



Thank you, Chairman DeFazio, Ranking Member Graves, and distinguished members of this committee for the invitation to present my perspectives on bicycle and pedestrian safety. My name is Mike Sewell. I am from Louisville, Kentucky where I work as a professional engineer. I also serve as the Active Transportation Service Line leader and one of the owners of Gresham Smith, an Architecture, Engineering and design practice. Gresham Smith is an active member of the American Council of Engineering Companies (ACEC), the business association of the engineering industry representing more than 5,600 engineering firms and 600,000+ engineers, surveyors, architects, and other specialists nationwide.

I am representing not only the engineering profession today, but also the League of American Bicyclists where I serve on their board of directors. Most importantly, today I come to you as a daily bicycle commuter. Since beginning to bike to work, I have ridden more than 7,000 miles and explored dozens of U.S. cities by bike and experienced both the fear and the joy of being a bicyclist on American roads.

Background

The League of American Bicyclists has been a presence on Capitol Hill since 1880, when the first bicycle advocates rode to Washington, D.C. They presented a petition on a bicycle wheel demanding paved roads, which would be safer and more enjoyable for the rising number of bicyclists in America. Then, just as now, we wanted the voices of bicyclists to be heard in the design and future of our transportation system. As most people who bicycle will tell you, though, today's roads certainly do not feel like they have been designed to make it easier to get to work by bike or get to work safely by bike.

It has only been since 1991 that Congress has made funding for bicycling and walking projects part of federal transportation programs. In the intervening 28 years, we have seen a significant increase in



Metro Nashville Division Street Extension | Nashville, TN

bicycling for both transportation and recreation. More recently, state and local governments have begun promoting bicycling as a transportation option to reduce congestion and improve public health with the proliferation of bike share systems, separated bike lanes, and state and local initiatives with significant investments in bicycling networks. In places like Minneapolis, New York and Virginia, rates of bicycling have increased significantly and these gains have often been accompanied by better safety outcomes for all road users.

Geography/Local Background

Slightly more than 20% of all bike commuters can be found in just 10 cities, including New York City where nearly 50,000 people choose to travel to work by bike. When those in Washington think about someone bicycling for transportation, the image that might come to mind is a young person on Pennsylvania Avenue coming to work from Columbia Heights, benefiting from urban density and local bike amenities.

But bicycling is by no means confined to first tier cities. Louisville, Kentucky, my hometown, is a strong example of how a mid-size city has also benefited from prioritizing bicycle facilities:

- Over the last decade, Louisville has made a concerted effort to improve our bicycling options, and is now certified as a Silver-level Bicycle Friendly Community by the League of American Bicyclists.
- Louisville is a member of the Road to Zero Coalition and Kentucky supports the national movement Toward Zero Deaths, focusing on how engineering roads can prevent deaths of people walking or biking.
 - These efforts have paid off: while nationwide the number of people killed while biking reached a 25-year high in 2016, Louisville saw a decrease in bicyclist fatalities in recent years even while biking to work increased significantly.
- Bicycling in Louisville is not just an urban solution, but is a way to help people experience the city, countryside and places in between.
 - I personally am involved in projects dedicated to creating safe bikeways within the urban core, as well as a project linking the city to the countryside. That 22-mile project will increase safe, healthy transportation options to nearby residents.
- As a Gold Level Bike Friendly Business, Gresham Smith, actively pursued building space adjacent to better bicycle and pedestrian infrastructure as well as adjacent land uses that allow our employees access to more restaurants and shop that are also bike friendly.



Bicycling is also an important part of transportation in many rural states. In Montana, people bike to work at a rate more than twice the national average. In North Dakota, more people bike to work than use public transit. And in Northwest Arkansas, the construction of 163 miles of trails and paths over the last 10 years has led to a 24% average annual increase in bicycling.



Equity

There is no denying that bicycling is an affordable and economical means of transportation and is used by a wide range of people to make a living. The money people save on transportation allows them to spend more in the local economy, as well as afford housing, education, and other necessary expenses. In fact, bicycling is integral to getting employees to and from work. According to data from the 2017 National Household Travel Survey, people from households with incomes of less than \$25k per year took nearly 25% of all the nation's bike trips. Similarly, the same survey said that 20% of bike trips were to earn a living, which is 4% higher than the percentage of trips to earn a living for all modes of transportation.

