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INFRASTRUCTURE: THE ROAD TO RECOVERY

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

JUNE 4, 2020

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

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C O N T E N T S

INFRASTRUCTURE: THE ROAD TO RECOVERY

THURSDAY, JUNE 4, 2020

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The Committee, met, pursuant to notice, at 10:06 a.m. in room G50, Dirksen Senate Office Building, Hon. John Barrasso (Chairman of the Committee) presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Cramer, Braun, Rounds, Sullivan, Boozman, Wicker, Ernst, Cardin, Whitehouse, Gillibrand, and Van Hollen.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Good morning. I call this hearing to order.

Before I address the topic of today's hearings, I do want to say a few words about what is happening in communities across our country today. This is a time of great pain and unrest for our Nation. Americans are truly outraged by recent killings. Anyone who watched the video of the murder of George Floyd has to be horrified and heartbroken.

The resulting peaceful protests about police abuse against any American citizen are important and necessary. Our Nation needs to listen to the voices of African Americans about police brutality. Every American citizen deserves justice under the law.

Some of the peaceful protests have been hijacked by violent criminals. The destruction, the looting, and the arson must stop. Those who commit these crimes dishonor the memory of George Floyd, and they dishonor the cause for which the peaceful protestors first took to the streets. Now is a moment for Americans to come together, to listen, and to heal.

The goal of this hearing today is to examine how rebuilding America's infrastructure will help our economy recover from the coronavirus pandemic. We will examine how bipartisan infrastructure legislation passed by this Committee will stimulate economic recovery and growth.

The coronavirus pandemic has resulted in an economic crisis. As Congress considers what can be done to help the economy recover, funding our Nation's infrastructure should be at the top of the list. Investments in highways and bridges create jobs, reduce the costs of goods and services, and grow the economy.

A Standard and Poor's study found a $1.3 billion investment in infrastructure results in 2,900 jobs being added to the construction sector alone.

In a story published last week in the Cowboy State Daily, the University of Wyoming economist Rob Godby explained that infrastructure constructions, he said, is a tried and true way of recovering an economy that has been impacted by a deep recession. It is clear that strong, sensible infrastructure investments create jobs and spur economic recovery.

The Senate has bipartisan legislation ready to go. This Committee has taken significant steps toward renewing our Nation's infrastructure investments.

Last month, we unanimously passed two bipartisan water infrastructure bills, America's Water Infrastructure Act of 2020, and the Drinking Water Infrastructure Act of 2020. Together, these two bills will help create jobs and protect communities by rebuilding our aging dams, levies, ports, and drinking water systems.

They are a perfect complement to the primary focus of today's hearing, America's Transportation Infrastructure Act, which this Committee unanimously passed and reported last July.

This historic highway bill authorizes $287 billion over 5 years from the Highway Trust Fund. It will provide record levels of investment to fix our roads and bridges, to create jobs, and to boost our economy. It will give States increasing funding and the certainty that they need for planning projects.

Now more than ever, America needs this highway infrastructure bill to keep our economy moving ahead.

The alternative to passing our bill would be to rely on short term extensions of the current law. This would be a mistake. Our Committee has repeatedly heard expert testimony that month to month extensions make it harder for States and communities to plan.

In the past, funding uncertainties from such short term extensions have led to project delays, cancellations, and higher costs. These delays would hurt our economic recovery.

We are less than 4 months away from the Highway Trust Fund authorization expiring. This simply cannot happen, especially during these pandemic-caused economic downturns.

To make matters worse, the Highway Trust Fund is rapidly approaching insolvency. Before the pandemic, the Congressional Budget Office projected the Highway Trust Fund would become insolvent sometime in 2021. Now, with Americans driving less, the trust fund will likely run out of money sooner.

This is why I am pushing for the Senate to pass our highway infrastructure legislation. Our bill is the right medicine for our roads and our economy. It will help rural communities; it will help cities; it will help all 50 States.

In its 2014 special report entitled Transportation Investments in Response to Economic Downturns, the National Academies of Science Transportation Research Board concluded that any future transportation stimulus program should allocate most funds according to established formulas. Our highway bill does just that by sending 9 out of every 10 dollars directly to States through formula funding.

Formulas give States the flexibility to address their own transportation needs. What works for coastal cities may not work for communities in the heartland.

The formula approach is also the best method for rapidly aiding economic recovery through infrastructure investments.

America's Transportation Infrastructure Act will also speed up project delivery by cutting red tape and simplifying agency reviews. Reducing the time it takes to get environmental permits means that we can get projects done faster, cheaper, better, smarter.

While speeding up project delivery, our legislation will also enhance safety. The bill targets investments to fix our aging bridges, reduce fatalities, protect pedestrians, and help minimize vehicle-wildlife collisions. Ultimately, building safer, longer lasting roads is one of the best ways to protect communities and to keep our economy moving forward.

Passing America's Transportation Infrastructure Act, together with our two water infrastructure bills, is critical for our Nation's economic recovery. I look forward to hearing from today's expert witnesses on this important topic.

I would now like to turn to Senator Carper for his opening comments.

[The referenced information follows:]

COWBOY STATE DAILY

Construction, Infrastructure Projects Could Boost Wyoming's Faltering Economy

Published on May 26, 2020 — in Coronavirus/Economy/News

****For All Things Wyoming, Sign-Up For Our Daily Newsletter****

By Ike Fredregill, Cowboy State Daily

Facing the potential economic crisis of the century, Wyoming legislators could spend some federal relief funding on economic development projects to boost post-pandemic employment.

During the Legislature's special session on May 15 and 16, legislators laid out four priorities for spending $1.25 billion in federal aid provided by the CARES Act before its "use it or lose it" deadline on Dec. 30, Sen. Cale Case, R-Lander, said.

While the legislators' first two priorities — COVID-19 emergency response and relief aid — deal specifically with the pandemic's impacts on Wyoming businesses, residents and governments, the third priority — economic development projects — was created as a catchall that could help the economy get back on its feet, Case explained.

The fourth priority — replacement of lost revenue for public entities — might not capitalize on CARES Act funding, which cannot be used as revenue for the state's general fund. But by setting the task as a priority, the Legislature has laid the groundwork for using CARES funding "to the extent allowable" and future stimulus funds for the stated purpose.

Economic development might seem like an odd choice for spending the federal money, but University of Wyoming Economist Rob Godby said the category is a historical staple for rebooting struggling economies.

"Construction is a tried and true way of recovering an economy that's been impacted by a deep recession," Godby explained. "It's a well recognized initiative all the way back the Great Depression and the New Deal."

New businesses could open to accommodate the influx of temporary workers drawn to new construction projects, providing jobs across several sectors in a community.

While the construction jobs are typically temporary, they can be a Band-Aid for the growing unemployment rate while giving recovering businesses enough time to rebuild the demand for a permanent labor force.

"Putting people to work on construction or expanding infrastructure is good for the present, because it creates jobs," Godby said. "And it's good for the future, because once that infrastructure is in place, it creates additional benefits and increased productivity."

Broadband infrastructure stood out as one of the legislators' suggested economic development projects, and Case said good broadband is needed now more than ever.

"If anything has become common in the last few months, it's the use of things like Zoom for meetings and telemedicine to bridge the social distancing gap," he explained. "A lot of people are thinking broadband is going to get a lot of these funds."

In 2018, former Gov. Matt Mead's ENDOW initiative identified broadband infrastructure as a key component to improving Wyoming's economy. In 2019, the Wyoming Broadband Advisory Council determined the state's focus should be on broadband infrastructure expansion, rather than improving the infrastructure already in place.

In addition to creating jobs, Case said economic development projects could help the state spend the federal aid before the deadline.

"The legislator left a lot money on the table for the governor in case they don't come back and give him more direction," he said.

During the special session, legislators did not set a spending limit for economic development in Senate Enrolled Act No. 001, which designates the emergency funding priorities. However, the bill does leave room for Legislature to give Gov. Mark Gordon future guidance about how the money should be spent.

Given economic development's low ranking on the priority list, Case said new projects are only an option at this point.

"It's possible that by the time we get through all the applications for the different types of relief," Case said, "there's no money left on the table for economic development projects."

TAGS: WYOMING CORONAVIRUS WYOMING ECONOMY

OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. Thank you, Mr. Chairman. I thank you for your comments.

In the House of Representatives, Senator Inhofe and I used to serve together. From time to time, we would hear our colleagues say words that we wanted to be associated with. We would say, I would like to be associated with the words of that particular member. I just want to be associated with your words, especially the beginning of your comments, today.

I want to thank all of our witnesses for joining us. I especially want to Mayor Greg Fischer from Louisville for joining us virtually, and doing so at a very difficult time.

It is never an easy time to be a Mayor of a major city. But today especially, to be Mayor of Louisville is especially challenging, and our thoughts and prayers are with you and our gratitude is with you for joining us today, Mayor Fischer.

As the Chairman has said, the recent murders of George Floyd in Minneapolis, and I would add Breonna Taylor in Louisville, have sparked widespread civil unrest across our country. Over the past week, literally millions of Americans have protested the death of unarmed Black Americans and the systemic racial inequities and injustice that still pervade too many aspects of our society.

One of those Americans was a fellow named David McAtee. He was a small business owner in Louisville some of you may have heard of. He was shot and killed by authorities while he was protesting early Monday morning.

According to his family, David was a pillar in their community, and at his popular barbeque stand, he would actually literally serve members of law enforcement for free.

We have since learned that the police officers involved with the National Guard personnel who shot and killed David McAtee had not activated their body cameras during the incident.

This institutional failure has only created more feelings of anger, fear, frustration, and helplessness throughout the Louisville community and throughout our country.

I know it will come as a surprise to some, but many of our fellow Americans are feeling real pain and suffering today, and they have been feeling it for a long time. Meanwhile, our country is attempting to safely reopen and return to some semblance of normalcy in the midst of a deadly pandemic, the likes of which we haven't seen in 100 years.

We are facing the greatest economic downturn and the highest unemployment rates since the Great Depression.

While most communities are calling for justice through law abiding, peaceful protests, others have experienced violent riots and looting.

I don't believe it is hyperbole to say that the soul of our Nation is being tested as it hasn't been in a long time. The unspoken question for us today as we gather is, what do we do about it, and what, if anything, does all of this have to do with improving our surface transportation infrastructure?

I am convinced that every member of this Committee understands that it is our duty as public servants to serve all of our constituents, even the ones who haven't voted for us and maybe never will. Right now, that means listening to those among us who have oftentimes gone unheard and to try and put ourselves in their shoes, golden rule, put ourselves in their shoes to not only acknowledge the pain that people of color are experiencing in our country and the racism that too many of them face, but to do something about it.

Here is the good news: We can do something about it. In the midst of all this turmoil lies opportunity. It is our job to find that opportunity and work together to move this country, which we love and revere, as imperfect as we are, forward.

That brings us to the subject of today's hearing. Infrastructure can be a part, a big part, of a greater, multi-faceted solution that brings equity and opportunity to all communities, but where and how we invest really matters.

Infrastructure can refer to water that is safe for us to drink when we turn on the faucet; it can refer to safely treating the effluent we create before it finds its way into our waterways and our groundwater. Infrastructure can refer to broadband deployment for farm communities and many urban areas where students have found it almost impossible to keep up with their schoolwork because they lack Internet access.

Today, we focus on a critically important part of our Nation's infrastructure: Our roads, our highways, our bridges, our railways, and our transit systems.

I know we don't always think of it this way, but they are not only important in moving all kinds of cargo across America, as well as giving the American people the freedom to go where they want and where they need to go, but colleagues, our transportation infrastructure, done right, can also help to connect and uplift communities by expanding access to opportunities such as schools and better paying jobs that may not have been accessible to those who have always found themselves living on the wrong side of the track.

That is why we need to ensure that the infrastructure investment we make and the roads, highways, and bridges we build help us create a more nurturing environment for job creation and job preservation for all of our communities.

In Delaware, for example, the construction of the soon to be completed Christina River Bridge, just south of our Amtrak station, is helping to spur the redevelopment of South Wilmington. That is a part of our city that is prone to flooding when heavy rainstorms, like the ones we had last night, occur.

Fortunately, innovative measures were underway not to just help address the flooding, but also to improve connectivity for residents. This new bridge with pedestrian and bicycle lanes will expand access to new educational opportunities and to jobs, thousands of jobs.

While the bridge will facilitate and alleviate traffic in the area, it will also help to grow the customer base for small businesses along our burgeoning Christina Riverfront.

That is just one example of the kind of win-win investments we can and should be making in more of our infrastructure, those with environmental, community, and economic benefits. So as we discuss here in Congress today the many ways our country can begin to recover from this pandemic, and how we can help all communities in need, it is ever more important and timely that we talk about investing in our Nation's infrastructure.

The surface transportation reauthorization bill that we unanimously approved out of this Committee in July, last July, America's Transportation Infrastructure Act, is a good start to addressing those two challenges.

For example, as the Chairman has said, our bill would increase highway funding by some 17 percent over baseline in the first year, which would help stimulate our economy.

At the same time, our bill would help address the climate crisis by investing $10 billion in low emission and resilient transportation projects over the next 5 years.

As a side comment, I was talking yesterday with our colleagues John Kennedy from Louisiana and Cindy Smith from Mississippi. They tell me that something like 20 hurricanes are now being forecast to occur or make it to the Gulf of Mexico this summer. Twenty. It is unbelievable. So making investments real requires dollars.

Actually, for years, I have been talking with our colleagues on both sides of the aisle about how to go about funding infrastructure and the urgent need to address the looming Highway Trust Fund shortfall. But in a few short months, that conversation will become even more urgent. This pandemic has greatly affected, as the Chairman has said, the use of our Nation's infrastructure and how we maintain funding for it.

Meanwhile, the public health safety measures demanded by this pandemic have greatly reduced travel, and our infrastructure is paid for, largely, as we know, through user fees, including tolls, motor fuel taxes, vehicle excise taxes, registration fees, and the like. All these revenue sources have declined, in some cases, quite dramatically.

A lot of States, cities, counties, and tribal nations are trying right now to balance their budgets by deciding between furloughs, service cuts, or canceling contracts. We owe it to them to reauthorize our surface transportation programs and fund them in sustainable and predictable ways.

All that said, while investing in infrastructure can assist with long term economic recovery, it is not sufficient on its own. This economic downturn is almost without modern precedent, and the coronavirus is likely to be with us, unfortunately, for some time to come. So we must rise to meet the unique challenges and scale of these crises.

Fortunately in recent days, I have had conversations with dozens of our colleagues on both sides of the aisle, Democrat and Republican alike, and there appears to be an emerging bipartisan agreement not to reward fiscal mismanagement at the State and local level, not to bail out unfunded pension plans, but to do our part to help address the grave and unparalleled impact on State and local budgets, on school districts, and on rural hospitals.

We can provide some of the assistance that is needed by continuing to invest strategically and dependably—I will say that last one again, and dependably—in the transportation infrastructure of our communities. If we do, I am confident that we will find America off the ropes and back on the road to an economic recovery in the future that is stronger, more sustainable, and more equitable for all of us.

I don't know a lot of Latin. I know a little bit. Two of my favorite words are carpe diem, let's seize the day. I think that is probably good words for today.

There is another one, too, and we are reminded of it every time we vote in the Senate chamber, and it is e pluribus unum, from many, we are one.

Senator BARRASSO. Thank you, Senator Carper. We appreciate your comments and your leadership and the bipartisan nature of this bill.

In a few seconds, we will hear from our witnesses.

I did want to just make sure that the members knew, to just get a better sense of the order in which we are going to speak and ask questions today, we are going to try to just go strictly by seniority, since so many members are joining us remotely, and it will be easier to keep the record that way.

Today, we are joined by three individuals. First, Mr. Steven McGough, who is the Chairman of the American Road and Transportation Builders Association; Doug Holtz-Eakin, who is the President of the American Action Forum; and Hon. Greg Fischer, who is joining us remotely, Mayor of Louisville, Kentucky, and the incoming President of the U.S. Conference of Mayors.

I want to remind the witnesses that your full written testimony will be made part of the official hearing record, so please keep your statements to 5 minutes, so we will have time for questions. I look forward to hearing the testimony.

Mr. McGough, we would like to start with you.

STATEMENT OF STEVE MCGOUGH, CHAIRMAN OF THE AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION, AND PRESIDENT AND CHIEF FINANCIAL OFFICER OF HCSS

Mr. MCGOUGH. Thank you.

Chairman Barrasso, Senator Carper, and other members of the Committee, thank you for holding today's hearing about the role Federal infrastructure investment can and should play in the economic recovery.

I am 2020 ARTBA Chairman Steve McGough, President and CFO of HCSS, a national company that provides software solutions to help improve construction companies' business operations.

Let me begin by emphasizing two points. First, shovel ready projects are not a solution to the Nation's current economic challenges. While transportation infrastructure improvement has positive job and salary impacts, the real value comes from putting in long term assets that increase the efficiency and productivity of the entire economy.

According to the Federal Highway Administration, goods movements over the Nation's highways account for 73 percent of the value of domestic freight. Industries like wholesale and resale trade and manufacturing are two of the largest users of transportation services in the economy and utilize freight shipments for 58 percent to 65 percent of their needs.

Second, Federal highway investment is a major contributor to each of your States' infrastructure networks, but it is effectively a silent partner. We have developed a way to correct that shortcoming.

In 2018 alone, States utilized nearly $31 billion of Federal highway funds to begin construction activity on over 24,000 highway improvement projects, with a total value of $66.7 billion.

Thanks to the new interactive ARTBA highway dashboard, policymakers and the public alike can see how Federal highway resources were deployed by each State in a given year, dating all the way back to 1950. We have compiled each State's top 10 Federal aid projects, the total number of projects, and the type of improvements advanced that year. The dashboard uses data from the Federal Highway Administration to shift the conversation about Federal highway investment from apportionment tables and obligation charts to outcomes and benefits.

Mr. Chairman, the Federal Highway Program is widely regarded as one of the most meaningful and popular of all Federal discretionary spending activities. Now, we can articulate why.

As an example, Wyoming in 2018 used $309 million in Federal highway funds to advance 262 projects with a total value of $370 million. The largest single recipient of these funds was a $20 million resurfacing projects in Sweetwater County.

Of the Federal aid projects Wyoming moved forward with that year, 66 percent were for reconstruction and repair work.

This information not only demonstrates the value each State receives from highway investment, but also highlights the potential numerous benefits from the 5 year reauthorization proposal this Committee approved last July. America's Transportation Infrastructure Act would increase highway investment 27 percent over the next 5 years.

Your proposal includes common sense policy reforms that will expedite the delivery of needed infrastructure improvements and maximize the impacts of Federal resources. More importantly, the bill's investment growth stands in stark contrast to the purchasing power focus of the past 15 years.

We have given each of you a snapshot of how your States benefit from the highway investment in 2018. Imagine what could be accomplished with the resources you proposed.

Mr. Chairman, the recent forecast from the Congressional Budget Office that it could take a decade for the U.S. economy to recover from COVID-19 pandemic is sobering. This outlook is also disturbing in the context of the Nation's infrastructure deficit. State and local highway spending needed 8 years or until 2015 to recover from the pre-Great Recession levels, while GDP recovery occurred in 3 years.

That lag in highway and bridge improvements activity could illustrate the challenging road ahead for our infrastructure network absent proactive action, such as enactment of the America's Transportation Infrastructure Act. Your proposal is both a robust highway program reauthorization and a foundational opportunity for economic recovery and growth.

Mr. Chairman, the transportation construction industry is not here asking for Federal relief. Instead, we seek to be part of the solution to spur the meaningful economic recovery this Nation so desperately needs.

We urge the other Senate committees with respective jurisdiction over their portions of the State transportation programs to act quickly in order to facilitate final passage of America's Transportation Infrastructure Act.

Thank you for convening today's hearing. I look forward to your questions.

[The prepared statement of Mr. McGough follows:]

American Road & Transportation Builders Association

"Infrastructure: The Road to Recovery"

Testimony Presented to the Committee on Environment & Public Works
United States Senate

June 4, 2020

Steve McGough
President & Chief Financial Officer, HCSS and
2020 Chairman, American Road & Transportation Builders Association

Chairman Barrasso and Ranking Member Carper, thank you for convening today's hearing. I am Steve McGough, President & Chief Financial Officer of Houston-based construction software developer HCSS and am also proud to serve as the chairman of the American Road & Transportation Builders Association (ARTBA).

Your leadership in approving America's Transportation Infrastructure Act (ATIA) almost a year ago was a commendable and proactive step toward responsible government. Today, your bipartisan initiative provides a unique and foundational path forward to rebuilding from economic devastation no one could have foreseen 10 months ago. It is my pleasure to work with you now, and in the months to come, to demonstrate the economic imperative for a robust federal surface transportation program reauthorization.

Established in 1902, ARTBA is the oldest national transportation construction-related association. Our more than 8,000 members include public agencies and private firms and organizations that own, plan, design, supply and construct transportation projects throughout the country and world. The industry we represent generates $580 billion annually in U.S. economic activity and sustains more than four million American jobs.

COVID-19 altered every aspect of our daily lives, but one fact remains unchanged: America's infrastructure system is in dire need of repair. As Congress begins to turn toward recovery measures, the transportation construction industry is not here today asking for federal relief. Instead, we urge Congress and President Trump to utilize strategic investments in infrastructure to spur the meaningful economic boost the nation desperately needs.

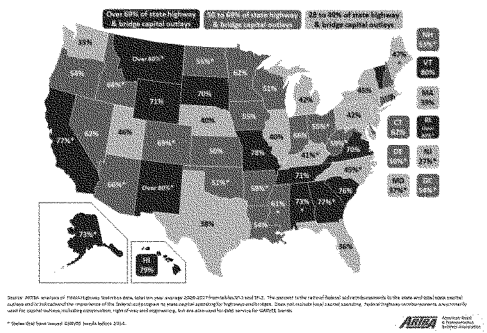
With over three decades in the business, I can say with confidence transportation construction is an industry of problem solvers. Today, our nation faces extraordinary challenges, and I know the problem solvers who design, build and supply our roads, bridges and transit systems are eager to help reopen, renew and revitalize the economy.

New Dashboard: 50-State Guide to Benefits of Federal Highway Investment

Since the 1956 Federal-Aid Highway Act, surface transportation investment has supported the construction of the Interstate Highway System and the other major highways and bridges that are the foundation of our modern economy. In fact, as the figure below in Exhibit 1 demonstrates, most states rely on federal funds to support the majority of highway and bridge capital outlays.

With 16 states relying on federal funds for 69 percent or more of the annual highway construction spending and another 20 states where federal resources constitute between 50 and 69 percent of their highway capital expenditures, the importance of federal highway investment to the nation is irrefutable.

Exhibit 1: Federal funds, on average, provide 51% of annual State DOT capital outlays for highway & bridge projects



Many Americans, however, do not fully understand how important federal highway and bridge investment is to their communities and how, specifically, they routinely benefit from this program. One of the key attributes of 2009's American Recovery & Reinvestment Act (ARRA), commonly known as the "stimulus," was the requirement that the U.S. Department of Transportation (DOT) and states report, in real time, on the capital improvements and projects being supported by its highway funds.

This transparency was not permanent, and unfortunately, we still do not have easy access to detailed project data. Similarly, nearly every state transportation revenue or funding campaign over the last decade has been centered on the outcomes and projects that would be delivered. By contrast, the deliverables for the vast majority of federal highway investment exist only in apportionment and obligation tables. To rectify this situation, ARTBA created a searchable, customized dashboard of federal-aid projects dating back to 1950.

Through a Freedom of Information Act request, ARTBA received a download of FHWA's Fiscal Management Information System–the database used to track information on federal-aid projects.

American Road
& Transportation
Builders Association

The ARTBA Highway Dashboard features the major projects that moved forward and received approval from FHWA in each state for Fiscal Year 2018, the most recent available data.

Exhibit 2: Overview of ARTBA Highway Dashboard

Source: ARTBA Federal Investment in State Highway Benefits Dashboard

Rather than concentrate on distribution formulas and grant announcements, the portal is focused on the outcome of the program–the actual projects and improvements supported by federal investment.

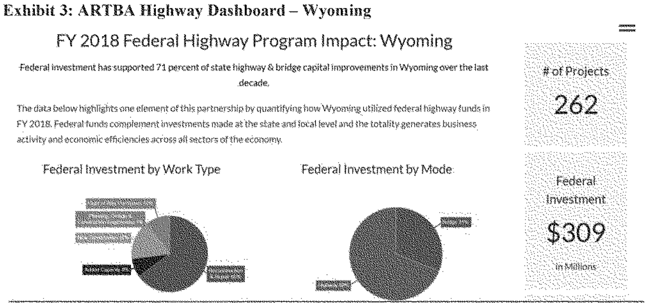
The new ARTBA analysis and reporting of the data clearly demonstrates how states are leveraging their federal resources to deliver valuable economic and quality of life enhancements for your constituents. Specifically, the dashboard highlights the 10 largest projects that received federal aid, the breakdown of federal funds by spending category and the total number of projects supported in each of those areas.

