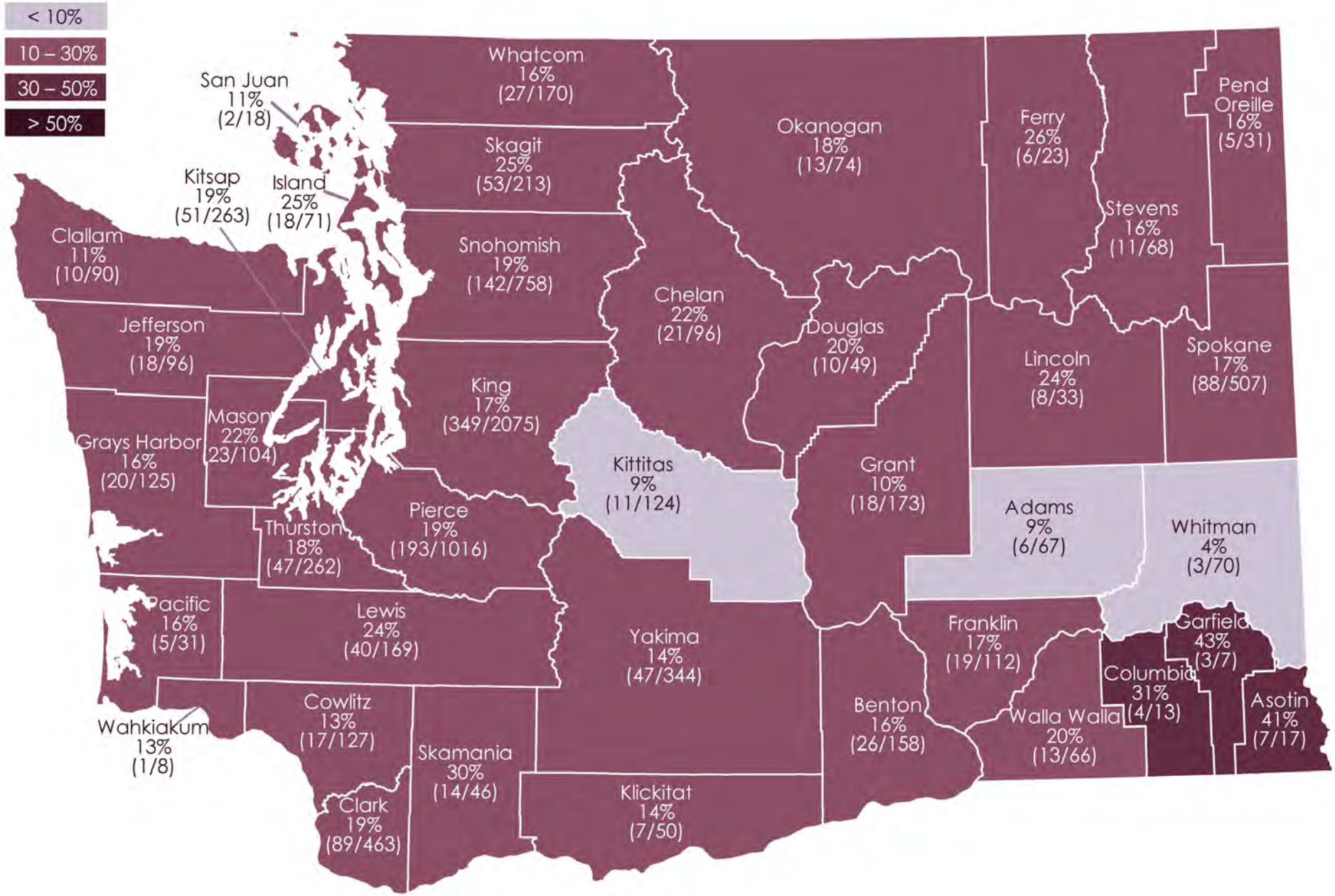
OUT OF **236 FATALITIES**:

44% also involved SPEEDING
59% also involved IMPAIRMENT
and 29% involved a combination of both





Percent of All Fatal and Serious Injury Crashes That Were Motorcyclist Related, by County (2015–2017)



Behavior and Motorcycle Types

When we study the types of motorcycles on the roads, the motorcyclists who crash, and how often these crashes occur, some interesting trends emerge. While terms such as cruiser, sport, touring, and enduro are marketing descriptions, rather than strict definitions of weight, power, and intended usage, the data show that motorcyclists who ride different motorcycle types exhibit different behavior patterns. Sport bikes are involved in both fatal and serious injury crashes at a significantly higher rate than all other motorcycle types. Cruisers and touring bikes crash at rates consistent with all motorcycles, while motorcycles designed for both on and off-road use (enduro/dual-sport) crash at a significantly lower rate.

Sport bikes are typically ridden by younger riders, while older riders are crashing on touring bikes and cruisers.

Endorsement and Training

Based on DOL motorcycle endorsement data, 78% of riders involved in a fatal crash had an endorsement. It is often unknown if these riders had any training prior to endorsement, or how long ago their training occurred. Trends indicate that training can reduce skills-based crashes, but traffic safety practitioners must also focus on improving behavior and decision-making to further reduce fatality and serious injury crashes. Over a lifetime of riding, static training events—taken only one or two times—will only go so far.

The first years of riding are the most dangerous for a motorcyclist. While Washington State has increased the number of endorsed riders in recent years, that alone is not enough to reduce the number of motorcycle crashes.

The crash potential for motorcyclists is not limited to new or young riders. Although there is a reduced crash likelihood associated with more years of on-road riding experience, rider engagement surveys conducted by the DOL indicate that many older riders may actually be returning to riding after an extended period of not riding. Extra training could improve skill and bring returning riders up to date and license assessment or re-training is recommended for an increasing population of older riders.

Other High Risk Behaviors

The top two factors observed in fatal motorcycle crashes were impairment and speeding. In fact, impairment and speed are more likely to be seen in fatal motorcycle crashes than in crashes involving any other type of road user.

For fatal motorcycle crashes involving impairment as a factor, 93% of the time the motorcyclist is the one who is impaired. This holds true for speeding as well: in 95% of fatal motorcycle crashes, the motorcyclist is the one speeding. The prevalence of these factors reinforces that the biggest contributor to motorcycle-involved crashes is poor decision-making. Other factors also present often in motorcyclist crashes include distraction, novice riders, and unendorsed riders.

- The lack of a motorcycle endorsement is more likely an indicator of risk-taking behavior rather than a cause of fatalities.
- Young riders, novice riders, and returning riders of all ages are at elevated likelihood of crashes due to a lack of experience.
- Speeding and impairment are conscious choices made by the rider or driver that can have devastating effects leading to a crash. These are compounded when the rider fails to wear protective equipment.

Traffic Safety Culture: Motorcyclists

Education and training programs like It's A Fine Line and DOL's Motorcycle Safety Program promote community involvement and culture change surrounding safety, awareness, education, and endorsement.

These risk-taking behaviors, along with poor decision-making and lack of experience, are the biggest contributors to motorcycle crashes—and the unprotected rider is too often a fatality in an otherwise avoidable crash.

Key Countermeasures for the 2019 Plan

Improved Training and Endorsement

A recent joint study by Washington Traffic Safety Commission (WTSC) and DOL examined all motorcycle-involved crashes between 2013 and 2017 and found that while most riders were endorsed, 39% of riders received no evaluation of their skills prior to their crashes. These represent a subset of the riding population that are choosing to ride without endorsement or with an instruction permit only.

By ensuring more riders get endorsed, and that the permitting and endorsement process is a more meaningful evaluation of rider skill and ability, Washington may reduce the number of crashes caused by inexperienced riders. Subsidy programs may encourage novice riders to seek training rather than forgo it in favor of "testing out." Strengthening the testing and evaluation process will provide better assessments prior to permitting or endorsement.

Increasing the difficulty level of the endorsement tests will push more riders into training; they will need to gain the skills necessary to pass the exam. This should result in an increase in the demand for additional training above a basic/novice level course, and result in riders gaining the skills and knowledge needed to avoid crashes. The current penalty for riding without an endorsement is $136; this amount is significantly lower than the cost for obtaining the endorsement through training. The passage of House Bill 1116 in the 2019–2020 Legislative Session includes increases in the penalty for riding unendorsed and raises the penalty so that it is no longer significantly lower than the cost for obtaining the endorsement through training. This will incentivize training and discourage unendorsed riding.

RELATED AREA: Wildlife Crashes

Wildlife-involved crashes accounted for 0.5% of fatalities (eight) and 0.8% of serious injuries (53) in 2015–2017. Of the fatalities, six (75%) were motorcyclists. Of the serious injuries, 47 (89%) were motorcyclists.

WSDOT identifies locations with high rates of wildlife strikes through crash data and carcass removal data. These numbers suggest that, annually, there are a minimum of 5,000 vehicle crashes with deer and 200 vehicle crashes with elk in our state.

To prevent future wildlife crashes in those locations, WSDOT has used:

- Variable message signs.
- Flashing beacons.
- Yellow diamond-shaped warning signs.
- Wildlife crossing structures.
- Wildlife fencing: eight-foot-tall barrier fencing to prevent wildlife from accessing the roadway.
- Wildlife detection systems. Elk with transmitter collars activate a flashing beacon when detected near the highway.
- Cutting back roadside vegetation to improve sight distance for road users

For more information, please visit WSDOT's "Reducing the risk of wildlife crashes" page at www.wsdot.wa.gov/environment/protecting/wildlife-crashes.

