COOPER JONES BICYCLIST SAFETY ADVISORY COUNCIL

2017 Annual Report

Darrin T. Grondel
Director
Revised February 27, 2018 (Originally submitted December 21, 2017)

Publication and Contact Information

A PDF version of this report is available for download on the Washington Traffic Safety Commission website at:
http://wtsc.wa.gov/

For questions/information about the Cooper Jones Bicyclist Safety Advisory Council, please contact:

Scott Waller
Program Manager
Washington Traffic Safety Commission
PO Box 40944
Olympia, WA 98504-0944
Phone: 360.725.9885
Email: swaller@wtsc.wa.gov

For policy-related questions/information, please contact:

Shelly Baldwin
Legislative and Media Relations Manager
Washington Traffic Safety Commission
PO Box 40944
Olympia, WA 98504-0944
Phone: 360.725.9889
Email: sbaldwin@wtsc.wa.gov

Accessibility information:

Persons with disabilities may request this information be prepared and supplied in alternative format by calling the Washington Traffic Safety Commission at (360) 725-9860. Persons who are hearing impaired may call Washington State Telecommunications Relay Service by dialing 7-1-1 and asking to be connected to (360) 725-9860)

Table of Contents

Executive Summary

While overall traffic fatalities have been decreasing, the number of serious injuries and fatalities of bicyclists has been increasing. For 2011-2016, 717 people were seriously injured and 81 died in motorist/bicyclist collisions; the first six months of 2017 saw another 13 fatalities and 101 serious injuries, according to preliminary data. We are currently not on target to reach zero bicyclist fatalities by 2030.

When these data are examined as a question of transportation equity additional patterns emerge. Serious injuries and fatalities among people biking or walking occur at higher per-capita rates among demographic groups, particularly for people living where poverty rates are higher and for senior citizens. The implications of equity analysis were identified as a priority to be addressed throughout the work of the Council.

Key Findings

- Bicyclist safety is not just an urban problem. Serious injuries and fatalities occur across the state in communities of all sizes.
- We do not know the full extent of the issue. Data collected about bicyclist collisions, serious injuries and fatalities have a number of gaps.
    - Police Traffic Collision Reports (PTCR) do not include sections to gather data about the presence/absence of bike lanes nor do they include a “failure to yield to bicyclist” option as one of the motorist contributing factors.
    - Serious injuries and fatalities where a motor vehicle was not involved are not in the safety data.
    - Deaths caused by injuries from a collision that occur more than 31 days after the collision are not recorded as bicyclist fatalities in national datasets.
- There is currently no reliable way to determine how many people are biking – and for how far or how often – although WSDOT has begun a program of permanent bicyclist/pedestrian counters and a methodology is being developed.
- Two-thirds of bicyclist fatal/serious injury crashes occur at locations with no traffic controls.
- Efforts to improve bicyclist safety should address human and behavioral factors as well as infrastructure improvements. These should focus on motorist behavior as the more important contributing factor compared to bicyclist behaviors.
- There is a need to better understand and apply “self-enforcing” road design, which enables road users to minimize mistakes and the negative outcomes of those mistakes.
- Jurisdictions need to be able to make use of collision data to plan roadway design and enforcement without incurring liability when they seek to address specific locations and overall systematic safety.

BSAC Recommendations

The PTCR should be revised to include the presence/absence of bike lanes (as well as bike routes) and include “failure to yield to bicyclists” as a motorist contributing factors.

Introduction

Bicycling makes important contributions to Washington's transportation system and economy. Washington has been ranked the #1 Bicycle Friendly State in America every year since the League of American Bicyclists started its rating system in 2008 (See Appendix C). The state is also ranked at the top nationally by the Safe Routes to School National Partnership (See Appendix D). According to an economic impact study conducted for Washington State, bicycling puts over $3 billion in direct expenditures into the state's economy each year (Earth Economics, 2014).[1]

According to the U.S. Census Bureau American Community Survey (ACS, 2014), about 4.4 percent of the state's workers currently walk * or bike commute to work. About 42.6 percent of children who live within one mile of their school (about 35 percent of all students) walk or bike to school (Washington State Student Travel Survey State Report, 2016).

From 2014 to 2016 [2], there was a 15 percent increase in children walking or biking to school in Washington State (Washington State Student Travel Survey State Report, 2016). Among adults, bicycling has been steadily increasing; nationally the largest surge of ridership is from persons 60 and older, who account for more than 22 percent of new bicycle trips (People for Bikes, July 2014). The fastest growth in bicycling nationwide is among the Hispanic/Latino, African American and Asian American populations. The average percentage of commute trips by bike from 2006 to 2010 was higher for American Indian/Alaska Natives and Hispanic/Latinos than white workers (League of American Bicyclists, 2013). Bicycling is important as a low-cost means of transportation; people earning less than $30,000 per year accounted for 28 percent of bike trips nationwide in 2009 (League of American Bicyclists, 2013) [3].

Bicycling is increasingly accessible for commute trips -- which represent around 20 percent of all transportation -- and for short trips for other purposes. Thirty percent of all trips in urban areas are one mile or less - about a five-minute bike ride; 44 percent are two miles or less, 53 percent are three miles or less. In non-urban areas, the figures are lower, but still represent a significant number of trips: 20 percent are one mile or less, 30 percent are two miles or less, 37 percent are three miles or less (USDOT, 2009). Interestingly, among the top 15 states ranked by percentage of bike commuters, 11 of them are Western states (ACS, 2014). Communities across Washington have sought and received designation as Bicycle Friendly Communities to highlight their policies and investments, with community leaders recognizing that bicycle safety, walkable towns, and trail systems contribute to both workforce recruitment and real estate value. Bicycle tourism is a growth opportunity for economic development, with states announcing record levels of investment in major networks to invite bike tourists to spend in "trail towns" along the way and economic impact studies showing robust returns on investment (New York Times, February 20, 2017)

---

[1] Bicyclist fatality numbers are very small, making good statistical analysis difficult. Further, many data sets combine pedestrian and bicyclist statistics. We will strive to provide bicyclist-only information where available. In some cases, we will reference combined bicyclist and pedestrian data because that is what is available.

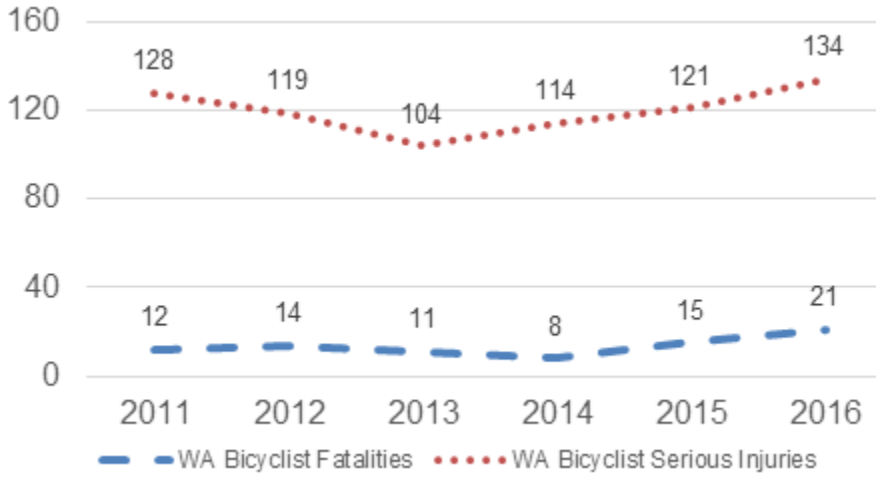
[2] We will identify 2016 as the most recent year for which data is available throughout this report because it is the last year for which we have totally verified data.

[3] Some data are not available at the state level, so this report will reference some national data to provide context.

New developments like bike share services in cities, the increasing availability of electric-assist bikes, and bicycle-friendly public transportation alternatives have also increased the numbers of people riding.

At the same time the number of bicyclists in the state is increasing, bicyclist fatalities and serious injuries have also been increasing. More than half of the state's counties have had at least one bicyclist fatality between 2011 and 2016 and 87 percent of the state's counties (34 out of 39) have experienced at least one seriously injured bicyclist in that same time. More than 20 Washington cities have had at least one bicyclist fatality since 2011 (See Appendix B).

Washington Bicyclist Fatalities and Serious Injuries, 2011 - 2016



Washington State Department of Transportation, Crashes Involving Bicyclists, 2011 – 2016

According to data available through the WSDOT, there were 13 bicyclist fatalities and 101 serious injuries through the first six months of 2017. This data is considered preliminary, as the official Fatality Accident Reporting System (FARS) system data is not yet available for 2017.

The continuing increase in bicycle use places more people in proximity to vehicles on roadways and highlights the need for changes in roadway design and operations and other measures to increase safety.

Council Purpose and Scope

Substitute Senate Bill 5402 established the Cooper Jones Bicyclist Safety Advisory Council (BSAC) to "review and analyze data related to bicyclist fatalities and serious injuries to identify points at which the transportation system can be improved and to identify patterns in bicyclist fatalities and serious injuries". The BSAC name honors Cooper Jones, a 13-year-old boy who died after being struck from behind by a driver as Cooper participated in a road race in Spokane County.