For example, Wyoming in FY 2018 used $300 million in federal funds to support over 260 projects, as seen in Exhibit 3. This included work on I-80 and I-90. Most of the work–65 percent–was for major highway repair and reconstruction. Over half the value of the work–8 percent–included projects on the National Highway System, which includes the Interstates.

Over the last decade federal investment has accounted for an average of 71 percent of state highway and bridge capital improvements in Wyoming, including construction work, planning and design work and right of way purchases.

American Road
& Transportation
Builders Association

Exhibit 3: ARTBA Highway Dashboard – Wyoming



Source: ARTBA Federal Investment in State Highway Benefits Dashboard

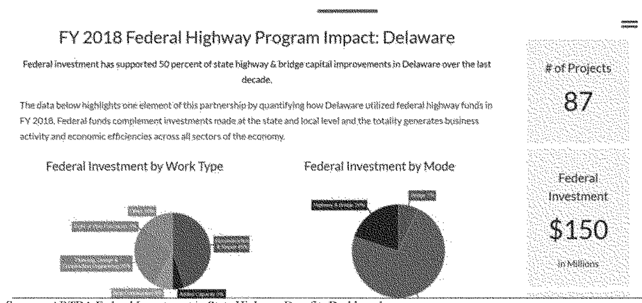
Federal investment is also important to state highway and bridge construction in Delaware, as outlined in Exhibit 4. On average, federal funds account for 50 percent of the state's highway and bridge capital outlays.

The construction of the approaches to the Christina River Bridge is a major congestion-relief project in Delaware that will use $23.4 million in federal funds. This project is listed on the ARTBA Highway Dashboard as one of the major initiatives that moved forward in FY 2018.

Of the $269 million in highway and bridge construction projects that received federal funds, 45 percent will be invested on major repair and reconstruction work. Nearly half of the work is on the National Highway System.

American Road & Transportation Builders Association

Exhibit 4: ARTBA Highway Dashboard – Delaware



Source: ARTBA Federal Investment in State Highway Benefits Dashboard

The ARTBA Highway Dashboard provides access to the details about federal-aid projects that provide jobs, enhance business activity, and will improve the quality of life for citizens in every state. And for the first time, the public can navigate this information to understand the positive impact of the federal-aid highway program.

The application of the dashboard and its information to today's hearing and the future of the ATIA is clear. If states were able to deliver the type of meaningful outcomes shown on the ARTBA Highway Dashboard in 2018, imagine what they could accomplish with the type of investment increases proposed by the ATIA. This new tool will help policymakers and transportation advocates not only demonstrate the real-world impact of federal highway investment, but also illustrate what could be achievable with additional resources.

ATIA: A Solution in the Era of COVID-19

The COVID-19 related economic decline that began in March presents a generational challenge. But with that hardship comes a chance to chart a new course and create an economic resurgence with infrastructure at its core.

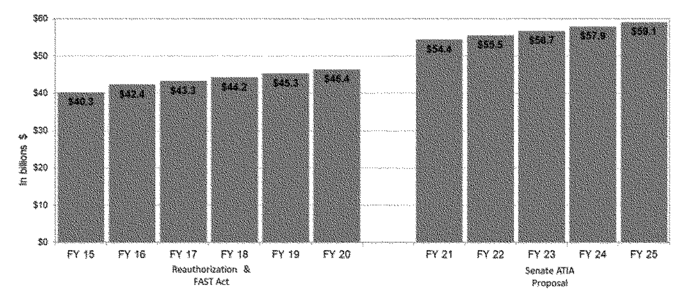
There are few public sector actions that can deliver the same level of short- and long-term economic benefits as transportation infrastructure investment. Increased construction activity provides immediate job creation and retention, while putting in place capital assets that support supply chain improvements and enable access to jobs, services, materials and markets for decades.

The Environment & Public Works (EPW) Committee has already taken action to facilitate such two-pronged economic growth with the July 2019 passage of S. 2302, the ATIA. As a result, this committee defied past practices and current perceptions by approving a multi-year reauthorization proposal 14 months in advance of a deadline and with unanimous bipartisan support. It is time for the other committees of jurisdiction and the full Senate to build on the work you started.

ATIA would enable meaningful enhancement to the nation's highway and bridge infrastructure network for the first time in nearly 15 years by increasing investment levels by 27 percent over its five-year duration, as shown in Exhibit 5. To put this growth in context, the figure below illustrates ATIA's annual investment levels and how they would compare to the previous five years of federal highway investment.

Nearly $250 billion of ATIA's $287 billion would be distributed directly to states using apportionment formulas from the 2015 *Fixing America's Surface Transportation (FAST)* Act surface transportation law. By utilizing established programs with known parameters like the Surface Transportation Block Grant program and the National Highway Freight Program, the Federal Highway Administration (FHWA) and state departments of transportation can ensure smooth and prompt implementation, fueling investment in capital improvement projects and expansion.

Exhibit 5: Federal Highway Program Obligation Limitation Under FAST Act and Senate ATIA Proposal



Source: FHWA final notices for annual highway program obligations.

In addition to its investment levels, ATIA included policy reforms built on the experience of the last five years to maximize the impact of federal resources to create a 21st century infrastructure system. Enhanced project delivery reforms, such as codification of President Trump's Executive Order on "One Federal Decision," would reduce costs brought on by unexpected delays. By elevating the priority of the National Highway Freight Network, ATIA would support and

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improve goods movements. Improvements made to innovative financing programs, like streamlining and enhancing predictability in the application process, would attract new private capital.

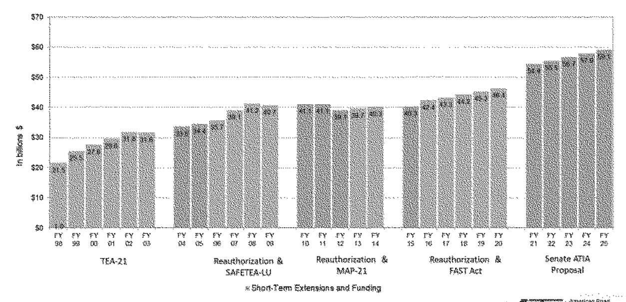
The combination of historic investment levels with consensus policy reforms offer an opportunity to fuel economic growth and enhance the quality of life for all Americans for decades.

ATIA on an Unparalleled Path for Success

Few issues on Capitol Hill receive the consistent, sustained bipartisan support as infrastructure investment legislation. Bipartisanship has also been a frequent infrastructure talking point since the 2016 elections that deserves a further look under the lens of what could be achievable in the current political climate.

Exhibit 6 shows a comparison of the EPW-committee passed ATIA with the investment trajectory growths of previous highway program reauthorizations to reinforce the unprecedented opportunity it represents to spark the type of infrastructure renewal members of both parties and President Trump have routinely requested.

Exhibit 6: Federal Highway Program Obligation Limitation



Source: FHWA final notices for annual highway program obligations.

From a historical standpoint, prior surface transportation reauthorization bills demonstrate that broad-based support exists, regardless of which party is in control of the White House or the House or Senate. Each were passed by the Senate with lopsided vote tallies:

- 2005: *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users:* Roll Call 91-4

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- 2012: *Moving Ahead for Progress in the 21st Century:* Roll Call 74-19
- 2015: *Fixing America's Surface Transportation Act:* Roll Call 83-16

The FAST Act is particularly instructive. It offered modest policy changes, as the reforms of the previous reauthorization measure were being implemented. Furthermore, its investment levels essentially preserved purchasing power. The measure garnered the support of 83 Senators.

Of the 83 Senators who supported the FAST Act, **66** are still serving in the 116th Congress.

It is also noteworthy that while multiple temporary program extensions have been the norm during the last three reauthorization cycles, the legislative lifespan of ATIA ends this year because a new Congress will convene in January 2021. This means there are two very explicit consequences of failing to enact this legislation in 2020: more uncertainty in the current environment; and sidelining the most robust reauthorization proposal in two decades.

If ATIA is not enacted this year, it could be resuscitated in the next Congress, but it might not be. Frankly, Mr. Chairman, this is not a risk we are prepared to take.

Any delay or inaction would not just waste an opportunity but would fuel further economic uncertainty when the nation cannot afford it. ATIA would provide substantial stability and resources at a time when state transportation budgets are already facing significant challenges due to reduced user fee revenues resulting from COVID-19 stay at home orders.

ATIA Immediate Economic Impact

There are two compelling reasons why elected officials from both parties and virtually every economic sector have been calling for increased federal infrastructure investment for the past four years: overwhelming need and unparalleled effectiveness. In addition to creating jobs and generating tax revenues throughout the economy during the construction cycle, infrastructure improvements foster and facilitate continued growth for decades to come.

In 2019, public highway and bridge construction activity and related capital outlays alone generated nearly $400 billion in economic activity across all sectors of the economy, and 2.8 million jobs were supported or created–with many of them outside of the construction industry. How does this ripple effect work? Highway, street, and bridge contractors purchase inputs, such as materials, from other businesses as they complete work on projects. These suppliers then purchase items from other firms, creating an indirect effect.

The employees of the construction firms and supplier industries spend their earnings by purchasing clothing, food and other goods and services, thereby creating induced demand in other sectors of the economy. As jobs are created or sustained, employees receive additional income, spend more, and businesses increase sales. Subsequently, taxes grow due to larger payroll and sales volumes, providing state and local municipalities with additional revenues to reinvest.

The benefits of direct construction expenditures are undeniable and compelling in their own right, but are far outweighed by the long-term economic efficiencies that result throughout the economy from upgraded highway and bridge infrastructure facilities. As repairs and upgrades are made to the highway, street, and bridge networks overseen by these public agencies, drivers, businesses, shippers and transit riders will save time and money.

These user benefits are a result of decreased congestion, less money spent on vehicle repairs, safer roads, and an improved infrastructure network. Economic studies suggest that a conservative estimate of economic return for major transportation capital investments are $4 in benefits for every $1 spent.[1]

This return can be even greater for individual projects of regional significance. A study commissioned by the U.S. Treasury Department found that for every $1 in capital spent on select projects, the net economic benefit ranged between $3.50 and $7.00.[2] Released in December 2016, "40 Proposed U.S. Transportation and Water Infrastructure Projects of Major Economic Significance" also explores some of the challenges of completing the work. The report found that a lack of public funding was "by far the most common factor hindering the completion" of the projects.

The importance of a robust transportation network has been well documented by business analysts, economists and the research community.[3] Overall estimates are that every $1 increase in the highway, street and bridge capital stock generates a total of 30 cents in business savings.[4]

Some of these specific benefits include staying competitive, increasing access to a larger labor pool, greater market share and access to more customers. By saving on travel times and with lower operating costs, businesses have additional capital to expand and reinvest. Businesses are more efficient, and regions with a strong infrastructure network will see the potential for like companies to locate near each other and form agglomeration economies.

But that is only a small part of the picture. Without the infrastructure built, maintained and managed by the nation's transportation construction industry, virtually all of the major industry sectors that comprise the U.S. economy—and the American jobs they sustain—would not exist or could not efficiently and profitably function.

More than 63 million American jobs in tourism, manufacturing, transportation and warehousing, agriculture and forestry, general construction, mining, retailing and wholesaling are dependent on the work done by the U.S. transportation construction industry.

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[1] R. Shapiro and K. Hassett, "Healthy Returns: The Economic Impact of Public Investment in Surface Transportation," 2005.

[2] Report available at https://www.treasury.gov/connect/blog/Pages/Importance-of-Infrastructure-Investment-for-Spurring-Growth-.aspx as of February 2017.

[3] Glen Weisbrod, Don Very, & George Treyz, "Measuring Economic Costs of Urban Traffic Congestion to Business."

[4] Nadiri, M. Ishaq and Theofanis P. Mamuneas, "Contribution of Highway Capital to Output and Productivity Growth in the U.S. Economy and Industries," Federal Highway Administration, 1998.

As these sectors begin to recover from the job losses or slowdowns caused by the pandemic, lower transportation costs and an improved infrastructure network will help that process.

ATIA Long-Term Economy-Wide Impacts

ATIA investment would be focused on the major highways and bridges that are the core of the U.S. economy. The Interstate and National Highway System are critical for the movement of freight across the country. According to FHWA's Freight Analysis Framework, truck shipments account for 73 percent of the value of domestic freight.

In FY 2018, according to the ARTBA Highway Dashboard, state governments invested nearly two-thirds of their federal dollars in projects on the Interstate or National Highway System. Nearly half of the projects–45 percent–were for repair or reconstruction work. An additional 22 percent of funds were used for adding capacity, such as a new lane or major widening, to an existing roadway. Just four percent of funds were invested in new roads or bridges.

FHWA estimates the number of National Highway System miles carrying large volumes and high percentages of trucks is projected to more than double by 2045. Currently there are 6,229 miles on the National Highway System that carry over 8,500 trucks per day and at least every fourth vehicle is a truck. This is expected to increase 104 percent to 12,729 in 2045.

According to INRIX's 2019 Global Traffic Scorecard, traffic congestion cost Americans $88 billion. It is important to understand, however, the true costs of wasted time and fuel are borne by the entities that utilize highway freight as a critical component of their daily operations.

While it is intuitive that freight bottlenecks and other inefficiencies impact all sectors of the economy, the Bureau of Transportation Statistics (BTS) *"Industry Snapshots: Uses of Transportation 2017"* report quantifies the importance of highway freight throughout the economy. According to BTS, the wholesale and retail trade sector is the U.S. economy's largest user of transportation services and goods movement on the nation's highways accounts for 58 percent of its transportation expenditures. The second largest transportation user is the services sector and highway shipments represent 44.4 percent of its total transportation costs. Manufacturing is the third largest user of transportation services and the sector utilizes highways for 65 percent of its transportation needs.

The 27 percent increase in federal investment under ATIA would provide states with needed resources to make improvements to these important roads that connect the U.S. economy. The range of direct and indirect economic benefits these resources could stimulate underscores the scope of opportunities before the Senate and should be a clarion call to all for immediate action.

Confronting the Immediate Challenge

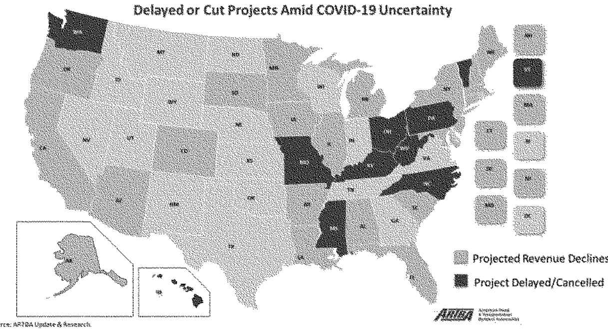
We have focused on the importance of long-term transportation investment and danger of continued underinvestment. However, state transportation programs and the transportation construction industry also face daunting, short-term challenges.

While many projects continue, state and local governments and transportation authorities are beginning to feel the strain of declining revenues related to user fees and the overall slowdown in economic activity.

They have begun to provide more detailed information about expected declines in transportation revenue and changes to current transportation construction programs and lettings as the COVID-19 pandemic continues.

- Currently, 10 states have announced project delays or cancellations valued at nearly $4.02 billion. These include Hawaii, Kentucky, Mississippi, Missouri, North Carolina, Ohio, Pennsylvania, Vermont, Washington and West Virginia.
- There are 15 local governments that have announced project delays or cancellations of $1.02 billion.
- Ten states or local areas have vetoed, canceled, or postponed legislative initiatives or ballot measures related to transportation funding because of the pandemic. This includes several major initiatives in California self-help counties.
- In at least 32 states, detailed in Exhibit 7, transportation authorities and local governments have publicly projected declining revenues. This does not mean that transportation programs will be cut by the same amount but points to growing pressure on transportation-related revenue sources and state and local budgets.

Exhibit 7. States That Have Reported Revenue Declines or Have Delayed or Cut Projects Amid COVID-19 Uncertainty



Source: ARTBA Update & Research.

Because of these immediate and serious challenges, ARTBA has joined numerous groups in urging Congress to provide state departments of transportation (DOTs) with at least $49.95 billion in federal funding. This will ensure improvements to the nation's transportation infrastructure move forward and mitigate potential job losses in the transportation construction industry. This injection of federal investment should be complemented with a bipartisan, robust reauthorization of the federal surface transportation programs.

American Road & Transportation Builders Association

The Time Is Now

Mr. Chairman, members of the Committee, when you approved ATIA last July it was in many respects the most robust and solution-focused highway reauthorization proposal in decades. Since that time, the world has changed but the nation's need for a reliable and safe highway infrastructure network has not.

Your proposal's substance, viability and political attribute were always worthy of broad-based support. Now, it represents a path forward for economic recovery and growth at a desperate time in our nation's history.

I fully recognize the headwinds all major legislation faces in the current climate, but there are also severe consequences of failing to act. State and local highway spending peaked shortly before the Great Recession. With no long-term surface transportation reauthorization in place and other economic challenges, it took eight years–until 2015–for highway and bridge activity to return to pre-recession levels.

That is certainly not a history any of us should want to repeat.

As with any infrastructure initiative, there will always be those who focus on a proposal's cost over its benefits and "pay-fors" over outcomes. The question we must answer is not if we can afford a robust, five-year highway program reauthorization, but rather if we can afford to not have such an action.

Thank you again for inviting me to appear today and I look forward to your questions.

ALABAMA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 73 percent of state highway & bridge capital improvements in Alabama over the last decade.

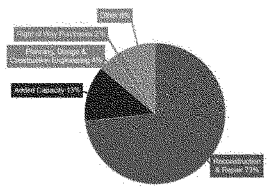
The data below highlights one element of this partnership by quantifying how Alabama utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
367

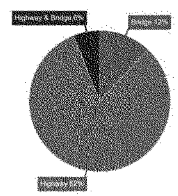
Federal Investment
$731.4
in millions

Total Project Cost
$902.6
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 14 projects valued at $26.3 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
I-65 ADD LANES FROM SR-3 (US-31) TO CR-52 (8-LN)(PHASE 2)	Shelby County	$71.8	$88.9
PAVEMENT REHABILITATION ON I-459 FROM SOUTH OF CR-52 AT MCCALLA TO NORTH OF SR-150	Jefferson County	$20.5	$22.8
SR-8 (US-80) REPLACE BRG BIN 002783 AND RELIEF BRG BINS 002781 002782, OVER LITTLE UCHEE CREEK (SUFF=42.8, STAT=FO, 2001 HBRRP LIST)	Russell County	$18.1	$22.7
SR-158 EXTENSION FROM EAST OF LOTT ROAD (SR-217) TO SCHILLINGER ROAD GRADE, DRAIN, BASE, PAVE AND BRIDGE	Mobile County	$17.9	$22.4
I-85 PAVEMENT PRESERVATION/PREVENTIVE MAINTENANCE FROM SR-8 (US-80, EAST BYPASS EXIT 6) TO SR-8 (US-80, MITYLENE EXIT 11)	Montgomery County	$14.7	$16.3

I-459 PAVEMENT REHAB, GUARDRAIL AND SIGN UPGRADES FROM I-59/I-459 INTERCHANGE TO GREENWOOD DRIVE OVERPASS	Jefferson County	$13.7	$15.3
-565, INTERCHANGE IMPROVEMENTS @ CR115 (GREENBRIER RD)	Limestone County	$13.4	$14.9
ADD LANES ON CR-43 (SPRING AV.) FROM DAY RD TO CEDAR LAKE RD SOUTH OF SR-67 WOF SR-3, PROJECT SPONSOR CITY OF DECATUR	Morgan County	$13.3	$16.6
RESURFACING I-59 FROM NORTH OF EXIT 8 (MP 9.020) TO SOUTH OF MCCAINVILLE ROAD (MP 19.590)	Sumter County	$12.9	$14.4
WIDENING AND REALIGNMENT OF CHURCH ST. (PHASE I) FROM MONROE ST. TO E. OF PRATT AVE. AND REALIGNMENT OF PRATT AVE. INCLUDING BRIDGE REPLACEMENTS OVER	Madison County	$12.4	$15.6

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	252	$538.0	$666.0
Added Capacity	4	$93.0	$113.0
New Construction	1	$0.2	$0.2
Planning, Design & Construction Engineering	114	$28.0	$34.0
Right of Way Purchases	23	$12.0	$15.0
Planning, Environmental, Research & Administration	16	$3.0	$3.5
Debt Service	0	$0.0	$0.0
Utilities	29	$13.0	$16.0
Inspection	2	$0.5	$0.6
Bike/Pedestrian Facilities	36	$14.0	$18.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	58	$29.0	$37.0
Total	535	$731.0	$903.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

ALASKA

ARTBA American Road & Transportation Builders Association

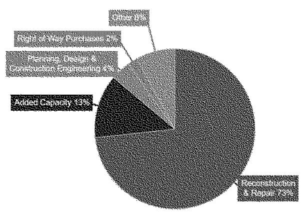
FY 2018 Federal Highway Program Impacts

# of Projects	168
Federal Investment	$386.9 in millions
Total Project Cost	$557.7 in millions

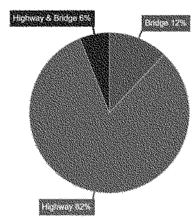
Federal investment has supported 73 percent of state highway & bridge capital improvements in Alaska over the last decade.

The data below highlights one element of this partnership by quantifying how Alaska utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 7 projects valued at $2.5 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
SEWARD HWY: MP 75-90 INGRAM CR GIRDWOOD RD&BR REHAB (PH I)	Anchorage Municipality	$35.6	$84.7
KENAI SPUR HWY REHABILITATION PHASE I (GO)	Kenai Peninsula Borough	$19.0	$21.0
ELLIOTT HWY MP 0-12 REHABILITATION	Fairbanks North Star	$18.1	$31.5
KIVALINA EVACUATION AND SCHOOL SITE ACCESS ROAD - KIVALINA LAGOON TO KISIMIGIUQTUQ HILL	Northwest Arctic Borough	$16.8	$18.8
UNIVERSITY AVE REHAB - GEIST ROAD & JOHANSEN EXPRESSWAY	Fairbanks North Star	$14.2	$15.7
CHINIAK HWY EROSION RESPONSE	Kodiak Island Borough	$13.9	$15.4

Alaska Highway MP 1309 Tok River Bridge Replacement	Southeast Fairbanks Census Area	$12.6	$13.5
JNU: EGAN DRIVE RESURFACING - MAIN STREET TO 10TH STREET	Juneau City And Borough	$12.6	$13.8
KTN N. Tongass Bridge Improvements - Waterfall Creeks	Ketchikan Gateway Borough	$11.7	$12.8
MAT-SU AREA ROADS PAVEMENT PRESERVATION (GROUP C)	Matanuska-Susitna Borough	$10.8	$11.9

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	85	$224.0	$300.0
Added Capacity	8	$16.0	$59.0
New Construction	3	$15.0	$19.0
Planning, Design & Construction Engineering	114	$82.0	$104.0
Right of Way Purchases	12	$3.3	$3.9
Planning, Environmental, Research & Administration	23	$13.0	$15.0
Debt Service	0	$0.0	$0.0
Utilities	33	$18.0	$37.0
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	36	$11.0	$12.0
Safety (Non-Construction)	1	$0.1	$0.2
Other	38	$5.1	$7.8
Total	353	$387.0	$558.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

SOUTH DAKOTA

American Road & Transportation Builders Association

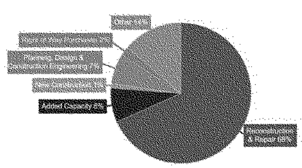
FY 2018 Federal Highway Program Impacts

# of Projects 204
Federal Investment $282.4 in millions
Total Project Cost $395.0 in millions

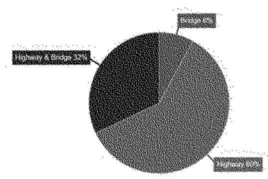
Federal investment has supported 70 percent of state highway & bridge capital improvements in South Dakota over the last decade.

The data below highlights one element of this partnership by quantifying how South Dakota utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 18 projects valued at $22.3 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Hutchinson and Turner Counties; Grading, Structures and Surfacing; On the following routes: 018	Turner County	$14.8	$20.6
County of Todd; Shoulder Widening, Spot Grading and Surfacing, On the following routes: 083	Todd County	$13.1	$13.9
County of Deuel; Mill and PCCP Overlay, Pipe Work; Replace Structure (RCBC) and Approach Grading; On the following routes: 212	Deuel County	$11.8	$14.5
Lyman County; AC Resurfacing, Structure Rehabilitation; On the following routes: 090 E, 090	Lyman County	$11.0	$14.0
County of Minnehaha; Rest Area and Port of Entry Reconstruction,	Minnehaha County	$8.5	$10.8

SOUTH DAKOTA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Butte and Harding Counties; Mill and AC Resurfacing, Culvert Repairs; On the following routes: 085	Butte County	$7.1	$8.9
Lincoln and Turner Counties; Shoulder Widening, Structure Rehab; On the following routes: 018	Turner County	$6.9	$9.6
Tripp and Gregory Counties; Full Depth Reclaimation, AC Resurfacing, Pipe Work; On the following routes: 044	Tripp County	$6.9	$10.1
Statewide; Work Program Funding FY 2019	Statewide	$6.2	$8.2
County of Bon Homme; Shoulder Widening, Culvert Extensions, Pipe Work, Replace Str (RCBC); On the following routes: 037	Bon Homme County	$5.7	$10.3

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	172	$213.0	$271.0
Added Capacity	9	$15.0	$30.0
New Construction	4	$1.7	$2.1
Planning, Design & Construction Engineering	208	$13.0	$29.0
Right of Way Purchases	44	$0.0	$6.3
Planning, Environmental, Research & Administration	31	$12.0	$16.0
Debt Service	0	$0.0	$0.0
Utilities	12	$0.3	$6.3
Inspection	3	$2.7	$3.3
Bike/Pedestrian Facilities	9	$3.1	$4.9
Safety (Non-Construction)	1	$0.0	$0.0
Other	87	$21.0	$25.0
Total	**580**	**$282.0**	**$395.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

DELAWARE

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 50 percent of state highway & bridge capital improvements in Delaware over the last decade.