Universal Helmet Laws and Enforcement

Washington maintains a universal helmet law that requires all riders, regardless of age or motorcycle type, to wear a USDOT-compliant helmet. Of the riders killed in crashes, only 8.5% were helmetless. However, a joint study conducted by DOL and WTSC revealed riders wearing a helmet were 37% less likely to be in a fatal or serious injury crash.

This is important because there are annual challenges to Washington's helmet laws by advocates wishing the law repealed. In 1977, Washington's helmet law was repealed. Up to this time, there was an average of 49 motorcyclist fatalities per year. In 1977 there were 75 motorcyclist fatalities and that number jumped to 115 in 1978 and 119 in both 1979 and 1980. In 1990, Washington's helmet law was fully reinstated, leading to an average of 41 motorcyclist fatalities per year the following decade. Based on Washington's own history, motorcyclist deaths increased 40% percent following the repeal of the helmet law, and declined 45% when the helmet law was re-enacted. To reach zero fatalities and serious injuries, it is important that this law stay in place.

Developing a Culture of Rider Safety in Washington

Motorcycle riding is a perishable skill that is easily lost if not constantly practiced. However, motorcycle riding is often seen as a hobby and a seasonal recreation. Ridership in Washington peaks in the summer months.

Additional training or a "Training for Life" approach can improve rider skill and judgment. Outreach efforts made with current riders, other motorists, and youth can educate and inform roadway users on the inherent risks of riding. Through this outreach, Washington can foster a culture of motorcycle safety in which riders make better decisions, including training, protective equipment, and risk analysis. Also, this outreach approach can better inform other motorists of the vulnerability of riders and how to safely operate around motorcycles.

Washington State Laws 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

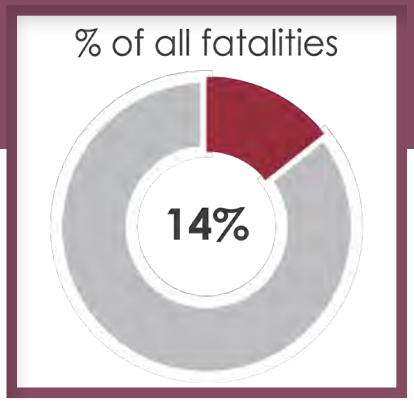
RCW 46.61.613 Motorcycle temporary suspension of restrictions for parades/public demonstrations

RCW 46.61.614 Riding on motorcycles—Clinging

Strategies for Reducing Motorcyclist (MCX) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
MCX.1. Increase the percentage of riders who are trained and endorsed.	MCX.1.1 Collaborate with dealers and manufacturers to promote motorcycle training and endorsement. (R, NCHRP)	Education
	MCX.1.2 Increase number of riders participating in safety training. (U)	Education
	MCX.1.3 Provide incentives for riders' completion of training. (U)	Education
	MCX.1.4 Conduct targeted safety/endorsement media outreach and education. (U)	Education
	MCX.1.5 Conduct outreach to registered owners of motorcycles who are not endorsed. (U)	Education
	MCX.1.6 Increase opportunities for motorcyclist field training. (U)	Education
MCX.2. Reduce numbers of impaired, unskilled, and unsafe riders.	MCX.2.1 Increase motorcyclist awareness of the risks of impaired motorcycle operation. Promote self-policing within the motorcycle community by expanding existing prevention programs, including at specific motorcycle events. (R, NCHRP)	Education
	MCX.2.2 Re-establish a tiered endorsement program with specific endorsements based on motorcycle engine size or power-to-weight ratio. (U)	Leadership
	MCX.2.3 Implement re-testing for endorsement every five years. (U)	Education, Leadership
	MCX.2.4 Require novice rider training (including knowledge and skills testing) to obtain permit. (U)	Education, Leadership
	MCX.2.5 Implement mandatory on-street training and testing. (U)	Education, Leadership
	MCX.2.6 Increase the number of riders seeking on-going training throughout their riding lives. (U)	Education
MCX.3. Increase rider safety awareness.	MCX.3.1 Identify and promote rider visibility-enhancement methods and technology. (R, NCHRP)	Education
	MCX.3.2 Educate all motorists about the vulnerability of motorcyclists. (U)	Education
	MCX. 3.3 Increase outreach to high risk motorcyclists to inform them of the inherent dangers of riding and how to minimize their risks. (U)	Education
MCX.4. Increase Law Enforcement Motorcycle Awareness.	MCX.4.1 Maintain resistance to proposals to law changes that work to repeal motorcycle helmet safety standards. (P, CTW)	Education, Enforcement
	MCX.4.2 Support specialized law enforcement training in motorcycle DUI detection and motorcycle crash investigation. (R, CTW)	Education, Enforcement
	MCX.4.3 Create and implement specialized training to educate law enforcement on motorcycle specific laws. (U)	Education, Enforcement
P: Proven R: Recommended U: Unknown		

For additional strategies affecting Motorcyclists, refer to the Impairment, Speeding, and Licensing and Regulation chapters.

Older Drivers (70+ years old)

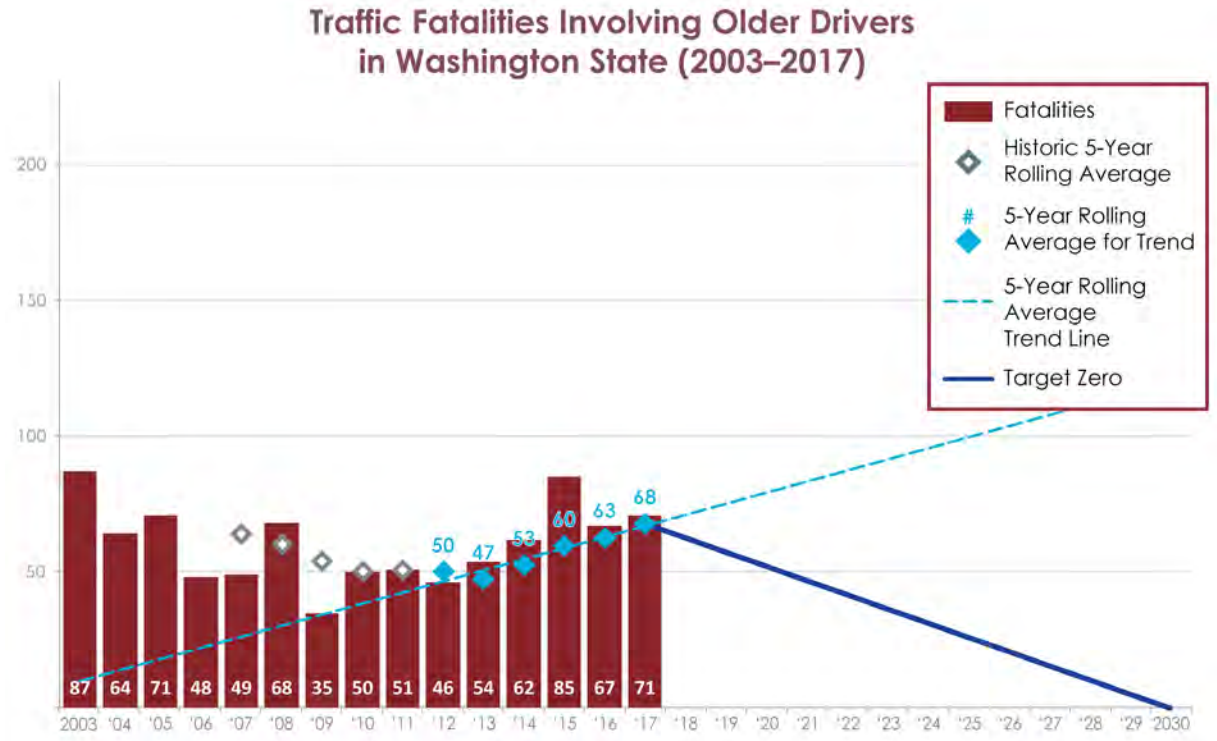


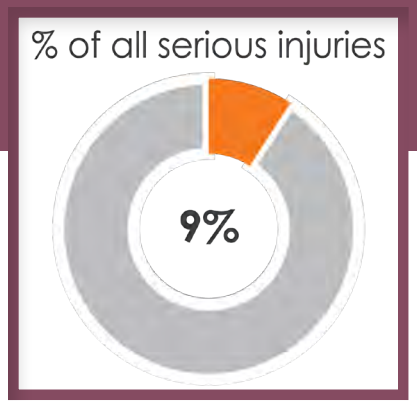
Fatalities involving older drivers in Washington have been trending upward for the past several years. This is partially due to increased exposure: there are a greater number of older adults in the state, and they are keeping their licenses longer and driving more than previous generations. Because of this, the rate of fatal crashes involving older drivers has remained relatively flat over the past decade, with the increase proportionate to the increase in older drivers.

The aging of the state's population brings with it new issues and challenges, including how to keep older drivers safe and mobile. Older adults tend to self-regulate their driving in response to physical, visual, and cognitive change. For example, many seniors avoid driving on unfamiliar roads and limit their trips at night, on highways, or during rush hour. Most older adults reduce their driving mileage or surrender their licenses in their later years. In 2017, 96% of the population between the ages of 70 and 74 held a valid driver license; only 57% of the population ages 85+ had a driver license.