Safety

When I work with communities interested in increasing active transportation, one of their major concerns is safety. No community wants to lose a mother, father, son, daughter, or neighbor in a fatal crash. While multiple surveys show Americans want to bike more, it is often their concern about safety that stops them.

The concern for safety is one of both perception and reality.

- Improvements in traffic safety over the last quarter century have not been evenly distributed; people in cars have been the main beneficiaries, while people biking and walking represent an increasing percentage of traffic fatalities.
- But the data also shows increasing fatalities of people biking and walking, with more people being killed while biking in 2016 than in any year since 1991.
- On a per trip basis, bicycling is just slightly more dangerous than walking and it is safer than walking on a per mile basis.

You might be thinking we are seeing higher fatalities among bicyclists as a result of more people bicycling. However, the inverse is true. For example, despite their overall disparity in population size, more people bike to work in Oregon than in Texas, but in 2016 Oregon had 55 fewer bicyclists die on its roads than Texas. This difference in safety can be explained by at least two reasons:

- Oregon has a long history of investing in safe bicycling infrastructure, meaning that more people are likely riding on safe infrastructure. Oregon has had a Complete Streets law since 1971 and makes bicyclist safety an emphasis area in its Strategic Highway Safety Plan.
 - In comparison, Texas adopted a Complete Streets policy in 2011 and does not make bicyclist safety an emphasis area in its Strategic Highway Safety Plan.
- The number of people biking in Oregon leads to an effect known as “safety in numbers.” This effect has been found in numerous studies. The more people who bike leads to more driver awareness of bicyclists, more predictable behavior by bicyclists and drivers, and improved safety through better behavior.

The League’s Theory of Safety

While there is limited data to pinpoint the reasons for increasing bicyclist fatalities, we know that bicyclists’ perceptions of safety and safety outcomes are shaped by drivers and the built environment. According to a [2012 NHTSA survey](#), the most common reason that a bicyclist felt their safety was threatened was due



A re-imagined Broadway in Louisville, KY with a complete street approach.

<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf>

to a motorist's action – usually driving too close. In keeping with that data, improving bicyclist safety should also be about improving driver behavior, like limiting distractions, and implementing infrastructure that reduces or mitigates opportunities for drivers to threaten bicyclists.

To improve bicyclist safety the League has pursued three strategies:

1. Increasing bike infrastructure and networks, especially protected bike infrastructure. According to [AARP](#), in New York City, [injuries for motorists, pedestrians and bicyclists declined](#) by 20% on streets with protected bike lanes.

- Bicycle infrastructure can include a variety of solutions based on different community needs. My written testimony includes pictures of some examples.

2. Promoting Complete Streets policies and practices. Earlier, I noted how Oregon's early adoption of Complete Streets has led to decades of road design that have resulted in better safety outcomes for cyclists. That is because Complete Streets policies consider all users in the planning, design and construction phases of roads. By adopting policies and practices that assume consideration for all users, the costs of bicycle lanes can be reduced by up to 40% according to data from the [FHWA](#).

- Complete Streets can encompass a variety of street designs, safety improvements, and planning and operational practices. My written testimony includes picture of some examples.

3. Adopting and enforcing safe passing laws, which require drivers to give cyclists at least three feet of clearance when they are passing. According to the [National Conference of State Legislatures](#), 32 states, including Kentucky have this type of law.

- According to data from NHTSA, a person is most likely to be killed while biking when hit from behind despite this being a relatively rare collision type.

The League believes that improving bicyclist safety will take dedicated pursuit of those three strategies and more. Congress should consider whether more proactive safety legislation – which might improve vehicle designs, provide incentives for advanced and automated vehicle safety systems, and create performance standards for in-vehicle and device-based distraction – are appropriate to supplement the strategies discussed here.