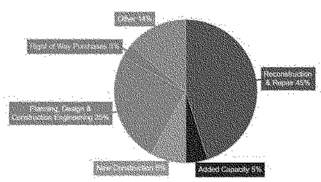
The data below highlights one element of this partnership by quantifying how Delaware utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
87

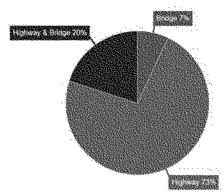
Federal Investment
$150.1
in millions

Total Project Cost
$268.9
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Christina River Bridge Approaches	New Castle County	$23.4	$49.6
HSIP NCC, I-95, N213 Carr Road & N3, Marsh Road Interchange Improvements	New Castle County	$10.5	$15.0
Road A / SR7 Improvements	New Castle County	$10.5	$12.9
HSIP SC, US 9 and SR 5 Intersection	Sussex County	$7.5	$9.6
BR 3-154 on US9 Savannah Road and BR 3-153 on SR1A Rehoboth Avenue over Lewes-Rehoboth Canal	Sussex County	$6.0	$14.3
Main Street Newark Rehabilitation and Pedestrian Improvements	New Castle County	$5.8	$16.7
Pavement & Rehabilitation, Sussex II, (US 113, Dupont Blvd - Georgetown) 2018	Sussex County	$5.4	$6.8

DELAWARE

SR 72, Advanced Utility Relocation from McCoy Road to SR71	New Castle County	$4.7	$5.9
BR 1-501 on SR141 Newport Viaduct over Christina River, Foundation Repairs	New Castle County	$4.6	$5.7
BR 1-577 on N050 Northeast Boulevard over Brandywine River	New Castle County	$3.7	$4.4

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	37	$60.0	$122.0
Added Capacity	4	$11.0	$13.0
New Construction	1	$9.8	$21.0
Planning, Design & Construction Engineering	115	$43.0	$66.0
Right of Way Purchases	23	$7.4	$8.4
Planning, Environmental, Research & Administration	24	$4.1	$5.9
Debt Service	0	$0.0	$0.0
Utilities	15	$4.1	$5.4
Inspection	1	$2.3	$3.1
Bike/Pedestrian Facilities	6	$2.9	$4.7
Safety (Non-Construction)	0	$0.0	$0.0
Other	25	$6.3	$19.0
Total	**251**	**$150.0**	**$269.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

ILLINOIS

American Road & Transportation Builders Association

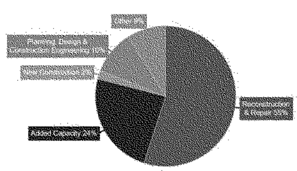
FY 2018 Federal Highway Program Impacts

# of Projects	Federal Investment	Total Project Cost
785	$1,279.2 in millions	$1,636.4 in millions

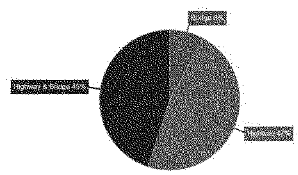
Federal investment has supported 40 percent of state highway & bridge capital improvements in Illinois over the last decade.

The data below highlights one element of this partnership by quantifying how Illinois utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 107 projects valued at $238.7 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Bridge replacement/rehabilitation, reconstruction, retaining walls at various locations on I-90/94 from SB taylor exit ramp to EB Taylo exit ramp.	Cook County	$70.3	$78.2
Interchange reconstruction and bridge replacement on I-80 at US 30 in the Village of New Lenox.	Will County	$48.7	$54.2
Roadway reconstruction and bridge repairs on I-55 from 1.7 miles S of IL 116 to 0.6 mile N of IL 23 in Pontiac.	Livingston County	$40.6	$45.1
1.55 miles interchange reconstruction & additional lanes I-55 at Weber Road and 1.6 M recon Weber Road from Normantown Rd to Rodeo Dr.	Will County	$39.5	$53.7

Widening, resurfacing, lighting, and retaining walls on I-90 fron Cumberland Ave to Harlem Ave in Chicago.	Cook County	$37.1	$44.9
Widening, reconstruction, bridge replacement, and retaining walls on I-290/Congress Pkwy (Jane Byrne Intchg(EB ramp to I-90/94 (NB).	Cook County	$37.0	$41.3
Roadway reconstruction and bridge preservation on I-74 from W of the Tazewell County line to e of the Carlock Interchange.	Mclean County	$35.4	$39.4
Resurfacing and bridge rehabilitation on I-70 from W of Sugar Loaf Rd to the BNSF railroad.	Bond County	$28.6	$31.8
Bridge replacement, Bridge rehabilitations, Retaining walls, and lighting on The MLK ramps in East St. Louis.	St. Clair County	$23.9	$26.8
RECONSTRUCTION	Mchenry County	$23.2	$43.0

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	554	$711.0	$892.0
Added Capacity	115	$317.0	$400.0
New Construction	2	$9.9	$34.0
Planning, Design & Construction Engineering	547	$129.0	$157.0
Right of Way Purchases	6	$1.2	$1.4
Planning, Environmental, Research & Administration	96	$51.0	$64.0
Debt Service	0	$0.0	$0.0
Utilities	25	$1.0	$13.0
Inspection	1	$0.0	$0.0
Bike/Pedestrian Facilities	33	$16.0	$22.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	193	$43.0	$54.0
Total	1,572	$1,279.0	$1,636.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

INDIANA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 66 percent of state highway & bridge capital improvements in Indiana over the last decade.

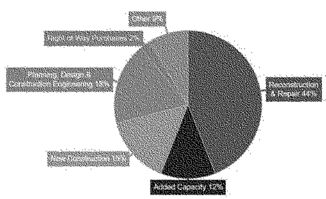
The data below highlights one element of this partnership by quantifying how Indiana utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
2,135

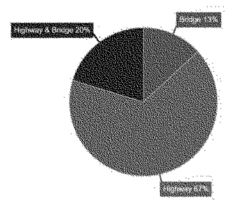
Federal Investment
$1,128.6
in millions

Total Project Cost
$1,914.7
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 94 projects valued at $59.3 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
PR69, New Road Construction, From S of Bloomington via SR37 corridor to SR39, Monroe County, PLC-37991	Monroe County	$197.1	$251.3
PR69, New Road Construction, From S of Bloomington via SR37 corridor to SR39, Monroe County, PLC-37991	Morgan County	$36.5	$46.9
I65, Added Travel Lanes, From US 50 to SR 58, Bartholomew County, SR-28940	Bartholomew County	$30.9	$82.5
I65, Added Travel Lanes, From US 50 to SR 58, Bartholomew County, SR-28940	Jackson County	$26.4	$70.3

INDIANA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

I69, Added Travel Lanes, From 0.8 miles N of SR 38 to 0.5 miles N of SR 9/SR 109, Madison County, R-39093	Madison County	$15.5	$52.1
SR256, Road Reconstruction (3R/4R Standards), From .50 E of US 31 to 1200 feet E of SR 203, Scott County, R-40020	Scott County	$13.7	$20.5
SR37, Small Structure - New, Drainage pipe installation along 146th near SR 37, Hamilton County, B-39873	Hamilton County	$13.5	$13.5
I65, HMA Overlay, Preventive Maintenance, From 0.31 mi N of I-865 to 1.66 mi S of SR 39 (pvmt transition from HMA to PCCP), Boone County, RS-38664	Boone County	$11.4	$12.6
PR69, New Road Construction, Martinsville Segment, from S of Indian Creek via SR 37 to 1 mi N of SR44, Morgan County, R-33493	Morgan County	$10.2	$16.2
ST1034, Road Reconstruction (3R/4R Standards), Klondike Road (CR 300W) from Lindberg Rd.(CR 200N) to US 52 in Tippecanoe Co., Tippecanoe County, R-352	Tippecanoe County	$9.9	$12.8

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	843	$431.0	$835.0
Added Capacity	31	$83.0	$235.0
New Construction	28	$221.0	$286.0
Planning, Design & Construction Engineering	3,057	$253.0	$352.0
Right of Way Purchases	309	$29.0	$40.0
Planning, Environmental, Research & Administration	85	$26.0	$32.0
Debt Service	0	$0.0	$0.0
Utilities	43	$9.2	$17.0
Inspection	65	$15.0	$19.0
Bike/Pedestrian Facilities	44	$19.0	$30.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	146	$43.0	$68.0
Total	**4,651**	**$1,129.0**	**$1,915.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

IOWA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 55 percent of state highway & bridge capital improvements in Iowa over the last decade.

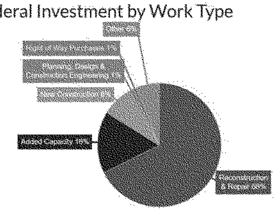
The data below highlights one element of this partnership by quantifying how Iowa utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
310

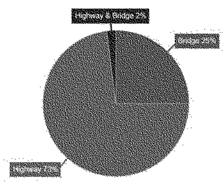
Federal Investment
$336.5
in millions

Total Project Cost
$533.4
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 92 projects valued at $254.8 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Black Hawk County, IA 58/Viking Road Interchange - PCC Pavement, Grade and Replace	Black Hawk County	$14.3	$24.2
Des Moines County, US 61, Memorial Park Rd in Burlington to S of 210th St - Grading	Des Moines County	$14.2	$17.7
Benton County, US 218 Interchange - PCC Pavement, Grade and New	Benton County	$13.3	$16.7
Scott County 1.1 mile E of Co Rd Y40 to Co Rd Z30 (EB) - HMA Resurfacing	Scott County	$10.9	$12.1
I 35, Decatur County, From S of the Decatur Co Rest Area to IA 2 (NBL) - PCC, Grade and Replace	Decatur County	$10.9	$12.1

Bridges To Opportunity; Court Ave & Scott Ave. over Des Moines River & SW 1st St. over Raccoon River in Polk County & Des Moines - Bridge Rehab.	Polk County	$10.5	$19.5
IA100, Linn County, in Cedar Rapids from US 30 to Covington Road (Co Rd W 36) - HMA Pavement New	Linn County	$9.8	$12.9
I 29, Woodbury County, in the city of Sioux City Downtown Median & SBL - PCC Pavement, Grade and new	Woodbury County	$8.8	$30.9
Story County, I 35, S Skunk River, 2.6 mi S of US 30 (NBL) - PCC Pavement, Grade and Replace	Story County	$6.7	$7.7
Along IA 100 E of Northland Ave NE to East of Twixt Town Rd. NE & Lindale Dr. to approx. 800' N in the city of Cedar Rapids - ROW/PCC Pavement	Linn County	$6.6	$10.7

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	212	$228.0	$359.0
Added Capacity	27	$55.0	$87.0
New Construction	9	$31.0	$43.0
Planning, Design & Construction Engineering	60	$5.8	$7.4
Right of Way Purchases	12	$3.1	$4.9
Planning, Environmental, Research & Administration	12	$2.8	$8.3
Debt Service	0	$0.0	$0.0
Utilities	1	$0.4	$0.5
Inspection	2	$0.1	$0.1
Bike/Pedestrian Facilities	36	$8.8	$21.0
Safety (Non-Construction)	1	$0.2	$0.2
Other	9	$1.3	$1.9
Total	**381**	**$336.0**	**$533.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

MARYLAND

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 37 percent of state highway & bridge capital improvements in Maryland over the last decade.

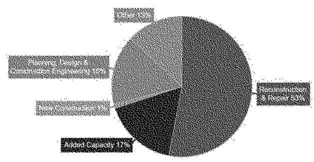
The data below highlights one element of this partnership by quantifying how Maryland utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
132

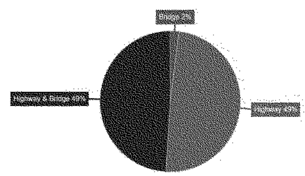
Federal Investment
$202.1
in millions

Total Project Cost
$654.0
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 36 projects valued at $260.7 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
US 219 from I 68 to Old Salisbury Road	Garrett County	$16.3	$58.5
SPR Planning - Part 1 Work Program FY 19	Statewide	$7.0	$22.4
Replacement of Dual Bridge Nos. 1616005 and 1616006 on I-95/I-495 (Capital Beltway) over Suitland Parkway	Prince George'S Count	$6.0	$34.2
Mill/Grind, Patch, and Resurface Roadway Pavements at various locations in Montgomery County	Montgomery County	$5.5	$6.8
US 1 (Washington Boulevard) Bridge No. 0300800 over CSX Railroad	Baltimore County	$5.3	$29.9

US 40 (Pulaski Highway) Dual Steel Beam Br. Nos. 0303503 & 0303504 over Gunpowder Falls & Br. Nos. 0303403 & 0303404 over Little Gunpowder Falls	Baltimore County	$5.0	$27.2
IS 68 (National Freeway) Bridge No. 0109300 over MD 639	Allegany County	$5.0	$7.2
CHART Operations Budget for FY 2019	Statewide	$5.0	$10.4
Replacement of Dual Bridges No. 0306201 and 0306202 on I-83 over Padonia Road and Extension of Box Culvert No. 03392X0 Carrying Branch of Beaver Run	Baltimore County	$4.0	$23.6
Grasonville Cross County Connector Trail	Queen Anne'S County	$3.8	$4.8

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	76	$108.0	$345.0
Added Capacity	7	$23.0	$110.0
New Construction	2	$2.7	$5.6
Planning, Design & Construction Engineering	113	$29.0	$107.0
Right of Way Purchases	1	$0.9	$1.1
Planning, Environmental, Research & Administration	8	$16.0	$41.0
Debt Service	0	$0.0	$0.0
Utilities	9	$0.8	$4.5
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	8	$6.4	$14.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	40	$15.0	$26.0
Total	**264**	**$202.0**	**$654.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

MASSACHUSETTS

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 39 percent of state highway & bridge capital improvements in Massachusetts over the last decade.

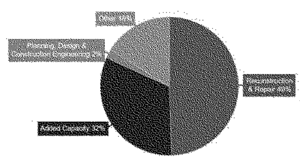
The data below highlights one element of this partnership by quantifying how Massachusetts utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
126

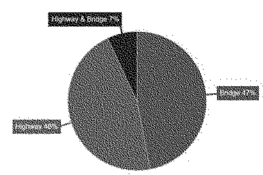
Federal Investment
$487.1
in millions

Total Project Cost
$859.3
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
CHELSEA- ROUTE 1 VIADUCT REHABILITATION (SB/NB) ON C-09-007 & C-09-011	Suffolk County	$57.1	$212.6
Haverhill-Bridge Replacement, H-12-039, I-498(NB & SB) Over Merrimack River	Essex County	$18.7	$110.1
LITTLETON- WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	Middlesex County	$16.2	$18.5
WAREHAM- RECONSTRUCTION OF ROUTE 6 & 28, FROM 500 FT. EAST OF TYLER AVENUE TO RED BROOK ROAD (1.65 MILES)	Plymouth County	$15.9	$21.8
NBIS (ON SYSTEM) PROGRAM FUNDING for FY 2019-2020	Statewide	$15.1	$18.9
Office of Transportation Planning Activities/SPR I - Part A & B - 2019	Statewide	$14.8	$18.5
MARSHFIELD-PEMBROOKE-NORWELL-HANOVER-ROCKLAND-HINGHAM-RESURFACING & RELATED WORK ON ROUTE 3.	Plymouth County	$11.8	$15.1

CAMBRIDGE-ARLINGTON-BELMONT-LEXINGTON-HIGHWAY LIGHTING REPAIR & MAINTENANCE ON ROUTE 2.	Suffolk County	$11.4	$14.3
DARTMOUTH- NEW BEDFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-195	Bristol County	$10.7	$12.1
FRAMINGHAM- NATICK- COCHITUATE RAIL TRAIL CONSTRUCTION INCLUDING PEDESTRIAN BRIDGE, N-03-014, OVER ROUTE 9 & F-07-033=N-03-029 OVER ROUTE 30	Middlesex County	$9.8	$12.4

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	76	$264.0	$420.0
Added Capacity	15	$106.0	$279.0
New Construction	0	$0.0	$0.0
Planning, Design & Construction Engineering	6	$11.0	$20.0
Right of Way Purchases	0	$0.0	$0.0
Planning, Environmental, Research & Administration	19	$31.0	$39.0
Debt Service	0	$0.0	$0.0
Utilities	1	$11.0	$14.0
Inspection	3	$22.0	$28.0
Bike/Pedestrian Facilities	13	$38.0	$55.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	6	$3.9	$4.9
Total	**139**	**$487.0**	**$859.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

MISSISSIPPI

American Road & Transportation Builders Association

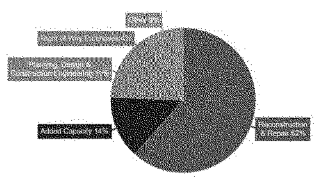
FY 2018 Federal Highway Program Impacts

# of Projects	Federal Investment	Total Project Cost
199	$440.4 in millions	$594.9 in millions

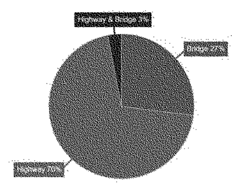
Federal investment has supported 61 percent of state highway & bridge capital improvements in Mississippi over the last decade.

The data below highlights one element of this partnership by quantifying how Mississippi utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 18 projects valued at $40.6 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
I-59 at SR 42 - Interchange - PE [survey, plans & phase B], ROW & Construction - Forrest County	Forrest County	$30.8	$48.0
I-55 from 0.5 miles South of SR 8 to Yalobusha County Line - Mill & Overlay - Grenada County	Grenada County	$15.9	$17.6
I-55 from Bogue Chitto Exit to Bogue Chitto River - Mill & Overlay - Lincoln County	Lincoln County	$14.1	$15.6
SR 15 APD SR 76 to the Union County Line - Paving - Pontotoc County	Pontotoc County	$12.7	$25.9
I-55 Northbound Bridge [#103.1B] over I-220 Ramp - Bridge Widening - PE and Construction - Madison County.	Madison County	$11.8	$14.7

MISSISSIPPI

I-59 from 5.6 miles North of SR 528 to the Clarke County Line - Mill & Overlay - Jasper County	Jasper County	$10.8	$12.0
SR 57 S of the George County Line/Red Creek, Replace Br #20.3 & Box Br 25.5 & 25.9 & Scour Evaluation of Br 25.6 - PE, ROW & Const - Jackson County.	Jackson County	$9.7	$10.0
SR 32 between Webb and Charleston [Bridge #s 48.6, 48.8, 49.1, 49.5, 50.5, 50.8 & 51.5] - Bridge Replacement - Tallahatchie County	Tallahatchie County	$8.7	$16.5
US 72 from the Marshall County Line to the Tippah County Line - Mill & Overlay - Benton County	Benton County	$8.5	$10.7
US 45 from CR 280 to 0.8 miles South of the Lauderdale County Line - Widen & Overlay - Clarke County	Clarke County	$8.3	$10.4

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	128	$274.0	$364.0
Added Capacity	20	$58.0	$85.0
New Construction	1	$0.5	$0.6
Planning, Design & Construction Engineering	178	$52.0	$67.0
Right of Way Purchases	19	$21.0	$23.0
Planning, Environmental, Research & Administration	6	$0.8	$1.0
Debt Service	0	$0.0	$0.0
Utilities	7	$2.1	$2.5
Inspection	11	$14.0	$26.0
Bike/Pedestrian Facilities	21	$12.0	$16.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	9	$7.1	$10.0
Total	400	$440.0	$595.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

NEW JERSEY

American Road & Transportation Builders Association

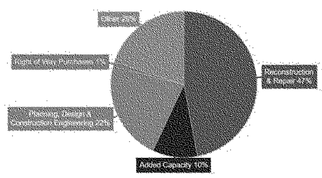
FY 2018 Federal Highway Program Impacts

# of Projects **261**
Federal Investment **$690.5** in millions
Total Project Cost **$704.7** in millions

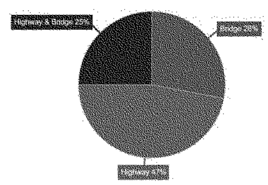
Federal investment has supported 27 percent of state highway & bridge capital improvements in New Jersey over the last decade.

The data below highlights one element of this partnership by quantifying how New Jersey utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Rt. 46, Passaic Ave to Willowbrook Mall, MP 55.01-55.81, Fairfield/Wayne Twp, Passaic/Essex Co. Roadway widening/Bridge Replacement, Construction.	Passaic County	$25.1	$25.1
Rt. 46, Passaic Ave to Willowbrook Mall, MP 55.01-55.81, Fairfield/Wayne Twp, Passaic/Essex Co. Roadway widening/Bridge Replacement, Construction.	Essex County	$24.5	$24.5
Maintenance Bridge Fender Replacement Contract 2017-3, Vinous locations North- Construction	Hudson County	$20.9	$21.0
I-80 WB McBride Ave-Polify Rd mp56.4-65.4, Woodland Park Passaic Co. Thru Hackensack Bergen Co. Widening, overlay & bridge replacement, P. E.	Bergen County	$17.9	$17.9

Route 78 Washington Valley Rd. MP 32.2-42.7 Multi Townships Somerset Co. Pavement Preservation, Construction.	Somerset County	$16.8	$17.0
Rt. 72 East Road MP 21.73-22.54 Stafford Twp., Ocean Co. Construction: median/shoulder widening, barrier and intersection pavements.	Ocean County	$15.4	$15.5
Route 287 CR 533 Main St. to Rt. 78 Ramp MP 12.90-20.60, Bridgewater Twp. Somerset Co. Pavement preservation, Construction.	Somerset County	$15.3	$16.1
Rt. 18 South of Texas Rd. 29.5MP-35.4MP, pavement resurfacing Construction	Middlesex County	$14.3	$14.8
Rt. 49 Sarah Run Dr. to Garrison Ln, MP 18.78-40.12, Multi Townships within Cumberland Co. Resurfacing, Rehabilitation, & upgrade, Construction.	Cumberland County	$13.5	$13.5
FY19 Unified Planning Work Program Central Staff Activities - NJTPA - Other	Essex County	$13.3	$13.3

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	129	$324.0	$330.0
Added Capacity	5	$61.0	$68.0
New Construction	0	$0.0	$0.0
Planning, Design & Construction Engineering	188	$158.0	$158.0
Right of Way Purchases	7	$5.3	$5.3
Planning, Environmental, Research & Administration	39	$35.0	$35.0
Debt Service	0	$0.0	$0.0
Utilities	8	$13.0	$13.0
Inspection	3	$22.0	$22.0
Bike/Pedestrian Facilities	13	$11.0	$11.0
Safety (Non-Construction)	1	$0.3	$0.7
Other	53	$62.0	$63.0
Total	446	$691.0	$705.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

NEW YORK

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 45 percent of state highway & bridge capital improvements in New York over the last decade.

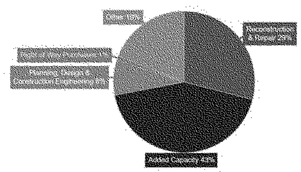
The data below highlights one element of this partnership by quantifying how New York utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
532

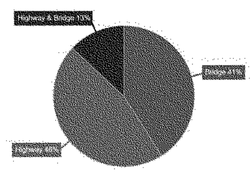
Federal Investment
$816.7
in millions

Total Project Cost
$2,139.0
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 373 projects valued at $703.8 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
ROUTE 17 @ ROUTE 32 (EXIT 131) INTERCHANGE RECONSTRUCTION TOWNS OF MONROE AND WOODBURY ORANGE COUNTY. NY DEMO #583	Orange County	$89.9	$135.3
NY878 OPERATIONAL IMPROVEMENTS	Nassau County	$23.7	$95.0
ARTHUR SHERIDAN ENHANCEMENT (I-895)	Bronx County	$23.6	$63.6
DECK REPLACEMENT OF FIVE BRIDGES ON I-278, KINGS & RICHMOND	Richmond County	$22.0	$64.0
NYMTC: CENTRAL/TCC STAFF PROGRAM FROM 4/1/2018-3/31/2019	New York County	$18.0	$18.0
RT 5S: SAFETY PROJECT, CITY OF UTICA	Oneida County	$15.5	$19.5
NY 112 RECONST I495 TO GRANNY ROAD, TOWN OF BROOKHAVEN, SUFFOLK CO (ACQUISITION)	Suffolk County	$15.2	$16.9
RT 5 (SKYWAY) REHABILITATION	Erie County	$13.2	$33.0

NEW YORK

REHABILITATION OF BRIDGES IN DUTCHESS, ORANGE, AND WESTCHESTER COUNTIES, BINs 1005010, 1014090, 1052361, 5502410, 1005211, and 1005212	Dutchess County	$11.5	$11.5
ER NY2013-01 HURRICANE SANDY PERM REPAIRS, FATHER CAPODANNO BLVD SEAVIEW AVE TO SAND LAKE	Richmond County	$11.1	$19.6

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	292	$334.0	$630.0
Added Capacity	38	$209.0	$911.0
New Construction	2	$0.9	$4.9
Planning, Design & Construction Engineering	410	$92.0	$165.0
Right of Way Purchases	23	$17.0	$20.0
Planning, Environmental, Research & Administration	43	$55.0	$87.0
Debt Service	0	$0.0	$0.0
Utilities	0	$0.0	$0.0
Inspection	22	$30.0	$103.0
Bike/Pedestrian Facilities	37	$42.0	$133.0
Safety (Non-Construction)	2	$1.4	$1.9
Other	57	$36.0	$84.0
Total	**926**	**$817.0**	**$2,139.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

NORTH DAKOTA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 55 percent of state highway & bridge capital improvements in North Dakota over the last decade.