Key Issues for Older Drivers

- High risk behaviors like distraction and impairment
- The older driver population in Washington State is expanding
- Older drivers are at increased risk of dying in crash

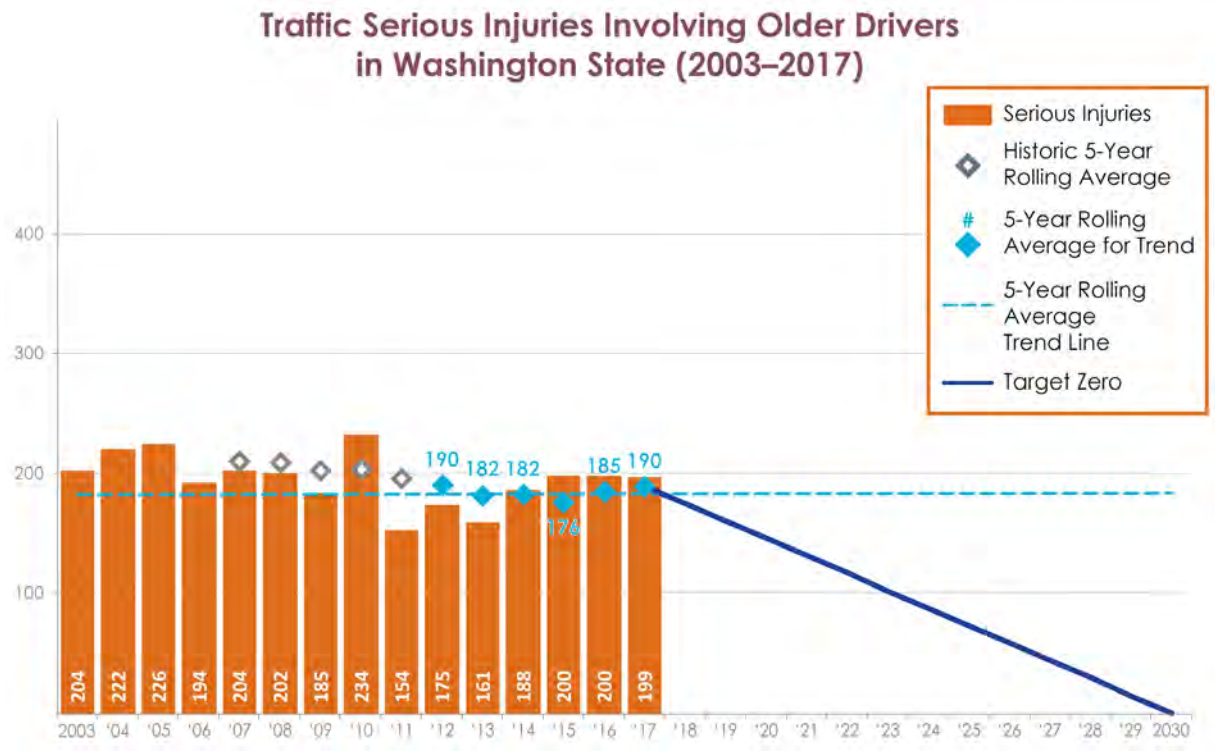




Priority 2

Key Countermeasures for Older Drivers Include:

- Highway design and traffic control for older drivers.
- Crash prevention classes for older drivers.
- Continue requiring in-office driver license renewals for drivers age 70+.
- Research on licensing for older drivers.



BETWEEN 2015–2017 THERE WERE

223 FATALITIES AND 599 SERIOUS INJURIES

INVOLVING AN OLDER DRIVER

FATALITIES INVOLVING OLDER DRIVERS OFTEN INVOLVE OTHER FACTORS

The top two factors that overlap with Older Drivers are **DISTRACTION** and **LANE DEPARTURE**

OUT OF **223 FATALITIES**:

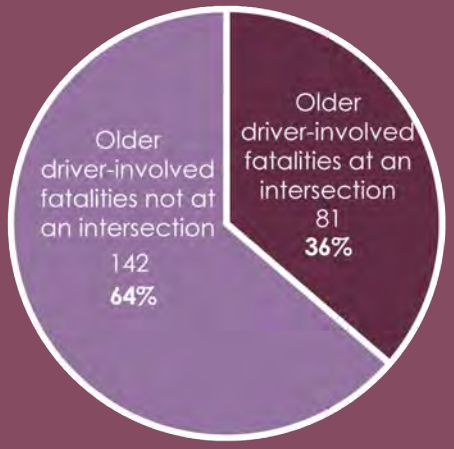
40% also involved DISTRACTION
39% also involved LANE DEPARTURE
and 13% involved a combination of both

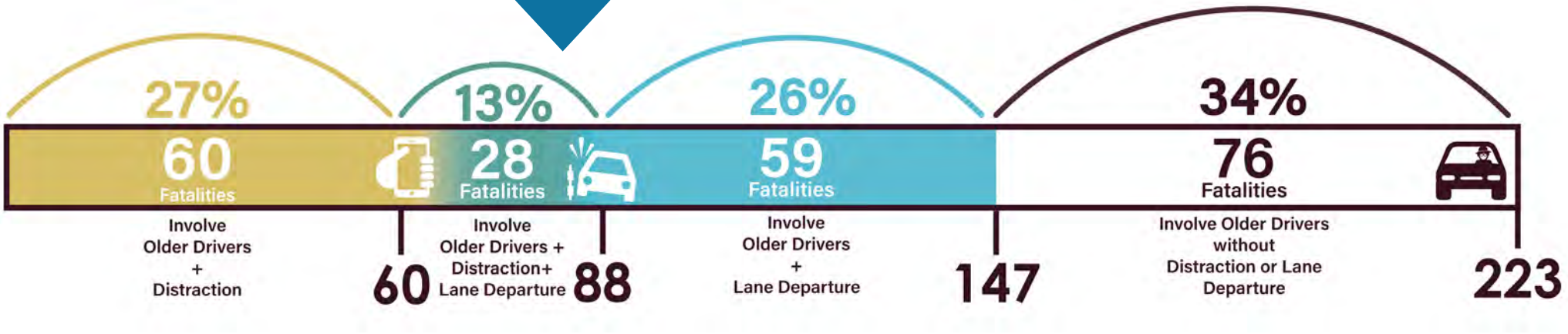
Overlapping Factors

For older driver-involved fatalities, impairment is second to distraction as the most common high risk behaviors. Unlike younger drivers, older drivers are more likely to be impaired by drugs than by alcohol. See Older Drivers and High Risk Behaviors on page 152 for more information.

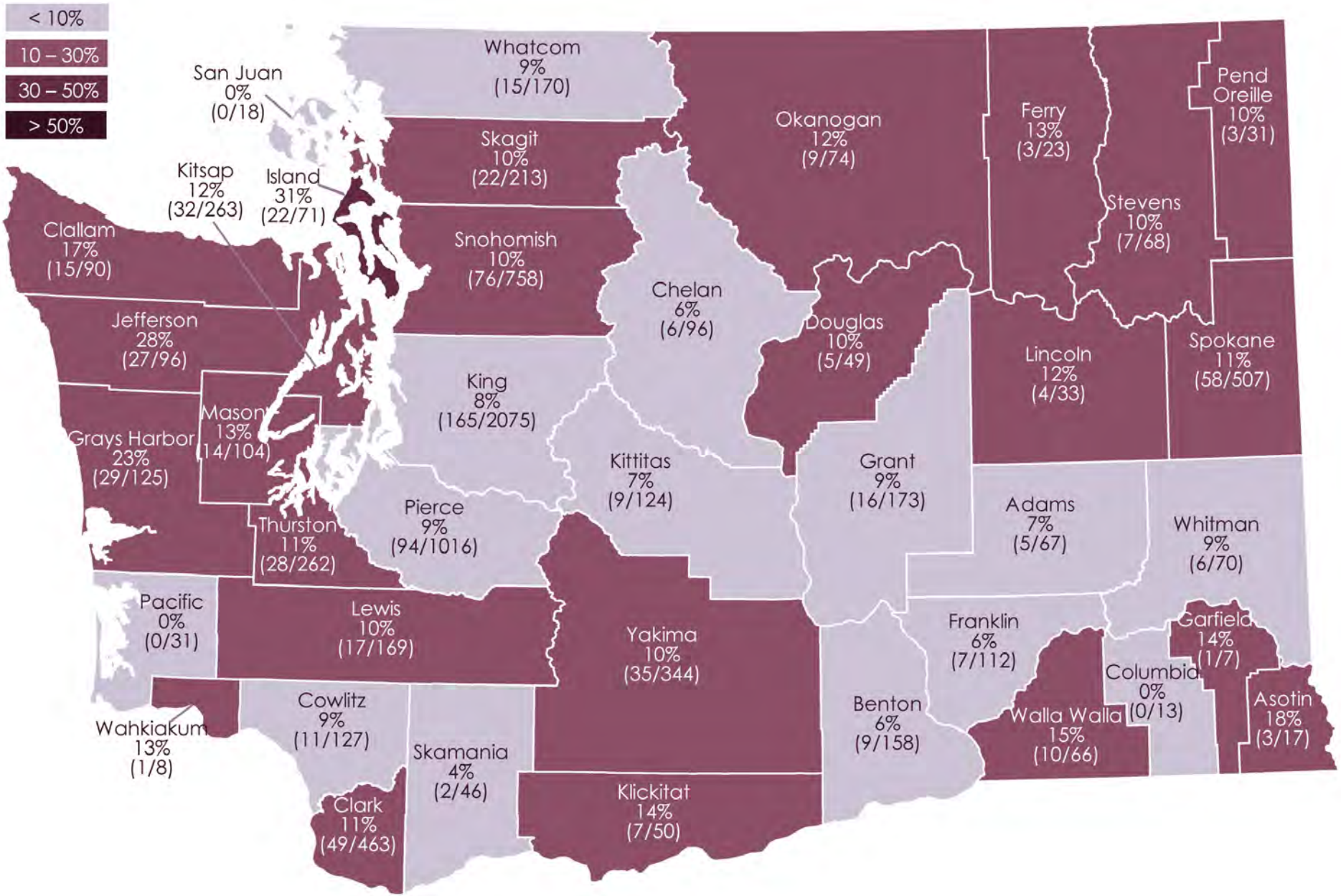
Intersections also emerge as an overlapping factor in many older-driver involved fatal crashes. More than a third of older driver fatalities occurred at an intersection, compared to less than 23% of all traffic fatalities.

