

TABLE OF CONTENTS

U.S. SENATE	DATE: WEDNESDAY, JULY 10, 2019
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS	WASHINGTON, D.C.
STATEMENT OF:	PAGE:
THE HONORABLE JOHN BARRASSO, A UNITED STATES SENATOR FROM THE STATE OF WYOMING	3
THE HONORABLE THOMAS CARPER, A UNITED STATES SENATOR FROM THE STATE OF DELAWARE	7
K. LUKE REINER, DIRECTOR, WYOMING DEPARTMENT OF TRANSPORTATION	18
CARLOS M. BRACERAS, P.E., PRESIDENT, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	23
MAX KUNEY, PRESIDENT, MAX J. KUNEY CO.	29
CAROLANN WICKS, P.E., SENIOR POLICY FELLOW, UNIVERSITY OF DELAWARE, SCHOOL OF PUBLIC POLICY & ADMINISTRATION	34
VICKI ARROYO, EXECUTIVE DIRECTOR, GEORGETOWN CLIMATE CENTER	40

INVESTING IN AMERICA'S SURFACE TRANSPORTATION INFRASTRUCTURE:

THE NEED FOR A MULTI-YEAR REAUTHORIZATION BILL

WEDNESDAY, JULY 10, 2019

U.S. SENATE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, D.C.

The committee met, pursuant to notice, at 10:05 a.m. in room 406, Dirksen Senate Building, the Honorable John Barrasso [chairman of the committee] presiding.

Present: Senators Barrasso, Carper, Capito, Braun, Rounds, Boozman, Ernst, Cardin, Whitehouse, Markey, and Van Hollen.

Senator Barrasso. I call this hearing to order.

Today's hearing is about the need for this committee to draft and to pass a bipartisan highway infrastructure bill. Both Ranking Member Carper's staff and my staff have been working on drafting this legislation, along with all of the members of this committee. We appreciate all the input that we have received from our home States, our fellow members and from transportation stakeholders.

It is our shared goal to advance a bill out of the committee this summer. That means the Senate Environment and Public Works Committee will be first out of the gate to pass a highway infrastructure bill. This is appropriate, given this committee's history of initiating bipartisan efforts to pass previous surface transportation bills.

We have crumbling roads and bridges, and they desperately need to be repaired and replaced. Projected population growth and existing congestion requires States to build new capacity to meet future needs. Our economy is built on a well-functioning road system that allows products from rural areas to get to our population centers. America's workforce uses our highways to get to the office, the factory or to the farm.

In 2015, the U.S. transportation system moved a daily average of about 49 million tons of freight that was worth more than \$52 billion. That is a daily average. Annually, that is

around 18 billion tons of freight valued at over \$19 trillion. These numbers are only going up. According to the Department of Transportation, by 2045, our aging roads and bridges will carry an additional 4 billion tons of freight annually. Our Nation's highways need to keep pace.

The authorization of the federal highway funding will expire in September of next year. The Congressional Budget Office projects that the Highway Trust Fund will become insolvent some time in 2021. Our bridges and roads are in need of serious investment.

I am working with Ranking Member Carper to advance the most substantial bipartisan highway bill ever passed by Congress. We, along with the other members of the committee, are working to pass a five-year highway infrastructure bill to fix our roads, our bridges and our highways. If we do not pass a long-term surface transportation bill, and instead pass a series of short-term extensions, we will undermine our States' abilities to plan for these challenges. It is not a good option. We have an obligation to get this done.

Our highway infrastructure legislation would be for all of America. It will ensure both rural and urban areas have access to funding. That means maintaining each State's share of highway formula funding. Formula funding gives each State the flexibility that they need to address their specific surface

transportation needs.

Maintaining the Federal Highway Program's current approach of distributing over 90 percent of the funds to the States by formula is the key to this. Using a formula-based approach expedites the delivery of highway infrastructure spending. So States get the funds they need faster. It is a proven approach that works for everyone and should be continued.

Our bill will also speed project delivery through streamlining. By cutting Washington red tape, highway projects can get done better, faster, cheaper, and smarter. In our legislation, we must reduce the time it takes for federal permitting, to lower paperwork burdens on States. We need to incorporate innovative construction approaches and other technologies.

This will be the most substantial highway bill ever passed by Congress, and it needs to be paid for. The Environment and Public Works Committee doesn't have jurisdiction over the revenues for the highway bill. Ranking Member Carper and I are going to work with other members to find ways to responsibly pay for the legislation.

I believe highways should be paid for by their users. I am committed to making sure that everyone who uses the roads contributes to maintaining and improving them. That must include electric vehicles and other alternative fuel vehicles,

which will become an increasing share of the cars on the road. We will also work with other surface transportation committees, including the Commerce and the Banking Committees, to include their input in the legislation as we move to the Senate Floor.

I am thankful to Ranking Member Carper for his partnership, and look forward to continuing to work together with him in a bipartisan way to pass a surface transportation infrastructure bill, a bill that will grow America's economy, that will improve the safety of our roads, and will enhance quality of life for the American people.

I would now like to recognize Senator Carper for his opening remarks.

[The prepared statement of Senator Barrasso follows:]

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES
SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Mr. Chairman, thank you for your kind words.

To our witnesses, to let you know, one of the joys of serving here in the Senate, you think all we do is fight with one another, actually we work together pretty well, too. We try to really set an example in this committee to our colleagues, both in the Senate and in the House. I think that is what the people of our 49 States plus Delaware tell us what they want, and that is what we try to do. It is a joy to work with Chairman Barrasso, his staff, and frankly, with any of our colleagues. We are happy you are here. Thank you so much for coming today. I know some of you came on fairly short notice and we are grateful for that, especially.

It is an honor to be joined by a panel as distinguished as the five of you. I want to especially extend a warm welcome to my seat mate on the train coming down from Delaware this morning, Carolann Wicks, who was our Transportation Secretary for a number of years, had a 28-year career at DelDOT and has gone on to do other great things with her life. Welcome.

It is my hope today that our conversation will serve to inform this committee's ongoing work as we proceed with negotiating the reauthorization of our Nation's Surface

Transportation Program. I want to begin by sharing why I believe this particular reauthorization is so important.

Just last week we celebrated the 243rd anniversary of the signing of our Nation's declaration of independence, 243 years. I remember that day.

[Laughter.]

Senator Carper. Not really. A day on which our founding fathers asserted Americans' inalienable rights to life, liberty, and the pursuit of happiness. I often link these three inalienable rights with the work we do on this committee, because Americans cannot be guaranteed life, liberty, or the pursuit of happiness without clean air to breathe or safe water to drink. The fact is, Americans cannot truly enjoy life, liberty, or the pursuit of happiness without a safe transportation system that nurtures our economy, protects our environment and enhances our mobility.

Over the 4th of July holiday weekend, some 49 million Americans traveled on our roads, highways and bridges, in order to be able to head for the nearest beaches, hike mountain trails, go fishing or camping or visit loved ones or visit and celebrate our Nation's history. They visited all of our States. Some of them even made it to the 49th largest State in the U.S., that is us, to enjoy our five-star beaches, tax-free shopping, and much more. Others traveled to places like Yellowstone

National Park in Wyoming, to Denali National Park in Alaska, and to the Grand Canyon, to experience some of our Nation's many natural wonders.

Wherever the destination, these trips had at least one thing in common: almost all of us relied on our Nation's transportation systems to get us to those destinations. Hopefully, most travelers found the roads and bridges they traveled on smooth and uncongested, they were able to arrive safely at their destination on time. Unfortunately, that was not always the case. Based on data from previous years, we know that roughly 600 people died over the holiday weekend, as they were navigating our roadways. That is more than the total membership of the U.S. House and the Senate combined.

We also know that as Americans traveled over the holiday weekend, we released billions of tons of harmful greenhouse gas emissions, contributing to our climate crisis. Emissions on holiday weekends are even higher than usual due to increased traffic. In some cities, emissions have been three or even four times worse than average.

While none of us travel with the goal of sitting in traffic, or getting into an accident, or worsening climate change, some of our roadways are so outdated, they are in dangerous condition, or in desperate need of redesign, that they are leading to outcomes that none of us want. For too many

travelers, there are simply no low-emission travel options available. Electric vehicles are an option, but without a comprehensive national network of electric vehicle charging infrastructure and other alternative fueling infrastructure in place, many consumers lack the confidence needed to purchase the electric vehicles that can help us address our climate crisis.

In order to address these challenges, our committee began bipartisan work on the next reauthorization bill to our transportation program earlier this year, as the Chairman has said. I am proud to say that we have made demonstrable progress, thanks to the contributions of every member on this committee, every member on this committee. Thanks to the leadership of Senator Barrasso, our Chairman, as well as the hard work of our staff members. We thank you all.

As we have undertaken this work, we have recognized that we start with transportation programs that help us achieve many of our mobility goals, but can still be improved. I like to say everything we do, I know we can do better. But particularly with respect to enhancing climate resilience, reducing harmful emissions, and improving safety. For example, just this past week, people in Maryland, Virginia and Washington, D.C. experienced record-breaking rain and flash flooding. Nearly four inches of rain fell in one hour, one hour, right here. Water was seeping into the White House and all kinds of

buildings, washing our roads, flooding transit stations, creating sinkholes and leaving many commuters stranded. Some roads, I am told, still remain impassible.

Not far away from here, Ellicott City, Maryland, has withstood two 1,000-year floods in less than two years. A thousand-year flood is something that is supposed to happen once every thousand years. We have had two in an 18-month period in nearby Ellicott City.

But earlier this year, communities across Nebraska, Iowa, Missouri, and other parts of the Midwest experienced unprecedented flooding that destroyed bridges, dams, and levees. One stretch of Interstate 29 in Missouri was flooded with 15 feet of water. As we gather here today, 11 States are reporting enormous wildfires, including fire in Alaska, where nearly 700,000 acres have burned this month. That is an area almost the size of Rhode Island.

Our Nation's scientists tell us that climate change, left unchecked, means even more frequent and intense storms, more record-breaking rainfalls, bomb cyclones and wildfires the size of even larger States. Smart planning and targeted investment in the resilience of our Nation's infrastructure will ensure that roadways can better withstand these worsening effects of climate change. This will save American taxpayers untold billions by allowing us to avoid rebuilding the same

infrastructure projects again and again after severe weather events.

At the same time, smart investments in electric charging and low emission alternative fuel infrastructure will provide travelers with better choices so traveling to loved ones doesn't come at the expense of our climate.

It is also essential that we make the safety of our roadways a top priority. More than 37,000 people are dying on our roads each year. They are our friends and our neighbors and our constituents. We can do better than that, a lot better than that, especially for the bicyclists and pedestrians who are sadly, the growing share of the deaths we are seeing all over our States.

We also know it is imperative that we better ensure that the roads and transportation systems that we design and build today will continue to meet the travel and commerce needs of the future. That includes integrating new technology, so that the advanced vehicles that are increasingly automated will be able to operate safely on our roads in the future.

Finally, I believe that a long-term focus on national needs must include identifying new sources of sustainable user fee-based revenues to support investments into transportation, as the Chairman has suggested. In closing, these are some of the important issues where I believe this committee can find

bipartisan agreement, and doing so, lead by example for other committees who will be responsible for developing other titles of a major surface transportation reauthorization.