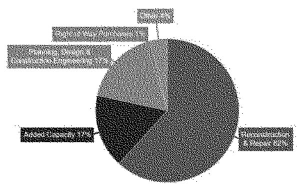
The data below highlights one element of this partnership by quantifying how North Dakota utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
285

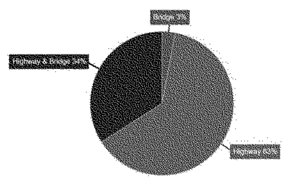
Federal Investment
$289.7
in millions

Total Project Cost
$413.0
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 2 projects valued at $0.0 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
I-94, West Fargo Horace Interchange (I-94 & Sheyenne St); Grading, Aggregate Base, PCC Pavement, Storm Sewer, Signing, Marking & Lighting	Cass County	$21.5	$25.0
I-94, from W Eckelson E to E of ND 1 - Oakes - EB; Grading, Salvaged Base Course, Mill & Overlay, PCC Pavement, Guardrail, Fencing and Inc.	Barnes County	$15.4	$25.4
I-94, Crystal Springs to Cleveleand - EB; Creck & Seat with HMA Overlay, Structural Overlay	Stutsman County	$9.6	$10.7
Fargo, 52nd Ave S from W of 63rd St to 45th St S; Grading, Salvaged Base Course, PCC Pavement, HMA, Storm Sewer, Pavement Marking , Shared Use Path	Cass County	$9.3	$15.7
I-29, Pembina Border Crossing - NB; Grading, Concrete, DMS Signing, Lighting, & Sign Structures	Pembina County	$9.3	$10.3

I-94, Exit 290 at Valley City - WB; Grading, Ground Anchors, & HMA (Hot Mix Asphalt)	Barnes County	$8.0	$8.9
ND 3, from Jct ND 19 N to Jct US 2 - Rugby; Sliver Grading, HMA Overlay, Pipe Extensions, Subcuts, Erosion Repairs, & Concrete Foreslope Protection	Pierce County	$7.8	$9.7
ND 3, from Steel N to Tuttle; Grading, HMA (Hot Mix Asphalt), & Pipe Replacement	Kidder County	$7.0	$8.7
West Fargo, Sheyenne Street from 32nd Ave E, N to Beaton Rd; Grading, Aggregate Base, PCC Pavement, Storm Sewer, Signing, Marking & Lighting	Cass County	$5.7	$22.6
Minot Minuteman Missile Complex,Various Locations in Mountrail and Ward County; Inslope Repair	Statewide	$5.4	$5.4

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	224	$197.0	$260.0
Added Capacity	11	$27.0	$68.0
New Construction	0	$0.0	$0.0
Planning, Design & Construction Engineering	281	$52.0	$69.0
Right of Way Purchases	20	$1.9	$2.1
Planning, Environmental, Research & Administration	12	$5.2	$7.4
Debt Service	0	$0.0	$0.0
Utilities	6	$0.2	$0.3
Inspection	3	$0.8	$1.0
Bike/Pedestrian Facilities	15	$2.0	$2.6
Safety (Non-Construction)	0	$0.0	$0.0
Other	15	$2.8	$3.4
Total	**587**	**$290.0**	**$413.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

OKLAHOMA

ARTBA American Road & Transportation Builders Association

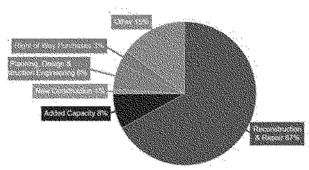
FY 2018 Federal Highway Program Impacts

of Projects 400
Federal Investment $809.7 in millions
Total Project Cost $1,029.6 in millions

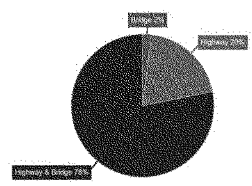
Federal investment has supported 51 percent of state highway & bridge capital improvements in Oklahoma over the last decade.

The data below highlights one element of this partnership by quantifying how Oklahoma utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 13 projects valued at $8.4 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
I-40 INTERCHANGE @ US 64 IN SALLISAW (BR @ US-64 & LITTLE SALLISAW CR) (3-SD) (90/10 SMC)	Sequoyah County	$87.8	$87.8
I-35: NB & SB OVER DEEP FORK CR. & SERVICE RD. 4.6 MI NORTH OF I-40	Oklahoma County	$42.4	$47.1
I-444 FROM ARKANSAS RIVER EXTEND EAST APROX. 1.68 MILES (SOUTH LEG OF THE IDL)(IM EARMARK) (TIED TO JP 28881(04) 90/10 SMC	Tulsa County	$29.9	$29.9
SH-11 OVER SL & SF RR., 1.2 MI SE OF SHERIDAN RD & SH-11 OVER PINE (TIE TO 28888(04) (SMC 80/20)	Tulsa County	$29.7	$29.7
SH-99/US-377 OVER LAKE TEXOMA (WILLIS BRIDGE) (PENDING 50% FROM TXDOT) (DEL FR 05-18, ADD TO 07-18; ROW ISSUES) (80/20 SMC)	Marshall County	$22.6	$45.8
I-40: OVER CO. RD. (OLD US-64) & KCS R.R., 1.40 MI. E. OF JCT. US-59 (SD)(90/10 SMC)	Sequoyah County	$20.9	$20.9

I-40B OVER THE NORTH FORK OF THE RED RIVER & SHORT CR 1.4 & 1.8 MI NORTH I-40 IN SAYRE. (80/20 SMC)	Beckham County	$18.5	$18.5
TULSA GILCREASE EXPRESSWAY WESTERN SEGMENT BEGIN I-44 EXTEND TO US412 DEBT SERVICE ONLY GRANT ANTICIPATION NOTE, SERIES 2018A	Tulsa County	$18.0	$82.0
SH-74 FROM APPROX. 0.5 MILE NORTH OF NW 164TH ST. NORTH 2.5 MI TO NW 206TH (COVELL ROAD)	Oklahoma County	$17.8	$22.3
SH-29: FROM 2.60 MIS. EAST OF US-81 EAST 4.4 MIS. (PHASE I) (80/20 SMC)	Stephens County	$13.2	$13.2

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	262	$582.0	$691.0
Added Capacity	13	$66.0	$87.0
New Construction	9	$8.0	$12.0
Planning, Design & Construction Engineering	266	$50.0	$61.0
Right of Way Purchases	10	$24.0	$29.0
Planning, Environmental, Research & Administration	8	$22.0	$23.0
Debt Service	1	$18.0	$82.0
Utilities	35	$22.0	$25.0
Inspection	1	$7.0	$7.0
Bike/Pedestrian Facilities	20	$7.3	$8.5
Safety (Non-Construction)	1	$0.0	$0.0
Other	39	$3.8	$4.6
Total	**665**	**$810.0**	**$1,030.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

OREGON

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

# of Projects
276

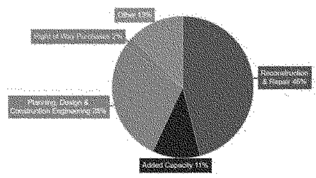
Federal Investment
$506.9
in millions

Total Project Cost
$835.0
in millions

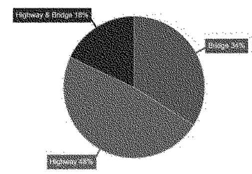
Federal investment has supported 54 percent of state highway & bridge capital improvements in Oregon over the last decade.

The data below highlights one element of this partnership by quantifying how Oregon utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 45 projects valued at $77.9 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
I-84: Ladd Canyon freight and culvert improvements	Union County	$37.3	$40.5
I-105 WILLAMETTE R CONNS & 1ST TO 7TH AVE VIADUCTS	Lane County	$19.3	$20.9
GRIND INLAY MULTNOMAH	Multnomah County	$17.9	$19.4
I-84: MEDIAN BARRIER SAFETY IMPROVEMENT PROJECT	Statewide	$16.8	$16.8
US97: BIGGS JCT. - SPANISH HOLLOW CREEK AND TROUT CREEK BRIDGES	Statewide	$15.6	$21.9
OR99W: HOFFMAN RD TO MONMOUTH SCL	Polk County	$14.5	$16.4
I-205:STAFFORD RD - OR99E	Clackamas County	$12.7	$29.5
US97: SUNRIVER INTERCHANGE - OR31 THE DALLES-CALIFORNIA HWY PAVEMENT PRES (TRAVEL LANES, SAFETY & BIKE PED IMPROV DESCHUTES	Deschutes County	$11.5	$15.7

OREGON

I-84 / I-5: BANFIELD INTERCHANGE DECK OVERLAY & BRIDGE	Multnomah County	$10.4	$11.3
6th through 11th Street: Waterfront bridges (Astoria)	Clatsop County	$10.4	$12.0

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	108	$228.0	$385.0
Added Capacity	5	$41.0	$90.0
New Construction	0	$0.0	$0.0
Planning, Design & Construction Engineering	350	$154.0	$234.0
Right of Way Purchases	48	$11.0	$15.0
Planning, Environmental, Research & Administration	228	$52.0	$76.0
Debt Service	0	$0.0	$0.0
Utilities	8	$1.9	$2.4
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	20	$12.0	$21.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	26	$7.5	$12.0
Total	793	$507.0	$835.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

RHODE ISLAND

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

# of Projects
95

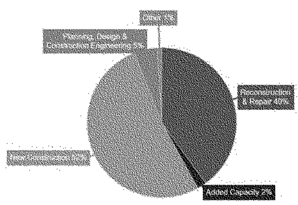
Federal Investment
$116.8
in millions

Total Project Cost
$747.4
in millions

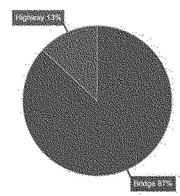
Federal investment has supported over 80 percent of state highway & bridge capital improvements in Rhode Island over the last decade.

The data below highlights one element of this partnership by quantifying how Rhode Island utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 6 projects valued at $223.0 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Design Build Services for the Reconstruction of the US Rte 6/Rte 10 Interchange, Providence - GARVEE Funds	Providence County	$14.1	$415.0
1R Improvements to US Route 44 - Contract 3B (RIDOT Maintenance Facility to West Greenville Rd.)	Providence County	$7.1	$8.8
Rt. 6, Scituate Bypass and Hartford Pike (Rt. 102 to Danielson Pike)	Providence County	$6.0	$7.4
Bridge Group 51A - Rt. 37 C-1, Warwick	Kent County	$5.5	$11.8
Bridge Group 06 - PVD	Providence County	$3.4	$8.7
1R Improvements to Reservoir Avenue, Cranston	Providence County	$3.2	$4.8

Pavement Preservation Rt. 78 (Veteran's Way) Westerly, Washington Counties	Washington County	$2.9	$3.7
HSIP - Rt. 1, S. County Median Guardrail	Washington County	$2.7	$2.7
Louisquisset Pike Ramp Bridge No. 703 Rehabilitation	Providence County	$2.7	$4.9
Improvements to Nyatt Road, Barrington, RI	Bristol County	$2.7	$3.4

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	68	$91.0	$300.0
Added Capacity	2	$2.1	$16.0
New Construction	1	$0.0	$390.0
Planning, Design & Construction Engineering	12	$21.0	$37.0
Right of Way Purchases	16	$1.1	$1.2
Planning, Environmental, Research & Administration	3	$0.4	$0.4
Debt Service	0	$0.0	$0.0
Utilities	0	$0.0	$0.0
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	1	$1.3	$3.1
Safety (Non-Construction)	0	$0.0	$0.0
Other	3	$0.3	$0.3
Total	**106**	**$117.0**	**$747.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

SOUTH DAKOTA

American Road & Transportation Builders Association

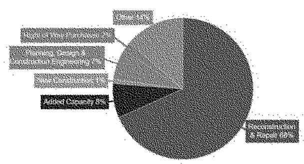
FY 2018 Federal Highway Program Impacts

# of Projects	Federal Investment	Total Project Cost
204	$282.4 in millions	$395.0 in millions

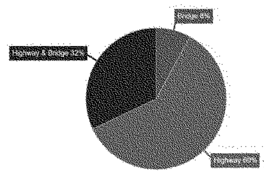
Federal investment has supported 70 percent of state highway & bridge capital improvements in South Dakota over the last decade.

The data below highlights one element of this partnership by quantifying how South Dakota utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 18 projects valued at $22.3 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
Hutchinson and Turner Counties; Grading, Structures and Surfacing; On the following routes: 018	Turner County	$14.8	$20.6
County of Todd; Shoulder Widening, Spot Grading and Surfacing, On the following routes: 083	Todd County	$13.1	$13.9
County of Deuel; Mill and PCCP Overlay, Pipe Work; Replace Structure (RCBC) and Approach Grading; On the following routes: 212	Deuel County	$11.8	$14.5
Lyman County; AC Resurfacing, Structure Rehabilitation; On the following routes: 090 E, 090	Lyman County	$11.0	$14.0
County of Minnehaha; Rest Area and Port of Entry Reconstruction,	Minnehaha County	$8.5	$10.8

SOUTH DAKOTA

Butte and Harding Counties; Mill and AC Resurfacing, Culvert Repairs; On the following routes: 085	Butte County	$7.1	$8.9
Lincoln and Turner Counties; Shoulder Widening, Structure Rehab; On the following routes: 018	Turner County	$6.9	$9.6
Tripp and Gregory Counties; Full Depth Reclaimation, AC Resurfacing, Pipe Work; On the following routes: 044	Tripp County	$6.9	$10.1
Statewide; Work Program Funding FY 2019	Statewide	$6.2	$8.2
County of Bon Homme; Shoulder Widening, Culvert Extensions, Pipe Work, Replace Str (RCBC); On the following routes: 037	Bon Homme County	$5.7	$10.3

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	172	$213.0	$271.0
Added Capacity	9	$15.0	$30.0
New Construction	4	$1.7	$2.1
Planning, Design & Construction Engineering	208	$13.0	$29.0
Right of Way Purchases	44	$0.0	$6.3
Planning, Environmental, Research & Administration	31	$12.0	$16.0
Debt Service	0	$0.0	$0.0
Utilities	12	$0.3	$6.3
Inspection	3	$2.7	$3.3
Bike/Pedestrian Facilities	9	$3.1	$4.9
Safety (Non-Construction)	1	$0.0	$0.0
Other	87	$21.0	$25.0
Total	**580**	**$282.0**	**$395.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

VERMONT

American Road & Transportation Builders Association

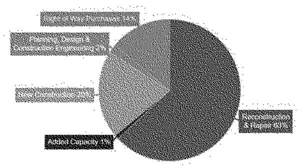
FY 2018 Federal Highway Program Impacts

# of Projects	196
Federal Investment	$154.4 in millions
Total Project Cost	$319.4 in millions

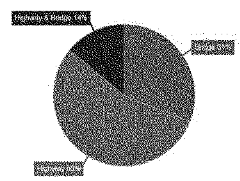
Federal investment has supported 80 percent of state highway & bridge capital improvements in Vermont over the last decade.

The data below highlights one element of this partnership by quantifying how Vermont utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
NORTH HERO-GRAND ISLE, US2, BRIDGE NO. 8; PENG, CONST., REPLACE BRIDGE.	Grand Isle County	$24.3	$72.9
MIDDLEBURY, MAIN STREET AND MERCHANTS ROW; CONST.	Addison County	$9.8	$10.3
MIDDLEBURY, VERMONT RAILWAY; PENG, ROWA, CONST., LOWER GRADE OF RAILS UNDER VT30/MERCHANTS ROW, TO 21-FT CLEARANCE.	Addison County	$8.1	$14.8
MONTPELIER-WATERBURY, I-89, BEGINNING AT MM 53.00 EXT. NORTHERLY 13.00 MILES, NB&SB; PENG, CONST., RESURFACING.	Washington County	$6.3	$7.0
JERICHO-RICHMOND, VT117, BEGINNING AT THE ESSEX T/L EXT. EASTERLY 3.641 MILES TO MM 0.748 IN RICHMOND; PENG, CONST., RESURFACING.	Chittenden County	$5.6	$7.0

VERMONT

WATERBURY, US 2, .14ME INT/VT 100 E.84M, PENG & RECONSTRUCT HIGHWAY	Washington County	$5.0	$31.7
ESSEX, VT117, BEGINNING AT MM 1.227 EXTENDING EASTERLY 3.204 MILES; PENG, CONST., RESURFACING.	Chittenden County	$4.8	$5.9
MANCHESTER, VT7A, MM 2.409 NORTH 5.026 MI.; VT11, MM 0.000 EAST 1.259 MI.; AND VT30, MM 0.000 NORTH 0.305 MI.; PENG, CONST., RESURFACE CLASS I ROUTES.	Bennington County	$3.7	$5.5
MONTPELIER-BERLIN, GRANITE ST E 1.36M TO AMES, CONSTRUCT BIKE/PED PATH	Washington County	$3.6	$7.6
BENNINGTON, US7, BEGINNING AT MM 2.156 EXT. NORTHERLY 1.651 MILES, AND VT9, BEGINNING AT MM 3.125 EXT. EASTERLY 5.901 MILES; PENG, CONST.RESURFACING.	Bennington County	$3.4	$4.3

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	73	$83.0	$201.0
Added Capacity	0	$0.0	$0.0
New Construction	1	$0.0	$4.4
Planning, Design & Construction Engineering	222	$44.0	$65.0
Right of Way Purchases	41	$4.0	$5.5
Planning, Environmental, Research & Administration	3	$2.3	$9.5
Debt Service	0	$0.0	$0.0
Utilities	4	$5.5	$6.3
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	40	$7.5	$14.0
Safety (Non-Construction)	0	$0.0	$0.0
Other	75	$7.2	$14.0
Total	459	$154.0	$319.0

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

WEST VIRGINIA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal investment has supported 59 percent of state highway & bridge capital improvements in West Virginia over the last decade.

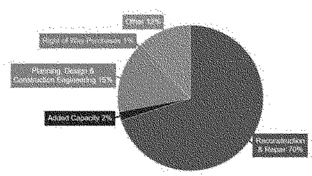
The data below highlights one element of this partnership by quantifying how West Virginia utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

# of Projects
319

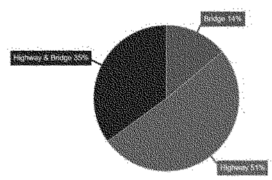
Federal Investment
$376.5
in millions

Total Project Cost
$551.6
in millions

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 2 projects valued at $1.5 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
JEFFERSON ROAD	Kanawha County	$43.5	$53.7
KERENS-PARSONS MITIGATION	Randolph County	$25.8	$25.8
MEDINA GUARDRAIL	Jackson County	$12.1	$12.1
DINGESS STREET BR	Logan County	$9.5	$11.9
PIEDMONT-SCARY GDRL	Cabell County	$9.4	$9.4
MINERAL WELLS-PETTYVILLE	Wood County	$8.7	$10.8
FY 19 SF BR INSPECTION	Statewide	$8.4	$10.5
LOST CREEK-BURNSVILE(JANE LEW-NUTTER FORK; SALTWELL- S FAIRMONT; BURNSVILLE-WESTON)	Lewis County	$7.0	$7.0
SPR PROGRAM	Statewide	$6.9	$8.6
HARTS RUN-PRINCETON	Mercer County	$6.4	$6.4

WEST VIRGINIA

American Road & Transportation Builders Association

FY 2018 Federal Highway Program Impacts

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	226	$262.0	$388.0
Added Capacity	1	$7.7	$9.6
New Construction	0	$0.0	$0.0
Planning, Design & Construction Engineering	203	$72.0	$81.0
Right of Way Purchases	14	$4.8	$6.0
Planning, Environmental, Research & Administration	16	$12.0	$15.0
Debt Service	37	$4.3	$24.0
Utilities	0	$0.0	$0.0
Inspection	1	$8.4	$11.0
Bike/Pedestrian Facilities	8	$3.4	$4.2
Safety (Non-Construction)	0	$0.0	$0.0
Other	38	$0.9	$13.0
Total	**544**	**$377.0**	**$552.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

WYOMING

American Road & Transportation Builders Association

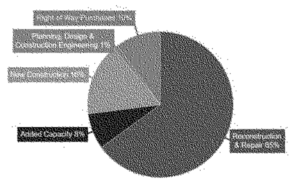
FY 2018 Federal Highway Program Impacts

# of Projects	Federal Investment	Total Project Cost
262	$308.6 in millions	$369.6 in millions

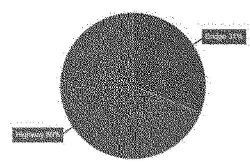
Federal investment has supported 71 percent of state highway & bridge capital improvements in Wyoming over the last decade.

The data below highlights one element of this partnership by quantifying how Wyoming utilized federal highway funds in FY 2018. Federal funds complement investments made at the state and local level and the totality generates business activity and economic efficiencies across all sectors of the economy.

Federal Investment by Work Type



Federal Investment by Mode



Top Federal Aid Projects: FY 2018

The following are the largest federal aid highway and bridge projects that moved forward between October 1, 2017 and September 30, 2018. This does not include 5 projects valued at $0.3 million that were approved using advance construction funding, which means future federal funds may be applied to the project.

Project Name	Location	Federal Funds (millions)	Total Project Cost (millions)
ROCK SPRINGS - RAWLINS / POINT ROCKS WEST **RESURFACING**	Sweetwater County	$20.2	$21.8
ETHETE SOUTH ROAD, ROUTE S-0703, PE	Fremont County	$19.8	$21.3
GILLETTE - MONTANA STATE LINE - GARNER LAKE ROAD	Campbell County	$13.3	$14.7
LUSK - VANTASSEL / EAST SECTION **MILL, LEVEL AND OVERLAY**	Niobrara County	$12.1	$13.3
RAWLINS - LARAMIE / HERRICK LANE TO QUEALY DOME EAST	Albany County	$11.1	$12.0
LYMAN - GRANGER / COUNTY LINE WEST **MILL AND OVERLAY**	Uinta County	$10.0	$10.8
I-90 / MONTANA STATE LINE / RANCHESTER **MILL AND OVERLAY**	Sheridan County	$8.9	$9.6

DWYER JUNCTION - GLENDO ROAD / CASSA INTERCHANGE NORTH BOUND **WIDEN & OVERLAY W/ ISO-RECONST**	Platte County	$8.7	$9.3
HUDSON - RIVERTON / LITTLE POPO AGIE **MILL/LEVEL/OVERLAY**	Fremont County	$8.1	$8.9
ITS / STATEWIDE / VARIOUS LOCATIONS 2019	Statewide	$7.5	$8.3

Federal Aid Projects Improvement Type: FY 2018

States leverage their federal aid funds to make a variety of capital improvements. States may also use their federal aid funds to repay debt service on bonds used for previous capital improvements. Projects may include several different improvement spending types for a single project.

Type of Work	# of Projects	Federal Funds (millions)	Total Project Cost (millions)
Reconstruction & Repair	122	$202.0	$242.0
Added Capacity	0	$0.0	$0.0
New Construction	2	$27.0	$29.0
Planning, Design & Construction Engineering	248	$49.0	$60.0
Right of Way Purchases	16	$1.9	$2.1
Planning, Environmental, Research & Administration	18	$4.3	$9.2
Debt Service	0	$0.0	$0.0
Utilities	8	$1.2	$1.3
Inspection	0	$0.0	$0.0
Bike/Pedestrian Facilities	12	$2.3	$2.8
Safety (Non-Construction)	0	$0.0	$0.0
Other	77	$20.0	$23.0
Total	**503**	**$309.0**	**$370.0**

For detailed information on federal aid projects approved before FY 2018, visit artba.org/economics/federal-investment/dashboard. To learn more about the data used, go to artba.org/economics/federal-investment/about/.

Questions from Senator Wicker:

1. Fifteen years ago warm mix asphalt was developed in the United States giving the asphalt paving industry the ability to increase the longevity of roads while having the added benefits to the environment.

What would be the benefits of having innovations, such as warm mix asphalt, become common practice for road construction?