Lane departures and intersections are covered under the Crash Type section of Target Zero. This chapter specifically addresses high risk driver behaviors. For strategies related to lane departure, see page 98 and for strategies related to intersections, see page 107.





Percent of All Fatal and Serious Injury Crashes That Were Older Driver Related, by County (2015–2017)



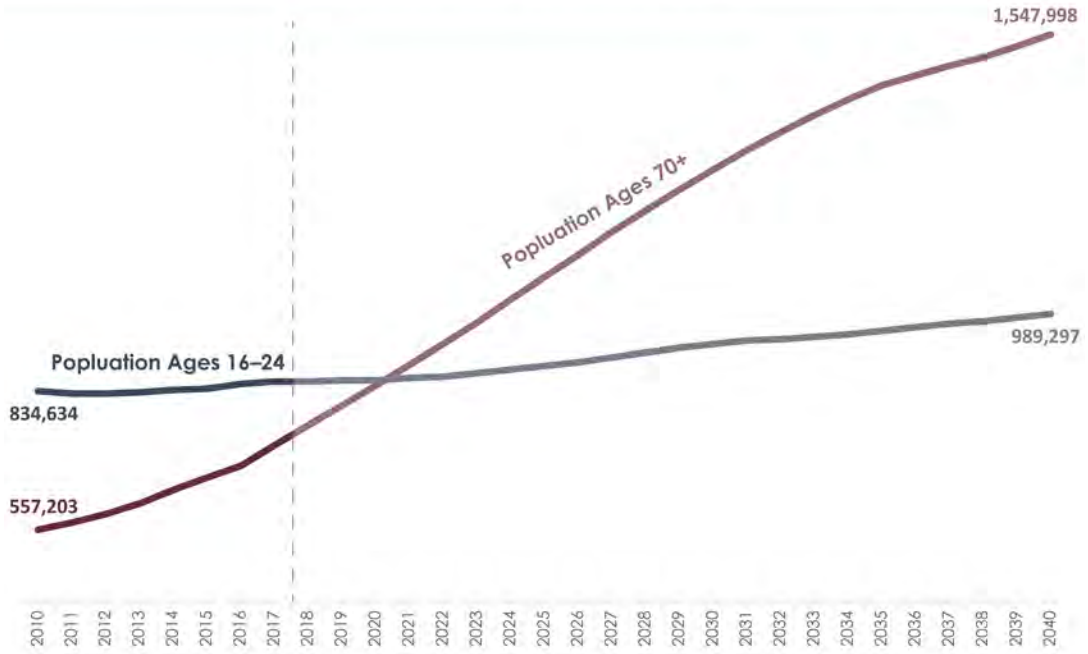
Older Drivers and High Risk Behaviors

Distraction is the top contributing factor associated with older-driver-involved fatalities. When both an older driver and distraction are factors in a fatal crash, 60% of the time the older driver is the one distracted. While young drivers are more likely to be distracted by passengers or electronic devices, the nature of distraction tends to be different for older drivers and includes surveillance errors or secondary driving tasks, such as searching for roadside targets like poles, signs, guard rails, and vegetation. Among all older drivers ages 70+ involved in fatal crashes, 28% were distracted, versus only 19% of drivers ages 16–69.

Drug impairment is also a common overlapping factor associated with older driver involved fatalities. Among crashes involving older drivers, 19% of older drivers tested positive for drugs, compared to only 9% of the under-70-years-old drivers involved in these crashes. Older drivers often test positive for prescription drugs, whereas other drivers most often test positive for cannabis. While prescription medications may be necessary to control disease or treat health conditions, they can also cause drowsiness or affect driving. According to research on medication use among older drivers conducted by the American Automobile Association (AAA) Foundation for Traffic Safety, 97% of study participants reported taking at least one medication, and the median number reported taken was seven medications. For more information on older drivers and drug impairment, see the Impairment chapter on page 40.

Older drivers are also disproportionately involved in fatal crashes that occur at an intersection or involve a driver failing to yield right-of-way. Angle-impact crashes, which tend to occur at an intersection when a driver fails to yield to an oncoming vehicle or when making a left turn, are the most common type of fatal crash among older drivers.

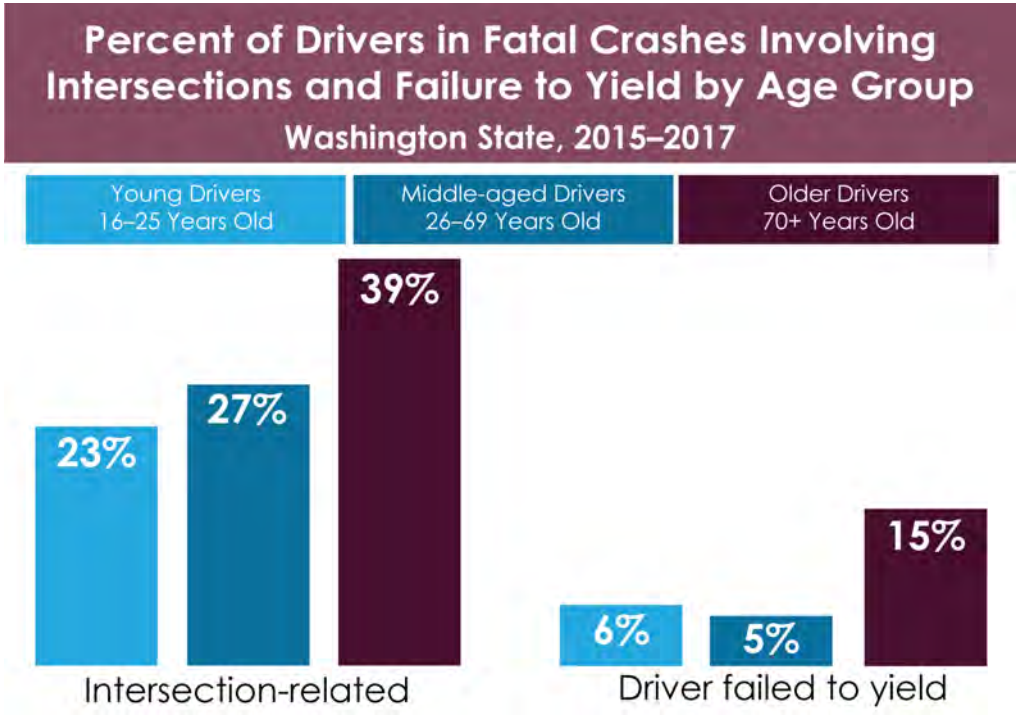
Population Growth in Washington for Ages 16–24 and Ages 70+
Actual to 2017, Projected to 2040



Mobility is Key to the Well-Being of Older Adults

Addressing older drivers on the road is important for several reasons:

- As people age, they may experience declines in their driving abilities as a result of age-related medical conditions.
- Seniors are particularly vehicle-dependent because they tend to live in more remote, rural areas with few, if any, transportation choices.
- Car ownership and driving are strongly linked to independence and life satisfaction for older adults.
- Most people still outlive their ability to drive. The average American man outlives his ability to drive by six years, and the average American woman by 10 years.



Older drivers are over-represented in these types of crashes primarily due to advancing age-related cognitive and physical decline. For example, declines in neck and torso mobility can make it difficult for older drivers to turn and look to the sides of the car to monitor for oncoming vehicles. Deteriorating visual quality can make it difficult for older drivers to see at night and in low contrast conditions. Navigating through intersections requires the ability to make rapid decisions, react quickly, and accurately judge speed and distance, which are all abilities that can diminish with age.

Older Driver Population in Washington State is Expanding

People aged 70 years and older are the fastest growing segment of the population in Washington State. As shown in the graph on the previous page, this age group is expected to grow significantly in the next 20 years. Aging Baby Boomers (the generation born between 1946 and 1964) are contributing to the rapid growth in the senior population—the oldest boomers are now in their early 70s.

Older adults today tend to be more active than previous generations, keeping their driver licenses later into life. Between 2010 and 2017, the number of licensed drivers aged 70 years or older increased 37%, which translates to an additional 167,000 older drivers on Washington roadways. In Washington, there are now almost as many licensed drivers ages 70 years or older as there are licensed drivers ages 16–25.

Older Drivers are at Increased Risk of Dying in Crashes

Older drivers have a lower overall crash rate than other drivers. However, they are involved in fatal crashes at a higher rate than drivers aged 26–69, and are more likely than not to be at fault in fatal crashes.

When an older driver is involved in a fatal crash, they are the one most likely to be killed in that crash:

- Older drivers represented 10% of all drivers involved in fatal crashes between 2015 and 2017, but accounted for 14% of all the drivers who were killed.
- Between 2015 and 2017, when older drivers experienced a fatal crash, they were more likely to be killed than drivers ages 16–69: 63% versus 42%.
- According to the National Highway Traffic Safety Administration, at the national level, drivers aged 75 to 79 are 3.5 times more likely to be killed in an automobile crash than drivers 30 to 65 years old. This likelihood jumps to 9.5 after age 80.