The work that we do on this committee is of critical importance to the people of our Country. None is more important than work that we focus on today. The people who we are privileged to represent are counting on us. Let's show them that we are up to the challenge by doing our part by helping to restore our surface transportation program's solvency, so that we can keep that promise of life, liberty, and the pursuit of happiness on which our Nation was founded.

Thank you.

[The prepared statement of Senator Carper follows:]

Senator Barrasso. Thank you, Senator Carper.

To our friends in the audience as well as our witnesses, we have a series of three votes this morning, starting at 11:00 o'clock. So you will see members coming and going. But there is great interest in this hearing, but you will see some of that commotion up here. We apologize for that, but we will continue the hearing throughout all of this, as different people chair the committee meeting during, so that you will be able to continue uninterrupted in your testimony and in the questioning.

Before we hear from our witnesses, I want to take a moment to welcome to the committee Luke Reiner, the Director of the Wyoming Department of Transportation. Luke was appointed the 18th Director of the Wyoming Department of Transportation in just March of this year. He has recently retired as the Adjunct General for Wyoming for our National Guard. In that role, he directed the Wyoming military department in Cheyenne, where he was responsible for formulating, developing and coordinating all policies, all plans, and programs that affected more than 3,000 Army and Air National Guard Members.

Director Reiner served as a commander of a camp in Kuwait during Operation Iraqi Freedom II, and he commanded the Wyoming Army National Guard's 115th Fires Brigade. I know we have another deployment coming shortly. He has received numerous rewards and honors for his remarkable service to our Country.

He has an extensive educational background, which includes an accounting degree and a Master of Public Administration degree from the University of Wyoming.

Director Reiner, I want to thank you for your service to our Country and for everything you are doing for the people of Wyoming. Thank you for being here to testify today. I now would like to call on Senator Carper to introduce a witness from Delaware.

Senator Carper. Thanks, Mr. Chairman. I would ask that her bio, which we have as part of our record, be included as part of our record for Carolann Wicks. I have had the privilege of not just riding on the train this morning from Wilmington with our former Secretary, but to have known her and to call her my friend for, gosh, over three decades.

I want to just briefly mention, she grew up in Delaware, was educated in Delaware, University of Delaware as a civil engineer, as I recall. Went to work at DelDOT and served there for 28 years.

I call her the Czarina of the bicycling evolution that started in our State a long time ago. We used to not be a very good biking greenway State, and we are now, we are among the best. And it started really with her early involvement. She went on to become our DelDOT Secretary, and served with great distinction.

If you ever drive through Delaware and you are on I-95, that a good part of what she did. We actually resurfaced I-95 from Wilmington, Delaware, to the Pennsylvania line, shut down I-95, the year that I was running for U.S. Senate, and I still won. I still won, and people said, have you lost your mind? She ran that project, resurfaced I-495 through our State both ways, built State Route 1, which goes all the way from I-95 down past the Dover Air Force Base. And you name it, she was involved in it.

The riverfront, if you come through Wilmington on the train, you look out at the Christina River, where the first Swedes and Finns landed in America, gosh, 380 years ago, that transformation was one that she worked on, for a million different projects. She went on to become a partner in RK&K and still helps out in any variety of ways. Lives on a farm, has a very successful family farm in the middle part of our State, and we are just delighted that she is here today. Thank you very much again, Carolann, for joining us.

Senator Barrasso. And Senator Carper, in addition to those distinguished guests, we also have Carlos Braceras returning to the committee, President of the American Association of State Highway and Transportation Officials, and also the Executive Director of the Utah Department of Transportation. And Max Kuney, who is the President of Max J. Kuney Company, testifying

on behalf of the Associated General Contractors of America. And the Executive Director of the Georgetown Climate Center, Vicki Arroyo. I agree all of you. Welcome here.

Senator Carper. Mr. Chairman, Carlos keeps coming back again and again. We are going to have to put him on the payroll. He is a frequent flier when it comes to this committee.

[Laughter.]

Senator Barrasso. I would like to remind the witnesses that your full written testimony will be made part of the official hearing record, so please try to keep your statements to five minutes so we have time for questions. I look forward to hearing the testimony from each of you, beginning with Mr. Reiner.

STATEMENT OF K. LUKE REINER, DIRECTOR, WYOMING DEPARTMENT OF
TRANSPORTATION

Mr. Reiner. Thank you, Chairman Barrasso, Ranking Member Carper, and members of the committee. Good morning. My name is Luke Reiner and I am privileged to be the director of the Wyoming Department of Transportation.

Chairman, thank you for that very kind introduction. On behalf of the men and women serving in uniform, thank you for your solid and consistent support of them. And thank you for supporting transportation as well.

I am pleased to report to you that the transportation departments of Idaho, Montana, North and South Dakota have joined in our written statement today. We do wish to commend you, Mr. Chairman and Ranking Member Carper, for your hard and very timely work on needed reauthorization legislation. We applaud your effort to move legislation through the committee.

In terms of our rural States, we recommend your legislation do five key things. First would be continued federal support for transportation in rural States. We see such support as necessary to keep the Country connected and move goods to market.

Second would be a continued emphasis on formula funding. Formula dollars are delivered as projects more promptly than discretionary dollars.

Third, several thoughtful, regulatory reductions would be helpful and would allow each program dollar to deliver greater benefits. We see potential regulatory reductions in both project delivery processes and administrative requirements.

Fourth, additional funding is certainly needed and if received, would be put to use promptly in an environmentally responsible way in order to enhance safety, increased mobility, work to create jobs and strengthen the economy. Fifth, a multi-year reauthorization is essential for States to be able to effectively deliver the program.

Let me turn to a few additional points. It is worth noting that rural States actually contribute significantly per capita to the highway account of the Highway Trust Fund. Nationally, the annual per capita contribution is approximately \$117. The contribution from rural States is much higher, with Wyoming currently being the highest at \$312.

On another topic, we support repeal of the approaching \$7.6 billion rescission of highway contract authority. This repeal is needed to ensure program flexibility and funding, and thank you, Mr. Chairman and Senator Carper, for your leadership in this repeal effort.

In terms of transportation safety, we ask Congress to continue to set aside the wireless communication spectrum 5.9 gigahertz currently reserved for transportation safety. Some

have called for opening this portion of the spectrum for use by fifth generation cell phones in non-safety-related activities. We see that change as having a significant negative impact on our Nation's efforts to reduce fatalities. Wyoming is currently a leader in developing this spectrum for transportation safety purposes, and we certainly ask Congress to help protect the spectrum for transportation safety use.

In summary, I would like to reemphasize that significant federal investment in transportation in rural States benefits the Nation by positively affecting almost every sector of our economy. The Nation, its people and commerce benefit from cross-country traffic. In Wyoming, about 90 percent of the trucks on Interstate 80, which runs east to west, have origins and destinations outside of the State. That is clearly national transportation and warrants federal investment.

I would also like to reemphasize that streamlining regulatory processes and requirements will enable transportation dollars to be put to work more effectively, while still protecting the environment and other public interests. Simply put, federal investment in highways and rural States helps move people and goods throughout the Country and helps move agricultural, energy and natural resources to market.

We believe that our highways can better advance these important national objectives if legislation is structured with

a strong emphasis on formula funding and thoughtful streamlining of regulatory burdens. We certainly commend the committee for its efforts to move a reauthorization bill promptly and thank you once again for the opportunity to present testimony today.

[The prepared statement of Mr. Reiner follows:]

Senator Barrasso. Well, thanks so much for your testimony.
Very useful information. Thank you.

Mr. Braceras.

STATEMENT OF CARLOS M. BRACERAS, P.E., PRESIDENT, AMERICAN
ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Mr. Braceras. Chairman Barrasso, Ranking Member Carper and members of the committee, thank you for the opportunity to appear here today and address the critical need for timely reauthorization of the federal surface transportation legislation.

As mentioned, my name is Carlos Braceras, and I serve as the Executive Director of the Utah Department of Transportation, and I am the current President of the American Association of State Highway and Transportation Officials, which includes the State departments of transportation in all 50 States, Washington, D.C., and Puerto Rico.

First, allow me to express the State DOT's collective appreciation to this committee for getting the next federal transportation bill done on time and for your desire to repeal the \$7.6 billion rescission of the highway contract authority scheduled for July of 2020. Your recognition of the importance of maintaining regular order in the business of Congress is something every State strongly supports.

My testimony today will emphasize four main points. Number one, ensure the timely reauthorization of a long-term federal surface transportation bill. We recognize that a well-functioning and safe transportation system is the foundation of

a strong economy and quality of life. It is this interconnected, multi-modal national system that has enabled the United States to become the most vibrant and powerful nation in history.

The investment backlog for transportation infrastructure continues to increase, reaching \$836 billion for highways and bridges, and \$122 billion for transit. In order to simply maintain the current Highway Trust Fund spending levels adjusted for inflation, Congress will need to identify \$90 billion in additional revenues for a five-year bill, or \$114 billion for a six-year bill. At the same time, the purchasing power of the Highway Trust Fund revenues has declined, losing over half its value in the last 26 years.

After FAST Act expiration on September 30th of 2020, the Highway Trust Fund is expected to experience an estimated 51 percent drop in highway obligations from the year before, and is zeroing out of obligations for the mass transit account around 2021 or 2022. The lack of stable, predictable funding from the Highway Trust Fund makes it nearly impossible for State DOTs to plan for large projects that need a reliable flow of funding over multiple years. Americans and members of both parties agree that it is extremely important to invest in our Nation's transportation system. We can harness this momentum by completing the FAST Act reauthorization before October of 2020

without relying on any short-term gaps.

Two, increase and prioritize formula-based federal funding provided to States. The heart and soul of the federally funded, State-administered highway program has been perfectly suited to a growing and diverse Nation like ours. As your committee unveils your FAST Act reauthorization bill later this month, we urge you to focus on maximizing federal formula-based dollars provided directly to States through the existing core formula programs, and to continue to consolidate federal programs.

Three, increase flexibility, reduce program burdens, and improve project delivery. To further enhance the effectiveness of federal funding, we recommend increased flexibility and transferability between the various federal programs. Even with significant progress having been made this past decade, getting projects done still takes too long. We believe there remains opportunity to improve the National Environmental Policy Act process, but also make the NEPA process work more effectively with other federal requirements.

State DOTs continue to implement MAP-21 performance management framework. The first reporting cycle is not expected to be completed until 2022, at earliest. As such, we ask that this body refrain from considering new performance measures and changes to existing regulations that would increase requirements until at least two full reporting cycles.

Four, support and ensure State DOTs' ability to harness innovation and technology. There is no opportunity greater than cooperative, automated transportation which has been defined as all modes of transportation working together to improve safety and mobility through interdependent vehicle and infrastructure automation and information exchange.

The top priority for the State DOTs and AASHTO has been and will always remain safety. Connected vehicles utilizing vehicle to everything communication in the 5.9 gigahertz spectrum will save lives. We must work together to preserve the transportation safety spectrum.

Beyond automated transportation, I would like to emphasize that State DOTs are at the forefront of practitioner based innovative deployment of innovative materials which can improve safety, reduce costs and increase the overall life of our Nation's highway transportation system. We ask Congress to preserve the flexibility for States to choose the types of technology investments that best maximize that value.