Federally-backed initiatives that embrace the goal of zero traffic deaths, such as the Road to Zero Coalition and Towards Zero Deaths national safety strategy have attracted wide support, but some safety efforts require congressional leadership.

“...the most common reason that a person bicycling felt their safety was threatened was due to a motorist's action...”

Taking off my bike helmet and speaking as an engineer, the trend we are seeing in the engineering industry is toward a “safe systems” approach. The basic idea is that humans will continue to make mistakes and/or choose risky behaviors (e.g. distracted driving, speeding, driving while impaired, not wearing a seatbelt, etc.) so the transportation infrastructure should be designed to reduce fatalities when accidents do occur.

Using a data-driven, analytical approach, engineers are deploying a variety of proven countermeasures and design strategies – such as corridor access management, adding turn lanes, medians and pedestrian crossing slands, and road diets/reconfigurations, among many others – to control vehicle speeds, calm traffic, and thereby manage the kinetic energy transfer among road users in accidents. These factors, in addition to traditional design criteria such as sight distance, intersection design to reduce conflicts, and roadside improvements on horizontal curves, can enhance safety of all roadway users and adapt the structure and function of the system to accommodate the complexities of human behavior.

HSIP Ask

One area where Congress can make a difference in the lives of people who bike and walk is the Highway Safety Improvement Program (HSIP). [HSIP](#) is a congressionally authorized road safety program that distributes more than \$2 billion each year based on where data shows funding could improve road safety.



First, I would encourage the committee to increase funding for HSIP commensurate with an overall increase in the federal-aid highway program. Safety elements are included in other apportionments, but HSIP is a primary tool for the kinds of enhancements we are discussing and cannot be neglected.

Despite the data and safety outcome focus of the program, because the algorithms are written with blind spots, funding does not flow to places where bicyclists and pedestrians are dying. Currently, Congress requires HSIP funding to go to “hot spots” and leaves it up to state Departments of Transportation to write the formulas for where those hot spots occur.

- For instance, the New Jersey DOT has a stated policy that its HSIP funding should be spent on pedestrian improvements in the same proportion of fatalities that are pedestrians.
- However, despite over 30% of roadway fatalities in New Jersey being pedestrians, the state reports spending NONE of its HSIP on pedestrians. The “data-driven” formula cannot identify a hot spot for these pedestrian fatalities and so 1 in every 3 roadway fatalities in New Jersey goes unaddressed by HSIP.

Bicycling and walking make up 12% of transportation trips, 18% of roadway fatalities, and receive less than 1% of HSIP investments. In 10 states where bicyclist and pedestrian fatalities averaged more than 15% of all traffic fatalities in the last 5 years, the state reported spending \$0 of HSIP funding on bicyclist and pedestrian safety projects during that time.

To effectively improve pedestrian and bicyclist safety through HSIP, Congress needs to provide leadership to state DOTs.

- Pedestrian and bicyclist fatalities do not usually occur in “hot spots” but do predictably occur along corridors that can be identified using alternative analyses. Often these corridors are arterial roadways with commercial and residential development and high observed speeds.
- Speed is incredibly important for the safety of people biking and walking.
 - If you are driving 45 mph and hit a bicyclist or a pedestrian, there is a 90% chance you will kill them. At 35 mph the chances of death drop to 50%, at 25 mph there is 85% chance of survival.

The growing number of Vision Zero communities has found a vast majority of fatalities happen on a small percentage of roads with similar contexts.





Metro Nashville 28th-31st Avenue Connector | Nashville, TN

- For instance in San Francisco, 75% of severe and fatal traffic injuries occur on just 13% of its streets¹.
- In Denver, 50% of traffic fatalities occur on 5% of the roads².

Congress plays a critical role in leading the nation towards sustained improvements for people biking and walking through the Highway Safety Improvement Program. In past transportation bills, such as MAP-21 and the FAST Act, Congress has taken steps to improve the safety of people biking and walking, including:

- Removing the requirement to focus only on hot spots.
- Requiring more attention to bicycling and pedestrian crashes.
- Allowing states to use HSIP on roads that have dangerous features, before fatalities occur. Allowing proactive systematic approaches to safety.