The Washington Traffic Safety Commission convened the Council in October 2017 and held two meetings before the end of the year. A Steering Committee, comprised of the Executive Sponsors or their designees develops meeting agendas and facilitates BSAC meetings.

Members include experts from multiple disciplines including law enforcement, traffic engineering, traffic safety, planning, public health, public transit, injury prevention, cities, counties, tribes, and the King County coroner. The Council met twice in 2017 and will meet monthly in 2018 to review data on bicyclist safety and begin to compile evidence on actions that Washington can take to prevent bicyclist fatalities and serious injuries.

The Council will address its recommendations to organizations with the authority to implement, including the:

- WTSC
- Other State Agencies
- Governor's Office
- Transportation Committees of the Washington State Legislature

While some actions are possible using existing authority and interagency collaboration, it is expected that others will require expanded authority and/or new funding.

BSAC Accomplishments – 2017

A. Adopted a unifying commitment statement

BSAC Commitment Statement - We are committed to creating a culture of safety for bicyclists and all road users. Through our work, lives will be saved, and all people in Washington will have the choice to travel safely by bicycle.

B. Identified core considerations for how the group should operate

- Support an engaged, informed and efficient Council;
- Develop a clear, concise and efficient work plan;
- Focus on measurable outcomes, legislative direction and realities;
- Engage diverse stakeholders;
- Base decisions on quality data;
- Set actionable direction for transportation network;
- Think outside the box; seek creative solutions; and,
- Communicate benefits to all users.

C. Identified several important questions for the group to address in 2018

- How to solve the problem of not knowing how many people are riding for what distances? Without that number, there is no denominator, making it difficult to accurately describe the amount of exposure or risk that exists for people who bicycle.
- What could the group recommend to make it possible for local jurisdictions to use safety data for planning without incurring liability?
- Understanding the context of crash locations: Whether or not a crash occurred at an intersection; if a crash occurred at a “driveway,” indicate whether the crash was on the street or sidewalk?
- What happens to the safety data after they are collected? What are best practices for local agencies to use the data?
- Where is the money for bicyclist safety investments and where are we spending it now? Who does what?
- How do we get the best safety data?
- What are the best practices?
- What are relevant laws and policies?
- How do we make the case?
- What is the technology landscape going forward?
- What are the educational needs?

- How do we increase ridership, given the “safety in numbers” benefits to all transportation system users? Studies have shown that collisions with people on bicycles trend down as ridership increases (Science Daily, September 2008).

D. Suggested change to current Police Traffic Collision Report (PTCR) reporting form:

- Add a box for law enforcement to indicate “failure to yield to bicyclist.”

  Action: *The committee considering changes to the Police Traffic Collision Report has agreed to add this as a recommended change item for 2018.*

- Add or re-label the current box to “bike lane” as well as “bike route.”

  Action: *The committee considering changes to the Police Traffic Collision Report has agreed to add this as a recommended change item for 2018.*

E. Adopted meeting schedule for 2018

The group agreed to rotate meeting locations between western and eastern Washington. The inaugural meeting in October 2017 was held in Spokane, the hometown of Cooper Jones. The November meeting was held in Ellensburg. Both meetings included tours of bicycle facilities. The October meeting featured a ride for BSAC members along the Spokane River Centennial Trail and in November BSAC members visited the new “bicycle boulevard” in Ellensburg, a development that has received national recognition as one of the best new bikeways of 2017 (People for Bikes, December 2017).

Crashes Involving Bicyclists: A Deeper Look at the Data

In the brief time the BSAC has been meeting, it has become apparent that some data are collected about crashes consistently, some are collected inconsistently, and some are not collected at all.

Given the lack of data available on miles traveled by bicycle, data are reported using per-capita (population-based) measures. This lack of data is one of the problems the BSAC will need to address in its work. This initial report also identifies patterns in state data that will be discussed in more detail in the next report after the BSAC has had time to conduct additional investigation and analysis.

Furthermore, the number and nature of bicyclist fatalities in any one year can skew the analysis since fortunately the number of deaths is not large in a statistical sense. For purposes of framing the demographic considerations, some data reported below combine walking and biking statistics to look at rates among vulnerable road users. In those cases, explanations will be provided to show whether the data are about bicyclists only or if they include both walking and biking statistics. Differences in patterns between walking and biking will be addressed in future analysis, drawing on the work of the Pedestrian Safety Advisory Council and other sources.

Data That Are Collected Consistently

Demographics of Bicyclists Involved in Fatalities and Serious Injuries

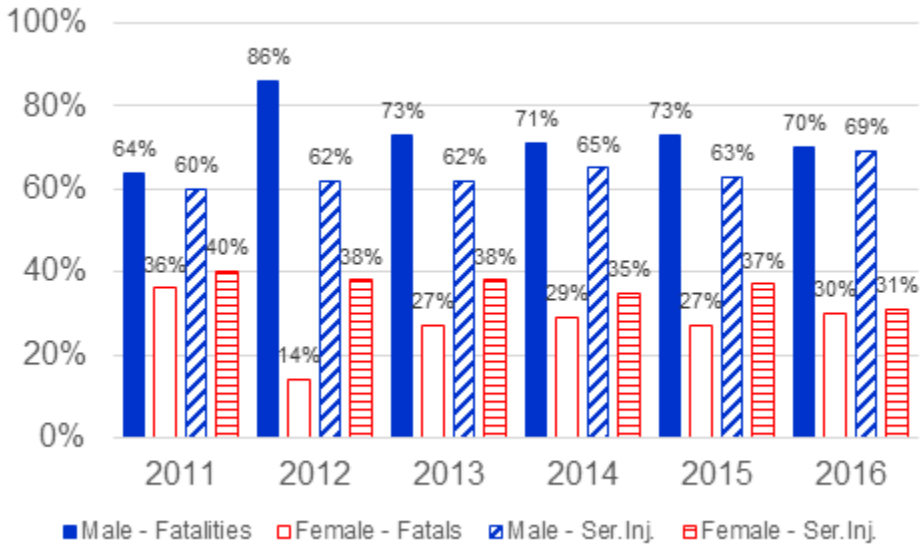
Gender

If law enforcement is investigating a crash, they will record data about gender on a Police Traffic Collision Report (PTCR). Data are also collected when individuals file crash reports themselves. In either case, the gender information is recorded on the PTCR in response to a generic category called “Sex.” In Washington State, males are involved in bicyclist fatalities nearly three times as often as females and males are involved with serious injury crashes nearly twice as often as females.

In Washington, male bicyclists die in crashes a little more than twice as often as females. Washington differs from national statistics, in which male bicyclists are almost four times more likely to be injured and six times more likely to be killed than females, a finding that has remained relatively unchanged since 1975 when NHTSA began collecting traffic crash data. This gender disparity is one of the topics the BSAC will examine in its work in 2018. It has been suggested that women serve as an “indicator species” for the perceived safety of bicycling, in particular the presence or absence of appropriate infrastructure and connectivity that supports safe, comfortable bicycling (Baker, 2009).

The gender disparity in bicyclist fatalities resembles the overall pattern in motor vehicle crashes nationwide. For 1975-2016, the number of male crash deaths was more than twice the number of female crash deaths for all types of road users. In 2016, 71 percent of all motor vehicle crash fatalities nationwide were male (Insurance Institute for Highway Safety, 2016).

Percentage, By Gender, of Fatalities and Serious Injuries, 2011-2016

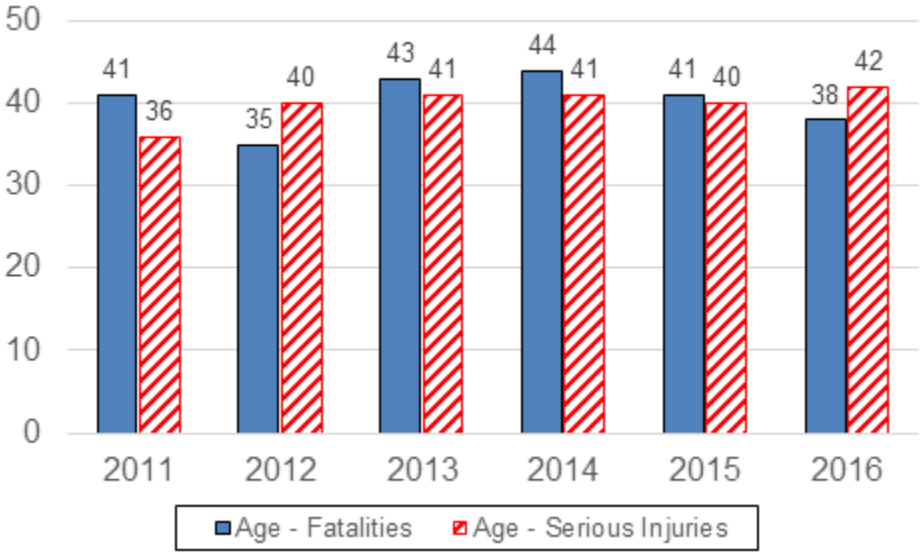


Washington State Department of Transportation (WSDOT), Crashes Involving Bicyclists, 2011 – 2016

Age

Nationwide people 20 years of age and younger accounted for more than three-quarters (78 percent) of the bicyclist deaths in 1975. Fifteen years later, more than 50 percent of bicyclists killed in crashes were 20 years of age or older, marking the first time that children and teens did not account for the greatest number of bicyclist deaths. Adult bicyclist deaths have continued to climb, reaching 818 nationwide in 2015, and a record high. Today, adults account for 88 percent of bicyclists killed in motor vehicle crashes (GHSA, 2017).