ARTBA's diverse membership utilizes a variety of pavements and materials in building infrastructure projects. One of the association's key policy priorities is raising awareness of new technology and other innovations, both within the transportation construction industry and among policymakers. To this end, since 2010, ARTBA has been a founding stakeholder partner in Every Day Counts (EDC), a Federal Highway Administration (FHWA) initiative. According to FHWA, this program promotes "proven innovations [to] facilitate greater efficiency at the State and local levels, saving time, money and resources that can be used to deliver more projects." ARTBA is among the national associations that provide input to the agency every two years as FHWA formulates the next iteration of the program. Warm mix asphalt was one of the early EDC innovations, and FHWA can speak to the extent state departments of transportation have begun utilizing it in recent years.

The EDC program encourages state and local transportation agencies - as well as the industry - to consider adopting certain innovations and technology. This is consistent with ARTBA's view that the federal government should not dictate project delivery decisions such as procurement methods and product and material choices, but instead leave these decisions to state transportation agencies per their performance expectations, programming and delivery needs. Federal transportation policy should identify national priorities, strengthen already established accountability mechanisms, and provide requisite investment levels and regulatory/policy framework to achieve those objectives.

2. Graphene is a single layer of carbon atoms that are bonded together in a repeating hexagon pattern. It is one of the strongest materials known and has many advantageous attributes. Crystalline graphene has quickly established itself as a promising technology with potential for impact across many sectors of the economy, including transportation.

What would be the benefits of researching materials such graphene for designing durable infrastructure?

While ARTBA cannot attest to the value of graphene specifically, we do reiterate our commitment to promoting innovation as outlined in our answer to question one. On a related matter, ARTBA strongly supported FHWA's repeal in late 2019 of the patented and proprietary products rule (23 CFR 635.411), which dated to 1916. This rule prohibited state contracting agencies from using federal funds to acquire patented or proprietary materials, products or services, except under certain limited circumstances. In doing so, the rule impeded industry and states from deploying products that could save lives, reduce costs, alleviate congestion and improve the quality of our nation's highways. We continue to support codification of this repeal in the next surface transportation reauthorization bill, to ensure there are no similar barriers to innovation in the future.

Question from Senator Whitehouse:

3. What is your position on climate change and how should it inform our infrastructure legislation?

The interface of transportation policy and climate change is real, but so are the nation's infrastructure needs. As such, solutions allowing states flexibility to balance their transportation and air quality challenges are preferable to broad federal requirements.

It is a misnomer to say transportation improvement projects themselves can escalate greenhouse gas (GHG) emissions. Rather, a lack of such improvements is really to blame, as congestion is preserved or exacerbated. According to the Federal Highway Administration (FHWA), "Emissions rates are higher during stop-and-go, congested traffic conditions than free-flow conditions operating at the same average speed."[1]

Moreover, on average, FHWA data tells us road capacity in the United States increases at a rate of 0.4 percent per year[2]. This contrasts with (again according to FHWA data) annual increases in population (0.9 percent)[3], licensed drivers (1 percent)[4] and vehicle miles traveled (1 percent)[5]. As a result of road capacity not keeping up with demand, congestion levels continue to grow, along with wasted fuel and commuters' average annual hours of delay. Simply put, the nation's road system is not keeping up with growth in system usage and is resulting in an ever-growing congestion.

Legislative solutions should recognize less congestion is essential to helping reduce GHG emissions and not be used as a method of prioritizing one mode of transportation over another. One potential solution is expanding the Clean Air Act's Congestion Mitigation Air Quality (CMAQ) program to incorporate congestion reduction activities, including new roadway capacity. This would allow maximum flexibility for areas seeking new transportation solutions to existing air quality issues.

Questions from Senator Duckworth:

4. Many observers predict a spike in roadway congestion in the months to come, exacerbating highway conditions that existed before the COVID-19 pandemic. The America's Transportation Infrastructure Act (S. 2302) included my provision creating a $200 million competitive grant program for States and local governments to advance innovative, integrated, and multimodal solutions to address congestion relief in our most congested metropolitan areas to address roadway congestion. In your opinion, what effects do

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[1] U.S. Department of Transportation, Federal Highway Administration, "Transportation Air Quality Selected Fact and Figures," p. 43 (2016).
[2] Federal Highway Administration at: https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm260.cfm
[3] Federal Highway Administration at: https://www.fhwa.dot.gov/policyinformation/statistics/2016/dl1c.cfm
[4] Federal Highway Administration at: https://www.fhwa.dot.gov/policyinformation/statistics/2016/dl1c.cfm
[5] Federal Highway Administration at: https://www.fhwa.dot.gov/policyinformation/statistics/2016/vm202.cfm

congested roadways in major metropolitan areas have on local and regional economies and should Congress continue to focus on robust congestion reduction policies as reauthorization efforts unfold?

ARTBA is and will remain a champion for programs aimed at congestion mitigation and faster, safer and more efficient movement of people and goods. According to the 2019 Global Traffic Scorecard prepared by INRIX, Inc., Americans lost $88 billion to congestion last year. Further, the average American driver wasted 99 hours sitting in traffic and nearly $1,400 in lost time and productivity. Not only does this cause a strain on the economy, but also impacts the quality of life for all Americans.

Through the 2015 "Fixing America's Surface Transportation" (FAST) Act, Congress recognized the impacts of congestion on goods movement, authorizing two new programs to help address this issue: the National Highway Freight Program and the Nationally Significant Freight and Highway Projects program, the latter more commonly known as the Infrastructure for Rebuilding America (INFRA) grants program. These formula and discretionary grant programs, respectively, authorized nearly $11 billion for freight congestion improvement projects. They are a result of the long-time advocacy efforts of ARTBA and other stakeholder groups to make highway freight projects a true federal priority, as laid out in Article 1, Section 8 of the U.S. Constitution. ARTBA would like to see these programs continued in the successor to the FAST Act, as well as additional resources for other initiatives to address congested roadways.

While Congress and President Obama made progress to help alleviate congestion through these vital programs, there have been efforts to scale back the ability of state transportation departments and localities to continue making improvements. H.R. 2, the Moving Forward Act, which July 1 passed out of the House of Representatives, includes provisions to limit new capacity projects as well as broaden eligibility of multiple programs beyond the current highway and public transportation eligibilities. States and localities should not be restricted in their ability to identify the most reasonable and cost-efficient solution for relieving congestion. Furthermore, resources allocated through the Highway Trust Fund (HTF) should be made available only for highway and public transportation projects. Those who pay into the system should directly benefit.

5. One of the key takeaways from the 2009 American Recovery and Reinvestment Act (Public Law 111-5) was the importance of relief to assist state and local governments bridge the gap between a crisis posture following the global financial crash and the pursuit of economically energizing infrastructure projects designed to stimulate local and regional economies. Transportation investments will play a key role in rebuilding our economy if we can first advance meaningful relief for state and local governments that are responsible for 75 percent of all infrastructure investments across the nation. As we continue to grapple with the current economic crisis, state and municipal budgets have been wiped out, forcing limited local resources be redirected to more immediate needs and responsibilities. Do you agree that construction projects across the nation could be delayed or canceled as states and local governments grapple with significant budget shortfalls?

ARTBA has been tracking state and local governments that have pulled back on some transportation improvements as they grapple with uncertainty over the broader economic situation and expected declines in both General Fund and state transportation related revenues.

Currently, 13 states have announced project delays or cancellations valued at nearly $4.7 billion. These include Georgia, Hawaii, Kentucky, Mississippi, Missouri, Nevada, New Mexico, North Carolina, Ohio, Pennsylvania, Vermont, Washington and West Virginia. While some states, such as Ohio, are postponing major projects, North Carolina has scaled back its entire program to just 50 projects next year. Mississippi, Vermont and Pennsylvania are examples of states that are postponing state-funded highway and bridge projects. Kentucky canceled its highway lettings in May and June.

The National League of Cities June 23 released a survey that found 65 percent of the 1,100 cities and municipalities responding were delaying or canceling capital expenditures and infrastructure projects.

There is also an opportunity cost to the current economic situation. Ten states or local areas have vetoed, canceled, or postponed legislative initiatives or ballot measures related to transportation funding because of the pandemic. This includes several major initiatives in California self-help counties that would have raised over $100 billion over the next four decades.

These realities underscore the critical importance of the Environment & Public Works Committee's efforts to advance a multi-year surface transportation reauthorization bill with significantly increased investment levels. In recent years, on average 51 percent of annual capital outlays by state transportation departments on highways and bridges originated from the federal highway program. The highway investment levels included in America's Transportation Infrastructure Act (ATIA) will serve as an important catalyst for the nation's economic recovery.

Senator BARRASSO. Thanks very much for your helpful testimony. I would like to turn to Mr. Doug Holtz-Eakin.

STATEMENT OF DOUG HOLTZ-EAKIN, PRESIDENT, AMERICAN ACTION FORUM

Mr. HOLTZ-EAKIN. Chairman Barrasso, Ranking Member Carper, and members of the Committee, Thank you for the chance to be here today to talk about the role of infrastructure in the recovery from the pandemic recession.

With a minor correction to the Ranking Member, this is a downturn that is unprecedented in modern history. In the past 2 months, we have seen a record fall in consumer confidence; we have seen a record 1 month decline in retail sales; we saw a week in which 6 million Americans filed claims for unemployment insurance, 10 times larger than any previous week in history.

In April, we saw 20 million Americans lose their jobs; again, 10 times larger than any single 1 month job loss, the previous one being the demobilization from World War II. We saw the unemployment rate jump over 10 percentage points; again, 10 times larger than any previous 1 month increase in unemployment.

And the Congressional Budget Office forecasts that during the second quarter of 2020, the size of the U.S. economy will shrink by 11 percent. In the worst year of the Great Depression, 1932, the economy shrunk by 12 percent. We are going to experience a comparable decline this spring.

So this is an unprecedented, both in its source and its depth and speed, economic downturn in the United States, and properly, a lot of policy response has been focused on staving off further decline and reversing it.

The Federal Reserve has moved quite aggressively to provide liquidity and additional lending facilities for the private sector. Congress has moved with remarkable speed, and I think, a tremendous scale to address this crisis with Families First and CARES and the paycheck protection increase efforts. You are to be complimented and congratulated for those efforts. I think they are exactly what the doctor ordered.

But they are not everything that we are going to need. There is a part of this recovery that Mr. McGough just pointed out that is actually quite important. The Congressional Budget Office points to a very slow return to the levels of economic activity that we had in January of this year. And in their projection, unemployment remains quite elevated, over 8 percent at the end of 2021.

So there is a place in the response to this pandemic for durable, long term investments that can address that challenge past 2020, past 2021, and infrastructure is exactly right for that.

This bill that the Committee had passed last July is ideal in three ways. First of all, it is clearly better than a failure to reauthorize, or a choppy month to month funding approach, which would be a headwind to a recovery that is already going to be difficult enough.

Second, it addresses the supply side of the economy, the capacity to deliver goods and services through the supply chain quickly and efficiently. I think it is just realism to expect that the virus will be around for a while. We will continue to face supply disruptions, whether they be regional lockdowns, or the ongoing need to reconfigure our economy to work in the presence of the virus.

Businesses are going to physically change a lot of their workplaces. There will have to be PPE, there will have to be testing, there will have to be a whole variety of reorganizations that will cost money, make goods and services more expensive, and inhibit the delivery of those in the economy.

To the extent we can have policies which target the supply side and provide cost reductions and efficiencies that allow the economy to operate more effectively in the presence of those necessary adjustments to the virus that will have durable and very lasting impacts. I think those are an important part of thinking about policy going forward.

These are the kinds of investments that I think will be done well. There is a sad history of taking what would be an otherwise sensible transportation or other infrastructure project and trying to front load it, rush it, call it stimulus, and in the end, undercut the basic objectives of the programs. That is not going on here.

You are using programs that have been effective, are well understood, the money will be distributed at the appropriate pace. I applaud you working on the red tape to have the projects happen faster.

But they will come online at times the economy needs it in the years to come, and that is something that we need to also have in addition to the other dramatic efforts.

Thank you for the chance to be here today, and I look forward to the chance to answer your questions.

[The prepared statement of Mr. Holtz-Eakin follows:]

Testimony on:
Infrastructure and the Response to the Economic Impacts of COVID-19

United States Senate
Committee on Environment and Public Works

Douglas Holtz-Eakin, President*
American Action Forum

June 4, 2020

*The views expressed here are my own and not those of the American Action Forum. I thank Gordon Gray and Thomas Wade for their insight and assistance.

Chairman Barasso, Ranking Member Carper, and members of the Committee, thank you for the privilege of appearing today to share my views on infrastructure investment and the response to the economic impact of the COVID-19 pandemic. I wish to make three main points:

- The economic fallout of the pandemic is staggering and unprecedented in our lifetimes;

- Most forecasters anticipate that the economy will quickly recover a substantial fraction of the lost jobs and income, but that full recovery will take years to achieve; and

- To the extent that infrastructure is included as part of the response to the COVID-19 pandemic recession, it should be part of a patient strategy to bolster the supply capacity of the economy over the medium to longer term.

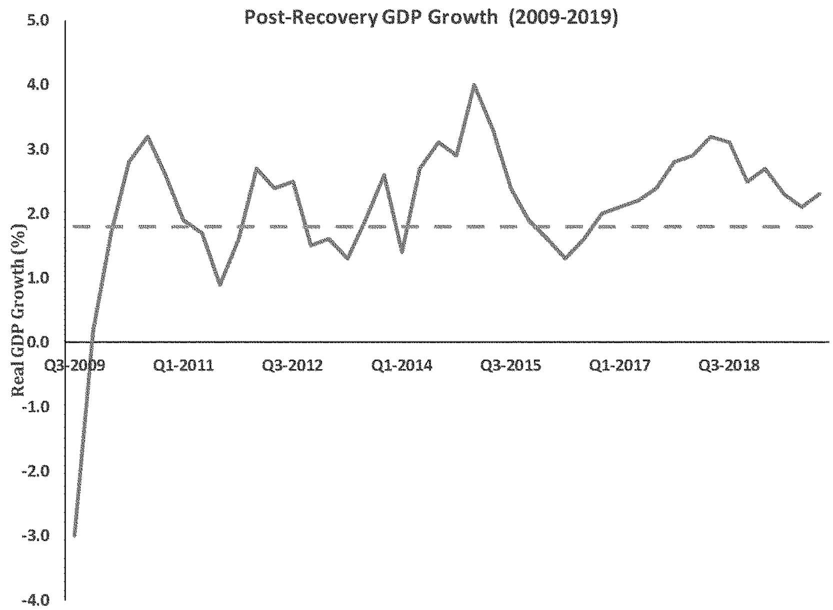
Let me discuss these in turn.

The Impact of the COVID-19 Pandemic on the Economy

The macroeconomic impact of the COVID-19 pandemic far exceeds any experience in our lifetimes. Essentially all the major leading economic indicators have seen historic declines, wiping out the hard-won gains from the longest recovery in U.S. history.

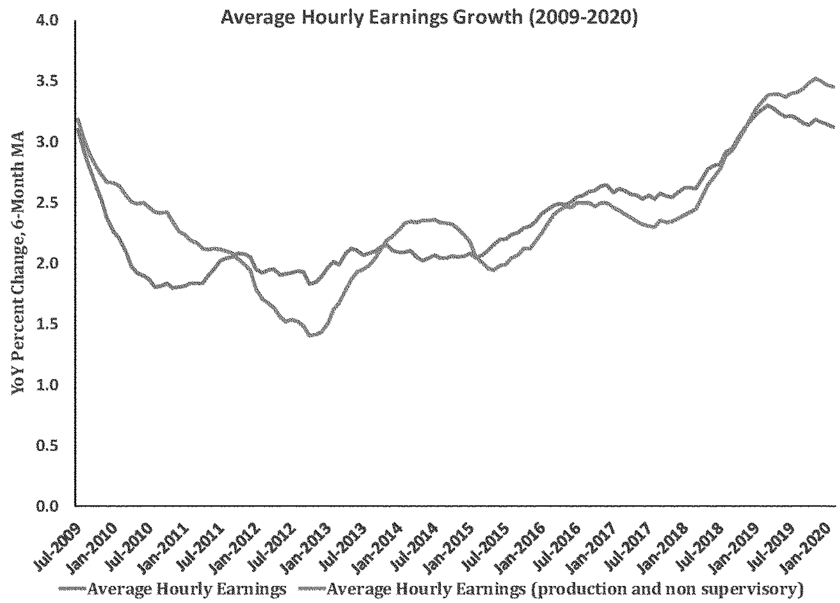
Recent Economic Trends

Prior to the pandemic, there had been a meaningful improvement in the persistence of healthy economic growth over the past three years. Gross domestic product (GDP) growth, measured as the growth from the same quarter in the previous year, accelerated steadily from a low of 1.3 percent in the 2nd quarter of 2106 to a recent peak of 3.2 percent in the 2nd quarter of 2018. Of note, throughout this period GDP growth remained above the 1.8 percent growth rate that prevailed throughout the balance of the recovery.



In June of 2009, the United States began the economic recovery from the Great Recession. What followed was nearly 11 years – the longest expansion in U.S. history – of steady if modest economic growth. Over that period, nearly 22 million jobs were created. Remarkably, the pace of job creation accelerated over the course of the recovery. Over the first half of the recovery, monthly job creation averaged 138,000; this increased to 198,000 new jobs created per month over the latter half of the recovery.

With higher growth and tighter labor markets, unemployment continued to fall as payroll and wage growth accelerated. Wage growth improved for all workers, including for non-supervisory workers. Indeed, from December 2018 onward, growth in hourly earnings (on a yearly moving average) for production and nonsupervisory workers outpaced that of workers overall every month.



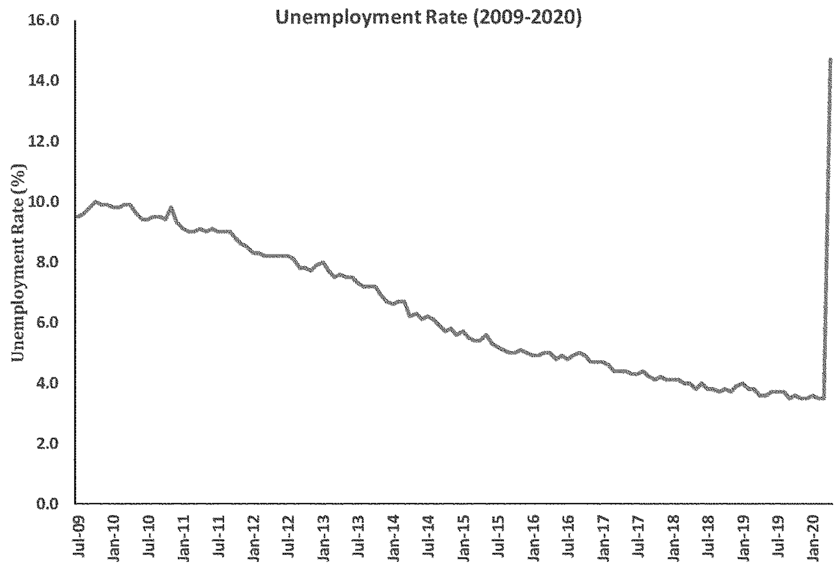
The economic story of the recent past is the realization of years of modest growth finally beginning to accrue to individuals and families, broadly raising the standard of living. Recent accelerations in that growth punctuated a return to prosperity. That all came apart in March of 2020.

The Economic Impact of the COVID-19 Pandemic

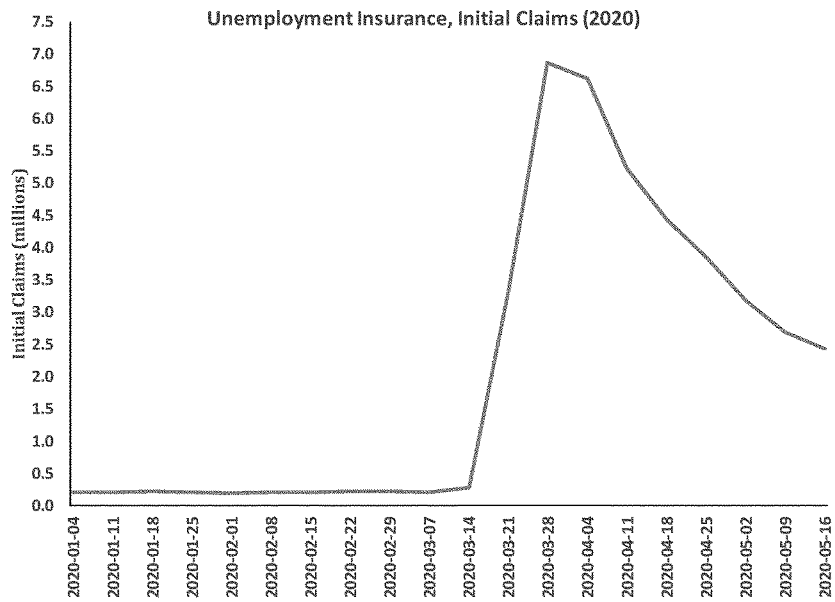
The COVID-19 pandemic precipitated a historic shuttering of the economy in March, guaranteeing that the broadest measure of economic wellbeing – real quarterly GDP growth – would reflect some of the devastation in the first quarter. Indeed, the Bureau of Economic Analysis's (BEA) estimate for the decline in first quarter GDP is 5.0 percent on an annualized basis. This is the single largest drop in real GDP since 2008. While any contraction, particularly one on the order of magnitude with those observed during the Great Recession, is troubling, in this instance the contraction reflects only the leading edge of the economic devastation.

Higher-frequency data reveal a historically devasted economy. Payrolls in April fell by 20.5 million, with private sector payrolls shedding 19.5 million jobs. The service sector lost over 17 million jobs. The leisure and hospitality industry was particularly devastated, losing over 7.6 million jobs. Goods-producing industries saw a decline of over 2 million. Government shed 980,000 jobs. No industry saw net positive hiring.

The unemployment rate jumped to 14.7 percent, which exceeds the highest level since the Great Depression. As BLS notes, were it not for the classification of some workers as employed but "Absent for other reasons," this number would be on the order of 5 percentage points higher.



More frequent data still – weekly unemployment insurance (UI) claims – tell a similar story. Before March of this year, the single highest weekly initial claims report was 695,000 in 1982. No week in recorded U.S. history saw millions of Americans claiming unemployment insurance benefits. In the present environment, new UI claimants can *only* be measured in the millions.



In short, April job losses are 10 times larger than any previous month's job losses. The April rise in the unemployment rate is 10 times larger than the previous one-month increase. The 6 million new claims for unemployment insurance in one week is 10 times larger than the previous one-week increase. The outlook for the 2nd *quarter* of 2020 is that GDP will decline by 11 percent; in the worst *year* (1932) of the Great Depression, the decline was 12 percent. The U.S. economy is enveloped in an economic downdraft of unprecedented magnitude.

The Policy Response to Date

In light of the size of the problem, it is appropriate that the policy response has been unprecedentedly large as well. In addition, the mechanism of the downturn differs significantly from earlier episodes such as the Great Recession or Great Depression; this dictates a different character to the policy response.

At the onset, the U.S. economy suffered from massive, cascading cash-flow crunches. With the arrival of the virus, large swaths of the economy – airlines, hotels, entertainment, restaurants, and so forth – overnight lost their customers and revenue. Businesses and households started selling everything they could to raise cash and hang on. The mass selloff buffeted financial markets. The Federal Reserve (Fed) has done a sterling job of minimizing the turbulence. It reduced its policy rate to zero and announced an open-ended, unlimited buying spree. As the Fed put it, "The Federal Open Market Committee (FOMC) will purchase Treasury securities and agency mortgage-backed securities *in the amounts needed* to support smooth market functioning and effective transmission of monetary policy to broader financial conditions and the economy" (emphasis added).

The Fed revived two programs from the financial crisis and created two new facilities to extend credit to large employers via the purchase of corporate debt. It also revived an emergency lending vehicle last used in the 2007-08 crisis to support small businesses and consumers by encouraging investors to buy securitized student debt, auto debt, and credit-card debt.

These actions were effective in restoring normal function to financial markets and prevented an economic crisis in the real, Main Street economy from transforming into a financial crisis as well. As part of this effort, the Fed set up a variety of emergency lending facilities for financial market participants. Banks, in particular, and financial markets, in general, continue to perform effectively.

But not everyone could raise enough cash selling assets. Instead, businesses laid off workers and cut off suppliers. These moves effectively shifted the cash-flow crunch onto other firms or U.S. households.

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided a crucial offset to the household and business cash-flow crisis. It provided businesses with grants or loans on the condition that they not lay anybody off. The grants and loans would keep the businesses intact; the continued payroll would keep workers and their families intact. The basic economic task is to use the enormous borrowing power enabled by the U.S. taxpayer to raise trillions of dollars and then pour this cash into a variety of "funnels" leading to firms and households. This is simply bridge financing of otherwise economically sound businesses.

Of course, there has already been a lot of damage – and that damage continues to rise – that government support for America's small and large businesses could not avert. As a result CARES (along with the Families First Act) contained an aggressive effort to help those who are unemployed, sick, or forced to stay away from work to care for others in the form of cash, unemployment insurance, and paid sick leave.