In conclusion, State DOTs remain committed to assisting Congress in the development of the next surface transportation, and will ensure enhanced quality of life and long-term economic growth through sound federal investments. We cannot emphasize enough how much State DOTs and AASHTO value the longstanding partnership with this committee.

I want to thank you again for the opportunity to testify today, and I am happy to answer any questions that you may have.

[The prepared statement of Mr. Braceras follows:]

Senator Barrasso. Thank you very much, Mr. Braceras
Mr. Kuney?

STATEMENT OF MAX KUNEY, PRESIDENT, MAX J. KUNEY COMPANY

Mr. Kuney. Chairman Barrasso, Ranking Member Carper and members of this committee, thank you for convening today's hearing, and more important, for your commitment to moving forward on a reauthorization of the FAST Act well before the Act expires in September of next year.

My name is Max Kuney. I am a fourth-generation infrastructure contractor from Spokane, Washington, serving this year as the chairman of AGC's Highway and Transportation Division.

Mr. Chairman, America's transportation infrastructure, both urban and rural, needs significant repair, replacement and expansion. Reports provided by the Federal Highway Administration, based on State DOT data, identify a litany of troublesome facts, including failing and underperforming pavements, bridges that are structurally deficient or don't meet modern specifications, congestion caused by insufficient capacity in key locations, inadequate intermodal connections and safety hazards. From coast to coast, our transportation infrastructure is showing signs of distress.

All of this is coming at a time when an increasing population, growth in vehicle use and significant increases in freight movement will add to the strain on our transportation infrastructure. Just one example is that the level of heavy

truck traffic nationally is anticipated to increase by approximately 56 percent from 2018 to 2045, putting greater stress on the Nation's roadways. As our economy continues to grow and global competition increases, there will be an expanding need for new infrastructure improvements to support our manufacturing, farming, service, technology and industrial sectors. All of this leads to an opportunity for this committee and Congress to pass a well-funded reauthorization bill that addresses our current and future transportation needs.

Federal highway funding has historically been critical to capital investment in highways and bridges, and it is important that this funding continues and grows. On average, States use 52 percent of their annual federal aid allocation for capital investment projects, with that percentage higher in many smaller population States. The existing program structure and funding formula allows States the flexibility to address their individual priorities and specific requirements, while also supporting the overall need for a strong, well-functioning, interconnected national transportation system. Assuring States that the Federal Government will continue to be a reliable partner in funding and delivering a safe and efficient national surface transportation network should be a top priority.

While reauthorization is an opportunity, failure to meet the deadline will negatively impact addressing our national

transportation needs and put the U.S. further behind. AGC urges Congress to not repeat the mistakes of the past by kicking the can down the road with numerous short-term extensions. This uncertainty in the flow of federal aid funding has caused project delays and cancelations, resulting in higher costs and slowed transportation improvements.

States postpone or slow down their planning, design, permitting and construction projects because of uncertainty. Prior to the FAST Act passage in 2015, short-term extensions caused 15 State transportation agencies to delay or seriously consider canceling payments on contracts for transportation improvement projects worth over \$1 billion when the reimbursements from the Highway Trust Fund were slowed.

Of course, the final issue in the FAST Act reauthorization is addressing the Highway Trust Fund's revenue deficit. Shortly after the FAST Act expires in September 2020, there will be a minimum of \$18 billion per year shortfall in the revenue needed just to maintain current funding levels. AGC urges Congress and the Administration to act sooner, rather than later.

AGC believes the Highway Trust Fund revenue solution must include real, reliable, dedicated and sustainable revenue sources derived from users, and the beneficiaries of our surface transportation system, resources sufficient to end the chronic shortfalls and support increased investment, and be dedicated

solely to surface transportation improvements. Increasing the Federal Motor Fuels Tax is the simplest and most effective way to achieve this goal. AGC joins our many partners in the business community and organized labor in supporting such an increase. Now is the time for the Federal Government to do what 33 States have done since 2012: enact a revenue package to support increased transportation investment.

Congress and the Administration must take advantage of the strong support for infrastructure investment to solve the Highway Trust Fund's long-term solvency by providing real and growing revenue to address our surface transportation needs. This committee and its leaders are an essential component to making this priority a reality. That is why I not only feel grateful to be here, but am hopeful that my words will help lay the foundation for your successfully passing a transportation infrastructure package.

Mr. Chairman, thank you again for allowing AGC to participate in today's discussion. I look forward to your questions.

[The prepared statement of Mr. Kuney follows:]

Senator Barrasso. Thanks so much for your testimony.

Ms. Wicks.

STATEMENT OF CAROLANN WICKS, P.E., SENIOR POLICY FELLOW,
UNIVERSITY OF DELAWARE, SCHOOL OF PUBLIC POLICY AND
ADMINISTRATION

Ms. Wicks. Good morning, Chairman Barrasso, Ranking Member Carper, and members of the committee. Thank you for inviting me here today to give you my perspective on the importance of reauthorizing the surface transportation legislation.

As a previous cabinet secretary for the Delaware Department of Transportation and now as a senior policy fellow at the University of Delaware, I hope my testimony today will be a helpful addition to your deliberations on this critical legislative issue.

I believe the FAST Act provided many positive policy and funding changes that have served us well in delivering needed infrastructure improvements, such as a greater focus on pedestrian and bicycle facilities and safety, funding freight-related highway improvements, streamlining the environmental review process, and increasing funding for public transportation. It is the momentum from this legislation that we need to build on to solve the many transportation challenges remaining.

These challenges are well documented by the American Society of Civil Engineers infrastructure report card. Unfortunately, we have all become too familiar with our

infrastructure receiving a D plus based upon ASCE's evaluation of capacity, condition, and funding. The D plus grade means our Country's infrastructure remains in poor condition, mostly below standard, at high risk of failure, and inadequately funded.

This illustrates the significant backlog of projects needed to address operational problems as well as capacity improvements to meet current and future demands. This backlog of projects also contributes to the significant number of highway, pedestrian and bicycle fatalities and serious injuries we experience each year.

With limited resources, maintaining and rehabilitating existing infrastructure, optimizing the efficiency of the system, and addressing safety issues remains a primary focus of the DOTs. However, climate change has added a new external impact to the transportation system that requires new strategies and technologies to improve our resiliency. A long-term, comprehensive approach is needed to anticipate future impacts to transportation infrastructure and create funding plans that will help mitigate these impacts.

It is also an opportunity to implement policies and focus capital investments on reducing greenhouse gas emissions that contribute to climate change. As an example, DelDOT has embraced these challenges by developing a Strategic Implementation Plan for Climate Change, Sustainability and

Resilience. This plan recognizes the need for greater resiliency due to the vulnerability of the State's infrastructure to withstand and recover from weather related incidents.

Transportation is at the heart of a strong economy. Having a reliable multi-modal transportation network is the foundation of economic prosperity and a quality of life we have come to expect. The quality of this network will also influence a State's ability to retain and attract companies, as well as the workforce needed to support these jobs. Businesses need to rely on the commitments made by governments to deliver the needed infrastructure that will not only support the needs of the broader public, but will help determine a company's level of investment into a community. Federal, State and local governments need to work collaboratively on all regulatory processes to be efficient, time sensitive, and deliver high quality improvements that support the environment while addressing safety and capacity issues.

Adopting a partnership mentality between the public and private sectors is also important to funding and delivering improvements. This approach has been the basis for Delaware's successful redevelopment of the Wilmington Riverfront. The transportation improvements became the key to attracting new businesses. What once was a highly contaminated industrial area

has turned into a thriving employment and entertainment destination, with new high-density residential areas that are supported by the Joseph R. Biden Railroad Station on Amtrak's northeast corridor.

Investments in wetland preservation and bicycle and pedestrian facilities were integrated into the master plan and are key elements of why this area has become an attractive place to live, work and play. A critical component of this redevelopment initiative was the federal funding that enabled DelDOT to build new interstate connections to support access into the area. These were large financial investments but necessary to provide sufficient roadway capacity. Committing to these improvements and the other infrastructure elements not only brought jobs to the riverfront, but has created the momentum for other redevelopment projects in downtown Wilmington.

Our transportation investments support the welfare and safety of the traveling public, provide healthy lifestyle transportation choices of walking and biking, reduce our greenhouse gas emissions through more public transit services, and are key to our economic prosperity. The timely reauthorization of the surface transportation legislation is critical to addressing our current infrastructure gaps and our future investment needs.

Thank you for your time and I look forward to your questions.

[The prepared statement of Ms. Wicks follows:]

Senator Barrasso. Thank you so much for your testimony.

Ms. Arroyo?

STATEMENT OF VICKI ARROYO, EXECUTIVE DIRECTOR, GEORGETOWN
CLIMATE CENTER

Ms. Arroyo. Good morning. Good morning and thank you, Chairman Barrasso, Ranking Member Carper and committee members. I am Vicki Arroyo, Executive Director of the Georgetown Climate Center and Professor from Practice at Georgetown Law. I also chair the Executive Committee of the Transportation Research Board, and recently chaired the TRB Resilience and Sustainability Task Force, and served on the study of the future of the interstate highway system. While I am proud of these affiliations, my comments today are my own.

Since my initial introduction to global climate change as a staffer to Governor Buddy Roemer of Louisiana, my home State, on an NGA task force 30 years ago, the science underlying our understanding of the causes and impacts of climate change has only become more definitive. As our federal agencies and academies of sciences have determined, multiple lines of evidence indicate that our atmosphere is warming, sea levels are rising, the magnitude and frequency of extreme weather events are increasing, and human activity is the primary driver. The world must rapidly decarbonize, cutting greenhouse gas emissions in half by 2030, and to near zero by 2050.

Despite this, U.S. emissions increased in 2018. The transportation sector is the largest sector and itself is facing

impacts from climate change.

There is an urgent need to transition to a low-carbon and more resilient transportation system that would bring additional benefits, including protecting public health by reducing air pollution, providing more mobility options, and driving innovation and economic growth from policy and through public and private investment. U.S. States are seizing the opportunity to transition to a low-carbon transportation solution.

For example, the northeast and mid-Atlantic States launched the Transportation and Climate Initiative, or TCI, in Delaware, 10 years ago, to develop the clean energy economy, improve transportation and reduce emissions. This collaboration of energy, environment, and transportation agencies from 12 States, it is bipartisan, and D.C., is facilitated by our center, but very much led by the States that we serve. TCI States have been working together to design a regional policy that accelerate this low-carbon transition.

Congress has an opportunity to expand on such initiatives, fund innovative programs that expand access to transportation, and support new technologies that offer promise for emissions reduction and economic growth. In the TCI process, diverse stakeholders have offered strategies, including pricing carbon and investing in solutions, such as electrification of transportation, smart growth and transit-oriented development,

and improving ports and other freight facilities where communities often face higher levels of pollution. The future of the interstate highway system study encouraged consideration of our transportation system as a whole, recognizing the importance of providing alternatives, including support for complete streets and transit to address congestion.