The over-representation of older drivers in fatal crashes is largely due to fragility that is common in older adulthood – for a given crash force, an older person will sustain a greater level of injury and have a harder time recovering from a resulting injury.

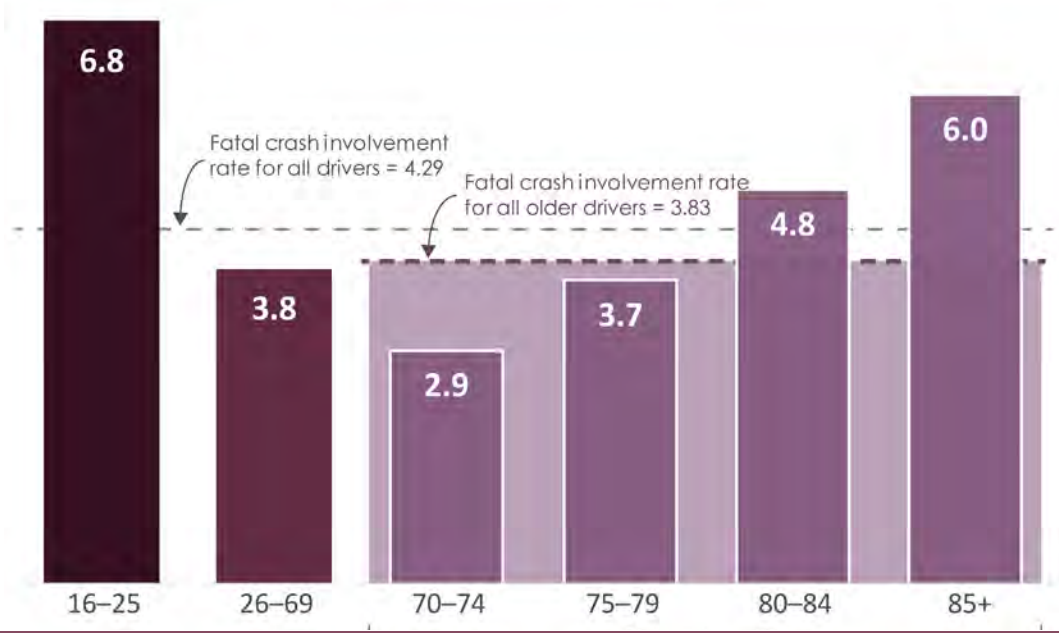
Key Countermeasures for the 2019 Plan

Highway Design and Traffic Control for Older Drivers

Statewide, partners are implementing design changes that can help the growing older-driver population:

- With the installation of roundabouts, road designers are working to remove the need to make left turns, a common source of fatal and serious injury crashes for older drivers. For more on roundabouts, please see page 104.
- Converting permitted left turns from green circles to flashing yellow arrows helps avoid driver confusion that might lead some to assume they can go on the green without yielding.
- Engineers are increasing sign sizes to make their messages clearer, especially for those with diminishing vision such as older drivers.

Rate of Washington Drivers Involved in Fatal Crashes by Age
Rate per 10,000 licensed drivers



Crash Prevention Classes for Older Drivers

Drivers age 55 and over may enroll in educational classes such as AAA's Roadwise Driver Course. These programs focus on high risk situations all drivers face, as well as providing tips and techniques for addressing factors more typical among aging drivers. These include changing vision, reduced response times, and effects of various prescription medications. Older drivers that complete one of these eight-hour courses can also qualify for an insurance discount.

Requiring In-Office Renewals for Driver License

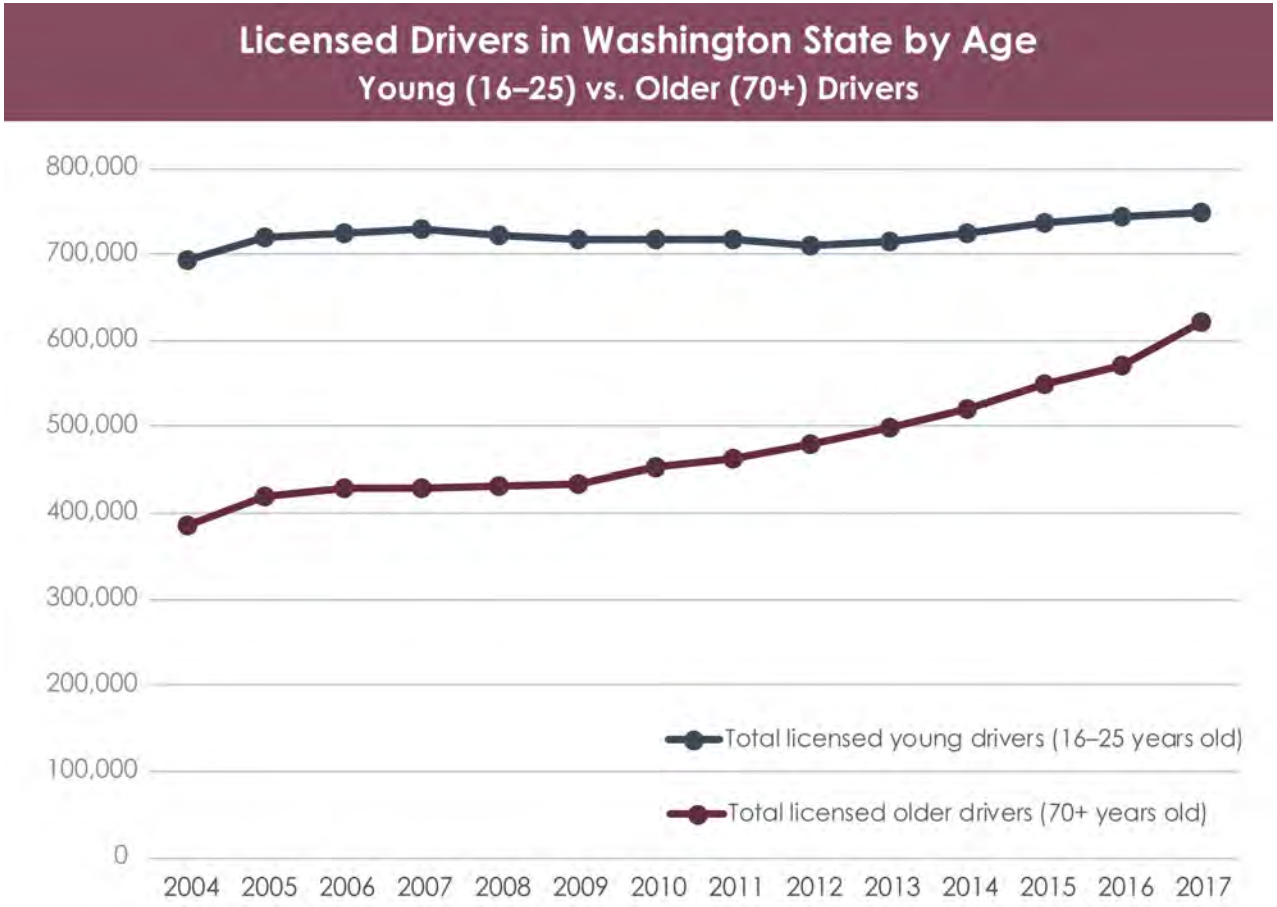
In Washington State, all drivers must renew their license every six years. Drivers have the option of renewing online every other cycle up until the age of 70. However, drivers aged 70 years and older must renew their license in person every six years at a licensing office, which also requires them to pass the vision test at every renewal. This gives the Department of Licensing (DOL) staff an opportunity to see firsthand whether a driver's ability to operate a vehicle should be evaluated more closely. Any obvious impairment that might interfere with safe operation of a motor vehicle should alert the representative to question the customer further regarding the possible impairment. Research has found an association between mandatory in-person renewal and a reduction in fatal crash involvement rates among older drivers.

Research on Licensing for Older Drivers

DOL researched older-driver crash data and policy approaches in other jurisdictions, primarily other states and some countries. Based on this research, DOL has identified a series of recommendations that the agency can focus on to address the impacts of our growing older driver population.

These include:

- Provide more training to DOL representatives to watch for medical issues.
- Allow older drivers to opt for a shorter license renewal period.
- Offer a local/restricted license option.
- Offer no-cost identification cards for drivers over 70 who wish to surrender their license.
- Develop and distribute informational materials on older driver safety and resources.



Related Washington State Laws

RCW 46.20.031 DOL is prohibited from issuing a license to a person who has a physical or mental condition that could impact driving.