This response appears to be highly successful. In the report on Personal Income and Outlays from the Bureau of Economic Analysis, disposable personal income rose by $2.1 trillion (at an annual rate) or 12.9 percent, largely because government social benefits rose by $3.0 trillion. Moreover, personal saving rose by $4.0 trillion, indiciating the capacity to sustain standards of living over subsequent months.

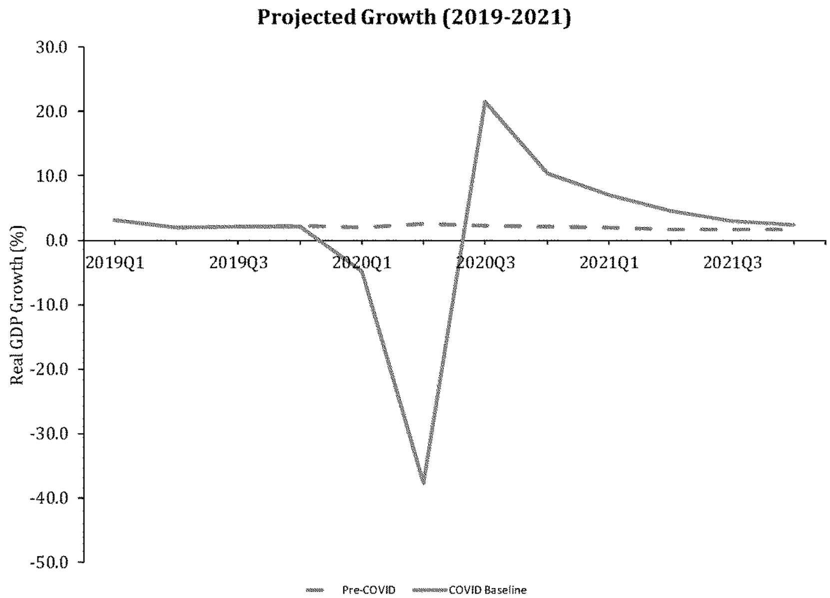
Another success is the Paycheck Protection Program (PPP) as administered by the Small Business Administration (SBA) with the assistance of Treasury. The SBA has supported over $500 billion in lending to small businesses impacted by the pandemic. The PPP has proven so enormously popular and necessary as to require available funding to be increased after the CARES Act was signed into law. The program has justifiably come under some criticism, and in particular many questions remain outstanding as to the format and nature of loan forgiveness. Despite these flaws, I have stated that the PPP is the best part of the CARES Act. The SBA has facilitated the largest single support for the economy for the month of April. That such enormous sums were distributed to businesses in need at all, let alone so quickly, remains extraordinary.

The jury remains out on the effectiveness of the CARES Act lending to larger businesses. The Act provides for $500 billion in financial assistance to eligible businesses, states, municipalities, and tribes as emergency relief for losses related to the ongoing coronavirus pandemic. Only $1.8 billion, however, has been spent as of the date of this testimony, two months after the CARES Act passed into law.

The Economic Outlook

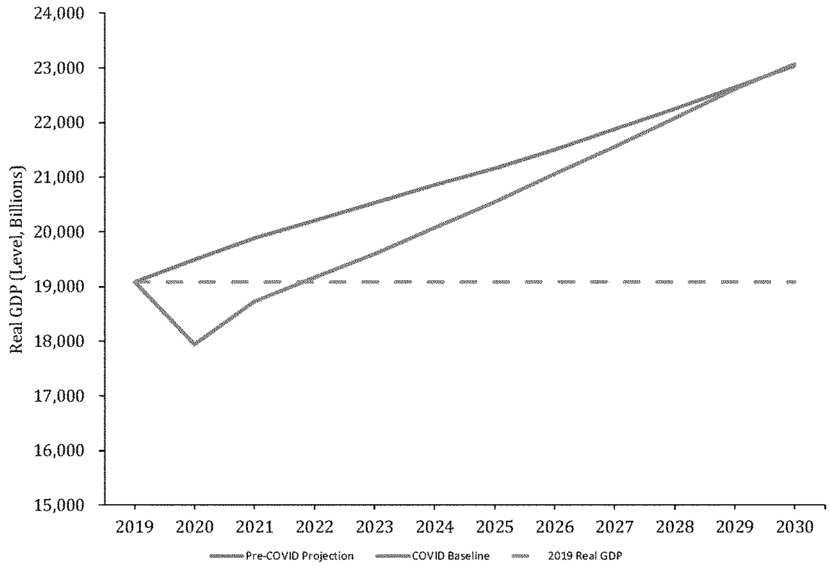
The Congressional Budget Office (CBO) typically updates its economic forecast twice yearly – once in January and once in August. Before the pandemic, CBO's baseline was keyed off of an economic forecast entirely abstracted from the effects of the pandemic, built on an assumption of real GDP growth in 2020 of 2.2 percent, an unemployment rate of 3.5 percent, and slowly rising interest rates. This was a fairly mainstream forecast for the year, but to perform accurate cost-estimating CBO had to essentially update their forecast on the fly, and it is to their credit that they did so.

The new economic forecast reflects a similar outlook to other major post-COVID-19 analyses – a sharp uptick in economic activity in the third quarter of 2020 that only partially restores the economic gains of the past several years. GDP is expected to fall 11 percent in the 2nd quarter, or 38 percent at an annual rate.

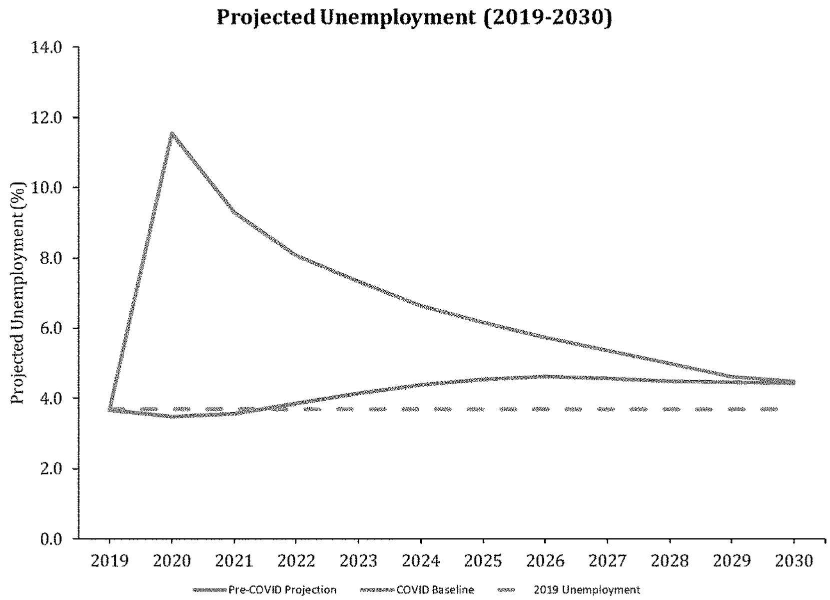


For the entire year 2020, GDP will be down 5.6 percent as every component of spending declined except federal government purchases. By contrast, in 2021 every component will rebound except for federal purchases. The CBO sees growth at a rate of 4.2 percent in 2021. What this means is that despite a sharp, expected return to growth in Q3 of 2020, the scale of the prior contraction is such that CBO does not forecast the level of real GDP returning to pre-crisis levels until 2022.

Projected Real GDP (2019-2030)



The unemployment rate will top out at 15.8 percent in the 3rd quarter of 2020 but remain an elevated 8.6 percent as far out as the 4th quarter of 2021. Because CBO projected gradual increases in unemployment, under CBO's forecast, unemployment never returns to the historic lows witnessed prior to the outbreak of the pandemic.



The implications of the current and projected losses associated with the COVID pandemic are highly consequential for federal policy. The CARES Act stands as the single largest fiscal intervention in U.S. history, an appropriate response to a historic challenge. Continual monitoring of the economic indicators – weekly, monthly, quarterly, annually – will continue to inform Congress on the direction and tenor of the recovery, and policymakers should tailor policies accordingly.

Implications for Infrastructure Investment

The theory undergirding the case for a v-shaped recovery from the COVID-19-induced downturn is pretty simple. It assumes that firms, either from their own sources or via the vast amount of federal support, have enough liquidity to stay in business until the economy re-opens. At that point, a commerce-starved public steps up to start buying, labor-starved businesses quickly hire, and Americans happily head back to their jobs. The various programs in the CARES Act were designed to address the cash-flow needs for this evolution of the economy.

A key part of this logic is that it simply involves recovery – restarting what was there before – and not restructuring. That almost certainly will not be the case. Transportation services, hotels and other accommodations, performing arts, amusements and gambling, and eating and drinking places account for about 5 percent of GDP and 11 percent of employment (at the end of 2019). In these industries the 2020 problem (and perhaps beyond) is not liquidity; their business models are no longer uniformly viable. There will be firms in these industries that will transform from illiquid to simply insolvent. This is among the factors that will slow the pace of the recovery and prevent an immediate rebound to levels of activity present in January and February.

The changing economic landscape also means that the policy design should change as well. It does not make sense to put taxpayer dollars into companies that market forces may eliminate. Over the next few months, the emphasis should shift from speedy, indiscriminate lending and grants to targeted lending programs where needed. Policy should also shift its focus away from keeping workers attached to their firms and toward supporting shifts in the demand for workers as some industries shrink and others expand.
Strong policy support will be an important element of recovering from the COVID-19 recession. But it will have to be more nimble than simply repeating CARES.

In addition, policy should anticipate the need to support supply-side issues. The virus itself may continue to generate headwinds, regional lockdowns, and other supply disruptions. And the need to modify workplaces to ensure safe operation in the presence of the coronavirus will raise the cost of doing business and slow the pace of recovery.

This is where infrastructure investment can be of direct assistance to the recovery. As noted above, the CBO projection anticipates elevated levels of unemployment through 2021. A well-designed infrastructure effort can begin to provide economic benefits at roughly this point in the recovery.

I encourage Congress to take a disciplined approach. First, any infrastructure policy should be something that cannot, or will not, be provided by the private sector alone. From a (literally) textbook viewpoint, there is infrastructure that is valuable to production that has some combination of two characteristics: (1) it is jointly consumed; (2) it is not possible to exclude people or firms from using it. (Technically, these kinds of goods have the label "public goods." See Chapter 4 of Rosen and Gayer.)

One truck driving on a highway does not stop another from doing so as well; both "consume" the highway at the same time without diminishing the other. (Notice the same is not true of the diesel fuel they use; that is a private good.) The same is true of airports and the air traffic control system. Or the broadband backbone. Non-excludable means you can't stop someone from using the infrastructure, making it quite difficult to charge for its use. Neither characteristic is absolute, and they change with technology and market conditions. But the more something is shared in use and difficult to charge for, the better candidate it is for genuinely being public infrastructure.

Second, it should be tied as directly as possible to better economic performance. The prime imperative is to improve efficiency and reduce the costs of the national supply chain. The economy has already weathered severe supply shocks, and one can anticipate more in the pandemic's future. And responding to the pandemic will raise the costs of doing business. It is important to use policy to offset these changes to the extent possible. Better connectivity across ports, railroads, airports, trucking, and other parts of the economy will improve efficiency. Those impacts are direct and immediate; they are the best candidates for infrastructure spending.

A third criteria is to prioritize those that are national (or regional) in scope. The federal government solves national problems; it should be first and foremost focused on improving national connectivity in transportation and the like. Projects that are metropolitan in scope should have lesser priority and be the responsibility of states and localities. The federal government might also be involved in financing such projects, but in doing so it should demand serious analysis that these projects generate quality results.

It is also important to set expectations appropriately about what infrastructure spending will and will not accomplish. Infrastructure should not be about "stimulus." The most important aspect of projected recoveries for the U.S. economy is not the growth rate in the latter half of 2020. The most important feature is that even those forecasts that anticipate rapid growth in the 3rd and 4th quarters still have the *level* of economic activity at the end of 2021 below that at the beginning of 2020.

Infrastructure projects are long-lived. They provide long-lived benefits that have nothing to do with the near-term pace of growth and should be planned and implemented independent of it as well. As it turns out, few projects are genuinely "shovel-ready," and the history of using public-works spending as a tool of "stimulus" is replete with failure.

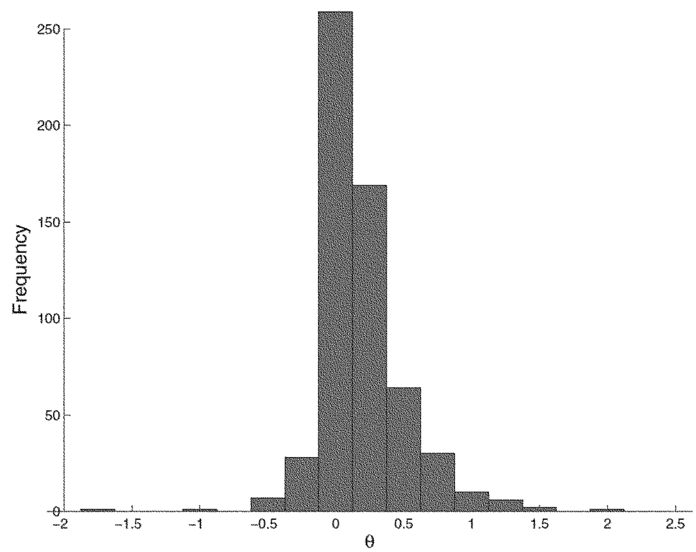
What does this say about current legislative proposals? Consider, for example, the America's Transportation Infrastructure Act (ATIA). It fits nicely into the framework. It is focused on surface transportation, a key part of the supply chain. It uses existing state programs, thus reducing costly start-up issues associated with new programs. And it makes no attempt to front-load or otherwise force spending to occur too quickly.

That is consistent with the evidence on the contribution to productivity from infrastructure, which suggests that policymakers should be modest in their expectations for a new infrastructure initiative to quickly remake the economic outlook.

The modern literature on the productivity impacts of public infrastructure was spawned by the work of David Aschauer [1989]. In effect, he assumed that GDP is produced by combining the usual inputs – private-sector capital and labor – and inputs of public-sector capital. For the United States, he concluded that infrastructure had a very strong positive effect on private-sector productivity – stronger than the impact of private-sector capital. His specific estimate indicated that a 10 percent rise in the public-sector capital stock would raise the level of productivity by 3.9 percentage points. Put differently, the so-called "elasticity" of productivity with respect to public capital is 0.39. If productivity impacts are as large as the Aschauer results implied, federal infrastructure outlays would have a lasting impact on the path of real GDP, personal incomes, and the federal budget.

Unfortunately, the Aschauer finding does not hold up. In 1994, my own research showed that Aschauer's result was an example of reverse causality; i.e., during periods of high productivity growth, more spending on infrastructure occurred. Using data from the 50 U.S. states, I found little to no evidence of lasting productivity impacts.

A large amount of research followed. The histogram below, from Bom and Ligthart [2014], summarizes 578 estimates from 68 studies that cover various time periods, nations or states, levels of government (municipal, state, federal), and types of public capital.



The histogram shows the distribution of θ, the elasticity defined above. As one can see by inspecting the figure, there are large positive (over 2.0) and large negative (below -1.5) examples in the literature. The bulk of the estimates cluster closely around zero, however. The overall shape of the distribution does suggest a greater chance of positive impacts than negative ones, so a consensus estimate of the elasticity might be slightly above zero.

Infrastructure can contribute to a policy mix that responds effectively to the pandemic recession. But it is not a silver bullet and will only be successful if it is undertaken in a disciplined, patient fashion. As noted above, ATIA strikes me as a good example of this approach.

Thank you, and I look forward to answering your questions.

Senate Committee on Environment and Public Works
Hearing entitled, *"Infrastructure: The Road to Recovery"*
June 4, 2020
Questions for the Record for Dr. Douglas Holtz-Eakin

Senator Sullivan:

1. Background on Project: Alaska's North Slope is a hydrocarbon-rich and while it has produced tons of oil, its natural gas resources have largely been pumped back into the ground and never brought to market. At 245,000 km2, it is an area larger than most U.S. states. Alaska's gas is proven and conventional - Initial: 35 Trillion Cubic Feet (Tcf) from Prudhoe Bay and Point Thomson; Future gas from entire North Slope: 200 Tcf conventional and Shale and hydrates add 100's Tcf.

   On May 21st, FERC issued its authorization for the projects. It still needs several other permits and funding to proceed. Estimated Completion Date of Environmental Review and Permitting: 09/18/2020

   The Alaska LNG Project is comprised of the following integrated and interdependent facilities: a liquefied natural gas (LNG) terminal in Southcentral Alaska designed to produce up to 20 million metric tons per annum of LNG; an approximately 807-mile, 42-inch diameter gas pipeline; a gas treatment plant (GTP) within the Prudhoe Bay Unit (PBU) on the North Slope; an approximately 1-mile, 60-inch diameter gas transmission line connecting the GTP to the PBU gas production facility; and an approximately 63 mile, 32-inch diameter gas transmission line connecting the GTP to the Point Thomson gas production facility. The mainline of the Alaska LNG Project will traverse over 800 miles from the GTP on the North Slope of Alaska through several boroughs before it crosses Cook Inlet and connects with the liquefaction plant and marine terminal in Nikiski, Alaska.

   Alaska LNG could create up to 11,000 jobs during design and construction – many thousands of them in my state of Alaska, but also across the nation. Additionally there could be approximately 1,000 operational jobs. Studies have also shown that each direct job creates a ripple effect in the economy that generates 20 indirect jobs.

   Mr. Holtz-Eakin, you state in your testimony that as our nation comes out of this downturn, some industries will shrink and others will expand, and thus the demand for workers will fluctuate. The creation of stable jobs will better our nation's economic performance will be crucial to recovery. While not a project associated with our surface transportation reauthorization, America's Transportation Infrastructure Act, would you agree that a project of this size, that is a job creator across the U.S., bringing clean natural gas to market, and is near shovel ready, would be good for workers as we are trying to recover from this economic downturn?

   If, indeed, the project could be brought to full scale in the relative near term (2020 or 2021), it could make a contribution to restoring full employment in the United States. However, as I hope I conveyed in my appearance before the committee, I think the *dominant consideration is the degree to which projects make a lasting contribution to the trend rate of growth going forward. I would prefer that all projects be evaluated by this criteria.*

<u>Senator Whitehouse:</u>

1. Below are several quotes you have made about climate change. Do you stand by these comments and if so how should we consider climate change in infrastructure legislation?

   "There's no question that if we get substantial changes in atmospheric temperatures, as all the evidence suggests, that it's going to contribute to sea-level rise,"…."There will be agriculture and economic effects — it's inescapable."….."I'd be shocked if people supported anything other than a carbon tax — that's how economists think about it." NY Times, 2014.

   "I've for years taken seriously the risk of climate change, I promoted John McCain's cap-and-trade proposal during the 2007-08 campaign season, and I think that if there is to be a serious mitigation effort, the best way to do so is via a carbon tax." American Action Forum, 2018.

   "In the bad old days, Democrats bad-mouthed trading systems and price mechanisms; Republicans opposed rifle-shot subsidies and mandates. Weirdly, conservatives have a need to relearn these lessons."

   I stand by my previous comments. Those comments convey my belief that the most efficient, growth-friendly way to reduce greenhouse gas emissions in the United States is the adoption of an upstream, economy-wide carbon tax. If adopted, the resulting price incentives would result in every activity – including building infrastructure projects – being "greener" than before. It is possible to mandate the same outcomes in infrastructure projects, but mandates have greater economic cost and would not be as comprehensive.

Senator BARRASSO. Thanks so much for your testimony and being with us today.

Also joining us remotely is Mayor Greg Fischer from Louisville, Kentucky, incoming President of the U.S. Conference of Mayors.

Mr. Mayor, we appreciate your doing this. I know you committed to be here prior to the tragedy that is affecting the country right now. I know you have lots going on. We appreciate your being here, and we are looking forward to hearing from you now.

STATEMENT OF HON. GREG FISCHER, MAYOR, LOUISVILLE, KENTUCKY, AND INCOMING PRESIDENT, U.S. CONFERENCE OF MAYORS

Mr. FISCHER. Thank you Chairman Barrasso and Ranking Member Carper and members of the Committee.

There is no doubt that it is busy times in America's cities right now, we have much to do. I really appreciate the opportunity to participate in this hearing remotely, so thank you for the flexibility.

I am Greg Fischer, the Mayor of Louisville, and Vice President of the United States Conference of Mayors, as you noted.

I commend you all for holding this timely examination of how infrastructure investment can help get our country back on the road to recovery.

Before I talk about that topic that has brought us here today though, I would like to acknowledge the crises that Louisville and cities all across our country right now are currently facing. That is the COVID-19 pandemic, which we thought was a big enough challenge, and now we have challenge in our streets of America protesting so many things, but first and foremost among them the effects of systemic racism.

My community is mourning the death of two residents who died in interactions with law enforcement, Breonna Taylor, and David McAtee. We join Americans nationwide in mourning the deaths of George Floyd, Ahmaud Arbery, and just way, way too many others.

Systemic racism haunts and hinders our progress as a Nation. We have to learn to work together at all levels of government to address the concerns of our African American communities and implement real policy reforms to ensure justice, opportunity, and equitable outcomes for every American, regardless of their skin color.

Infrastructure plays a really big role in addressing some of those challenges locally. With your support, Mayors can promote equitable economic growth through infrastructure investment.

So let's talk about the impact of the coronavirus on cities. The Conference of Mayors has been doing everything we can to support our communities throughout the pandemic. We struggle to understand how and when we will fully recover, because of the depth of the economic challenge. We want to thank you and your colleagues for passing the CARES Act and taking other actions to help us at the local level.

Yet despite these significant actions, unfortunately, more needs to be done, including providing fiscal relief for cities, counties, and State governments, more relief that can be used more broadly to support the fall off in our general revenues.

Congress must provide flexibility for cities like Louisville to use our allocations from the coronavirus relief fund to address our revenue losses. Local governments need additional funding to support our ongoing response after December 30th, 2020.

We are working to finalize budget recommendations for the new fiscal years that begin for most cities on July 1st, so we need action and resolution from Congress as soon as we possibly can get it.

National recovery must focus on metro areas. Our metro regions are the engines of the U.S. economic growth, accounting for 91 percent of gross domestic product and wages. Unemployment rates were higher in April in all 389 metropolitan areas, according to data released by the BLS yesterday. Another 1.9 billion Americans filed unemployment claims last week, and the national unemployment rate may exceed 20 percent. If our economic output does not get back on track, obviously our Nation will be in trouble.

As a logistics hub, Louisville can attest that infrastructure investment creates jobs. UPS employs more than 20,000 full time local workers here in Louisville. Our local infrastructure supporting UPS's Worldport has attracted hundreds of other businesses across multiple industries. So we ask that you look at ways to increase your funding commitments to local jurisdictions.

Cities will not be able to lead, as we previously have, in drawing our share of revenue commitments to infrastructure, including highways to support the movement of goods. Mayors must have more say to ensure that Federal investment fulfills our community needs.

In my fuller testimony to you all, I talked about our Reimagining Ninth Street Project. The complete street's redesign of the corridor will help our city to heal the physical, racial, and social divide between west Louisville, our lower income area of the city, and our downtown and neighborhoods to the east.

Our requested Federal grants will help grow economic activity in the very places that need it most, like our opportunity zones. We will improve quality of life and safety outcomes for all facility users.

The plan also includes dedicated transit lanes for our Bus Rapid Transit system. Our partners at TARC, that is our transit authority, provide transit service to 40,000 riders daily, and 80 percent of those trips are employees and students.

Transit is important to our economic and work force development. Our residents and essential workers need access to jobs, education, commerce, healthcare services, and clean air, no matter what zip code they are in.

I would like to convey our support for the Committee's efforts to address climate resiliency, reduce carbon emissions, and fund alternative fuel structures. I appreciate the sub-allocation of funds to local areas to support our emissions reduction strategies.

Local government needs your help to harden our infrastructure systems to withstand natural disasters and extreme weather events, like the flooding we have experienced locally here from the Ohio River.

Cities, counties, and towns own and manage about every 4 out of every 5 miles of highways and streets, managed, again, by cities, counties, and towns. So we would welcome your commitments to support our needs in this area.

In closing, Mr. Chairman, Ranking Member, and Committee members, we support your efforts to advance legislation to renew the Nation's surface transportation law. Infrastructure investment can facilitate the job growth and economic recovery we desperately need. We encourage you to direct Federal resources to our Nation's metro areas.

On behalf of the Conference of Mayors, I would like to express our appreciation for the opportunity to join you this morning and share our views. I would be pleased to answer any questions that you have.

[The prepared statement of Mr. Fischer follows:]

THE UNITED STATES CONFERENCE OF MAYORS

Senate Environment and Public Works Committee

"Infrastructure: The Road to Recovery"
Thursday, June 4, 2020
10:00 a.m.

Written Testimony
of
The Honorable Greg Fischer
Mayor of Louisville
Vice President, The United States Conference of Mayors

Mr. Chairman, Mr. Ranking Member, and Committee Members.

Thank you for this opportunity to participate in this hearing.