Average Age, Bicyclist Fatalities and Serious Injuries, 2011-2016



WSDOT, Crashes Involving Bicyclists, 2011 – 2016

Percentage of Population Without Vehicles

According to WSDOT's Active Transportation Division, an estimated 25–30 percent of people in Washington State do not, cannot, or should not drive. Rates of biking/walking nationally show highest use among people with the lowest income levels and among immigrants, and these figures do not include those who walk or bike to access transit service. There are also individuals who ride bicycles.

Higher Poverty Levels, Age, and Bicyclist/Pedestrian Fatalities and Serious Injuries

53 percent of the state's biking/walking fatalities and 56 percent of the state's biking/walking serious injuries involved people living in census tracts with poverty levels above the state average, while only 38 percent of the population lives in these locations.

People over 65 years of age – 14 percent of the population – make up 24 percent of Washington's biking/walking fatalities, matching the national rate. Children, on the other hand, are under-represented in walk/bike traffic fatalities, compared to those in other age groups. From 2012 to 2016, children aged 14 and younger represented 18 percent of the total state population, and were involved in only 5 percent of pedestrian and bicyclist fatalities in Washington (WSDOT Gray Notebook #65, 2017).

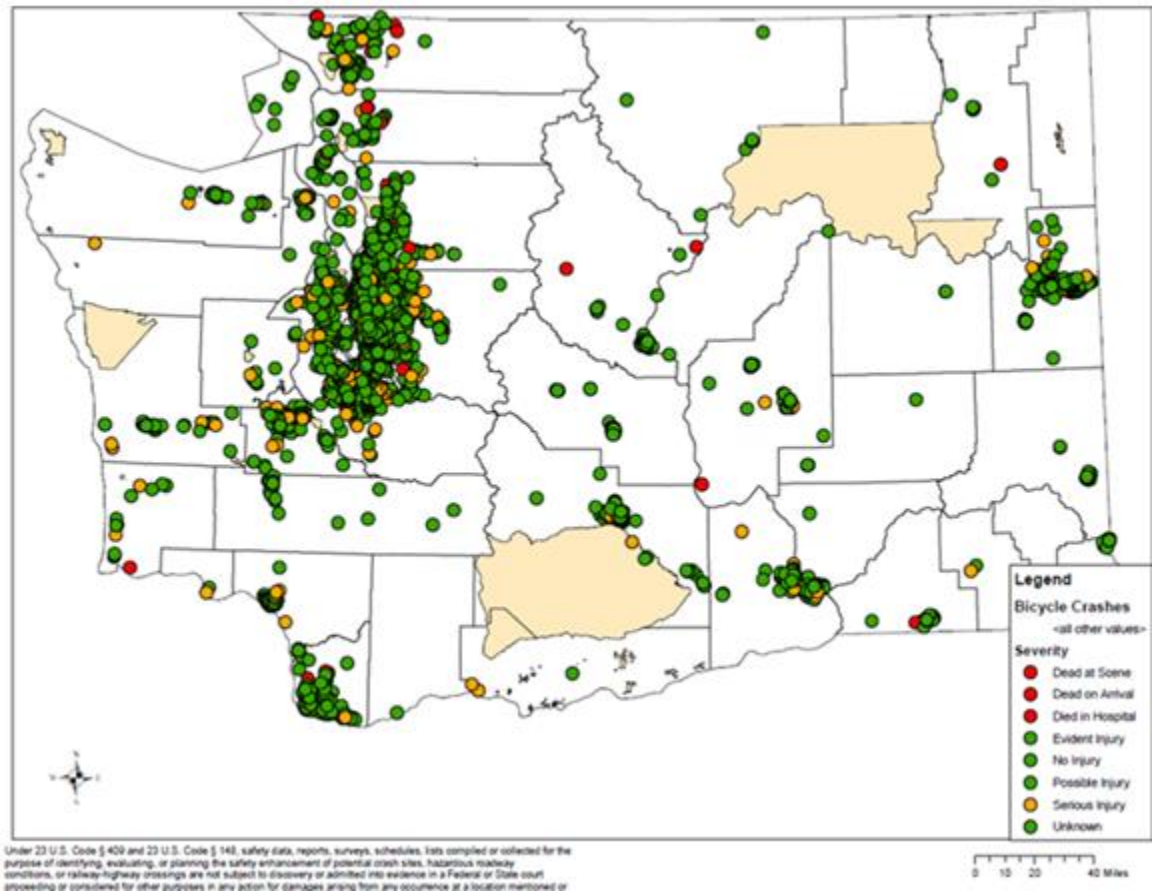
Location of Bicyclist Fatality and Serious Injury Crashes

Washington's bicyclist fatalities and serious injuries are largely concentrated around urban areas, but a closer look at the data shows this is a statewide issue. Nearly half of Washington's counties have experienced a bicyclist fatality and 35 of the 39 counties have at least one bicyclist serious injury. Additionally, nearly 30 percent of Washington's cities have experienced either a bicyclist fatality or serious injury (See Appendix B).

The map illustrates where all of the reported crashes involving bicyclists in 2012-2016 were located and where – among all of the crashes – the fatality and serious injury crashes were located.

The data that follow summarize what the BSAC has heard as of the end of 2017 and do not present a complete analysis. Both state and national data are subject to numerous gaps, including omission of specific crash location in some reports. Additional research and discussion to understand what the data mean and implications for policy recommendations will take place in 2018 and will be addressed in a future report.

Washington Crashes Involving Bicyclists, Crash Severity Map, 2012–2016



WSDOT, Active Transportation Division, 2017.

Intersections and Traffic Controls

For bicyclists, the highest percentage of total crashes—just over half—occur at locations with no traffic controls, and two-thirds of fatal/serious injury crashes occur at locations with no traffic controls.

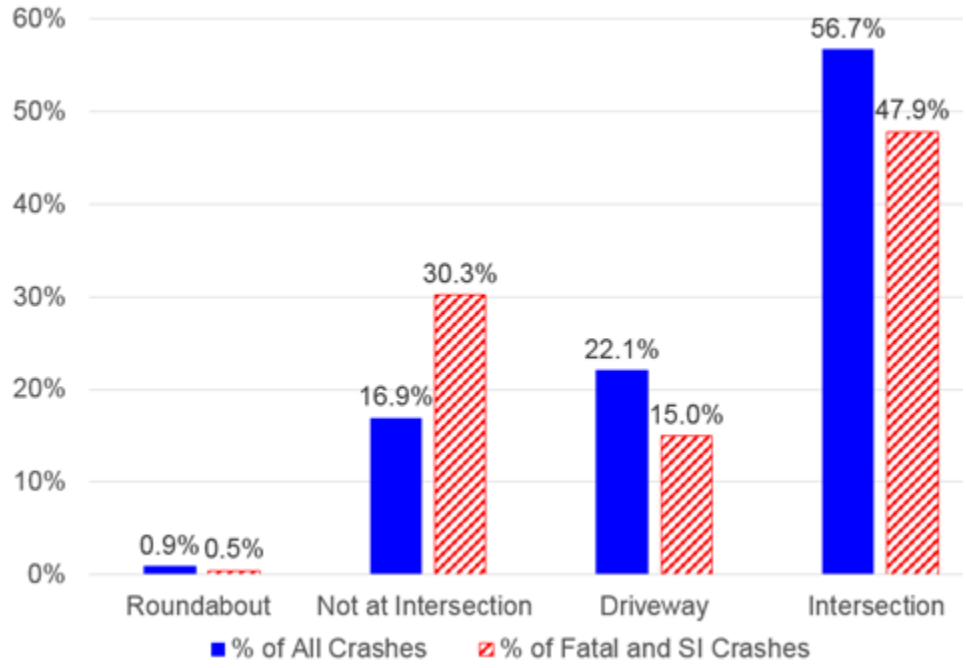
Traffic Control at Locations of Crashes Involving Bicyclists, 2012–2016

	Stop Sign	Signals	No Traffic Control
Percentage of all crashes	12.6%	31.9%	50.5%
Percentage of Fatal and Serious Injury crashes	11%	17.8%	67.6%

WSDOT, Crashes Involving Bicyclists, 2017.

The greatest percentage of serious injury/fatal crashes involving bicyclists occur at intersections, with driveways the second most common location, although a significant percentage were not at an intersection.