RCW 46.20.041 Permits DOL to require a medical evaluation if it has reason to believe that a person may have a physical or mental condition that could impact driving

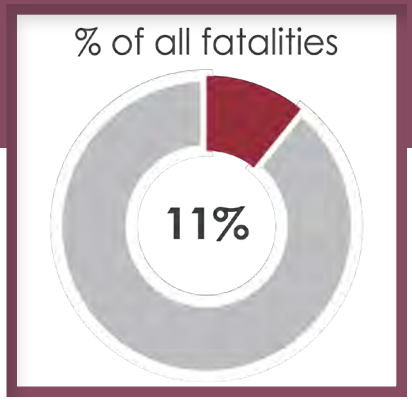
RCW 46.20.305 Permits DOL to require a driver license examination if it has reason to believe that a person is incompetent or otherwise not qualified to be licensed

Strategies for Reducing Older Driver Involved (ODI) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
ODI.1. Identify older drivers who are at an elevated crash risk.	ODI.1.1 Implement Model Driver Screening and Evaluation Program Guidelines for Motor Vehicle Administrators for screening and evaluating older drivers' physical and cognitive abilities and skills. (R, CTW)	Education
	ODI.1.2 Provide training to law enforcement, medical professionals, licensing representatives, and community members for recognizing physical and cognitive deficiencies affecting safe driving in older drivers, including submitting reevaluation referrals to DOL. (R, CTW)	Education, Enforcement, EMS
	ODI.1.3 Establish a State Medical Advisory Board to develop guidelines to determine medical conditions, regardless of age, when driver license restrictions or revocations might be needed. (R, NCHRP)	Leadership
	ODI.1.4 Continue to require drivers age 70+ to renew their license in person (not online or by mail) and complete a vision test for each renewal at a licensing office. (U)	Leadership
	ODI.1.5 Develop and distribute educational materials that provide information and resources for older driver safety, including self-assessment tools, driving evaluation programs, effects of medications and health conditions on driving, resources for car comfort and safety and adaptive equipment for vehicles, tips for family conversations about driving cessation, and additional transportation options. (U)	Education
	ODI.1.6 Conduct research on how to better identify older drivers most at risk for a fatal or serious injury crash, and develop strategies for early intervention with at-risk senior drivers. (U)	Evaluation
ODI.2. Improve older driver competency.	ODI.2.1 Increase driver education opportunities for older drivers. (R, NCHRP)	Education
	ODI.2.2 Develop classes and partner with vehicle dealerships to better educate older drivers on how to use the technology in their newly purchased vehicles to operate the vehicle more safely. (U)	Education
P: Proven R: Recommended U: Unknown		

Strategies for Reducing Older Driver Involved (ODI) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
ODI.3. Reduce risk of serious injury and fatalities.	ODI.3.1 Increase seat belt use by older drivers and passengers. (P, NCHRP)	Education, Enforcement
	ODI.3.2 Promote safe mobility options for seniors by providing guidance and assistance on identifying safe transportation options within the community, and incentivizing transportation options. (R, NCHRP)	Education, Leadership
	ODI.3.3 Involve caregivers and family members of older drivers in discussions and education about aging and driving and provide techniques they can use to help the older driver assess safe driving, and, when necessary, transition from driving. (R, NHTSA)	Education
	ODI.3.4 Improve the roadway to better accommodate the special needs of older drivers. This could include providing advance warning and guide signs, improving pavement markings, improving the readability of roadway signs, providing more protected left-turn signals and offset left-turn lanes at intersections, reducing speed limits, and improving the lighting at intersections and in curves. (R, NCHRP)	Engineering
	ODI.3.5 Issue restricted licenses to older drivers that pose excessive risks only in certain situations. Common types of restrictions could include daylight driving only, limit driving to a specific geographical area, or limit driving only to low-speed roads. (R, CTW)	Leadership
P: Proven R: Recommended U: Unknown		

For additional strategies affecting Older Drivers, refer to the Impairment, Distraction, and Unrestrained Occupants chapters.

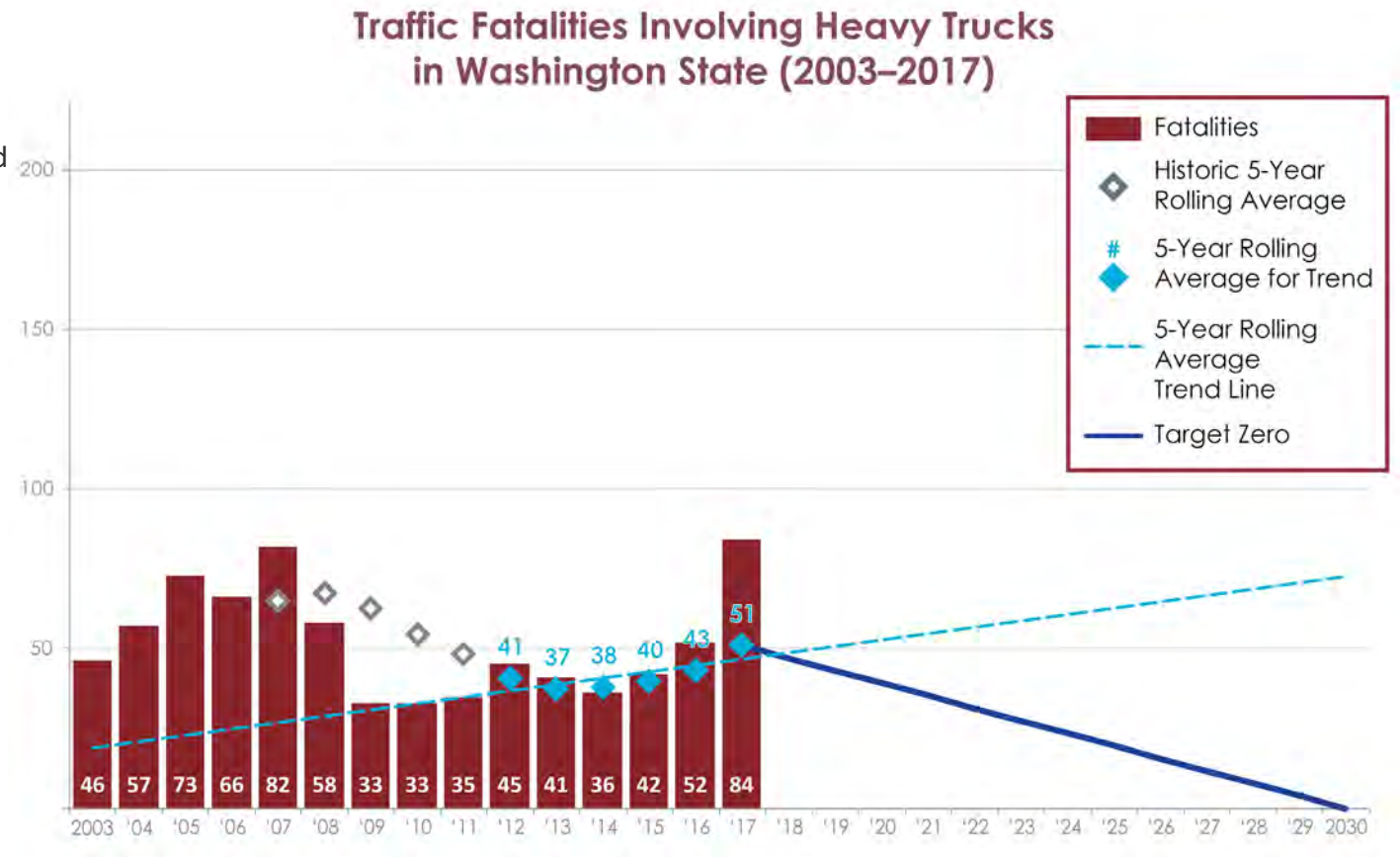
Heavy Trucks

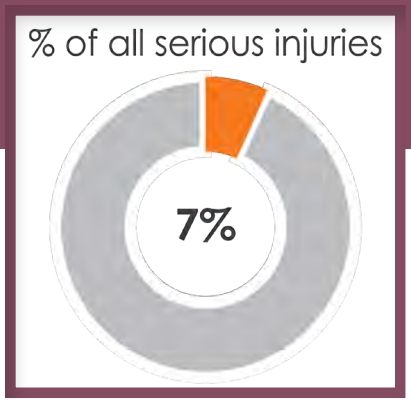


Due to their size, weight, and numbers on the roadways, heavy trucks pose a higher risk of crashes that result in death and serious injuries. In 2015–2017, there was a 46% increase in the number of fatalities involving a heavy truck compared to 2012–2014. An internal review of fatal crash reports conducted by the Washington State Patrol (WSP) revealed that 60% of heavy-truck-involved crashes were caused by passenger car and motorcycle drivers, while heavy truck drivers caused only 27% of the crashes. The remaining 13% of these crashes were due to other causes, predominately pedestrians or bicyclists who failed to yield the right-of-way to the heavy truck.

While heavy-truck-involved fatal crashes in Washington State have increased, the rate is still slightly lower than the national rate. During 2015–2017, heavy trucks were involved in 12% of all fatalities nationally. In Washington for the same period, they were 11% of all fatalities.