Our highway system connects communities and supports commerce. Federal leadership is needed to shift to low-carbon and more resilient transportation. Reauthorization provides an opportunity to remove barriers to innovative technology deployment, such as barriers to solar power installations and EV charging along highways. Electric cars, like my Chevy Bolt, are more efficient and reduce pollution, even when considering power plant emissions. As the grid shifts to cleaner electricity, they will emit less over time. A robust network of highway corridor fast charging will grow the market for EVs.

The FAST Act encouraged and instructed FHWA to designate alternative fuel corridors but did not provide the funding needed to drive investments in charging stations. This important federal funding can be strategically invested to maximize impact, including by leveraging existing State and regional partnerships and planning, and provide technical resources to identify gaps in EV charging infrastructure. To allow for innovation and avoid stranding assets, federal

investments could require that charging stations funded by federal grants be interoperable. Federal investments can be targeted in rural and remote corridor locations underserved by the private market, growing the EV market while spurring economic development.

Decarbonizing trucks and buses is also important. The Federal Government can play a role in enabling deployment of battery electric and hydrogen fuel cell vehicles.

There is also a need to ensure our transportation system can withstand climate change impacts. This year, we have seen a record number of flood disasters, as we have heard from Senator Carper, in Iowa, North Dakota, Oklahoma, Arkansas, Vermont, South Dakota, and even the historic flash flood that just happened here in D.C. Coastal villages in Alaska are losing sea ice and are vulnerable to storms that are causing erosion, leaving communities to face difficult decisions about relocation. Coastal States like Maryland and Delaware are seeing nuisance flooding that is happening on even sunny days.

Federal hazard mitigation grants save \$6 for every \$1 spent, yet many States and cities are struggling to prepare and need more federal support. Congress should ensure that federal infrastructure investments are built to withstand flooding, increased heat, and other climate impacts. Recipients of federal funding should consider how climate change will affect

infrastructure and assets in the future.

Our transportation resilience case studies featured in our adaptation clearinghouse highlight State and local efforts, including New York's Community Risk and Resiliency Act and Maryland's Coast Smart program.

In summary, States and communities need tools and technical assistance, and should have incentives to plan and modify codes and standards ahead of disasters to facilitate resilient rebuilding when funds are available. Beyond infrastructure, federal funding should also support operational improvements, including strategies to help people evacuate safely.

Thank you.

[The prepared statement of Ms. Arroyo follows:]

Senator Barrasso. Thank you so much for your testimony and the testimony of each of you.

We will start with rounds of questions, and I would like to ask the representatives here from Wyoming and Utah and Delaware, if Congress fails to enact a multi-year highway bill and instead passes a series of these short-term extensions, what the impact is going to be on States like Wyoming and Utah and Delaware in terms of planning, in terms of highway construction, in terms of road and bridge maintenance and even safety. Ms. Wicks, if you would like to start.

Ms. Wicks. Thank you, Mr. Chairman. Yes, it is extremely disruptive to programs. Engineering projects take time, whether you are planning, design, funding for construction. All of that becomes very unpredictable if you can't know for sure how much money and resources will be available going forward.

There is also a psychological effect on staff. When you are trying to motivate your staff to continue to aggressively go after projects, work hard, keep them delivered on time, it is difficult to maintain that enthusiasm and that energy level when there is this roller coaster of, maybe we will have it, maybe we won't. So there is even that factor that I think sometimes we seem to forget.

I also think how the public interprets our inability to go back out with confidence and say, yes, it is going to be here in

a year, it will be here in two, here is our timeline, here is what we plan to do.

Senator Barrasso. Mr. Braceras, anything you would like to offer and add?

Mr. Braceras. Yes. Just to add that that a little bit, Mr. Chairman, a couple of things. One, as a public official, the currency that I have is the public's trust, the trust the elected officials have in me. When we put together a long-term plan, all States put together a State transportation improvement plan, a STIP. It is usually a four-year plan of projects; we call them the funded four years of projects.

If you picture where we are right now, we are looking out in our STIP, out past the FAST Act. So we all make assumptions, what level do we program out past the FAST Act right now. I have made, I have guessed, that it is going to be flat funding. So we have programmed projects out in those out years based on that Congress will reauthorize the program at a flat level.

Now, I could be wrong, I could maybe have over guessed what we have done. You notice that unless we find new money, we are going to be obligating at about 50 percent, 51 percent of what is available in the trust fund. Then what happens is I have to delay or cancel projects. That breaks down that trust. Because every one of those projects is much needed, it is anticipated. They are safety projects; they are projects that will improve

the infrastructure.

So having predictability, long-term predictability of funding is really key for us to be able to build the public's trust in order to deliver the right projects.

Now, the other key is, we all want to get the most value out of the investment that you are making from Congress. The way we do that is we advertise; we say we advertise the right project at the right time. So we try to get some competition from our contractors. We can't just dump the same type of projects out onto the contractors at the same time in the same geographic area, because then we will not get the level of competition that we need to have to assure the public's investment is best served.

So if we can have that predictability, that long-term predictability in these projects, we will deliberately decide that we are going to advertise it, this project, it is an asphalt project, I have this many bidders that will compete for that in this geographic area at this time and I will get the best value. So from the end of the day, Mr. Chairman, if we can keep the public's trust and get more value out of the public's investment, that long-term that long-term predictability is key.

Senator Barrasso. Thanks. Mr. Reiner, anything to add?

Mr. Reiner. Mr. Chairman, thank you. I agree with what Mr. Braceras said. To put a Wyoming spin on it, very frankly,

the impact would be a change in how we do business. It will result in slower delivery of smaller projects, because of the funding uncertainty.

Certainly, in times of safety, we will find a way to handle the emergency highway and bridge repairs. But there will be many safety projects and other issues that are simply deferred.

As has been pointed out, planning certainly becomes more complex and uncertain. It would, it would simply have a significant impact on us as a State and how we do business.

Senator Barrasso. When you use the phrase, slower delivery and smaller projects, it makes me think of what we have heard from a number of State departments of transportation, that the departments of transportation non-environmental requirements could be reduced to give more flexibility and reduce administrative burdens so States can focus on priorities and actually do things faster rather than the slowing down of things.

One idea is to make stewardship and oversight agreements and make them simpler, less prescriptive. The agreements can be unnecessarily complex that we have, often contain numerous federal requirements and approvals that really shouldn't be required or aren't required by statute.

Could you see opportunities for these kinds of opportunities to be improved by the Federal Government in terms

of being more flexible?

Mr. Reiner. Mr. Chairman, absolutely. You described it very well. We would say simply that we would request for fewer requirements and more flexible terms, and think there are easy ways to do that.

Senator Barrasso. Thank you so much. Senator Carper.

Senator Carper. Thanks, Mr. Chair.

General Reiner, you were Adjutant General, weren't you, in your State, for a number of years? How many years?

Mr. Reiner. Senator, I was the Adjutant General for eight years.

Senator Carper. That is great. Did you know Frank Vavala?

Mr. Reiner. I did. He is a great gentleman.

Senator Carper. One of the two most popular nominees for appointments I ever made as Governor, we nominated him, I think he served for 20 years.

Mr. Reiner. He served us all for a long and faithful time.

Senator Carper. He sends his best to you today.

I want to start the questioning, again, thank you all for this wonderful testimony. It is very much welcomed. I want to start, if I can, with Secretary Wicks. Almost everybody has said, we need to fund these projects, we need certainty, we need predictability. We can look at the States, the States are being bold in terms of doing their share, of meeting their

obligations. I think leading by example for us, we are too timid when it comes to actually funding these projects.

Everybody knows we need to spend more money, we need to spend it wisely, we need to make sure that the streamlining provisions we put in, whether environmental or non-environmental, are actually being implemented and the staffs are in place at the federal level and the local level to actually fully implement those. We need to do oversight to make sure that they are being implemented well.

I want to ask Carolann, if you will, in terms of funding, talk to us a little bit to us about what we have done in Delaware with respect to funding using tolling. Especially as we have gone away from -- if you will allow me to stop, I would say to my colleague from West Virginia, I remember as a kid the West Virginia turnpike where you would like, drive 10 miles, stop, put in a quarter, drive 10 miles, stop. People hated that. People hated the Delaware Turnpike, coming up 95, having to stop and pay \$4 for the privilege of going like 15 miles through Delaware and have to wait forever to get through our State. They hated it.

Now we have Express, EZ Pass, Highway Speed EZ Pass. People go through, it is charged to their Mastercard or whatever, and they are on their way. No muss, no fuss. I think this has really opened up a new opportunity to make tolling a

better option for States than maybe we have done in the past. Would you share what we have done with 301? If you come out of Washington heading east on Route 50, go across, pass Annapolis, over the Bay Bridge. You come to a place where you can turn right, so on 50 you go to the beaches, the Delaware-Maryland beaches. If you turn left, you are on 301, which is a beautiful, beautiful, four-lane road through beautiful farm country. And you get to Delaware.

For years, you would go to Delaware and you slowed down. You had traffic lights, you had Middletown and congestion before you could ever get up to I-95. We have done something about it with some partnership. Would you just talk about that?

Ms. Wicks. Yes, Senator, the 301 project that you referenced is really a shining example of how we have, as a State, partnered with the Federal Highway Administration to deliver a project that really, we could not do on our own. We could not do it without really looking at ways to finance that and using the tools that are in the toolbox from FHWA. We were able to use Garvey bonds back when we were looking at accelerating and starting the design and real estate acquisition. So we were able to get out of the gate by being able to have those bonds in place to do that and fund those phases.

We were then able to use some TIFIA loans that also

provided us another source of funding to keep ourselves going through the process. Then ultimately, we used revenue bonds, actually a longer term, a 40-year revenue bond that was not as traditional but that helped us be able to spread out the payments and be able to have a sustainable source to pay back those bonds.

It has gotten off to a great start. It has been a project that has been long heralded as a needed project, not only for safety and removing some truck traffic off of our local roads, but it has also been recognized as something that would be an important way to help the economy and the development of southern Newcastle County.

Senator Carper. Thank you. Ms. Arroyo, did you say you drive a Chevrolet Bolt?

Ms. Arroyo. A Bolt, which is 100 percent electric.

Senator Carper. I was at the Detroit Auto Show about a year or two ago, it was named the car of the year. A decade earlier, the Chevrolet Volt was named the car of the year. Volt is a hybrid; the Bolt is all electric.

Ms. Arroyo. Yes.

Senator Carper. When the Volt was announced as the car of the year, it got about 38 miles on a charge, then it had to go on gasoline. Bolts, when it was announced as car of the year a year or two ago, it was 240 miles on a charge.

Ms. Arroyo. Yes, I am getting over 250.

Senator Carper. And the folks who are driving the Bolts are fortunately not putting out any pollution. But by the same token, they are not really paying for the use of the roads, highways, bridges, that they are using. The Chairman says that there needs to be some way to collect funds for that.

I think ultimately what we need to move to is a vehicle miles traveled approach. That is maybe by ten years from now, we ought to be doing that nationally, increasing the large pilot projects leading up to that. Have I lost my mind on this, General, or does this make some sense to you? We will just go down the line, just very briefly, just one sentence. Eventually, does vehicle miles traveled, is that where we ought to get ready to go in terms of the user fee approach?

Mr. Reiner. Senator, we certainly see a need for increased revenue. I am not here to tell the Congress how to fund it. But certainly we will put the funding to good use.