Junctions and Relationship to Crashes Involving Bicyclists, 2012–2016

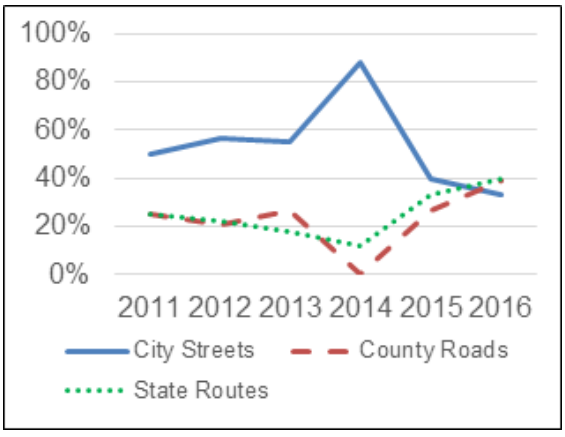


WSDOT, Active Transportation Division, 2017

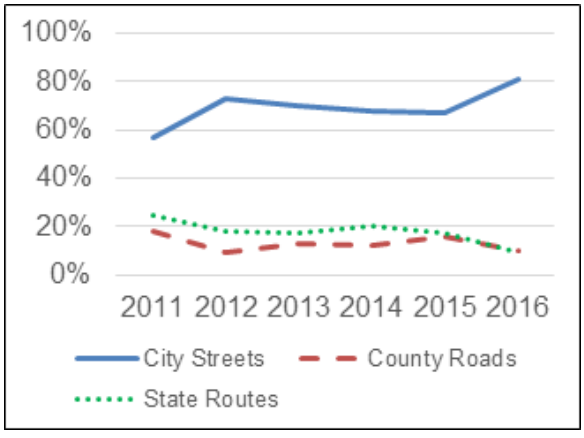
Road Types

Fatality crashes on county roads and state routes have generally increased 2011-2016. Speeds are generally higher on these road types and the risk of dying in a collision goes up as vehicle impact speed increases. On city streets, fatal crashes are actually trending down but serious injuries are increasing.

Percentage of Fatality Crashes Involving Bicyclists, by Road Type, 2011–2016



Percentage of Crashes Involving Serious Injuries to Bicyclists, by Road Type, 2011–2016

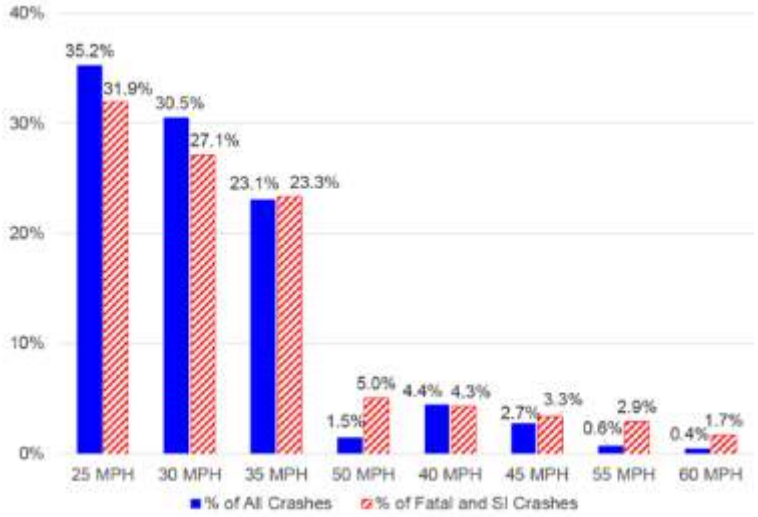


WSDOT, Active Transportation Division, 2017

Speed

Speed is a critical factor in almost all fatality crashes involving bicyclists and pedestrians. At 25 MPH or lower, nearly 7 out of 10 crashes are survivable. At 45 MPH, the survivability rate drops to 1 out of 10 (AAA Foundation, September 2011). Setting lower speeds and using roadway design to support target speeds can improve safety, especially where vehicle operating speeds exceed posted speeds.

Posted Speed at Crashes Involving Bicyclists, Location 2012–2016



WSDOT, Active Transportation Division, 2017.

Data That Are Collected Inconsistently

A number of factors contribute to the risk of collision, including motor vehicle design, speed of operation, roadway design, roadway environment, driver skill, impairment due to alcohol or drugs, and behavior, notably speeding by the driver. As a 2015 NHTSA study on motor vehicle crash causation found, the critical factor in 94 percent of all collisions—not just those involving a bicyclist—is either driver error, recognition, decision, or performance error (NHTSA, 2015).

A unifying theme in nearly all crashes involving bicyclists is that the motorist often fails to notice or observe the bicyclist. Although we do not have this data specifically for Washington, national research on bicycle-motor vehicle crashes (Rasanen and Summala, 2008) found that only 11 percent of drivers detected the bicyclist before a collision occurred, while 68 percent of bicyclists saw the motorist prior to the crash. Interestingly, the researchers also found that "92 percent of the bicyclists who noticed the motorist had expected the driver [to] give way and could not stop in time to avoid a crash" (GHSA, 2017). This conclusion indicates that bicyclists can do little to prevent a huge percentage of crashes with vehicles if the motorist does not see the bicyclist.

A recent human factors study on inattentional blindness and motorist crashes with motorcyclists can be extrapolated to apply to bicyclists. The "looked but failed to see (LBFTS)" crash researchers called for encouraging drivers to be more aware of these other road user types: "…we need to be more vigilant, more active, and more conscious when driving" (Pammer, Sabadas, and Lentern, 2017).

These findings about road user behaviors, responses and expectations suggest that while purely behavioral approaches may help, they will not solve the problem, and that behavioral approaches that focus on bicyclist behavior before motorist behavior are not addressing the most important contributing factors. In addition, the design concepts of a "self-enforcing roadway" (one that structures user interactions to enable users to interpret correctly and safely, minimize mistakes, and minimize negative outcomes of their mistakes) also need to be understood and applied.

Information about contributing factors is collected by law enforcement investigating crashes. There is a lack of consistency in crash report data about contributing factors both in how contributing factors are noted on the PTCR and in whether any contributing factors are noted at all. Design of the form contributes to the lack of specific data, as noted above.

Washington State Most Frequently Reported Actions and Contributing Factors in Bicyclist Fatality and Serious Injury Crashes, 2012–2016

In reviewing Washington State Department of Transportation data, the following emerged as the most commonly reported conditions/factors in the 2012–2016 time period.

BSAC members identified questions about the Washington state data presented below:

- "Going straight" seems highest but "Turning Motion" is the most common driver action cited when right and left turns are combined.
- We need to better understand the involvement of contributing factors in crashes involving bicyclists. However, law enforcement officers investigating crashes often do not identify contributing factors and that information is even rarer when the report is completed without involvement of law enforcement. Information is often missing on the PTCR about roadway design and/or operations. Only crashes that involve a vehicle are reported. **Implication: non-vehicle-involved bicyclist crashes and contributing factors are under-reported.**

In the graphs below, "none" indicates absence of data on contributing factors/actions in some reports. It does not necessarily mean there **were** no contributing factors/actions.

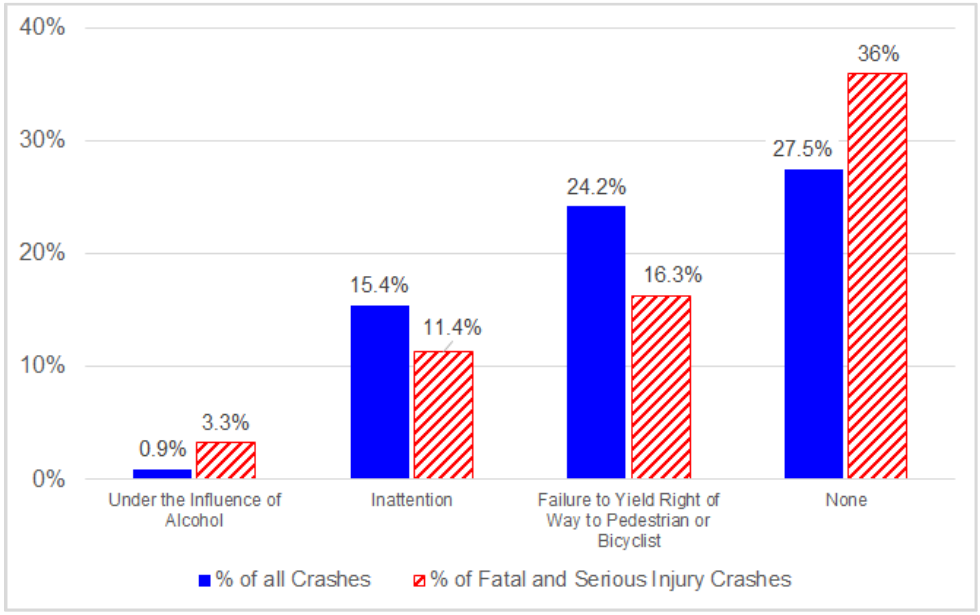
In some reports, an **action** is noted without a determination as to whether it was a **contributing factor** in the collision. Police reports are taken at the point of first response; ultimate determination as to contributing factors may rely on further investigation. An action may also be a contributing factor.