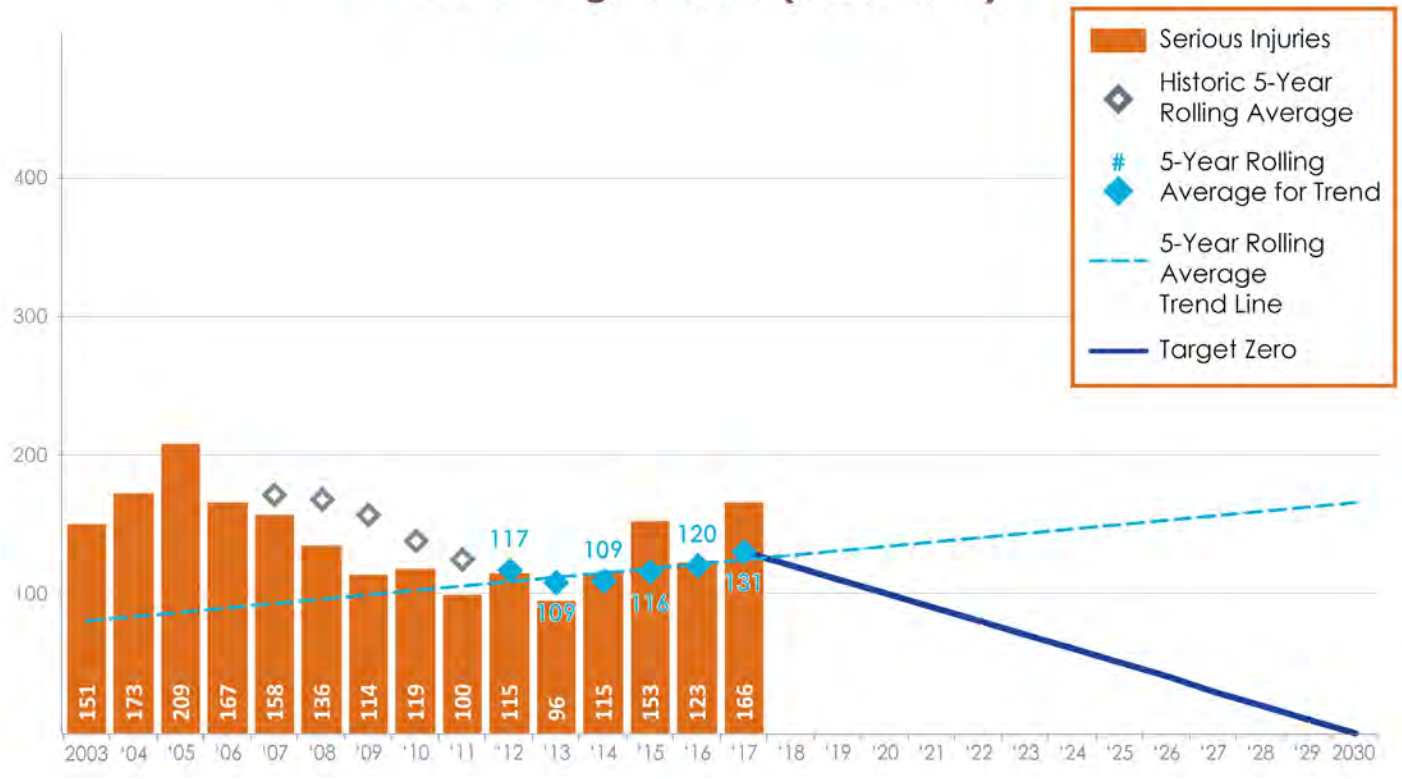
There are many factors that contribute to heavy-truck-involved crashes and combating those factors is an ever-evolving effort. Target Zero partners use resources strategically in an effort to decrease these crashes statewide. To address these types of crashes, Target Zero partners are pursuing enforcement and education and outreach strategies focused on not only heavy truck drivers, but also the passenger car and motorcycle drivers who share the road with them.





Priority 2

Traffic Serious Injuries Involving Heavy Trucks in Washington State (2003–2017)



Key Countermeasures for Heavy Trucks Include:

- Enforcement
  - Heavy truck inspections
  - High crash corridors
  - The Ticket Aggressive Cars and Trucks (TACT) Program
- Education and outreach
  - Passenger car drivers
  - Heavy truck drivers

BETWEEN 2015–2017 THERE WERE

178 FATALITIES AND 442 SERIOUS INJURIES

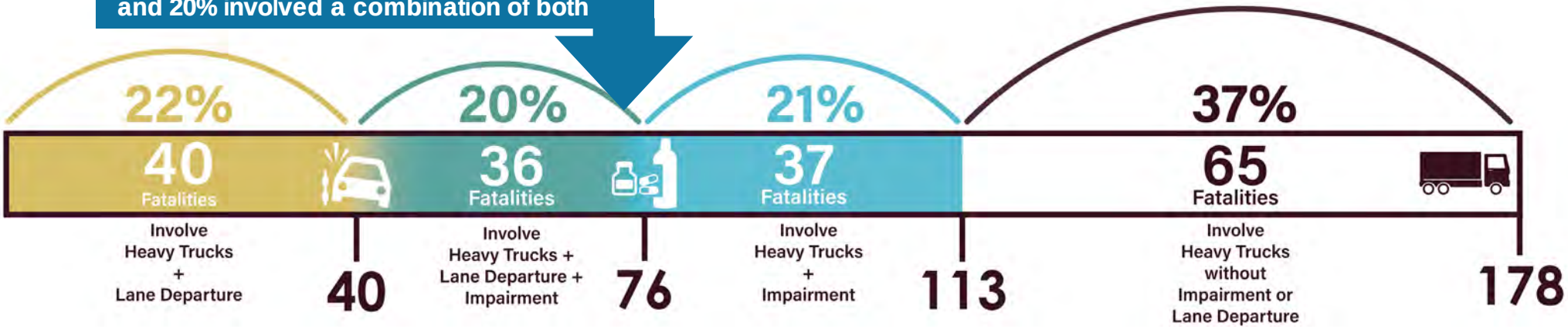
INVOLVING A HEAVY TRUCK

FATALITIES INVOLVING HEAVY TRUCKS OFTEN INVOLVE OTHER FACTORS

The top two factors that overlap with Heavy Trucks are **LANE DEPARTURES** and **IMPAIRMENT**

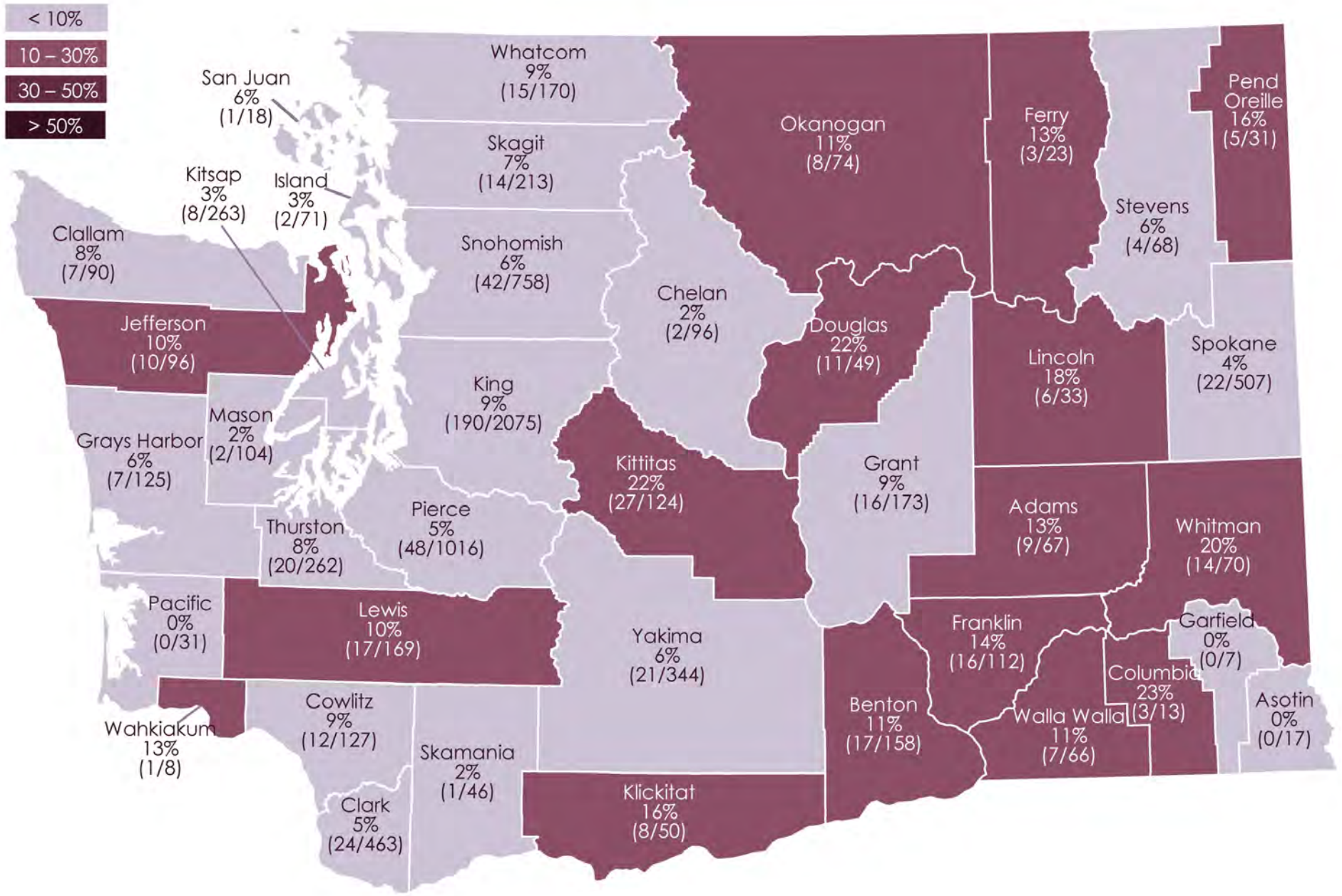
OUT OF **178 FATALITIES**:

42% also involved LANE DEPARTURES
41% also involved IMPAIRMENT
and 20% involved a combination of both



In 2015–2017, of the 73 fatalities that involved both a heavy truck driver and impairment, only eight of those deaths (11%) involved an impaired heavy truck driver. The remaining impaired individuals were other drivers, pedestrians, or bicyclists.

Percent of All Fatal and Serious Injury Crashes That Were Heavy Truck Related, by County (2015–2017)



Key Countermeasures for the 2019 Plan

Enforcement

Continue heavy truck inspections. WSP personnel decreased by 4% during 2015–2017. Even with a 4% reduction in personnel, in this same time period WSP performed 65% more inspections than the national average.