Senator Carper. Mr. Braceras?

Mr. Braceras. Yes, Mr. Ranking Member, maybe a little example on what we are doing with our legislative in Utah might be useful. Two years ago, the legislature increased the fees for electric vehicles. It ratcheted it up 30 percent each year, and it is going to top out here in January of 2020. This was done in conjunction with directing the department of

transportation to develop a voluntary road usage charge program. So we will have that up and operational this January. Folks that drive electric vehicles can choose to continue to pay the increased registration fee, or they can participate in the road usage charge program. If they participate in that program, we have capped it, so no matter how many miles they drive, they will not pay more than they would have paid under the registration fee.

So for us, this is a time to ask some really good questions about how this can work. So we will have an operational road usage charge program coming up here within six months.

Senator Carper. Good. We can learn from you. Max, really quickly.

Mr. Kuney. When you look long term, VMT is potentially where we might need to be. AGC is very supportive of anything that will fund the Highway Trust Fund for sure. The gas tax is the easy, short-term answer. But when you look long-term, we are supportive of a national pilot to see.

There are some real challenges in collection and the costs associated with it, but you are correct, as you move to more and more fuel-efficient vehicles, more electric vehicles that don't use any gas at all, the gas tax is a diminishing return for a funding source.

Senator Carper. Very briefly, Secretary Wicks, and then

Ms. Arroyo.

Ms. Wicks. I would concur with my colleagues. It is, I think, a very positive future, forward-looking way to look at the funding. It hopefully would be more equitable, because it would focus on who is using the roads and for how long and how much. Working out the technology of it is already underway with pilot projects, with the I-95 Corridor Coalition and other programs throughout the Country. We should be hopeful that that will provide us a new source.

Senator Carper. Thanks. Very quickly, Vicki.

Ms. Arroyo. I agree that I think Congress needs to consider EVs as part of a longer-term strategy for funding the highway system that we all agree is underfunded. Some States, like Oregon and the I-95 corridor States are experiment with mileage-based user fees. Some through the Transportation and Climate Initiative, or in California, are looking at carbon pricing.

Many, as you heard, over 30, have raised their own gas taxes. Some are going to tolling. So there are a lot of different ways that we can raise revenues without only focusing on EVs, which a lot of States are trying to promote right now.

Senator Carper. Thank you. Mr. Chairman, I like to say there are no silver bullets in this funding issue. Lots of silver BBs, and some are better than others and we need to learn

from the States and see which are good.

We now have with us our chair and the ranking member from our Transportation and Infrastructure Subcommittee. I want to salute them and their staffs for the great work and leadership they are providing as we go through this process.

Senator Braun. [Presiding] Thank you, Senator Carper.
Senator Boozman.

Senator Boozman. Thank you, Senator Braun. Mr. Braceras, Arkansas recently had, I started to say significant, but it was record-breaking floods, both in height and just the force of the water. Tremendous damage, lots of damage to the infrastructure.

The good news is, like Utah, Arkansas is working very hard, and they are going to recover. Great leadership in our State and all those kinds of things. I guess what I would like to do is, and again, so many of our States have gone through this lately. You experienced it, I believe, in 2015, in that area. Tell us what you learned, how you built back and mitigated perhaps from future floods, to help in that regard.

Mr. Braceras. Thank you, Senator, for the question. I think one thing that all State DOTs excel at is responding to emergencies and disasters. The men and women that work in these departments are amazing people.

Senator Braun. They do a tremendous job.

Mr. Braceras. They just do a great job responding to that.

I think the partnership that we have with our contracting industry and our consulting industry was key to our ability to respond. We have limited staff, as every DOT does. When a disaster happens, whether it be flooding, whether it be avalanches that we deal with, or lately, some massive forest fires, we rely on our partnerships with our consultants to help give us the answers and for our contractors to respond 24-7 to emergency contracting proposals.

I would say that the challenge isn't over once the public thinks we have mitigated the danger. We get the roads back open; I think that's the time when we need to step back and we need to think about, what are we going to do to help this facility be more resilient to this type of occurrence in the future. That is something all the DOTs are working on right now.

I just picked up yesterday, I was up in Delaware attending the national conference. And a document that we are putting out, with the help of TRB, Transportation Research Board, it is for all DOT directors, talking about resilience, a DOT imperative. What we can do to help make our systems better prepared for this changing environment.

Senator Boozman. In regard to the Federal Government response, what did you learn in that regard? Are there some things that we can do better?

Mr. Braceras. First of all, we are blessed in Utah with the partnership we have with our division administrators. I think that is one really important lesson. When you look at USDOT and even some of the other federal agencies, the Federal Highway Administration, that modal administration, has people, employees on the ground in every State. What we do is we develop these working relationships with them that allow us to get things done.

So when an emergency happens, they are one of the first people we contact, and they are working shoulder to shoulder with our employees. Because if we are going to be turning around and asking the Federal Government to help us, either through emergency relief or through FEMA funds, to help pay back some of the money that we have had to lay out there, and we basically pull it from other projects, much-needed projects, we need to do the right things. We need to document things in the right way.

That is one thing that they do really well. That process could probably be streamlined a little bit. The ability to be able to incorporate more resilient features with the use of some of that emergency money I think would be a much better investment for the public right now. Pretty much, we can replace what is there in kind. That is not, sometimes, the smartest thing to do with the public's investment.

Senator Boozman. Mr. Kuney, Arkansas is a small State, but we are blessed with a thriving trucking industry. I believe we have 5,000 trucking companies. Of those, 90 percent operate with 20 or fewer trucks. We have the bigs and the littles. The transportation industry is critical to our State and critical to the Nation.

Tell us about the impact, if we don't take care of the infrastructure, what that does to the economy, and also what it does to the trucking industry in regard to wear and the cost in that regard.

Mr. Kuney. Sure. One dramatic instance that I know of where in the trucking industry and not taking care of our infrastructure came together was in 2013, when a truck hit the Skagit River Bridge north of Seattle and collapsed that bridge into the river. My company did the permanent replacement of that on an emergency design build. But that was a very dramatic instance of substandard bridge, too low, the cross members arched down, the truck was in the wrong lane, and hit it and down it went.

Senator Boozman. The really great example there was the fact that they rebuilt it in a year. If they had had, again, not skirting any issues in regard to safety, but everybody working together as opposed to, probably 10 or 20 years.

Mr. Kuney. So actually, there was one company that put up

the temporary bridges in about a month, and we did the permanent replacement in 88 days. We were way short of a year.

Senator Boozman. Oh, yes. So why can't we do that?

Mr. Kuney. Well, that was obviously an emergency. It is Interstate 5; it was the main north-south corridor for the State of Washington. But you are right, every agency came together to make that happen from federal agencies right down to the dike district, that we had to get access over their levee to get to the site. Everyone was absolutely committed and focused and when you do that, I wouldn't say that is possible in every job, this was a pretty extreme example, but it definitely worked there.

Senator Boozman. Thank you. Thank you, Mr. Chair.

Senator Braun. Senator Cardin.

Senator Cardin. Thank you, Mr. Chairman. First, I want to concur in our Chairman and Ranking Member's initial comments that it is very important that this committee take the lead and pass a multi-year reauthorization. I hope it is at least five years. I was whispering to the Chairman, it would be nice to get beyond five years, as we have done in the past. But at least a five-year, to get predictability, so that those that are planning major projects know that there is a dependable federal partner.

I look forward to working with the Chairman and Ranking

Member and Chairman Capito on the subcommittee on getting this moving forward.

There are so many needs out there. There are so many major needs. I think I will start with first, the north-south highway in the western part of my State that connects West Virginia, Maryland, and Pennsylvania, which is critically important for the economic growth of that region of our Country. I could talk about the Howard Street Tunnel, which is critical for freight rail on the east coast of the United States, that needs to be replaced. It is only about 120 years old, that tunnel, and it can't do double-stacking. That needs to be done. I could talk about the bridge between Virginia and Maryland, the Nice bridge that literally needs to be replaced before it falls down and we have another terrible episode that we could talk about. The need for commuter rail, rapid rail transit, the list goes on and on.

I am particularly pleased that we have been able to accommodate not just our State partners, but our local partners. And the Transportation Alternative Program dollars, I hear about that every time I visit a county in Maryland, they tell me how important those funds are for the local community to stay connected, so that they can transverse their community without having to get into cars, or a much more efficient way for safety issues or to accommodate their local development issues.

So for all those reasons, it is important that we move forward with reauthorization, and I very much appreciate the Chairman's candid comments about making sure that it is adequately funded. I think all of us have to step back a little bit, Senator Carper and I, and Senator Whitehouse, are all on the Finance Committee, so we are going to have to deal with it on both committees. But I think we are all going to have to back up a little bit and say, look, we are going to have to compromise here, and figure out a way that we can get a bill to the finish line that has adequate revenues in it. That is going to be one of our challenges.

I want to follow up on a point with Mr. Braceras, that you pointed out, about resiliency. We experienced a pretty bad week here in Maryland and Washington. In Frederick County, we had about six inches of rain in two hours, which is unprecedented. It has really challenged our infrastructure.

So you mentioned resiliency. What can we do in the federal reauthorization to put attention to the realities that we have to deal with what has happened out there, with our infrastructure being able withstand the assault that is taking place every day?

Mr. Braceras. Thank you for that question, Senator. The realization with most of us in the State DOTs right now is that the infrastructure system that we have built over the last 100

years is not going to be the infrastructure system that we need in our Country for the next 100 years. It needs to change and we need to help it adapt.

One of the things we have been working on within the State of Utah, and we have been working on it within our association, AASHTO, to help all the other State DOTs, is to start to better understand what those risks are associated with our different, we refer to them as lifeline corridors. So we will try to narrow in on our transportation system, identify what are those lifeline corridors, what are those roads that get us to the hospitals and to those critical areas that people need to be. Then design those, basically, to a higher level. So we will design them at a higher seismic level, we are in a high seismic area in Utah. So they will have a higher seismic level. We will also look at it from a flooding perspective, from a wildfire perspective.

Senator Cardin. And that is important. But how does the federal program help you do that?

Mr. Braceras. Sorry, Senator. I believe that the federal program first needs to -- this is an evolving field right now. This is a research project that just got done at this point. I think the Federal Government can continue to help support our associations and our State partners in helping develop these risk assessments for these facilities. Help us better

understand -- we need a programmatic way in which to make these decisions. As you mentioned, there are so many needs out there. If we are not deliberate and strategic about picking which of those areas that we need to focus on to give us the highest return, based on a good risk analysis, then I think we are going to be shotgunning this approach.

So I think helping us identify a good way to approach this from a risk-based statistical analysis would be very helpful. And then as we move forward, States would be able to start to put together a program.

Senator Cardin. Let me take my last three seconds and ask Ms. Arroyo.

Ms. Arroyo. If I could just build on that a little bit, because our center, our adaptation work is led by Jessica Grannis, behind me here. We work with States and cities. They need more guidance and assistance from the Federal Government with expertise, down-scaled modeling to inform what changes are underway. They need pre-disaster assistance so that they can plan for the next disaster, change their codes and standards so they are allowed to build differently when the disaster money flows.