Category	Most Common Response On PTCR	% Crashes
Driver Contributing Circumstances	No Contributing Factors recorded by law enforcement	27.5%
Driver Action	Turning	49.8%
Traffic Control	No Traffic Control	50.5%
Junction Relationship	Intersection	56.7%
Posted Speeds	25 - 35 MPH	88.8%
Bicyclist Contributing Circumstances	No Contributing Factors recorded by law enforcement	46.8%

Bicyclist Action	Riding With Traffic	38.9%
Facility Being Used By Bicyclist	Roadway	41%

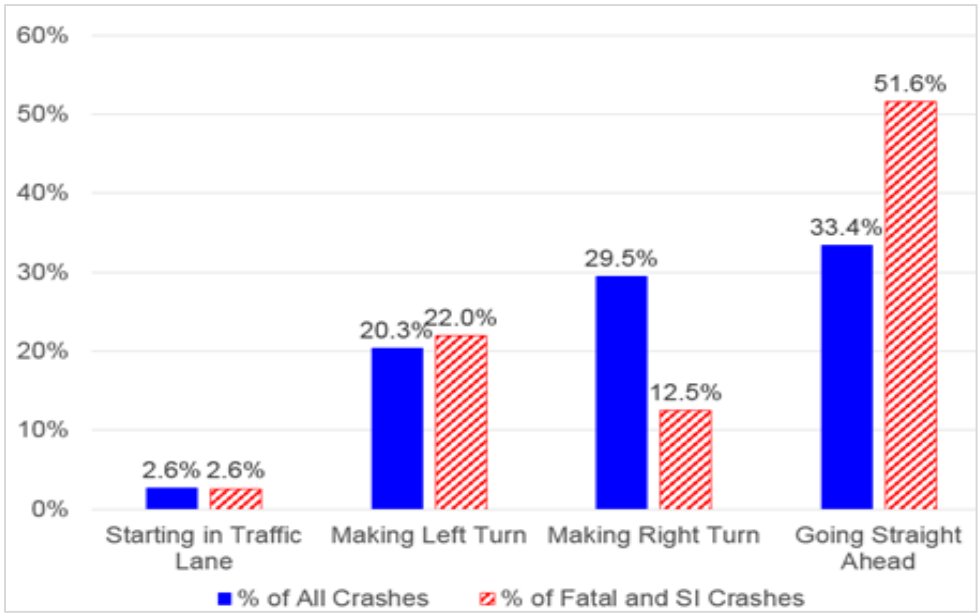
WSDOT, Active Transportation Division, 2017.

Driver Contributing Factors for Crashes Involving Bicyclists, 2012–2016



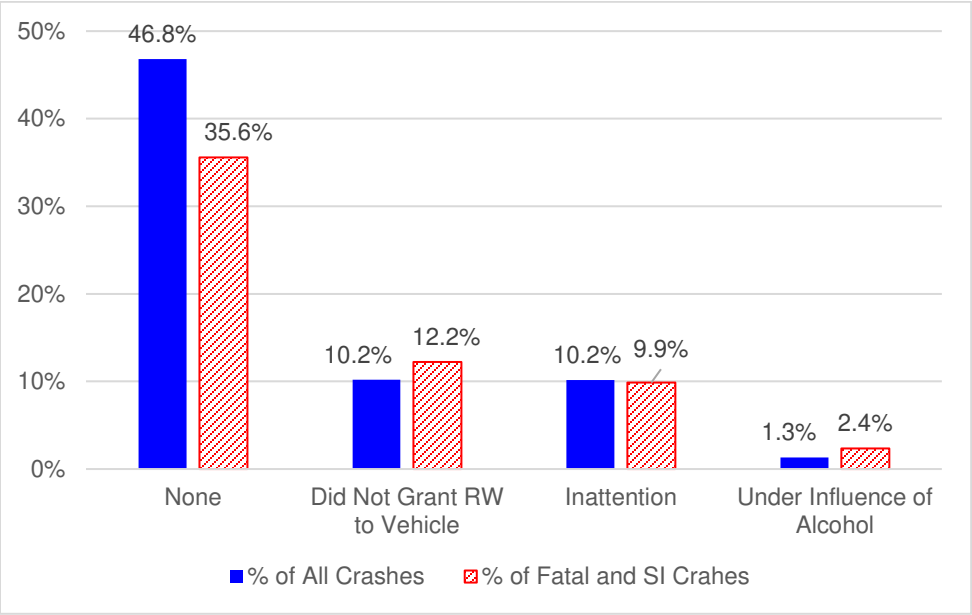
WSDOT, Active Transportation Division, 2017. "None" indicates that no contributing factor was noted on the PTCR.

Driver Actions for Crashes Involving Bicyclists, 2012–2016



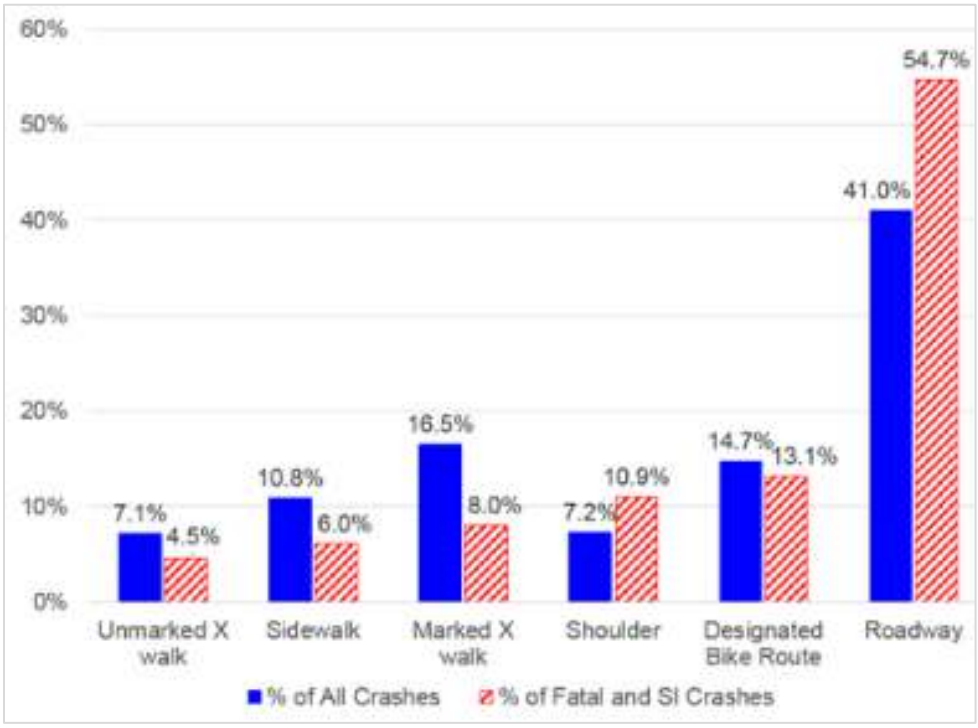
WSDOT, Active Transportation Division, 2017.

Bicyclist Contributing Factors for Crashes Involving Bicyclists, 2012–2016



WSDOT, Active Transportation Division, 2017. “None” indicates that no contributing factor was noted on the PTCR.

Facility Bicyclist Was Using in Crashes Involving Bicyclists, 2012–2016



WSDOT, Active Transportation Division, 2017.

Data That Are Not Collected At All

BSAC members have asked several questions for which there is currently no data. Recommending ways to deal with these questions will be an important contribution from the BSAC.

- How many people are biking, when and where? We have some data collection but not enough to provide a comprehensive picture. Some jurisdictions have counters and WSDOT is adding them around the state on various types of facilities to better understand bicyclist travel.[i]
- The national Fatality Analysis Review System (FARS) only includes vehicle-involved crashes as defined in statute. "Fatality" only includes those who died within 31 days (otherwise counted as serious injury).
- There is no category for separated path vs. bike lane in the PTCR. All fall under the category of "Designated Bike Route."
- What information can we get from insurance reports and medical records?
- Children: What percentage of the total child population is riding?
- Problem of denominators. Numerators are provided (e.g., how many incidents). Per-capita measures currently in use do not speak to the exposure rate of the individual bicyclist, which depends on the amount of time or number of miles spent riding.
- Key policy issue: Local jurisdictions should be able to use the safety data without incurring liability.

During future meetings, the Council would like to see additional data analysis including:

- If crash occurred at a "driveway," indicate whether the crash occurred on the street or sidewalk.
- Did the crash occur in a location where bicyclists are forbidden to use the sidewalk if they would have preferred to do so? (Preference for sidewalk riding is an indicator of the comfort level of the roadway design.)
- What happens to the safety data after it is collected? What are best practices for local agencies to use it?

In its 2017 report on bicycling safety, GHSA also identified many of these same data challenges. They underscore the lack of uniform definitions and attributes in how law enforcement responds to questions on their collision reports. States are already working on a voluntary basis to collect similar crash information through guidelines known as the Model Minimum Uniform Crash Criteria (MMUCC). "While MMUCC is helping to improve the quality, timeliness and accuracy of crash data, what we know about crashes involving bicyclists is far from complete. For this reason, more work is needed to refine crash reports so that they capture as much information as possible, including where and when the crash occurred, who was involved, and exactly what happened, with a particular focus on contributing circumstances for all involved. This will not only require states to carefully examine and revise their crash reports and systems to ensure they are capturing all critical data elements, but also to provide law enforcement the tools and training they need to efficiently and effectively provide the data," according to the GHSA report.

In September 2017, the American Association of State Highway and Transportation Officials (AASHTO) created a new Council on Active Transportation. This group is currently developing its charter and strategic work plan. That Council's Steering Committee includes Barb Chamberlain, Director, and WSDOT Active Transportation Division, who reports that data collection on the safety and mobility of people bicycling and walking has been identified as a high-priority issue for that committee as well.