Those changes were necessary and we applaud them. However, many states have not yet significantly addressed the crisis of safety for people who bike and walk.

At this time, we are not asking states to change their HSIP formulas, but rather are proposing supplementing those formulas. We don't want to throw out the good

work done to address hot spots, but want to stop the perpetuation of blind spots and encourage states to slow down and take a harder look at what they might not be seeing.

- In areas where vulnerable user fatalities are above a certain threshold, such as MPOs, regional planning areas, tribal lands, and other jurisdictions that receive federal funding, HSIP funds should be directed to vulnerable user safety projects and protections in those areas.
 - Such a change dovetails with changes in the FAST Act which requires states to consider all users when constructing and reconstructing on non-interstate Federal Highway System roads. These roads are often the arterials and connectors where bicyclist and pedestrian fatalities happen.
 - Vulnerable user safety projects could include separated bicycle infrastructure, improved at-grade crossings including medians, grade-separated connections across high speed and high volume roads, and wider shoulders on rural roads. Many of these projects are already recommended by the FHWA.

1. Vision Zero SF 2019 Action Strategy.

2. Denver Vision Zero Action Plan. <https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/visionzero/Denver-Vision-Zero-Action-Plan-draft-July2017.pdf>. Pg.5

Recognize Past Changes

The changes we want for HSIP also dovetail with non-infrastructure changes made by Congress, which recognized the need for education and enforcement to complement safe infrastructure for people biking and walking.

The League believes that traffic safety goes beyond infrastructure and vehicle standards. While my professional career is about building complete streets and better infrastructure for all road users, I am also a strong believer in the role of education in improving the safety of bicycling.

- As a certified League Cycling Instructor, I have been trained to teach adults and children safe bicycling practices, including obeying traffic laws, practicing defensive bicycling techniques, and ensuring your bike is safe to ride.
- Since the 1970s the League has trained more than 6,000 cycling instructors, and these instructors train an average of 60,000 bicyclists each year. Our materials have been translated into seven languages.
- The League is also rolling out a Bicycle Friendly Driver curriculum. It is a program developed in Fort Collins, Colo., to teach drivers why bicyclists ride like we do and create a shared understanding of how we use the road.
- As a lifelong learner in the transportation industry, programs like these help people better respond to the changes we are seeing on our roads and can better support people who choose or depend on biking and walking.

On enforcement, the League celebrated Congress's decision in the FAST Act to create the 405(h) program that funds education and enforcement around state laws pertaining to bicyclists and pedestrians in those states where bicyclist and pedestrian fatalities are more than 15% of all traffic fatalities.

Since its creation in the FAST Act, every eligible state has applied for the available funding and that funding has been used for a variety of education and enforcement campaigns.

- In [Georgia](#), 405(h) funds were used to publish bicycle safety messages, reaching over 14 million contacts by leveraging existing bicycling-related groups, and to distribute more than 17,000 bicycle safety guides to agencies and others.
- In [Oregon](#), 405(h) funds were used to fund mini-grants to localities to implement an "Oregon Friendly Driver" program.
- In [Florida](#), 405(h) funds were used to develop a four-hour classroom based training course to improve the effectiveness of officers taking part in High Visibility Enforcement to support pedestrian and bicycle safety in Florida.

The 405(h) program shows how directing funding to change the culture around how we view the safety of people biking and walking can be successful. Through these programs, Congress has demonstrated attention to the safety of people biking and walking as well as encouraged continued actions to promote the safety of all people who use our nation's roadways.

In closing, I would like to again emphasize the need for updates to the Highway Safety Improvement Program so that it directs funding to the needs of all roadway users. As currently implemented, HSIP all too often has blind spots for the safety of people walking and biking. Just as we ask drivers to do, the program needs to check your blind spots for people you may not have seen.

We appreciate the steps Congress has taken in the last two transportation bills on improving education regarding bicycle and pedestrian laws, and believe Congress should build on those steps by improving HSIP so that the transportation system's most vulnerable users are not overlooked in its data-driven process.