And post-disaster, there could be better coordination across agencies. I think FHWA has done some really great work, but to coordinate with FEMA and align definitions and cost

benefit analysis, that would really streamline things quite a bit.

Senator Cardin. I will just make a very quick comment. I am ranking with Small Business. We are looking at disaster relief funds for planning before disasters occur. We are having that in Transportation. We need to beef up the planning capacity that we have. I think we can play a role in that in the reauthorization.

Senator Braun. Senator Capito.

Senator Capito. Thank you very much. I want to thank the chairman and the ranking member, and also my cohort on the Subcommittee on Transportation and Infrastructure. Our staffs have been working very well on this. We are very close to a bipartisan bill and we have such mutual desire to get this done. I refuse to be pessimistic.

Some of the things that we have looked at are regulatory improvements to expedite project deployment. Many of the things that you have talked about, supporting utilization of our natural infrastructure, and also other ways to reduce cost and increase resiliency. We have talked about this.

In terms of the pre-disaster mitigation, we did pass -- I chair the Homeland Security Subcommittee on Appropriations, which funds FEMA. We did have in there this past year a pre-disaster mitigation fund that I think is going to be very

helpful for big and small communities. I would start, I guess, with those that have repetitive issues, which in my State of West Virginia, we have several of those.

I want to talk about economic recovery has had divergent paths for rural and urban America. I live in a rural State. Our biggest city is 50,000, and I wouldn't say that is too urban. A beautiful State, but we have declining tax revenues, we have issues in terms of difficulty getting from place to place, we have a lot of deficient bridges, we are in the top five for our deficiency in bridges. I want to make that a separate question.

Starting with you, Mr. Reiner, where do you see the biggest obstacle for rural America in terms of the next highway bill? You mentioned the capacity it takes to meet all the challenges of the regulatory environment, and that could be streamlined. If you could dig into that a little bit for me.

Mr. Reiner. Senator, thank you for that question. We would certainly, as we look to the future, really say that maintaining the formulary and the formula funding is important to us in rural States from a standpoint of quick and efficient use of the money.

Senator Capito. Right.

Mr. Reiner. And then in terms of regulations, we do think there are ways to streamline, specifically in the stewardship

and oversight types of agreements, to make them simpler and easier to understand, and less onerous in terms of regulation.

Senator Capito. Mr. Braceras, do you have a comment on that?

Mr. Braceras. Yes, thank you, Senator. The State of Utah is interesting in that as a State we are doing tremendously well from an economic growth perspective. But that growth is taking place really in our six urban counties. We have 23 counties that Governor Herbert is really focused on that are not doing as well.

So we are looking at aspects of how our transportation planning, we can come in and provide transportation planning services for these communities. We are doing it with State dollars. What we are doing is, we are asking them the question, what can we do to help you become the community of your dreams, and then, how can transportation help facilitate that.

The government is bringing all the state cabinet agencies together on this mission of trying to help these communities kind of develop that uniqueness that might give them that little bit of advantage. We are trying to move State jobs out into rural Utah and provide the opportunity for State employees to telecommunicate more, so that they can still have a State job, but they can do it from rural Utah.

So I think any type of flexibility you can provide in the

program to allow States to use the funding to be able to help these communities, because there is not one size fits all. I can go to so many rural counties and it is going to have different issues.

Senator Capito. Right. Ms. Wicks, I am going to shift to my bridge question, because I would imagine in Delaware, you have quite a few bridges. We have quite a few deficient bridges. What we have found, I think, and I think we are trying to remedy this in our legislation is, if a governor has a choice to build a five-mile, four lane highway or fix a deficient bridge, we all know what is going to have a bigger kick back home. Not to say they are ignoring bridges, but you have to set priorities.

What are you finding in Delaware with your bridge reconstruction, and what could we do in this bill to help with that?

Ms. Wicks. I think you are right, rehabbing a bridge and its substructure is not very sexy.

Senator Capito. Right.

Ms. Wicks. So another project can certainly seem to get a better headline. We have maintained a rehabilitation approach. We have been able to educate our legislators and our elected officials and the public that preventative care will then yield greater rewards financially than having to wait too long and

then we have a reconstructive approach to the bridges.

This has served us well, and we are able to have that timely inspection, to be able to act upon that, to use technology to make the assessments and be able to efficiently combine improvements into a package that is either done by our maintenance folks or that we put it out to bid.

So I think trying to be able to communicate the benefits of doing that early, rather than waiting and how much more costly those improvements will be. And just the whole sense of safety to the traveling public, and not seeing the postings and school children having to go around and school buses. That message is something we have just continued to drive home year after year. It has paid off.

Senator Capito. All right. Thank you all very much.

Senator Barrasso. [Presiding] Thank you, Senator Capito.
Senator Whitehouse.

Senator Whitehouse. Thank you, Chairman, and thank you for your work to try to push this forward. I know we don't have a budget, a capped funding agreement with respect to this, which is, I think, a real liability. But as we continue to push forward, I think we are making that more likely. So thank you for doing that.

In the FAST Act, we required the National Academies of Science, Engineering and Medicine to do a report on innovative

materials. They did so. It took a while, but it is out. And they came up with three recommendations. I am quoting from page 73 of the report. "A new federal program to provide incentives for innovation in bridge construction, research needs to develop and evaluate innovative approaches to reducing the installed and life cycle costs of highway bridges, and other actions to encourage innovation to reduce life cycle costs of bridges."

On the program, they describe the federal program can provide incentives for innovation and bridge construction, they point out the numerous technologies, I am reading again here, "at various stages of development, hold the promise for improving bridge performance and reducing life cycle costs. However, most require further development, evaluation or promotion to increase awareness of their potential among bridge owners. Congress should create a new federal bridge innovation incentive program, administered by the Federal Highway Administration, to advance such technologies and to promote their use in U.S. highways."

Back in March, Mr. McKenna, an AASHTO witness, said in response to a QFR of mine, "It is important that any infrastructure bill include provisions to encourage the use of innovative materials for not only bridges, but other material as well. The use of new, innovative materials can make a bridge last longer, signs appear brighter from a long distance, or

traffic signals operate more efficiently. Innovative materials can improve safety, reduce costs and increase the overall life of the Nation's surface transportation infrastructure. Specific to bridges, AASHTO agrees with the conclusion of the National Academies of Science report that using advanced materials and technologies does reduce costs and construction time, resulting in less impact to the traveling public."

Mr. Braceras, I assume you still agree with that statement?

Mr. Braceras. Senator, we absolutely agree that taking a strategic approach to research, innovation and advanced materials is critical for our future. If you look at where the great advances have been in the development of our highway program, you can go back to the Strategic Highway Research program that Congress funded and was carried through by the Transportation Research Board. Then FSHRP and SHRP 2, all the big things that we are doing today have helped and facilitated through that research program.

One of the things that the SHRP 2 program did that was really good is there was money provided to help States implement those types of things. That is really sometimes the difficult leap for States to make, is that implementation piece.

Senator Whitehouse. And the reason is that there might be a spec for legacy material and not a spec for the new material, and it takes a little bit more effort and a little bit of, as

you say, kind of intellectual risk, although these tend to be safer materials, to work through it at the bureaucratic level. And that is where the program that the National Academy of Sciences recommends comes in, to help balance the equation toward helping the innovative materials be at least on a level playing field with the legacy materials.

Mr. Braceras. And having Federal Highways work in partnership with the States, so that the States still get to choose what to implement and where. If the Federal Government is working in partnership to help mitigate that risk, give the States a little bit of cover, that will help with that implementation decision.

Senator Whitehouse. So let me thank the Chairman and the Ranking Member for their continued work to help get the IMAGINE piece, the innovation materials piece, agreed to under this draft. I also want to thank the Chair and the Ranking Member for getting the Bridge Investment Act in. We still need, obviously, dollars for it, but it is important that it got in.

There are two programs, the Coastal Infrastructure Program, which is obviously very important given Ms. Arroyo's testimony. It is really important for those of us who have coastal infrastructure that is facing basically being overwashed by rising seas and storms. But at the moment, it is not yet subject to Highway Trust Fund dollars. So we are going to

continue to work to make sure this is not just an orphan authorization sitting out there, but it actually is an avenue for providing access to Highway Trust Fund dollars. I thank you for showing me the nodding heads in support of that.

Similarly, port electrification, that can be very valuable to nearby communities, when you are not requiring ships to run bunker-fueled engines to keep the power on, that there is in fact enough local electricity to run a clean port. Again, that is part of our very important transportation infrastructure, and I am hoping that can get in to trust fund dollars.

So I guess I conclude with two seconds over, with that. Many thanks to many for great work so far, and we look forward to wrapping this up with those issues resolved to our satisfaction. Thank you.

Senator Barrasso. Thank you, Senator Whitehouse, for all of your help and all your cooperation and contributions.

Senator Markey. Thank you, Mr. Chairman. Complete streets are designed to provide safe and accessible options for multiple modes of travel, as well as for people of all ages and abilities. Streets should accommodate pedestrians, bicyclists and public transit users, not just cars and freight vehicles. Streets should also be safe for children, older individuals and individuals with disabilities.

That is why I am today introducing the Complete Streets

Act. My legislation will promote these kinds of neighborhoods by requiring that States set aside a portion of their Federal Highway money to create a competitive grant program to fund Complete Streets projects at the regional and local level. I am proud that my legislation has been endorsed by Uber, Lyft and Via.

Ms. Arroyo, do you believe that a Complete Streets approach to our transportation network is an important priority for surface transportation reauthorization?

Ms. Arroyo. Absolutely. It is really important to give people alternatives. It is something that we covered in the future of the interstate highway system study, especially in urban areas with the congestion, and suburban areas, giving people safe alternatives like Complete Streets, investment in transit, arterial roads is as important as doing things on the highway itself. So thank you for your leadership.

Senator Markey. Thank you. So the transportation sector is our largest source of greenhouse gas emissions. In fact, vehicles driving on our roads represent 83 percent of those emissions. I have been working with Senator Carper and other members of the committee to focus on establishing goals and standards to reduce greenhouse gas emissions in the Federal Highway program. I have been working on legislation to accomplish this.

It is my hope that these principles can be included in the final Surface Transportation bill that the committee produces. We greatly appreciate the openness from the chairman on these concepts, given the reality our States are facing.

So again, Professor Arroyo, do you believe that reducing emissions in transportation is imperative to avert the worst effects of climate crisis?

Ms. Arroyo. Absolutely. It is the largest source, as you just said, of emissions. We have to tackle it.

Senator Markey. Do the States have the resources to accomplish those goals right now?

Ms. Arroyo. No, they do not. Part of why the States have banded together in the Transportation and Climate Initiative is to look at the twin challenges of the lower revenue that the transportation system is getting at the same time that we need to increase investment in low-carbon transportation solutions. So, looking at that together.

Senator Markey. So it makes sense then that any bill that we are going to be passing creates incentives to try to accomplish those?

Ms. Arroyo. Yes. If you can help invest in some of those strategies, they would be very grateful.

Senator Markey. Thank you. And we must also respond to the impacts of climate change that are happening now, rising

temperatures, sea level rise and more powerful coastal storms. Our infrastructure is not as resilient to climate change as it should be. There are only two bridges that connect Cape Cod to the rest of Massachusetts. Should an extreme weather event strike the Cape, these bridges would serve as vital escape routes for residents and vacationers alike. However, these bridges are currently in a dire state of disrepair and must be replaced.