References

AAA Foundation. (September 2011). *Impact Speed and a Pedestrian's Risk of Severe Injury or Death*, Retrieved from https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf.

Asgarzadeh, M., Verma, S., & Mekary, R. (2017). *The role of intersection and street design on severity of bicycle-motor vehicle crashes.* Injury Prevention. Retrieved from http://injuryprevention.bmj.com/content/23/3/179

Baker, L. (2009, October 1). *How to Get More Bicyclists on the Road: To boost urban bicycling, figure out what women want.* Retrieved from https://www.scientificamerican.com/article/getting-more-bicyclists-on-the-road

Bowden, A. (2018, January 12). *New research finds many drivers really don't "see" cyclists or motorbikers*. Retrieved from http://road.cc/content/news/235330-new-research-finds-many-drivers-really-dont-see-cyclists-or-motorbikers-video

Earth Economics. (2014). *Economic Analysis of Outdoor Recreation in Washington State (2014)*. Study conducted for the. Task Force on Parks and Outdoor Recreation. Retrieved from https://www.rco.wa.gov/documents/ORTF/EconomicAnalysisOutdoorRec.pdf.

Governor's Highway Safety Association. (2017). *A Right to the Road: Understanding and Addressing Bicyclist Safety*. Retrieved from https://www.ghsa.org/sites/default/files/2017-09/2017BicyclistSafetyReport-FINAL.pdf.

League of American Bicyclists. (2013). *The New Majority: Pedaling Towards Equity*. Retrieved from http://bikeleague.org/sites/default/files/equity_report.pdf.

National Highway Traffic Safety Administration (NHTSA). (2016). *Pedestrians.* Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812375.

NHTSA. (2015). *Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey.* Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115.

New York Times. (February 20, 2017). *A State 'Hungry for Trails Savors Cuomo's 750-Mile Plan.* Retrieved from https://www.nytimes.com/2017/02/20/nyregion/new-york-canada-empire-trail.html.

Pedestrian and Bicycle Information Center. (2016). *Pedestrian and Bicyclist Crash Statistics.* http://www.pedbikeinfo.org/data/factsheet_crash.cfm.

People for Bikes. (December 2017). *America's 10 best new bikeways of 2017.* Retrieved from http://peopleforbikes.org/blog/americas-10-best-new-bikeways-of-2017.

People for Bikes. (July 2014). *Bike Use Is Rising Among The Young, But It Is Skyrocketing Among The Old.* Retrieved from http://peopleforbikes.org/blog/bike-use-is-rising-among-the-young-but-it-is-skyrocketing-among-the-old.

Räsänen, M. and Summala, H. (1998). *Attention and expectation problems in bicycle-car collisions: an in-depth study*. Accident Analysis and Prevention. 1998 Sep;30(5):657-66. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/9678219.

Science Daily. (September 2008). *A Virtuous Cycle: Safety in Numbers for Bicycle Riders.* Retrieved from https://www.sciencedaily.com/releases/2008/09/080903112034.htm.

U.S. Census Bureau. (2014). *American Community Survey (ACS), 2011-2013*. Retrieved from http://ctpp.transportation.org/Pages/5-Year-Data.aspx.

U.S. Department of Transportation. (2009). *National Household Travel Survey.* Retrieved from http://nhts.ornl.gov.

Washington State Department of Health, Office of Healthy Communities, and Washington State Department of Transportation, Local Programs Division and Active Transportation Division. (2016). *Washington State 2016 Student Travel Survey State Report*. Retrieved from https://www.wsdot.wa.gov/NR/rdonlyres/FB626959-DF52-4045-A793-F6FC22ACD7AD/0/STSReport2014Final.pdf.

WSDOT Bicycle/Pedestrian Data Portal. (2017). Retrieved from http://wsdot.wa.gov/data/treheools/bikepedcounts/

WSDOT Gray Notebook #65. (March 2017) Retrieved from http://wsdot.wa.gov/publications/fulltext/graynotebook/Mar17.pdf.

WSDOT. (2017). *Crashes Involving Bicyclists, 2011 – 2016.*

Exhibit A – BSAC Sponsors/Members

Executive Sponsors

Alex Alston, State Policy Director, WA Bikes

Barb Chamberlain, MPA, Active Transportation Division Director, Washington State Department of Transportation (WSDOT)

Darrin Grondel, Director, Washington Traffic Safety Commission (WTSC)

Project Manager

Scott Waller, Program Manager, WTSC

BSAC Members

Dongho Chang, P.E., PTOE, Chief Traffic Engineer, City of Seattle
Charlotte Claybrooke, Active Transportation Programs Manager, WSDOT Active Transportation Division
Chris Comeau, AICP-CTP, Transportation Planner, City of Bellingham
Aimee D'Avignon, Injury Prevention Specialist, Department of Health
Josh Diekmann, P.E., PTOE, Transportation Engineer, City of Tacoma
Steve Durrant, FASLA, Principal, Alta Planning
Marla Emde, Emde Sports
Jessica Gould, Walknroll Coordinator, Intercity Transit
Darrin Grondel, Director, WTSC Director
David Jones, Spokane
Liz Kaster, MURP, Active Transportation Manager, Puyallup Watershed Initiative
Rep. Shelley Kloba
Sen. Marko Liias
Nancy Lillquist, City Council Member, Ellensburg City Council
Mike Lopez, Spokane Regional EMS
Tim Martindale, Patrol Officer, Walla Walla Police
Nancy McClenny-Walters, Region 17 Target Zero Manager, Region 17 Target Zero Manager
Liz McNett Crowl, Physical Activity Program Services Coordinator, Skagit Valley Hospital
Marc McPherson, Patrol Officer, Central Washington University Police
Stacey McShane, Region 10 Target Zero Manager, Region 10 Target Zero Manager
Katherine Miller, P,.E., Director, Integrated Capital Management, City of Spokane
Annette Nesse, Chief Operations Officer, Jamestown S'Klallam Tribe
Julie Olsen, County Councilor, Board of Clark County Councilors
Amy Person, MD, Health Officer, Benton-Franklin Health District
Matthew Rollosson, MPH&TM, Nurse Epidemiologist, Tacoma Pierce County Health District
Amy Shumann, Environmental Health Planner, Seattle-King County Public Health
Annie Szotkowski, Public Health Educator, Spokane Regional Health District
Advisor: Max Sevareid, Regional Program Manager, USDOT/NHTSA

Exhibit B – Bicyclist Fatalities and Serious Injuries – A Statewide Problem

Bicyclist Fatalities

- About half of the state's 39 counties experienced a bicyclist fatality between 2011 - 2016
- Twenty (20) cities experienced a bicyclist fatality between 2011 – 2016
- Twenty-one (21) law enforcement agencies have investigated bicyclist fatalities between 2011 – 2016

Bicyclist Serious Injuries

- Thirty-four (34) of the state's 39 counties experienced a bicyclist serious injury crash between 2011 – 2016 (Ferry, Pend Oreille, Asotin, Garfield and Lincoln Counties did not have bicyclist serious injury crashes)
- Seventy-nine (79) Washington cities experienced a bicyclist serious injury crash between 2011 – 2016

Overall

- There was an average of 1,538 crashes involving bicyclists every year
- There were about 78 bicyclist fatalities during the 2011 – 2016 time. The two highest fatality totals occurred in the two most recent years, 15 in 2015 and 21 in 2016, a 40 percent increase in 2016 over 2015.
- There were about 714 serious injuries for bicyclists from crashes during the 2011 – 2016 time. Again, the two highest serious injury totals occurred in the two most recent years, 121 in 2015 and 134 in 2016, a 10.7 percent increase in 2016 over 2015.

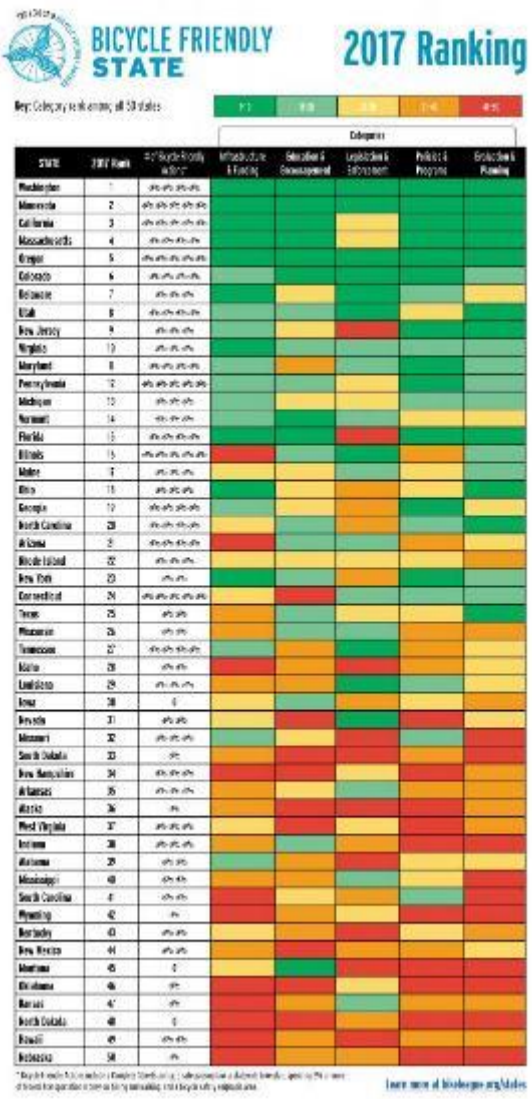
Exhibit C – Washington State League of American Bicyclists' Bicycle-Friendly State Ranking "Report Card"

2017 BICYCLE FRIENDLY STATE℠ RANKING

The Bicycle Friendly State ranking provides a ranking for all 50 states based on four public data sources and a Bicycle Friendly State survey that is answered by each state's Department of Transportation and/or a statewide bicycle advocacy organization.