I am Greg Fischer, Mayor of Louisville. I appear as mayor of my state's largest city and the nation's 18th largest city. I also appear as Vice President of The United States Conference of Mayors, where I will become President of this mayors' organization in less than a month.

The Conference of Mayors is a bipartisan organization representing the more than 1,400 U.S. cities with a population of 30,000 or more. Member cities are represented by the chief elected official, the mayor.

Chairman Barrasso and Ranking Member Carper, I want to commend you for holding this timely examination of how infrastructure construction, improvements, and repair generally, and how the *America's Transportation Infrastructure Act* specifically, could help stimulate economic recovery and growth. I appreciate this opportunity to present the views of the nation's mayors and express my gratitude for allowing me to participate remotely.

Before I talk about the topic that has brought us here today, infrastructure, I would like to take a moment to acknowledge the two ongoing crises that Louisville and cities across our nation are facing. The COVID-19 pandemic and systemic institutionalized racism.

My community is mourning the deaths of two residents who have died in interactions with law enforcement, Breonna Taylor and David McAtee, and we join Americans nationwide in mourning the deaths of George Floyd, Ahmaud Arbery and so many others. We've taken numerous steps locally – involving both police reform and requesting independent investigations and reviews though I know none of these will not resolve the frustration and concerns that residents are feeling and demonstrating on the streets of Louisville, just like we're seeing around the country.

When I visited with protesters recently, I heard their anger and disappointment in a system that still devalues African American lives and denies African Americans justice, opportunity and equity. And I support their efforts.

Structural racism results in disparate health and economic outcomes for minority communities, which have been disproportionately impacted by COVID-19. African Americans are suffering from increased risk for complications and death due to preexisting and chronic conditions.

According to the May 8th news releases by the Bureau of Labor Statistics, the unemployment rate reached "16.7 percent for Blacks, 14.5 percent for Asians, and 18.9 percent for Hispanics" in the month of April. Minorities are losing jobs at higher rates, and the record-high jobless numbers are destroying wealth in their households and communities.

Mayors understand that national and community leaders must work together to harness the moment to catalyze structural, legitimized policy reforms that begin to address four hundred years of injustice and imbalanced power.

Today, we have an obligation – and our opportunity – to reform our system. To put an end to the racism that still haunts and hinders our progress as a nation. And infrastructure plays a role in making the changes we need to make to live up to Constitution's guarantees of freedom and equality.

The Members of the Senate Committee on Environment and Public Works can help cities address one of these challenges. With your support, mayors can promote equitable economic growth through infrastructure investment as we move forward during our national recovery.

Equity Integral to a National Investment Agenda

The coronavirus and its revealing of deep-seated economic disparities challenge us to direct our national infrastructure investments not only to projects of so-called national and regional significance, but to projects of critical significance to our local communities that are responsive to the needs of low- and moderate-income neighborhoods. In doing so, we can help our residents and small businesses to thrive.

With national unemployment at unprecedented levels amidst this public health emergency, we need to give more attention now to making investments where people need it most. Expanded commitments to Surface Transportation Block Grant (STBG) funding – especially "local area" funding, with local elected officials deciding investment priorities that are responsive to community needs – can help ensure that infrastructure investment is directed in support of local neighborhoods that continue to struggle economically for a variety of reasons.

In my city, we are committed to promoting greater equity through our infrastructure investments to address income inequality. One example of how we believe transportation infrastructure can advance these goals is our Reimagine 9th Street Project.

This proposed $20.5 million investment – which would consume more than what our Metropolitan Planning Organization (MPO) receives annually in Surface Transportation Block Grant (STBG) funding – is an example of how highway infrastructure investment can help address disparities in the wake of COVID-19.

Our plan is to reengineer 9th Street from the Ohio River to Broadway inside the city, while providing a safer, more vibrant connection for the residents of several designated Opportunity Zones running along the corridor. We want to undertake these infrastructure improvements to correct the long-standing physical, social, and racial divide that has alienated the neighborhoods of West Louisville from the downtown business district and other neighborhoods to the east.

The facility, as currently constructed, lacks proper infrastructure to facilitate safe outcomes for all users, including pedestrians and cyclists. A requested federal BUILD grant would enable us to update this corridor with a complete streets concept that better protects our residents who live in neighborhoods along 9th Street and improves their quality of life.

In the future, there are plans for this corridor to support the Dixie Highway Bus Rapid Transit (BRT) line, providing dedicated transit lanes and improving rider experience. The Transit Authority of River City (TARC) moves 40,000 Louisvillians on a daily basis. Nearly 60 percent of our transit trips are getting people to and from work, and an additional 20 percent are getting people to and from educational opportunities. We consider TARC to be critical to our economic and workforce development efforts.

Our local taxpayers deserve equitable access to employment and education opportunities, commerce, municipal services, healthcare, and clean air no matter which zip code they live in. In doing so, we can help overcome a physical divide and improve economic and public health outcomes.

There are many other projects like our Reimagine 9th Street Project that we could pursue in Louisville and throughout the nation, investments that would accomplish the same outcomes, which are particularly critical at this time in our history. Importantly, these infrastructure projects can help local areas grow economically during this recovery period from the coronavirus and its fallout. Such investments will also help ensure that our metro economies, which are projected to account for 94 percent of our nation's annual job growth, can play a pivotal role in putting the country back on track as we work to get 40 million people back to work.

Impact of Coronavirus on Cities

Let me share some of the mayors' views on the fiscal impact of the pandemic on our cities. We all know about its immediate effects and they have been substantial, but the near-tern and long-term effects of COVID-19 are still uncertain and evolving. As we learn more about this deadly virus, it often feels like the unknowns increase as well.

For our part at the Conference of Mayors, the organization has been holding weekly calls with hundreds of mayors to share first-hand experiences and best practices as best we can, amid much angst and uncertainty.

In addition to weekly mayoral calls, the Conference is sponsoring webinars for mayors on various topics, distributing daily written updates, and conducting frequent surveys and other data-gathering efforts to help assess the public health and economic fallout wrought by this virus.

To build the public record, the Conference of Mayors established the Mayors COVID-19 Fiscal Pain Tracker, an online tool that reports on local fiscal impacts. The Tracker is continually updated and now provides information submitted by 170 cities. This is what my city filed into the Tracker, reflecting our Fiscal Year (FY) 2021 budget recommendation using estimates available on April 23, 2020:

> *Louisville Mayor Greg Fischer, the Conference's Vice President, reported that the budget shortfall the city faces is too large to be absorbed and will result in cuts across every Metro Government agency, including public safety. The city is expecting a COVID-19-related revenue shortfall of $46 million in the fiscal year ending June 30, followed by an estimated $69 million in the next fiscal year. Three hundred and eighty Metro public servants have already been furloughed, and without any direct federal assistance, the city is looking at further furloughs and possible layoffs in response to the budget shortfall.*

We are preparing to revise our estimates to reflect actual revenue receipts from the month of May as that information becomes available.

We do know that this pandemic affects cities in different ways and at different times, with varying degrees of intensity. In my own city like so many others, we must battle this pandemic with all of our public health, public safety and human resource services, among other services, that we have at our disposal, all the while we struggle to maintain funding commitments in our budgets as local revenues decline.

Mayors know our cities will be changed by this pandemic, as it realigns our business sectors and workforces as well as local government services. COVID-19 is forcing change on a massive scale and at a very rapid pace, challenging our public, private and non-profit institutions like never before. And, it has brought unprecedented disruption to our transportation networks and services, forcing this Committee to reexamine and revisit its FAST Act renewal proposals.

The most pressing issue before city governments is the rapid deterioration of our local revenue streams, as several mayors discussed last week before a House Subcommittee. Led by Conference President and Rochester Hills (MI) Mayor Bryan Barnett, seven mayors joined together to discuss the local fiscal impacts of this pandemic before the House Select Subcommittee on the Coronavirus Crisis. Mayor Barnett joined with Mayor Jenny Durkan of Seattle (WA), Mayor Stephen K. Benjamin of Columbia (SC), Mayor Keisha Lance Bottoms of Atlanta (GA), Mayor Mary Jane Scott of Mangum (OK), Mayor Lenny B. Curry of Jacksonville (FL), and Mayor Eric Garcetti of Los Angeles (CA) at this session.

This Subcommittee forum coincided with the nation reaching a gruesome milestone – 100,000 lost to COVID-19, a toll that now stands at more than 105,000 American lives – where mayors stressed the urgent need for federal action to address growing local budget shortfalls (what we commonly call "local fiscal relief") with new federal funding commitments, procure more personal protective equipment and testing supplies, and develop a comprehensive national strategy to prevent a second outbreak.

Let me share some of their perspectives. In his remarks, Conference President Barnett described current conditions in this way: "My message today is straightforward and urgent. American cities are still being devastated by this pandemic, and it is imperative that Congress and the Administration take swift action before the beginning of the next fiscal year, which for many cities begins on July 1."

Immediate Past Conference President Steve Benjamin, Mayor of Columbia (SC) said that without direct federal aid, cities will be forced to scale back essential services. "Simply put, absent flexible federal fiscal assistance, state and local government will be forced to lay off employees, cut services, and take other measures that undermine any countercyclical fiscal and monetary actions taken at the federal level," he said.

City leaders just like you here on Capitol Hill struggle daily to comprehend fully what this pandemic has wrought, and like you we seek to find the best solutions that respond to the dramatically changed public health and economic landscape before us.

Compounding these financial effects, this pandemic has revealed structural and deep-seated disparities embedded in our service systems and in our economy. We continue to learn from COVID-19 hospitalizations, deaths, and positive cases that there is a growing record of disparate impacts, with race and ethnicity being key factors in determining who is most adversely affected. And, the current social unrest we are now experiencing in my city and elsewhere reminds all us that we have more to do in addressing inequalities in how we deliver our services and make new public investments, including public infrastructure.

Mr. Chairman, I want to thank you again for this opportunity to talk about actions you and your Committee colleagues can take to get our economy on the path to recovery and future growth, including how you might adjust the *America's Transportation Infrastructure Act of 2019* you adopted last year.

I also want to take this opportunity to thank each of you for the new funding you provided in the CARES Act and your other legislative actions to date to help us at the local level combat this pandemic. I was heartened to see the bipartisan efforts that led to a 96-0 vote in passing the CARES Act. I am thankful to our U.S. Senator from Kentucky, Majority Leader Mitch McConnell, for his leadership in facilitating that outcome.

Yet, despite these funding infusions, there is still more to be done to get us on the right path, including especially funds for fiscal relief for cities, counties and our state governments. And, we know that all of us must do more to advance greater equity and inclusion in the policies we adopt and the funds we invest.

Partnering with Cities on Economic Recovery

One of the significant challenges before us is how we all work together on economic recovery in this COVID-19-impacted world. As mayors, we believe there is need for the federal government to be even a stronger partner with cities if we are to enable the strongest possible recovery.

The U.S. economy is simply the sum of all its local economies, all contributing in different ways to our collective economic output. And, we do know that increasingly our national economy is being driven by the 360+ urban area economies, what we call our U.S. City/Metro economies. In fact, these areas are the engines of America's economic growth and are key to our future economic recovery and long-term prosperity.

These metro regions now account for over 91 percent of the nation's gross domestic product (GDP) and wages, and 88 percent of total employment, according to the Conference's U.S. Metro Economies reports prepared by HIS, which I oversaw as Chair of the Conference's Council on Metro Economies and the New American City for more than six years.

Over the last two decades, the U.S. metro share of these key national economic indicators has steadily climbed to their current levels and are projected to continue their upward trend. What this means is that our investments in infrastructure must reflect and support the nation's economic activity where it occurs. Only then will our investments yield productivity gains necessary for higher rates of growth. That means increased investment in our metro economies, which span both more urban and suburban jurisdictions.

This Committee recognizes this economic reality by providing investment resources that help build transportation systems that address mobility, equity, and sustainability. But we must do more, and there is a particularly pressing need now to ensure that more of these resources are subject to local decision-making.

In this COVID-19 environment, each of our local economies will struggle to restore economic output to pre-pandemic levels. Since 2008, we have seen how some metro areas struggled to return to their pre-2008 recession levels of employment and economic output. It is possible that the economic contraction we are now experiencing today may take even longer to fully recover, as some economists now predict.

In my own region, the Louisville-Jefferson County metro area accounts for about one-third (32.1 percent) of Kentucky's economy, totaling $67.3 billion of economic output in 2018. My city sits at the center of this bi-state region, which also includes counties in Southern Indiana that account for $10.8 billion in additional output. In total, the regional economy generated $78.1 billion in economic output in 2018.

As you look to make adjustments in your federal infrastructure spending priorities, notably highway program funding, we encourage you to raise your overall funding commitments and we ask you to provide for more local decision-making. Let me speak to the latter issue first. The Louisville metro area which is so important to the state's economy advances its transportation funding priorities through the Kentuckiana Regional Planning and Development Agency (KIPDA), our region's metropolitan planning organization. Notably, despite our substantial role in driving the state's economy, we have relatively little say or influence over how most federal highway dollars are invested in our state.

During the last fiscal year (FY 2019), the FAST Act apportioned KIPDA about $20 million in Surface Transportation Block Grant (STBG) Program funding, resources where we in the Louisville region can select projects and we are certain will be funded (law requires that each state provide proportional share of obligation authority to fund these metro area STBG projects).

With about one third of the state's economy, this STBG formula funding to the Louisville area represents less than three percent of all highway program funds apportioned to the State of Kentucky, which totaled about $718 million in FY'19.

Notably, in Louisville and cities in other urban areas of our state, local governments own about four of every five miles of roads, which is about the same ownership rate for all local governments of the nation's roughly four million miles of roads. The highways and streets we own and operate are now even more important. In this new pandemic environment, these roads are being used more often as trips have been less frequent and our citizens focus on more localized and necessary travel. This more localized focus is something all of us must consider as we seek to adjust and reengineer our systems and facilities to adapt to demands of this public health threat.

In his recent statement, Mayor Benjamin said it very well. "By opening our economies gradually but safely, we can set the stage for long-term mitigation of this public health crisis and our economic recovery. But this can be done only if we open in a smart way that acknowledges the virus is still present. This will require diligence of our citizens and the ingenuity of our businesses. And it will require federal support of our cities and local resources on all fronts." I believe this new reality requires us to embrace and further empower local decision-making as we deploy available federal resources for infrastructure, among other investments, to accomplish these outcomes. And, I believe we are still learning about how we adapt our streets, curbsides, our other infrastructures and networks, including our public transit systems.

The CDC, in a new guidance issued last week, is recommending that employers provide parking, among other actions, to support more solo driving as a social distancing measure. In many regions, this guidance could promote more congestion and undermine ongoing local efforts to expand travel options in key corridors and to serve growth centers. It is often these very corridors and places where the highest rates of growth are occurring in our metro economies. In fact, these are the very areas that need to recover so they can generate the economic growth that supports our regions, states and nation.

This is one example of many as to why we urge you to look for additional ways to move more decision-making to mayors and other local elected officials who oversee these economic engines. And, we know that it is this local decision-making that will be so important in our efforts restore and grow these regional economies.

We also urge you to consider raising the funding commitments in your FAST Act renewal proposal. As currently drafted, we understand that the Committee is proposing a 27 percent increase in funding over the five years of the reauthorization period. Quite frankly, the economic and revenue consequences of this pandemic forces this Committee to review its earlier funding commitments.

As you noted earlier, cities and other local and state governments are reeling from the economic efforts of the pandemic. According to our preliminary estimates, my city alone projects a revenue shortfall exceeding $100 million for Fiscal Years 2020 and 2021. And, this is only what we know about as of last month.

To provide some context, below is a table showing new revenue commitments to highways, by federal, state and local governments, from 2001 – 2015.

Table compares federal highway funding commitments to states and local governments for the period 2001-2015

	Federal Funding		State Governments		Local Governments	
	Total Funds*	Directed to Locals*	New State Revenues**	Outstanding State Debt	New Local Revenues**	Outstanding Local Debt
Year	**$ in billions**					
2001	22.3	3.6	60.4	66.3	33.1	37.9
2005	26.0	4.0	66.1	88.2	38.5	47.2
2009	32.7	4.5	81.4	125.6	46.9	58.1
2013	34.8	4.9	89.0	192.5	54.3	72.1
2015	34.7	4.9	104.1	217.9	71.7	52.6
$ Increase	12.4	1.3	43.7	151.6	38.6	14.7
% Increase	**55%**	**37%**	**72%**	**228%**	**116%**	**39%**

Source: FHWA Notices (apportionments & obligation authority); Highway Statistics (tables HF-10, HF-10A, SB-2 & LGB-2); and analysis by The U.S. Conference of Mayors.

* *Total Funds* is obligation authority (i.e., actual spending authority) provided to states each year to fund projects under the various federal highway programs; *Directed to Locals* is STP/now STBG funding to local areas where federal law directs states to assign a proportional share of obligation authority to locally-selected projects in local areas (MPOs with a population of 200,000 or more receive their population share of STBG local area spending authority).

** Amounts shown for *New Local Revenues* and *New State Revenues* exclude borrowed funds.

Note: *Year* means fiscal year for federal funding and calendar year for state and local funding; only odd years are shown because FHWA only reports actual figures in these years (2015 is most recent year all of the data are available).

During this period, federal funding commitments increased only by 55 percent (or 4 percent average annual growth rate), as all state governments increased their new revenue commitments to highways by 72 percent (or 5.2 percent average annual growth rate) and cities and counties by 116 percent (or 8.3 percent average annual growth rate). Given the current economic outlook, especially the uncertainty about the status of local and state fiscal relief, cities and other local governments will be unable to grow their commitments at this rate. It is certain that total highway investment will contract, absent greater commitments in your renewal legislation.

In some markets, project sponsors are accelerating the completion of planned projects to take advantage of reduced congestion/VMT levels, especially in congested metro areas. The consequence of completing projects earlier also means that funding accounts and cash balances are being depleted more quickly, as other revenues decline, so this creates additional pressure to provide additional federal resources to sustain investment levels.

Finally, the chart shows the relative decline in federal funding commitments to metro/local areas under the STBG (formerly STP) Program during the period.

Resiliency Improvements, Environmental Protections, and Emissions Reductions

Mr. Chairman, we strongly support other provisions of your legislation, including your strengthened commitments to local areas under the Transportation Alternatives Program as well as your expanded commitments to bridge repair and safety. As a gateway between two states, Louisville understands the importance of those infrastructures in supporting workers and our local and regional economies by providing access to other U.S. cities like Cincinnati, Nashville, and St. Louis. But for our local residents, I want to convey our strong support for your new commitments to promoting climate resiliency, reducing emissions, and investing in alternative fuel infrastructure.

I especially want to thank you for sub-allocating funds to local areas in support of their various carbon emission reduction strategies. For mayors, reducing carbon emissions has been an especially high priority for several years. The focus on the transportation sector is particularly timely now that it has become the largest source of carbon emissions throughout the U.S. I can assure you that local agencies will use these funds wisely and creatively, demonstrating that reducing carbon use is also good transportation policy, as we expand multi-modal travel options, among other actions, which will curb harmful emissions in the process.

Your ATIA legislation also invests new funding in resiliency programs to protect our roads and bridges from natural disasters and extreme weather events. We applaud your support for these commitments. At our Annual Meeting last year in Boston, the Conference's membership mayors specifically adopted a resolution urging that funds for these purposes also be provided to our metro and local areas, as the STBG program provides. Mr. Chairman, I would urge you to revisit the design of this program and work to sub-allocate funds here as you have provided under the Carbon Emissions Incentive Program.

Finally, the Conference wants to indicate our support for your alternative Fuel Infrastructure Program. Cities have been working for some time in this area, and as mayors we recognize that there are substantial gaps in the available infrastructure that is needed to usher in a more diverse array transportation fuels to power our vehicles.

Closing

Mr. Chairman, Ranking Member and Committee Members, we support your efforts to advance legislation renewing the nation's surface transportation law. I encourage you to provide additional funding and additional commitments to local areas and their decision-makers as we seek to maintain and expand our vital surface transportation systems.

On behalf of the Conference of Mayors and its members, I want to express our appreciation for the opportunity to share our views and join with you this morning. I would be pleased to answer any questions you may have.

Senate Committee on Environment and Public Works
Hearing entitled, *"Infrastructure: The Road to Recovery"*
June 4, 2020
Questions for the Record for the Honorable Greg Fischer

Senator Whitehouse:

1. You have been quoted saying, "The need for climate action has never been more clear. Now, we're in the middle of this pandemic right now so we have to remember that climate issues have not changed, they're not going away." Do you stand by this quote and how should we consider climate change in infrastructure legislation?

Mayor Fischer:

Yes, I do stand by this quote. And, I have some specific suggestions regarding infrastructure legislation, specifically transportation investment. COVID-19 pandemic is teaching us, the United States as a nation and Louisville as a city, that we need to be better prepared for unforeseen circumstances.

We should all see the current pandemic as a teachable moment, driving us to get our house in order and be more diligent in preparing for other global challenges, like climate change. The pandemic has cast a light on systemic inequities in access to healthcare, which have led to worse outcomes for the Black and Latinx communities that have been disproportionately impacted by this virus. We understand that these issues and public health challenges predate coronavirus, and certain communities have been adversely impacted because of those systemic failures and a lack of access of quality, affordable healthcare.

As we struggle with COVID-19, we should consider how we might proactively address other national challenges and better engineer our collective responses in the future, including how we invest in our infrastructure. Mayors understand that tackling climate change is essential to promote environmental justice. We know, for example, that attaining a zero- or low-carbon future will rely on many actions over time, including modifications to our various infrastructure systems. If we don't act, communities will suffer.

As we look to our climate challenges, mayors were early proponents of local action and decision-making, urging our state and federal partners to support us in our efforts. Unlike some of the polarization you see here in the nation's capital or in our state capitals, our citizens want us to act and, quite frankly, expect us to deal with future threats like climate change. We have simply asked you and others in Congress to do more to support these local efforts, as we work locally to retool and reengineer our infrastructure, among other changes, to move cities toward a cleaner energy future. We certainly hope there is consensus here in Congress to support local climate action, until such time as there is broader agreement here on a national response.

As I mentioned in my testimony, it is particularly important that we focus on the transportation sector, since it is now the nation's largest source of carbon emissions. As we consider additional investments in our transportation infrastructure, we urge you to do all you can to increase funding to support alternatives to solo driving through increased investments in public transit as well as pedestrian and bicycling facilities. Such commitments today will help us reduce our carbon use now as we work toward a future when electro traction for most travel is ubiquitous.

In developing policies for how we invest in our highway infrastructure, I want to reiterate our call for greater local decision-making authority over how federal highway dollars are invested. We urge you to give mayors and other local officials more control over project selection and funding allocation decisions, which we believe in the short term is good climate policy. The record shows that local officials make different decisions than the state DOTs, and local officials are more likely to embrace infrastructure investments that reduce carbon use in our cities and regions. In this regard, I want to thank you and others on this Committee for sub-allocating a portion of ATIA's Carbon Emissions Incentive Program funding to local areas. I also want to recognize your many personal efforts to raise public awareness about the need to act more forcefully on climate change.

Senator Gillibrand:

2. Mayor Fischer, as you know, our nation has an unfortunate long history of systemic racism when it comes to infrastructure. For example, in my home state of New York, a 1.4 mile stretch of elevated highway known as I-81 in Syracuse was built in the 1960's, neatly and purposefully bisecting the city into two. On one side of the viaduct lies the city's economic engines, where Syracuse University and two State University of New York institutions quite literally sit atop a hill. This wealth is effectively quarantined from the rest of the city by the viaduct, which physically keeps away the high-poverty neighborhoods that exist just a few lanes away on the opposite side. This highway was built with these very "special" configurations in mind. Prior to the viaduct's inception, what existed between University Hill and the city's downtown neighborhoods was a close-knit community rich in African American culture and pride. Known as the 15^{th} Ward, the majority-black neighborhood was a refuge of sorts in the years following World War II, when African Americans escaping persecution in the South were migrating North in search of better promise and opportunity.

    a. Challenges like these are unfortunately very common across many cities in the United States. As the incoming President of the U.S. Conference of Mayors, could you elaborate on what mayors are doing to address systemic racism in our transportation infrastructure?

        i. What more should Congress be doing collaboratively with mayors to put policies in place that address racial and socio-economic inequities that have been built into our transportation systems over time?

Mayor Fischer:

Mayors recognize the effects of systemic racism in our transportation infrastructure. In responding to your question, I divided my response into two sections.

First, I discuss some of the federal policy changes that can be adopted to address some of the racial and socio-economic inequities in our transportation systems. And, then I talk about other cities who have also been challenged like Syracuse in finding a path to other solutions.

Among our actions, mayors have worked over time to engage the various federal policy debates on surface transportation renewal legislation that comes before you and this Committee. Mayors have long been united in urging federal legislative actions that we believe will help advance racial equity and other important issues before cities. These efforts have largely focused our efforts on two key issues: the need for increased federal investment in public transit; and the need to further empower local decision-makers in the allocation of federal highway dollars. Let me talk specifically about the later since these issues come before this Committee.