In response to those concerns, I have introduced the ESCAPE Act, which would provide federal funding for State, local and tribal governments to strengthen and protect essential evacuation routes, or construct new routes. Professor Arroyo, again, are current evacuation routes in our Country sufficient to deal with extreme weather events?

Ms. Arroyo. No, and on this I can speak from personal experience, in addition to the fact that I work on these issues. Because I am from New Orleans. My father, Sydney Arroyo, lost his life in the evacuation from Hurricane Ivan, which was a very stressful evacuation in 2004.

Senator Markey. I am so sorry.

Ms. Arroyo. And the fact that that evacuation and the contraflow issues were so severe meant that a lot of people chose to stay at home the next year when Katrina hit, and obviously, over 1,000 people died from that, because they didn't

leave, because of the faulty evacuation the year before.

So thank you for your leadership on that as well.

Senator Markey. Thank you, and we are so sorry for the tragedy.

So you believe that a surface transportation reauthorization should include substantial direct funding and grants for States and municipalities to improve resilience?

Ms. Arroyo. Yes, we appreciate that.

Senator Markey. Thank you. So, I think that is something that we just have to make a priority as we work through the legislation, just to ensure that we protect against what is inevitable, if we don't take action. Thank you.

Thank you, Mr. Chairman.

Senator Barrasso. Thank you so very much.

Mr. Braceras, the Trump Administration has developed and implemented a one federal decision policy for large, complex infrastructure projects. Among other things, one federal decision requires federal agencies to develop formal processes, as you know, for developing a schedule, for elevating disputes, and then also for working together to complete reviews and authorizations within two years. That is the whole goal of this one federal decision.

Many of these elements are already the law, but some key aspects of one federal decision, like the two-year goal, are

still missing. So could you, in your view, talk a little bit about this and would State departments of transportation benefit from adding the missing elements of one federal decision to existing statute? And what else would you recommend?

Mr. Braceras. Thank you, Mr. Chairman. Utah and AASHTO applauds the Trump Administration's goal here of trying to make this process more efficient and effective. Any time we can make this process easier and faster, we are going to improve the investment of public dollars.

I believe we have to look at the two-year goal kind of in the same light that I look at my goal in Utah of zero fatalities. It is a bold goal. But there is a lot of underlying details that I believe will make attaining that goal more difficult than it may sound initially.

There is also, I think just from a challenge perspective, it makes sense to have one federal agency take the lead on this and to be a champion for this decision, instead of basically passing you off between different federal agencies. So we really like what the goal is stating and where it is going. We believe there is a lot of work that needs to be put into it to make that a reality.

Senator Barrasso. Anyone else want to add to that? Thoughts on that?

Mr. Reiner. Mr. Chairman, from our perspective, we are

certainly confident that schedules can be shortened, really without reducing environmental protection concerns.

Senator Barrasso. Good. And also for you, Mr. Reiner and Mr. Braceras, one of the safety issues that disproportionately affects several States with membership on this committee is wildlife-vehicle safety. Not necessarily just in the Rocky Mountain West, but all across the Country.

According to a recent study, Wyoming, West Virginia, Iowa, South Dakota, Mississippi, represent five of the top ten States for incidents of deer-vehicle collisions. In Wyoming, roughly 15 percent of all reported vehicle collisions involve big game animals. This adds up to more than 6,000 annual collisions, costing nearly \$50 million in damages to vehicles, and human injury as a result. As a surgeon, I have taken care of people involved in these situations, wildlife loss, it happens every year.

Fortunately, research shows that effective measures, such as wildlife crossing structures, can reduce wildlife-vehicle collisions, they say by up to 80 percent. So could the two of you, and if any of you have other issues or knowledge about the issue, do you believe this is an area where Federal Government could help States do more to reduce collisions, and what might those be?

Mr. Reiner. Thank you, Mr. Chairman. Certainly the short

answer is yes, we do think there are some issues that the Federal Government could help with. Wyoming has been a national leader in improving safety for humans and animals alike by building the crossings that you discussed, and upgrading fencing and making some other improvements.

We have game migration and collision data, we have identified or prioritized a top ten list of locations for crossing improvements. In locations where we have installed crossings in the past in our State, we have seen dramatic reductions in collisions. What we lack, and where the Federal Government could assist, is adequate, flexible funding to address these crossing issues and we certainly hope to find help in the committee's bill.

Senator Barrasso. From AASHTO's standpoint, what do you see?

Mr. Braceras. Yes, this is an important area, and it is both from the safety perspective that you mentioned, Mr. Chairman, but it is also from an economic perspective. In the State of Utah, our big game is a very important part of our economy. It is really a defining element of our State. A lot of our families, that is their thing that they look back on that talks about what is important to them.

We just recently completed, using federal money, we just recently completed a major bridge over Interstate 80, an eight-

lane section of I-80, between Salt Lake and Park City. We usually like to tell people that we need three years of data before we want to talk about this being a success.

Well, the media started getting some of the pictures of the cameras that we have set up there. And even the wildlife professionals have been shocked at how quickly the game have become accustomed to this. It is wide enough, and it is built in a natural way. We are not letting people or bikers go on that. As a biker, I was disappointed.

[Laughter.]

Mr. Braceras. But it is being very successful. We have, with the combination of the crossing in the right place, because you can't force it, you have to look at the migration patterns, that, with the wildlife fencing, we have had a dramatic decrease in crashes. This is moose crashes with cars and deer. And a moose with a car is quite a bit different situation than a deer.

Senator Barrasso. The moose often walks away, the driver often does not. These are amazing. This is a major collision.

Ms. Wicks, I don't know from a Delaware standpoint, but certainly neighboring States, Pennsylvania, New Jersey, New York, this is not just a Rocky Mountain west issue, is it?

Ms. Wicks. No, and you are right, we don't have the moose. But deer certainly are a part of the issues that we wrestle with as a State. We haven't, to my knowledge, looked directly for an

overpass like that. But a lot of the rural roads, it is happening there. You wouldn't have the ability to have the kinds of crossing you are referring to. But the challenge is for all of us.

Senator Barrasso. And to Mr. Braceras and Mr. Reiner, minor projects in the operational rights of ways often address preventive maintenance, preservation, safety issues, the things that you just need to do as part of the routine maintenance. But before proceeding to construction, often State departments of transportation need to get federal permits or approvals for these projects in the right of way. Some of the federal agencies can be slow in terms of evaluating or even to respond to you for the requests.

I don't know if either of you have run into problems in Utah or Wyoming, and what can we do to incentivize federal agencies to be more responsive to State departments of transportation, working on maintenance and preservation and safety projects?

Mr. Braceras. Thank you, Mr. Chairman. Maybe just a few elements on this. This was an important element to the former chairman of this committee, Chairman Inhofe, at the time, on the operational right of way. When we go and build a road, or widen a road, we do an environmental document, we go through a very deliberate process on this, and we clear that for operational

right of way. Then if we have to come back and do some maintenance work, we typically have to go back and go through that permitting process again, which seems redundant. What we have done in Utah is we have taken advantage of some of the tools that you have provided to us.

What we have done is, we have taken on NEPA assignment. Through NEPA assignment, we have been able to become the decision makers to be able to make those decisions much quicker within that operational right of way. It has saved us time and money, Mr. Chairman.

Senator Barrasso. I know that Senator Braun is going to be coming back, I will get to you in a second, Mr. Reiner. He is going to be coming back and he has some additional questions. You just heard the buzzer, which means the second vote has started, and he was going to speak, he was going to vote at the end of the first and the beginning of the second, but they didn't close the first vote until Senator Whitehouse got there.

[Laughter.]

Senator Barrasso. This is known as a transportation program. So this is why we are having this hearing today.

Mr. Reiner. Thank you, Mr. Chairman. To add to Mr. Braceras, really in our mind I think allowing other agencies the opportunity to use categorical exclusions which are available to the Federal Highway Administration would help speed up the

environmental review process, and would still certainly allow us to protect the environment.

Senator Barrasso. Thanks. And Mr. Kuney, what has been your experience from the contracting side, when Congress fails to enact a highway bill, States don't know much funding is going to be available? I think we heard from Mr. Reiner, it is slower, smaller projects, I think is the way you put it.

So I am especially interested in understanding how that uncertainty can affect things like what you do in terms of project delivery schedules, costs, equipment, purchases, hiring, how that all plays out when you have so much uncertainty.

Mr. Kuney. That uncertainty certainly flows right downhill to the contracting community. We look at the STIP, we look at the six-month projections and different DOTs do different things. But we absolutely are using those to plan what the opportunities are in the future, what projects we are going to chase, where we think the market will be.

If we know that our folks at the DOT aren't sure if they are really going to have any projects, then we are certainly going to be looking at hiring, we are going to be looking at investing in our employees, we are going to be looking at equipment. We are probably going to be cutting back on all of that, because unless we know that there is going to be a market in the future, you can't make those investments.

The other problem, too, and I think Carlos, you said this, but when funding comes, you can't just all dump it in one big chunk, too. Because first of all, now everybody is unprepared. They have been holding off on investments. You dump a whole bunch of work on everybody all at once, and you are going to get higher prices because people are going to have to pick and choose. They aren't going to be geared up for that level of work.

So this up and down thing is really hard on our workforce, frankly, both the craft workers and the engineers. Because you can't keep gearing up and down constantly. So the smooth level probably hopefully trending upward line is the best for the contracting community.

Senator Barrasso. Thanks. Director Braceras, innovations can help save project costs. They can help us do things faster, better, cheaper, smarter, accelerate project delivery. What more can the Federal Government do to support and encourage States to use innovation and technological developments and deployment of the technology that is out there to deliver highway projects faster, better, cheaper? What kinds of things do you see that would work?

Mr. Braceras. Mr. Chairman, it is all about partnership. When I talked to Senator Whitehouse's comments, I talked about the risks that States take when we do something different,

something new. I mean, we are inherently -- we have been trained to be risk-averse. There are very little accolades coming from taking a risk and being successful, but we are pretty good in the media, and I am sure members of Congress know how this goes, at being punished for perceived mistakes. So we tend not to be the riskiest types of people.

What the Federal Government has done really well, I will give an example. We were the first State to build a bridge off to the side of the highway and then move it into place on an interstate over the weekend. When we did that, yes, there was additional cost. When the media came and said, how much extra money is this costing, I was able to say, it is about \$600,000 but the Federal Government gave me a grant to cover that additional cost, that additional risk. I was able to pass that kind of red-face test that you have to do with the media and with my legislators.

So that type of partnership, to help us make that step forward, to implement something new, something exciting, something that is going to benefit the entire Country in the future, would be really good for Congress to do.

Senator Barrasso. What did you call that, the red-face test?

Mr. Braceras. Yes, that is what I tell folks. When you are standing in front of the media or my legislature, if you can

pass the red-face test, so you are not getting embarrassed about what you are saying, then you are probably doing something okay.

Senator Barrasso. We will share with the other members of the committee. They may find it helpful someday.

[Laughter.]

Senator Barrasso. Thank you very much. Senator Braun.