The data analyzed for the Bicycle Friendly State ranking is organized into five categories. The chart shows:

- Each state's ranking for 2017,
- The number of Bicycle Friendly Actions taken by each state – these are actions that the League believes are key indicators of a state's commitment to improving bicycling, and
- Each state's rank in each of the five categories used in our analysis – these rankings can help states, citizens, and advocates understand the relative strengths and weaknesses of their state and comparable states.



BICYCLE FRIENDLY STATE REPORT CARD

WASHINGTON

STATE RANKING OVERALL (OUT OF 50)

#1

TOTAL COUNTS
BICYCLE FRIENDLY COMMUNITIES 18
BICYCLE FRIENDLY BUSINESSES 46
BICYCLE FRIENDLY UNIVERSITIES 1

SEE THE DATABASE MAP: BIKELEAGUE.ORG/BFA/AWARDS

STATE ADVOCACY GROUPS: CASCADE BICYCLE CLUB AND WASHINGTON BIKES

Summary

Why is **Washington** the #1 Bicycle Friendly State and how has it stayed #1 for every year of the BFS program since 2008? Washington state has consistent Top 10 scores in each category, complemented by strong federal data indicators.

Washington does have some obvious areas for improvement that may lead to a slip in its ranking as Minnesota (#2) continues to push forward:

1. Washington ranks low according to per capita federal spending on bicycling and walking, although it is in the top 10 for federal spending on bicycling and walking as a percentage of all federal transportation spending.

2. Washington does not have a safe passing law that defines a safe distance for a car or truck overtaking a bicyclist, although its law does clearly articulate that a safe distance is required when passing a bicyclist or pedestrian. Somewhat oddly, Washington law does define a safe distance as at least three feet in the specific context of a motorcyclist overtaking a bicyclist in the same lane. Expanding this definition of safe passing distance would promote consistency.

For 2017, Washington maintains its #1 ranking thanks in part due to a 16-year funding package, passed in 2016, that includes over $20 million in additional funding per year for bicycling and walking projects, and the creation in 2017 of a new statewide Division of Active Transportation. These two changes continue Washington's leadership and set the state up for continued success in improving the safety and mobility of people who bike and walk.

Feedback Points

Washington state continues to show its leadership in improving conditions for people who bike and walk. This leadership can be seen by Washington State DOT creating a new Active Transportation Division, becoming the first state agency to place biking and walking on equal footing with the other modes in overall agency organization. The Division is a strong complement to the roughly $20 million per year in additional funding that the Washington legislature has committed to bicycling and walking over the next 16 years. Together these changes provide an ongoing basis for Washington's continued leadership on bicycling issues at the state level.

The process for updating Washington's Bicycle and Pedestrian plan, last updated in 2008, will begin soon. With the recent creation of the Active Transportation Division and significant new funding for biking and walking, this is an ideal time for an update that will create actionable policy and investment priorities that put these new resources to good use and solidifies a culture change within the Washington state DOT that sees active transportation as a key goal of the organization.

» Feedback Continued on Page 3

Comparison States	
National (Overall)	Western Region (out of 13)
1. Washington	1. Washington
2. Minnesota	2. California
3. California	3. Oregon
4. Massachusetts	4. Colorado
5. Oregon	5. Utah

Categories	Rank out of 50
Infrastructure & Funding	2
Education & Encouragement	7
Legislation & Enforcement	3
Policies & Programs	2
Evaluation & Planning	4

Bicycle Friendly Actions (✓ = Progress ✓ = New in 2017)	
Complete Streets Law / Policy	✓
Safe Passing Law (3ft+)	
Statewide bike plan last 10 years	✓
2% or more fed funds on bike/ped	✓
Bicycle Safety Emphasis Area	✓

Federal Data on Biking		Rank
Ridership	**0.9% of commuters** biking to work[1]	10/50
Safety	**3.7 fatalities** per 10k bike commuters[2]	11/50
Spending	**$2.34 per capita** FHWA spending on biking and walking[3]	28/50

[1] This figure is based upon the Census Bureau's American Community Survey (ACS) 5-year estimate.

[2] This figure is based upon fatalities reported over a five-year period according to the National Highway Administration (NHTSA)'s Fatality Analysis Reporting System and the 2015 5-year ACS estimate of the number of bicycle commuters.

[3] FHWA spending is based upon projects coded using any of three project types associated with bicycling and walking projects through the Federal Highway Administration (FHWA)'s Fiscal Management Information System. To calculate per capita spending we used a five-year average for fiscal years 2011-2016 and the 2015 5-year ACS state population estimate.

The Bicycle Friendly States ranking is based on a comprehensive survey completed by state departments of transportation and state bicycling advocates. For more information, visit **bikeleague.org/states** or contact Ken McLeod at (202)-822-1333 or **ken@bikeleague.org**.

BICYCLE FRIENDLY STATE

Washington Report Card: Detailed Category Scores

The Category Scores below are aggregated from smaller sub-categories—each of which is sorted in descending order, from the topic with the highest possible points available to least.

Infrastructure & Funding
Ranked 2nd of 50 States

Design and Existence of Infrastructure Has the state made it easy to build bicycle infrastructure and installed a variety of infrastructure on state facilities?	35/38 pts
State Transportation Funding Does the state report that funding is allocated to bicycling?	28/28 pts
Use of Federal Transportation Funding Does the state take advantage of available federal funding for biking and walking?	11/16 pts
Planned and Recently Built Bicycle & Pedestrian Facilities How many lane miles of bicycle and pedestrian facilities has the state reportedly planned to build and built?	10/10 pts
State Transportation Funding Restrictions Does the state have any policies that limit the ability to fund bicycling and walking infrastructure?	7/8 pts
Total of Possible 100 Points:	91/100 pts

Policies & Programs
Ranked 2nd of 50 States

Complete Streets Does the state have a complete streets policy and processes to support its implementation?	51/56 pts
Design and Access Policies Does the state have policies in place to ensure good design and access for people who bike and walk?	25/25 pts
State of Practice Development Does the state support trainings on bicycle and pedestrian infrastructure and complete streets implementation?	13/13 pts
Sustainable Transportation Policies Does the state work incorporate multi-disciplinary considerations in the development and implementation of transportation projects?	6/6 pts
Total of Possible 100 Points:	95/100 pts

Education & Encouragement
Ranked 7th of 50 States

State DOT Education & Encouragement Support Does the state DOT support bicycling and walking events and education materials?	35/35 pts
Mode Share Do many people bike to work and is that number increasing relative to other modes?	13/30 pts
Driver Education Requirements Does the state require drivers to answer questions about bicyclist safety as part of the driver's licensing test?	10/20 pts
Advocacy Does the state have a bicycle advocacy group that is a member of the League of American Bicyclists or was identified by the state?	15/15 pts
Total of Possible 100 Points:	73/100 pts

Evaluation & Planning
Ranked 4th of 50 States

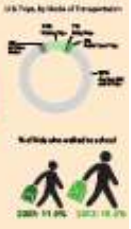
State DOT Bicycle & Pedestrian Plans Does the state have a bicycle and/or pedestrian plan and does that plan follow best practices?	46/60 pts
Bicycle and Pedestrian Safety Has the state made bicyclist and pedestrian safety an emphasis and what does data say about safety?	31/34 pts
Understanding People who Bike and Walk Does the state have programs in place to collect data on people who walk and bike?	10/10 pts
Formal User Group Engagement Does the state have an official Bicycle and/or Pedestrian Advisory Committee and does it follow best practices?	0/8 pts
Total of Possible 100 Points:	87/100 pts

Legislation & Enforcement
Ranked 3rd of 50 States

Laws that regulate driver behavior and methods of enforcement Does the state have strong comprehensive distracted driving laws and allow photo enforcement?	34/37 pts
Laws that restrict the behavior of people who bike and walk How does the state unnecessarily restrict the behavior of people who bike and walk? (low points = more restrictions)	20/28 pts
Laws that create protections for people who bike and walk Does the state have laws that provide specific protections for people who bike and walk?	18/25 pts
Laws that influence the built environment Does the state allow speed limits of 20 mph or less?	10/10 pts
Total of Possible 100 Points:	82/100 pts

Dig into the data: Robust interactive report + Downloads

The Bicycle Friendly State survey used to create this ranking is also the basis for a biennial report. Explore tons of bicycling, walking, & health data on states and cities at bikingandwalkingbenchmarks.org.