WSP is working to train more officers and other allied law enforcement agency personnel in how to conduct inspections and stop heavy trucks that display high risk driver behavior.

Analyze high crash corridors. The WSP Commercial Vehicle Division (CVD) analyzes fatal and serious injury crash data involving heavy trucks to determine high crash corridors. Analyzing heavy truck crashes and looking for trends is a continuous process. Analysts in CVD review crashes to determine the at-fault unit, location, and primary violations that caused the crash. This breakdown provides WSP with the necessary information to determine where an emphasis should be held.

Promote the Ticket Aggressive Cars and Trucks (TACT) Program. WSP also uses the TACT Program in other high risk crash locations throughout the state. The TACT officers are specially trained in seeking out the most dangerous driving behaviors in both heavy trucks and passenger vehicles (including motorcycles).

From 2015–2017, WSP's nine TACT officers contacted 22,365 drivers of all vehicle types who committed the following violations:

- 4,771 driving aggressively
- 11,781 speeding
- 705 not wearing seat belts
- 28 driving negligently
- 10 DUI
- 108 drug and warrant violations
- 28 reckless and negligent driving

In addition, TACT officers completed 2,734 roadside heavy truck inspections.

Education and Outreach

Education and outreach efforts focus on heavy truck drivers, passenger car drivers, and motorcyclists.

Updated passenger car driver training. Sixty percent of fatal crashes involving heavy trucks are the fault of a passenger car or motorcycle driver. In partnership with the trucking industry and associations, the Department of Licensing (DOL) is analyzing the most influential training materials to improve basic driver training. This training would provide new passenger car and motorcycle drivers with improved skills and knowledge in how to operate around a heavy truck.

Commercial Vehicle Enforcement Bureau (CVEB) Inspections

Washington State Patrol (WSP) is recognized as a national leader in implementing technology to reduce heavy-truck-involved crashes, as well as support freight mobility. Washington commercial vehicle enforcement officers focus on crash-causing violations. According to the Federal Motor Carrier Safety Administration (FMCSA) SafetyNet data, Washington enforcement officers inspected 286,944 heavy trucks from 2015–2017. WSP uses SafetyNet data to identify high risk carriers at roadside and weigh station inspection facilities, and to prioritize compliance reviews.

The state of Washington was recognized by FMCSA for having one of the lowest commercial vehicle fatality rates for a medium-sized state.

Training for the Commercial Driver License (CDL). To decrease heavy-truck-involved fatal and serious injury crashes, DOL recently implemented more specific training requirements for individuals seeking to obtain or upgrade their CDL. The training includes specific curriculum and training hour requirements for obtaining all Class vehicles (A, B, and C) and for each endorsement (Passenger, School Bus, and Hazmat). The curriculum is developed to require compliance for drivers, and provide the same core curriculum for all training schools and employers who teach drivers to obtain a CDL.

DOL partners with Workforce Training and Education Coordinating Board to verify that the training schools are following the required training. DOL actively reaches out to CDL training schools, heavy truck industry, transportation agencies, Federal Motor Carrier Safety Administration (FMCSA), and law enforcement to improve training requirements.

DOL also partners with American Association of Motor Vehicle Administrators (AAMVA) to specify CDL knowledge and skills testing. The knowledge and skills tests are developed to verify that a driver has the skills necessary to operate a commercial vehicle safely on our nation's highways. Skills test examiners are required to complete a complex training for conducting skills test. These examiners are also required to attend yearly "In Service Training" and must pass a re-certification training every four years. DOL actively conducts covert and overt audits ensuring the testing standards are met statewide and across all industries.

DOL has strict requirements for the disqualification of drivers who are convicted of certain violations. Washington is among a few states that actively disqualifies and takes unsafe drivers off the road for drug and alcohol test refusals and test positives.

RELATED AREA: School-Bus-Related Crashes

From 2015–2017, there were four fatalities and 17 serious injuries involving a school bus. None of the fatalities were school-aged children, and only one serious injury was a school bus occupant.

The Office of Superintendent of Public Instruction (OSPI) has overall responsibility for school bus safety. Statewide, five regional transportation coordinators liaison between OSPI and local school districts. The transportation coordinators assist with school bus driver certification, initial and continuing driver training, and development of guidance documents for school districts.

The OSPI and regional coordinators also collaborate with the WSP's Commercial Vehicle Division (CVD) for executing annual, high-quality, and thorough school bus safety inspections.

In considering students' traffic safety, Target Zero partners are not just concerned with school bus riders. In February 2015, The Washington State Department of Transportation (WSDOT), in collaboration with the Washington Traffic Safety Commission (WTSC), OSPI, and Department of Health (DOH), updated the state's School Walk and Bike Routes guide. (www.k12.wa.us/Transportation/pubdocs/WalkRoutes.pdf) This guide is used by school districts to develop, modify, and maintain safe school walk and bike routes.

To prevent injuries related to school buses, OSPI supports:

- Annual training on student management, which helps lessen distractions from students on the bus.
- Annual training on rules and regulations related to school bus operations and Rules of the Road.
- Higher visibility LED lighting on school buses.
- Approval of exterior-mounted back-up cameras.
- Approval of the use of Electronic Stability Control on school buses.
- Approval of Collision Mitigation Technology on school buses.

Outreach in partnership with the trucking industry. To successfully decrease heavy-truck-involved fatal crashes, WSP partners with the heavy truck industry and others in providing education and outreach. At the ports of entry, WSP provides safety talks, along with tours of the weigh stations, to heavy truck drivers from local truck driving schools. This allows the new heavy truck drivers the opportunity to familiarize themselves with the requirements for driving heavy trucks.

Meanwhile, new trucking companies receive New Entrant Safety Audits within six months of operation. The audit examines the companies' operations and provides educational and technical assistance on the safety and operational requirements of the FMCSA regulations and applicable hazardous materials regulations.

WSP actively reaches out to the community and heavy truck industry to educate on laws and safety involving heavy trucks. WSP presents to the trucking industry, other transportation agencies, school groups, and school bus transportation personnel, as well as other police and law groups. From 2015–2017, WSP conducted 1,214 presentations reaching approximately 52,358 stakeholders statewide. WSP will continue these efforts in the immediate future.

Washington State Laws Relating to Heavy Trucks

- RCW 46.25 Uniform Commercial Driver's License Act. Implements the federal Commercial Motor Vehicle Safety Act of 1986 (CMVSA), Title XII, P.L. 99–570
- RCW 46.32 Vehicle Inspection. Defines "commercial motor vehicle" along with the rules and regulations for the inspection of commercial motor vehicles
- RCW 46.44 Size, Weight, Load. Contains the rules and regulations on size, weights, loads and special permitting for oversized loads
- RCW 46.48 Transportation of Hazardous Materials. Contains the rules and regulations pertaining to the Washington State Patrol's authority to regulate motor carriers who transportation hazardous material
- RCW 46.61 Rules of the Road. Contains information on the operation of all vehicles exclusively upon highways with exceptions
- RCW 46.72 Transportation of Passengers in For Hire Vehicles. Regulates for hire vehicles that transport passengers for compensation with exceptions
- RCW 81.80 Motor Freight Carriers. Defines, sets policy and regulates motor carriers who carry freight for compensation along the highways of this state

Strategies for Reducing Heavy Truck (HVT) Fatalities and Serious Injuries		
Objective	Strategies	Implementation Areas
HTX.1. Increase safety and reduce crashes through quality driver and vehicle inspections and enforcement.	HTX.1.1 Increase and strengthen commercial vehicle safety and performance inspections, including focus on heavy truck and commercial vehicle drivers. (P, NCHRP)	Enforcement
	HTX.1.2 Promote industry safety initiatives by performing safety consultations with carrier safety management. (P, NCHRP)	Education
	HTX.1.3 Provide ongoing education and outreach utilizing ‘“Share the Road” information. (R, NCHRP)	Education
	HTX.1.4 Establish commercial vehicle emphasis patrols in areas identified as high risk for crashes involving heavy trucks and commercial vehicles. (R, DDACTS)	Enforcement, Evaluation
	HTX.1.5 Increase commercial vehicle enforcement contacts targeting the top five crash-causing moving violations. (R, DDACTS)	Enforcement, Evaluation
	HTX.1.6 Increase enforcement personnel use of FMCSA’s PORTAL for identifying high risk carriers. (U)	Enforcement, Evaluation
	HTX.1.7 Provide Commercial Motor Vehicle Training (CMV) training to enforcement officers at the state, county, and local levels. (U)	Education, Enforcement
HTX.2. Improve roadway infrastructure to reduce heavy truck/commercial vehicle crashes.	HTX.2.1 Install interactive truck rollover and curve warning signage. (P, NCHRP)	Engineering
HTX.3. Improve heavy truck driver skills and safe behaviors.	HTX.3.1 Identify and promote opportunities to prevent fatigued driving by increasing the availability of commercial truck parking. (R, WSDOT)	Education, Engineering
	HTX.3.2 Partner with CDL Driver Training schools to improve safety and hazard awareness training to increase entry-level driver skills. (U)	Education
	HTX.3.3 Conduct CDL examiner education and audits. (R, NCHRP)	Education, Evaluation
	HTX.3.4 Increase education efforts and training curriculum for all drivers focused on how to safely operate around heavy trucks. (U)	Education
P: Proven R: Recommended U: Unknown		

For additional strategies affecting Heavy Trucks, refer to the Speeding and Licensing and Regulation chapters.