Senator Braun. Thank you, Mr. Chairman. This is when the Senate really moves, when you are in an Aging Committee about 45 minutes ago and you go make two votes, and then you hustle back here. I didn't want to miss it because -- and put on a tie.

[Laughter.]

Senator Braun. I am setting a new sartorial trend here in the Senate, no ties until you go on the Chamber Floor. I don't think anybody has followed suit yet, but maybe in time.

Infrastructure is a big deal to me. I was a State legislator in Indiana and ran for the State legislature for one reason: roads and bridges. I live in the southern part of our State, and we have always been the stepchild of infrastructure in Indiana. We are the crossroads of America. When I had the stark realization, when I went there, to be a proponent for a road in my neck of the woods, I got dressed down quickly; do not come here asking about a road, help us figure out how to pay for it.

So I took that seriously, and in 2017 I served three years.

We actually passed long-term road funding. I am going to give you a few things that stand out vividly.

Seventy percent of Hoosiers wanted better roads and bridges. Seventy percent did not want their taxes raised to pay for it. That was depressing.

Tolling, we polled that significantly. Everyone was for a toll road if they didn't live near one. So it got to be very complicated as to how you would do it.

We have not raised the gas and diesel tax in many years, I think it was 2002, maybe. That was a stretch of 15 years. Here I think it has been 1993.

So with that being said, I did, along with being a rookie there, and a co-author of the road funding bill, which I was very proud of, we put a stream of cash flow out, nearly a billion dollars a year, that would get to a billion after three, four, five years, and then continue on that plane through ten years. Then we will have to look at what the next round of funding would be.

We are going to address all of our tier one projects, which includes a bridge across the Ohio, completing Interstate 69. I also authored a bill that I think is going to be the essence of what we do here, and in other places. And that is to somehow figure out how you get skin in the game from all the government entities that are below the Federal Government.

The reason I say that is, I am a finance guy, a Main Street entrepreneur. The balance sheet could not be worse here to take on a project that is anywhere from a couple trillion to four trillion, if you want to really do it right across the Country. I am worried about that. I am worried about that for defending our Country, I am worried about that for infrastructure, and I am worried about that for the three programs that most would think are important here that are going to quickly not fund themselves anymore: Medicare, Social security and Medicaid.

So how do we do it? There I crafted a bill, it was called, it was through a regional development authority. Areas like mine have always been interested in infrastructure, never had any involvement in its own destiny, or a way to pay of it. We got a bill across in one year that both the head of transportation and ways and means, both of which I sat on, said it was going to be too complicated to do, but we did it. Because the need was there. We were losing infrastructure to the tune of 5 percent a year in maintenance and deterioration.

Long story short, that was 2017. In 2018, we teed up that bill with a regional development authority, raised \$7 million between local governments, led first by local industry, to shame the local governments into matching it, paid for the EIS, environmental impact study. We are now doing something that we had talked about for 40 years.

We also did something called community crossings grants, and that was cities and counties always asking for the State to do more. Well, someone had a novel idea, and as soon as I heard it, I got with it and said, hey, let's throw \$100 million out there on a 50-50 match. The complaining was, it is your responsibility, we don't want to pay for any of it, over-subscribed in the first year. It is now into its second or third year, and it is the most popular program there, because we are fixing roads and bridges.

I think you can get where I am coming from. This place, if you are looking to the general fund to pay for anything, you don't have an eighth-grade arithmetic education, you certainly don't know anything about the finance. And transferring from the general fund, when the general fund is running trillion-dollar deficits, that wouldn't fly anywhere else.

So I think the solution is, I have introduced an idea of infra grants, which we will discuss, to where we start letting States that have been responsible to bid for more of the infrastructure bill. Start encouraging skin in the game, especially when you are looking at a place like this that has set a very bad example to defend our Country and pay for it, to take care of infrastructure or entitlement programs.

By virtue of, I think I am the last one here other than Senator Carper, I am going to run a little bit over my time and

take advantage of it. I do want to ask the question, do you think in your own mind, and whoever wants to jump in and answer the question, how can we pay for infrastructure with the financial condition that the Federal Government is in, and the only other options are States who have great balance sheets, mostly, the private sector since 2008 has great balance sheets through private-public partnerships, which I know some people don't like.

Aren't we just whistling into the wind if we think that you can continue like we have been relying on general fund transfers without at least doing what the chairman suggested, raising user fees, which we did in Indiana? Forty-eight out of 50 testifiers, other than the Petroleum Institute and the Americans for Prosperity, who I generally would agree with, but I believe a user fee needs to be paid, the tool that you are going to use to pay for infrastructure. Give me your honest opinions, because you can see what mine is.

Mr. Braceras. I will be the first to step out, and I will say I am speaking as Executive Director of UDOT right now. AASHTO is working on trying to bring forward --

Senator Carper. Let me just interject a second. I want to hear all you have to say. We have one more vote, and I have two places I am supposed to be, so I would ask you if you could, just to be brief. Thank you. It is an important question.

Mr. Braceras. Thank you. AASHTO is trying to bring forward specific revenue suggestions, but won't have those votes done until our annual meeting later this fall. So I am going to speak from UDOT. I believe we need to be user-based, I believe we need to have it, I believe the gas tax is the right way to go initially, looking at road usage charges in the 10 to 15-year time frame.

As a State that is only about 19 percent of our program is federal funded, the rest is State funded. I like the idea of recognizing those States that have been able to self-help. But there is a need for a federal national transportation system. The State of Utah relies on good roads in Arkansas, it relies on good roads in Mississippi. Our businesses need to have that national transportation system.

So because we have been able to help ourselves, it might not be the same case in other States. I believe, if you want to look at tolling, there are places for tolling. But for us, the challenge is, on the interstate we can only go apply for a pilot program. So it is one road versus another road.

I think if we are successful at tolling, we are going to have to toll a system, so that there is a little bit more fairness across the board. So our legislature has given us as a department and our commission the authority to make those tolling decisions. That is my comment.

Senator Braun. Thank you.

Mr. Kuney. AGC certainly supports that the Highway Trust Fund needs to be funded by the users of the system, and a user fee is the best way to do that. The gas tax is obviously the one that is in place right now. But those who benefit from the use of the system need to be the ones to pay for it.

Ms. Wicks. I concur with my colleagues. Being able to support user fees is the way to go. It is not always easy, though, on existing road systems that you already have to do that. Transitioning to mileage-based user fees is something we should not take our eye off the ball, because that may be a more equitable way to generate those funds.

Ms. Arroyo. Thanks for the question. This is something that we looked at in the future of the interstate highway system and talked about alternatives, some of which are being piloted by the States, like mileage-based user fees, tolling, even on highways, but the feds would have to allow that, like we are doing now in Virginia in I-66 inside the beltway. States are raising their gas taxes. As you said, it was 1993 since that has been done.

Because I work on climate with the States, I see carbon pricing as a potential solution, because then you are creating a disincentive to have carbon-based fuels. While I am on that topic, I will just mention that there are significant subsidies,

still, to fossil fuels in the U.S. The range is from \$5 billion to \$15 billion that could probably be saved. That doesn't factor in the cost, of course, to the military budget or the cost of externalities in terms of air pollution, which is well over \$100 billion.

Then finally, large trucks on the roads, Class A trucks, are probably underpaying their share based on the roadway impact relative to their weight and their use. That might be something else to look at.

Senator Braun. [Presiding]. Thank you.

Mr. Reiner. Senator, I would certainly say it is one of the options that needs to be explored.

Senator Braun. Very good. And that was one of the hardest things, as a fiscal conservative in Indiana, I got up on the microphone and actually depicted how much it would cost my own trucking company. Every trucking company in the State of Indiana was for the higher diesel tax, which was 20 cents, and the gasoline tax was 10 cents. Thank you.

Senator Carper. On the proposals for more revenues, including user fees, one of the strongest advocates for that are the trucking folks. And they conditions of the roads, highways, bridges, every day, they are willing to do their part. This actually should be helpful to us and give us the courage to do the right thing.

Senator Braun. Exactly.

Senator Carper. Thank you. One question and then I have to run. Thank you all so much for coming, this has been great. A special thanks to Secretary Carolann Wicks, but all of you as well. It is great to see you.

A question for Ms. Arroyo. How can the highway bill, how can a transportation bill encourage States to try to reduce the climate impacts of driving on the highway system, including reducing vehicle miles traveled in single occupancy vehicles with internal combustion engines? How can we do that, especially with a focus on reducing vehicle miles traveled in single occupancy vehicles with internal combustion engines?

Ms. Arroyo. Sure. So again, price signals like tolling or carbon pricing would make a difference, especially if you reinvest those proceeds in alternatives to internal combustion vehicles. That might include continuing the support for electric vehicles, building up the charging infrastructure, as we discussed, based on what the State and regional folks are already trying to do with interstate corridor planning but don't have the funds to actually implement.

Looking at investing in maybe cash on the hood for EVs as opposed to credits later, so that other people, including people who can't afford EVs right now might be able to afford them up front, investing in alternatives like transit-oriented

development, Complete Streets, things that allow people to have active transportation as an alternative to conventional highway use.

Senator Carper. That is a pretty good list. A quick question, if I could, for Carolann Wicks and Carlos. What changes do we need to make in this reauthorization bill to help the public understand what they are getting from highway spending, from transportation spending? Very briefly, please.

Ms. Wicks. I think we mentioned earlier that there is a great recognition by the public when we have community-based improvements. So the TAP program really focuses on things that need, you know, Main Street, USA. And people recognize then that their tax dollars are going to something right in their community, things that are very important to their own safety, to their biking and walking, their businesses, all of those things contribute to a healthy local economy.

I think once you have been able to help the public see those realities, those on the ground projects, being able to then promote and talk about larger projects is going to be an easier way to prove to the public that their investments are going to go to the right places, and that it is a long-term investment. Not everything can be done as quickly. But once you have proven some of the good projects and the things that people want in their own backyard, it will go a long way to

being able to convey the entire program's needs.

Senator Carper. Good. Thank you. The last word, yes.

Mr. Braceras. I think we have to do a better job describing why we do what we do. As an engineer, we like to talk about bridge sufficiency ratings, we like to talk about pavement smoothings. I think we need to be talking more directly with the public about why we are doing this project here, what is the benefit they are going to see from this project, will they see less maintenance on their vehicles, will they see a safer facility where there will be less crashes happening.

We just have not tied that to the type of funding that we are providing right now. It is a little bit more difficult to do. Engineers aren't the best communicators in the world. But I believe we can do a better job communicating why transportation is important to our economy and the quality of life and tying the federal program to that more directly I think will help the public get behind the difficult decisions that have to be made.

Senator Carper. Good. You said engineers aren't the best communicators. Really, some of you are engineers, and I think you have done a pretty good job communicating today. Message sent and received. Thank you so much. God bless you all, great to see you. Thank you.

Senator Braun. With no further questions, members, who are mostly vacated, can submit questions to the record for up to two weeks. We did have a lively discussion here, because it is such an important issue. I want to especially thank all of you for great conversation. You can see that we know the need is there. We have to figure out how to pay for it.

Thank you so much for coming in to discuss our Nation's surface transportation needs. This hearing is adjourned. Thank you.

[Whereupon, at 11:38 a.m., the hearing was adjourned.]