The Bicycle Friendly States ranking is based on a comprehensive survey completed by state departments of transportation and state bicycling advocates. For more information, visit bikeleague.org/states or contact Ken McLeod at (202)-822-1333 or ken@bikeleague.org.

BICYCLE FRIENDLY STATE REPORT CARD

WASHINGTON

STATE RANKING OVERALL (OUT OF 50)

#1

TOTAL COUNTS
BICYCLE FRIENDLY COMMUNITIES 18
BICYCLE FRIENDLY BUSINESSES 46
BICYCLE FRIENDLY UNIVERSITIES 1

STATE ADVOCACY GROUPS: CASCADE BICYCLE CLUB AND WASHINGTON BIKES

Feedback Points, CONTINUED

» Cont'd from Page 1

Washington state has set a bold goal of zero fatal and serious injury bicycle and pedestrian collisions by 2030. However, recent data shows a slight increase in the rate of bicyclist fatalities on a per capita and per bike commuter basis. Additional efforts are needed to ensure the causes for these increases are understood and addressed. The creation of the Cooper Jones Bicycle Safety Advisory Council is a great step towards improving understanding of bicyclist safety and engaging departments beyond the state DOT in bicyclist safety.

ABOUT THE LEAGUE & MEMBERSHIP

Support the League by becoming a member today and add your voice to the bicycling movement! Over 75% of our funding comes from individuals. Members support our time-tested programs like Bicycle Friendly America, Smart Cycling and Federal Advocacy. As a member, you'll enjoy valuable perks like Bicycling Magazine, discounts at dozens of national bike retailers and manufacturers, and exclusive pricing to the National Bike Summit. Together, let's advance bicycling on Capitol Hill and in your community!

WE BELIEVE

Bicycling brings people together. When more people ride bikes:

- Life is better for everyone;
- Communities are safer, stronger and better connected;
- Our nation is healthier, economically stronger, environmentally cleaner and more energy independent.

OUR VISION

is a nation where everyone recognizes and enjoys the many benefits and opportunities of bicycling.

OUR MISSION

is to lead the movement to create a Bicycle Friendly America for everyone. As leaders, our commitment is to listen and learn, define standards and share best practices to engage diverse communities and build a powerful, unified voice for change.

>> ADD YOUR MOMENTUM AT BIKELEAGUE.ORG/JOIN

SMART CYCLING RESOURCES

Bike Safety Education is a key component to keeping roadways safe for all users. Having League Cycling Instructors (LCIs) in your state creates more opportunities for bike safety education to be shared. LCIs are certified by the League through an intense 3-day seminar focused on how to effectively deliver the Smart Cycling curriculum. To host a LCI seminar in your state, contact **education@bikeleague.org**.

Visit **bikeleague.org/ridesmart** to access Smart Cycling videos, Smart Cycling Quick Guides (available in English & Spanish), and Smart Cycling manuals.

The Bicycle Friendly States ranking is based on a comprehensive survey completed by state departments of transportation and state bicycling advocates. For more information, visit **bikeleague.org/states** or contact Kan McLeod at (202)-822-1333 or **kan@bikeleague.org**.

Exhibit D – Washington State Scoring Report for Safe Routes to Schools

2016 State Report Cards

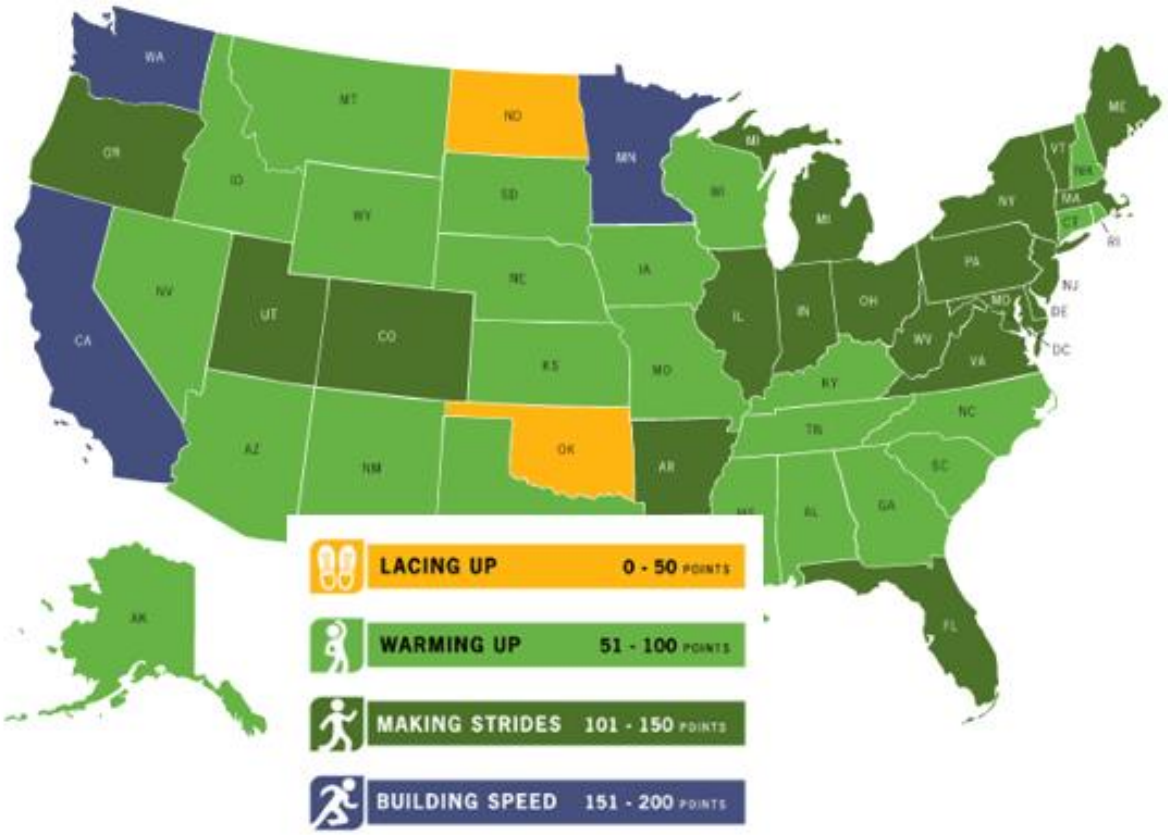
Making Strides: State Report Cards on Support for Walking, Bicycling, and Active Kids and Communities

We've developed state report cards which provide a snapshot of how supportive each state is of walking, bicycling, and physical activity for children and adults as of 2016.

The report cards primarily look at state policy focusing on four key areas: Complete Streets and Active Transportation, Safe Routes to School and Active Transportation Funding, Active Neighborhoods and Schools, and State Physical Activity Planning and Support.

Click here to view the full report which includes a detailed explanation of how the states were graded.

THE MAP BELOW SHOWS EACH STATE'S OVERALL GRADE. CLICK ON THE MAP TO VIEW EACH STATE'S REPORT CARD.



Washington

BUILDING SPEED

OVERALL SCORE

163 / 200

Scoring Key: LACING UP | WARMING UP | MAKING STRIDES | BUILDING SPEED

COMPLETE STREETS AND ACTIVE TRANSPORTATION

Complete Streets Policies	Adopted strong core state Complete Streets commitment	10 / 15
	Addresses additional jurisdictions in state Complete Streets policy	5 / 5
	Addresses implementation in state Complete Streets policy	6 / 10
Design for Active Transportation	Adopted/endorsed NACTO guidelines	10 / 10
Active Transportation Goals	Adopted goals to lower walking and bicycling fatalities	10 / 10
	Adopted goals to increase walking and bicycling mode share	5 / 5
		46 / 55

SAFE ROUTES TO SCHOOL AND ACTIVE TRANSPORTATION FUNDING

Active Transportation Funding	Level of funds transferred out of Transportation Alternatives Program (TAP)	10 /10
	Held TAP competition	10 /10
	Obligated state-controlled TAP funds	5 / 5
	Provides special consideration for high-need communities	5 / 5
	Provides matching funds for high-need communities	0 / 5
Safe Routes to School Funding	Provides special consideration for Safe Routes to School projects using TAP funds	10 /10
	Obligated previous Safe Routes to School funds	10 /10
	Dedicates state funding for Safe Routes to School	5 / 5
Safe Routes to School Supportive Practices	Has state Safe Routes to School coordinator	4 / 5
	Provides technical or application assistance to Safe Routes to School initiatives	5 / 5
		64 /70

ACTIVE NEIGHBORHOODS AND SCHOOLS

Shared Use of School Facilities	Adopted state policy supporting shared use of school facilities	6 /10
	Provides funding/incentives in support of shared use of school facilities	5 / 5
Physical Education	Adopted national physical education standards	10 /10
Supportive Neighborhoods for Physical Activity	Level of access to sidewalks, parks, and community centers for youth	6 /10
	Level of access to parks	6 /10
		33 /45

STATE PHYSICAL ACTIVITY PLANNING

	Adopted a state physical activity plan	10 /10
	Hosts governor's council on physical activity	0 /10
	Dedicates state staff to physical activity	10 /10
		20 /30

In gathering and compiling information in this report, participating organizations and agencies do not waive the limitations on this information's discoverability or admissibility under 23 U.S.C SS 409.

---

i