For some time, mayors have asserted that the current funding allocation and project selection process is too heavily focused on state transportation bureaucracies; to address this imbalance, we have urged you to further empower local decision-makers beyond the relatively modest commitments under current law. Empowering more local decision-making is one immediate step you can take to help address racial equity concerns; this action also responds to other pressing concerns as well, including improved public health and safety, recovering local economies and advancing climate change and mitigation efforts, among other issues.

On the question of racial equity specifically, most mayors will tell you that the state DOT bureaucracies are largely unresponsive to the issues of embedded racism. As local leaders, mayors and their constituents live the results of state highway investment decisions, which are largely influenced by available federal highway resources. As such, we have seen firsthand how vesting state transportation agencies with such broad authority have stifled local efforts to advance more racial equity, among other challenges. To be fair, our state transportation professionals are not best positioned to reasonably deliver adequate responses to these often complex and entrenched issues. Given our ability to engage directly with the public and our awareness of their needs on the ground, this explains why mayors believe so strongly in greater local empowerment. And, all of us agree that we need to trust leaders closest to the problems and the people to know and advance appropriate solutions, including racial equity.

I ask you to consider current federal highway commitments to local areas to illustrate this message. Federal law historically delivers about 10 cents of every dollar directly to local decision-makers in specific local areas (i.e., regions) – accounting for less than $5 billion out of the more than $45+ billion apportioned annually to the states. As noted in my testimony, the Louisville metro area generates nearly one-third of the state's annual economic output, but our region is certain to receive less than 3 cents on every highway dollar apportioned to the State of Kentucky.

During this pandemic, all of us were reminded about the importance of local highway networks, and how vital they are in meeting the very basic needs of daily life. Again, as noted in my written testimony, local governments – cities, towns and counties – own and operate nearly three million of the nation's four million miles of highways and streets. Setting aside the few states that own all (or most of) of their highways, local governments own about 90 percent of all highways and streets in all of the other states. Yet, allocating nearly all federal highway dollars to the states, including broad decision-making authority over the investment of these resources, too often means that we get transportation solutions (and sometimes exclusively) that focus on state-owned highways. In a COVID-19-infected world, this is not a sustainable practice.

Beyond a growing reliance on local networks, COVID-19 has also focused attention on the scale of embedded racism and public unrest, the significant impact of transportation emissions on local air quality, how quickly employment and workplace practices and consumer demand can shift, and the likelihood of a prolonged economic recovery. For these reasons and others, we believe empowering more local decision-making is how we advance transportation solutions that are cost effective and locally responsive, especially during this COVID-19 recovery period.

In contrast to federal highway policy, federal law fully empowers local governments in the public transit and aviation space, directing available funding and decision-making authority to the "owners" and operators of these systems – whether it is a state, regional or local agency.

I do want to mention the continued importance of funding flexibility, a guiding principle of federal surface transportation policy since the ISTEA law was enacted in 1991. This policy has been largely preserved, with Congress in subsequent laws enacting both expansions and limitations. That said, while funding flexibility has given us a powerful tool, we don't always take full advantage of this flexibility. The over-empowerment of state DOTs is one explanation for this, as these agencies tend to emphasize a single solution set, one focusing on improvements to state-owned highways, whether it is a project on the Interstate and/or improvements to state-owned highways on the NHS and other facilities on the state-owned network. These projects, almost by design and intent, don't fully utilize the funding flexibility of the law. Projects emphasizing improvements to limited access highways are in contrast to projects that invest in our street grids and other local network solutions that can accomplish other economic and societal goals while furthering our transportation needs.[1]

Related to what networks are emphasized, mayors have been leaders in advocating for "complete streets," context sensitive design and safe routes to school, among other policies and initiatives. Some of my colleagues were involved with then Secretary Foxx's "Ladders of Opportunity" initiative to take a fresh look at the challenges of making infrastructure investment decisions more responsive to issues of racial equity. The Reimagine 9th Street Project, which is discussed in my written testimony, is an example of such a project on our local network.

Mayors are absolutely certain that greater local decision-making will force more policy considerations into the processes for selecting projects and allocating funding. Mayors also know that added investment in the local street network has not always been fully considered alongside investments in state-owned facilities, often limited-access highways. Now more than ever, we are seeing how COVID-19 is influencing and even changing our thinking about future infrastructure investment priorities, challenging us to find new transportation solutions that are

[1] Institute for Transportation Engineering, "Implementing Context-Sensitive Design on Multimodal Corridors: A Practitioner's Handbook," described at https://www.cnu.org/our-projects/cnu-ite-manual and available at https://ecommerce.ite.org/IMIS/ItemDetail?iProductCode=IR-145-E.

more affordable, anticipate changing commute and travel patterns, accelerate local hiring and economic development, and advance growing environmental and racial equity concerns.

We are also learning that we have failed to properly account for the sustained effects of poor air quality on low-income populations, especially people of color. There is growing evidence that COVID-19-related hospitalizations and death rates in our cities and metro areas are higher for people in areas of higher than average air pollution, where transportation emissions from cars and trucks are often the main source of these harmful pollutants.

Let me now speak directly to the legacy of embedded racism we see in the I-81 segment in Syracuse and in other cities throughout the U.S. It is important to look to key milestones in our transportation history for context on how Syracuse and other places ended up with such legacies of community division and isolation.

Many of the highways that divide our cities, especially central cities, were specifically identified by the Bureau of Public Roads and voted on by Congress in 1956, legislation that referenced the "Yellow Book" showing these alignments. The specific document, *General Location of a National System of Interstate Highways Including All Additional Routes at Urban Areas Designated in September 1955*, followed what was largely set forth the Bureau's *Free Roads and Toll Roads*, a seminal book released in 1939. Its chapter on “Cities” labeled central cities as "decrepit," painted a picture of limited access highways as an essential tool of urban renewal and warned that without swift action the real threat was that "some of these cities' mayors have redevelopment ideas of their own."

The Bureau of Public Roads was then located in the Department of Agriculture at a time when farm-to-market was seen as a principal role for the nation's highways. Such a worldview had the effect of subordinating the views of people and neighborhoods in cities, making their concerns secondary to the needs of long-haul shipping and freight movements. And, in this COVID-19 environment, all of us understand there is much more going in transportation than just moving farm goods (and other freight) on our highways.

I would also note that the initial decision to fund highways through the centers of our population centers was also enabled by our Cold War thinking, where a tacit policy of "dispersal" of our central cities to suburban and rural areas was embraced. Dispersal of people from our cities was supported by both direct federal spending and federal tax policy. Syracuse’s I-81 and facilities in other cities are clear legacies of this thinking and federal agency actions. It was common practice to place highway alignments through lower income households, often African American households. These decisions were reinforced by decisions to focus transportation spending on longer-distance highways and aviation, while ignoring the needs of essential mass transit systems that kept cities attractive and economical for even the poorest of families.

The development of the coast-to-coast Interstate System was a federal program, which then deeded ownership and control of what resulted to each of the States. What otherwise would be have been municipal right-of-way was -- by federal action -- placed under the control of each State's Department of Transportation. In many cases, those ROW alignments were State take-overs of former rail lines and interurban electric lines between cities as well as street railways within them. In accordance with longstanding federal priorities, speed and the free flow of traffic were their priorities, goals that continue to animate federal and state decision-making today. For example, in a study funded by both the Rockefeller Foundation and FHWA, State DOTs were asked how they judge the benefits of the billions of dollars and infrastructure assets under their control; they answered that it was reducing congestion and providing temporary jobs in construction and maintenance. When the same question was asked of metropolitan planning organizations and cities, the answers were permanent local economic improvement, including both jobs and cost of living reduction as well as livability.[2]

While we have not identified a specific remedy to the circumstance in Syracuse and other cities that are confronting similar conditions and concerns, we believe that there must be some procedure or process where a local community (or region) can petition U.S. DOT to trigger a review of potential remedies, including resources to remove or relocating highways or even provide for other street investments. We know that cities like Milwaukee, San Francisco (twice), Portland, New Haven and Hartford, among others, have chosen investment packages that rely on street networks and parks. In all cases implemented to date, alternative investments have resulted in increases in taxable value, increases in permanent jobs, improved safety, and reduced congestion. These successes have been documented nationally by the Highways to Boulevards Project.[3]

Local efforts to replace a highway routinely faces resistance from the State DOTs. In some cases, cities were threatened with the loss of federal highway funding. In one city, the state DOT packed the public engagement process, so the state's interests dominated the outcome, overtaking strong local business, civic, community and civil rights and equity stakeholder participation, so that a proposal to reconnect a divided central city was "bypassed" in the name of congestion management.

Here are some further comments on issues related to I-81 in Syracuse. First, it was federal policy that produced both positive and, in some cases, clearly negative outcomes. We need some type of new process where local communities can petition U.S. DOT to intervene, help formulate and develop options to mitigate adverse impacts of earlier projects. There is some precedent for this in the law. Previous Members of this Committee during deliberations on the 1991 ISTEA law enacted the Transportation Enhancements (TE) Program, now renamed the Transportation Alternatives Program (TAP), as a partial response to such concerns. Part of the intent then in establishing the TE Program was to reserve a small share of federal highway funding to help mitigate or offset some of the negative effects of road building on local communities and local areas throughout the nation.

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[2] Sarah Campbell, Jen McGraw, James DeBettencourt, "Economic Impacts from Transportation Investing, State Smart Transportation Initiative," 2012 report linked at https://www.ssti.us/2012/05/economic-effects-of-transportation-investments/, supported by the Federal Highway Administration and the Rockefeller Foundation

[3] Highways to Boulevards Project, https://www.cnu.org/our-projects/highways-boulevards, supported by the Federal Highway Administration and Nelson-Nygaard Planning

Going forward, we need to set our sights on promoting greater accessibility in our transportation infrastructure decision-making, a focus that could be accomplished by requiring that "performance" be defined to include community benefits, including local economic benefit, health, safety and environment, as well as local convenience and longer distance connectivity. Such changes are particularly important now as we struggle to recover and grow our economy. A recent study shows that replacing speed-based measures of transportation performance with measures of local convenience and accessibility – also known as "location efficiency" – better reduces congestion and better increases local tax base value when compared to the standard options of widening of highways and their access ramps.[4]

Let me offer this final comment pertaining to your question. Had the Democratic Party national convention occurred this month as planned in Milwaukee, you and many other Senators would have seen the results of replacing the Park East freeway with a new street network. A project that was made possible by the tenacity of the local community, which, like too many other places, had to overcome state resistance and/or indifference to local efforts to build better communities for their residents. Before COVID-19, we were already at the point in the U.S. where half of America's households' wages weren't keeping pace with the increased cost of living. We overlook the fact that transportation costs are second only to housing in our household expenditures, consuming a disproportionately higher share of household income in the two lowest quintiles. As we reevaluate our transportation investment practices, it is hard to pretend that by increasing our use of highways and the cars and trucks needed for this use prevents us from seeing the value that vibrant, walkable, transit-served communities can bring to everyone.

Senator Duckworth:

3. One of the key takeaways from the 2009 American Recovery and Reinvestment Act (Public Law 111-5) was the importance of relief to assist state and local governments bridge the gap between a crisis posture following the global financial crash and the pursuit of economically energizing infrastructure projects designed to stimulate local and regional economies. Transportation investments will play a key role in rebuilding our economy if we can first advance meaningful relief for state and local governments that are responsible for 75 percent of all infrastructure investments across the nation. As we continue to grapple with the current economic crisis, state and municipal budgets have been wiped out, forcing limited local resources be redirected to more immediate needs and responsibilities. Can you briefly outline the competing priorities your city faces as a result of the COVID-19 pandemic, the economic downturn, historic unemployment and the recent outbreak of violence in some areas of our nation?

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[4] Norman Marshall, "Forecasting the impossible: The status quo of estimating traffic flows with static traffic assignment and the future of dynamic traffic assignment," Research in Transportation Business & Management, Vol. 29 December 2018, pp. 85-92, open access at https://www.sciencedirect.com/science/article/pii/S2210539517301232?via%3Dihub

Mayor Fischer:

Metro Government is having to put increasing percentages of its funding toward critical operations such as public health and first responders, to address the challenges created by the pandemic. All while facing decreasing revenues due to the overall economic impacts of the virus-related shutdown. In our transportation field this has played out in how we allocate our local funds. In FY21, Louisville is moving to take our state aid funds and put them toward operations versus capital projects. This action is an about-face from recent practice. This action results in issuing more debt for routine maintenance and capital projects, which are vital to the local traveling public and economy.

4. Throughout the COVID-19 pandemic, a number of environmental protections and regulations have been rolled back by President Trump and his administration. On June 4, 2020, President Trump signed an executive order directing Federal agencies to hasten the permitting process for infrastructure projects under the National Environmental Policy Act, the Endangered Species Act and the Clean Water Act. These bipartisan landmark laws were enacted by Republican administrations and ensure fundamental safeguards for protecting the environment, our natural resources, as well as public health and the well-being of vulnerable communities. Can you please clarify for the Committee the critical role that environmental regulations such as the National Environmental Policy Act, the Endangered Species Act and the Clean Water Act have played in protecting public health and enhancing the local economy of the Louisville area?

Mayor Fischer:

It is critical that we protect Louisville's natural and cultural resources. We face increasing threats from climate change. For Louisville, this means increased flooding and heat. Both of which have significant impacts on health outcomes. Specifically, the Endangered Species Act and the Clean Water Act have identified challenges and produced results that have protected and improved environmental and human health. While processes can always be improved, the key elements of the regulatory framework and policies are critical to protect our residents and our planet. We should be working together as governments to find solutions to allow progress and protect our natural and cultural assets.

5. As a part of "Healthy Louisville 2020" plan, the Louisville Metro Air Pollution Control District conducts the Strategic Toxin Air Reduction (STAR) program, which monitors 170 companies that emit the highest amounts of chemicals to determine whether or not they are exceeding the health risk goal for each of the targeted chemicals. Please share the benefits Louisville has experienced by following through on environmental regulations.

Mayor Fischer:

Among the large sources regulated by the Louisville Metro Air Pollution Control District (District), Louisville is home to two Ford Automotive Assembly Plants, the General Electric (now Haier) Assembly Plant, a large WWII-era synthetic chemical manufacturing complex known as "Rubbertown", and Louisville Gas and Electric's (LG&E) coal-fired 1,465 MW Mill Creek Electric Generating Station. LG&E also operated the 563 MW coal-fired Cane Run Electric Generating Station but converted it to natural gas-fired generation in 2015. The Strategic Toxic Air Reduction Program (STAR) reduces emissions of toxic chemicals from local industry beyond what is required by federal law. It was enacted in 2005 in response to the West Louisville Air Toxics Study, which monitored emissions of toxic chemicals in neighborhoods around Louisville's Rubbertown, and confirmed a longstanding belief that toxic air was hurting the people who live there. Although existing federal and state regulations already had set some limits, the public demanded stricter standards in Louisville. STAR assesses the risk posed by each toxic chemical and sets health-based limits on emissions. Over the 15 years since STAR was enacted, emissions of toxic air pollutants have declined 76 percent from local industry, and even more for the chemicals recognized by the STAR program to be causing the greatest risk in Louisville. STAR is one of the most stringent locally enforced toxic air regulatory programs in the nation and has been used as a model by other communities trying to reduce toxic air.

Decreases in Air Toxics Emissions from Point Sources

Decreases in Local Air Toxics

Louisville/Jefferson County Sources	2005 Air Releases in Pounds	2018 Air Releases in Pounds	% Change
Electric Generating Utilities (EGUs)	4,703,167	799,883	-83% Decrease
Non-EGUs	3,452,807	1,164,330	-66% Decrease
Total	8,155,974	1,964,213	-76% Decrease

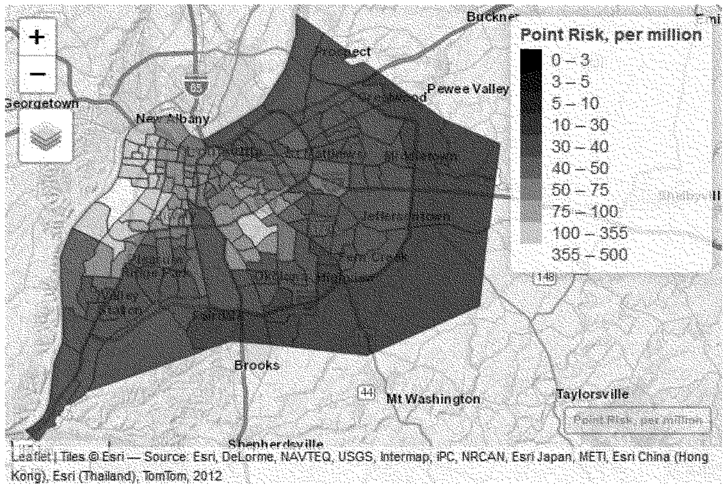
Source: EPA Toxics Release Inventory

Decreases in Cancer Risk from Point Sources

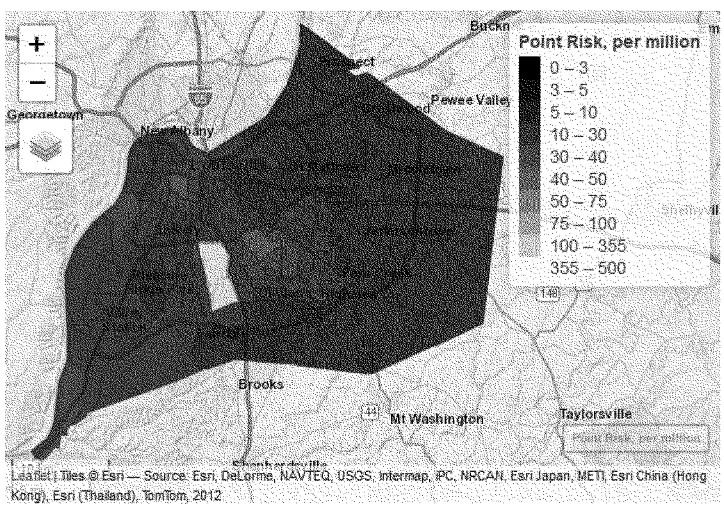
EPA periodically estimates cancer risk from air toxics in its National Air Toxics Assessment (NATA) to, among other things, help guide local air agencies as they study these emissions and places where they occur in more detail. As a result, NATA is intended for use as a screening tool, rather than to pinpoint specific risks. This means the risk at any given census tract shouldn't be relied on as completely accurate, but more as a way to compare risks generally across the country.

Using NATA data and adjusting for emissions of Chloroprene and Ethylene Oxide, a snapshot of the estimated risk of cancer from emissions of air toxics from point sources in Louisville in 2005 and 2014 are shown below.

2005 National Air Toxics Risk Assessment
Cancer Risk from Point Sources



2014 National Air Toxics Risk Assessment
Cancer Risk from Point Sources

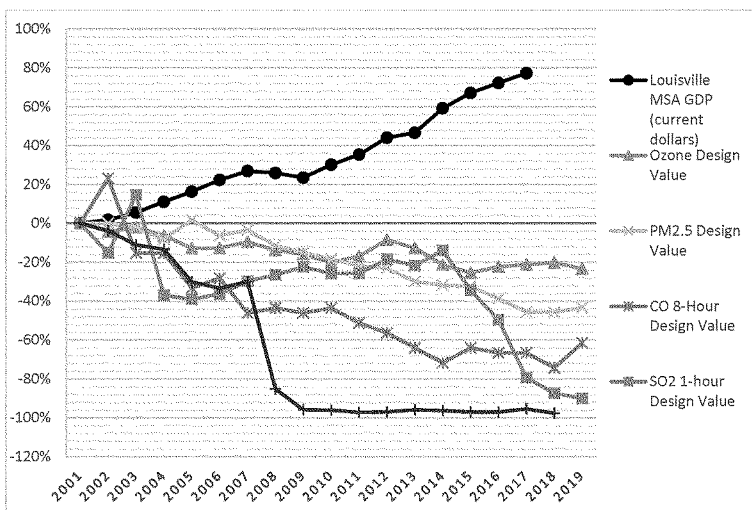


It is especially important to note that EPA specifically advises against using the data as an absolute comparison from year to year. But as a "big picture," the comparison gives a good feel for the magnitude of change between years rather than an absolute risk reduction value.

Because the risk estimates from NATA are broad and not absolute, it is valuable as a measure of progress, but not success, for the District. We won't declare victory if NATA seems to say, "Mission Accomplished." NATA is also valuable in identifying new and emerging concerns that may need to be evaluated and/or addressed under the STAR Program or through other strategies, including reducing exposure to mobile source air toxics

Lastly, just as the Clean Air Act has reduced emissions of criteria pollutants -- ozone, fine particulates ($PM_{2.5}$), sulfur dioxide (SO_2), carbon monoxide (CO), and lead -- 68 percent nationally over the last 50 years while at the same time the U.S. gross domestic product (GDP) grew by 212 percent, the GDP in Louisville has grown nearly 80% while emissions of criteria pollutants and those air toxics with the highest risk in Louisville – known as the Category 1 Toxic Air Contaminants – have dropped significantly since 2001.

Louisville Air Pollution Reductions 2001-2019



Senator BARRASSO. Well, thank you so very much, Mayor Fischer, for taking the time to be with us today. I know you will have a number of questions from the members. We appreciate all of your comments.

We will start with 5 minute rounds of questions.

I want to start with Mr. McGough if I could. In your written testimony, you commended this Committee for developing the American Transportation Infrastructure Act with unanimous, bipartisan support. The House Democrats have just released a bill that was purely partisan, did not involve the Republicans at all in the efforts.

I just want to ask, how important it is that surface transportation legislation advances in a bipartisan fashion, as our Committee has done?

Mr. MCGOUGH. Well, Mr. Chairman, transportation is one of the few areas that consistently receives strong support from both sides of the aisle. Surface transportation bills in the past have historically, when you add the votes up, have been bipartisan in nature.

The House, the Senate, the White House, have all expressed interest in moving an infrastructure bill forward this year, but we have less than 120 days. We need an outcome, so we need movement. That is going to take true bipartisan support in both the Senate and the House to move this forward.

Senator BARRASSO. Can I ask you, Mr. Holtz-Eakin, because you talked about the tens of millions of people who have lost their jobs in the country due to the coronavirus. How would providing stable, long term funding for highway infrastructure projects help improve the economy, help create jobs? Are all types of infrastructure projects equal when it comes to the long term economic recovery, or is highway spending particularly effective?

Mr. HOLTZ-EAKIN. So, imagine that it is 3 months ago, when we are essentially at full employment with record low unemployment rates and wages rising across the spectrum and especially at the low end. In those circumstances, a well designed surface transportation infrastructure program can continue to raise the productivity of America's businesses; it can continue to increase the efficiencies and allow cost reductions for those businesses. That shows up as a higher standard of living for America's workers in those circumstances. I think those benefits last, probably, a long, long time and are a reason to have these programs in place continuously.

In these circumstances, there is the additional benefit of providing some opportunities for work where others have disappeared. There is little question that even if we are quite successful at returning the 18 million individuals who were identified as temporarily unemployed in April, suppose we miraculously got them all back to work, we are going to have to find additional employment opportunities for many people who used to be in hospitality and leisure and used to work in some of the theatres and casinos and cruise lines that are going to be diminished in scope and size over the next couple of years.

So there are new opportunities for employment; there are benefits to the economy. The one that I want to emphasize in these circumstances is the impact in offsetting what is going to be a more costly way of running America's businesses. To the extent we can offset that is a huge help.

I am cognizant of my experience after the terrorist attacks of September 11th, 2001. We realized we had a threat to the American public, and we had to address that threat.

But we also had to operate the economy in the presence of that threat, and we didn't fully appreciate that the cost of standing up the TSA, the cost of inspecting every container that came into the United States, the cost of armoring every headquarter against invasions, was going to take productive capital away from other tasks.

If you think back to that period, we tried conventional stimulus multiple times, 2002, 2003, 2005, 2008, to no great effect, because we weren't addressing the problem. What I like the most about this hearing and about this bipartisan bill is that it is targeted right on what will be the problem, and I think that is a big change from what we did back then.

Senator BARRASSO. Thank you.

Mr. McGough, you mentioned in your testimony that infrastructure is in dire need of repair. You urged Congress to make strategic investments in infrastructure to spur meaningful economic growth. So I want to talk a little bit about just the difference between the amount of money we put into, say, highways and bridges compared to the money we put into transit in terms of what we need to do.

The U.S. Department of Transportation estimates that the investment backlog for highways and bridges is about eight times higher than it is for transit, in terms of the backlog right now. The last two major highway authorizations—Senator Inhofe was so involved in the last one, well, he was involved in all of them—have provided over 80 percent of the funds authorized from the Highway Trust Fund go toward highways and bridges.

So do you support maintaining this traditional highways-transit split in our next authorization, about 80 percent highways and bridges, 20 percent transit?

Mr. MCGOUGH. Mr. Chairman, ARTBA supports maintaining the traditional split that we have seen between highway and transit spending. The solution is to increase both highway and transit investment, and not suggest that one is a bigger priority than the other.

Senator BARRASSO. At a point in you testimony, you talked about my home State of Wyoming, the $300 million in Federal Highway Funds, the hundreds of construction projects, significant, sensible investments in highway and bridge infrastructures like we have just described. It helps Wyoming. It benefits States because every State has programs to this effect.

How important to the construction industry is stable, long term funding for surface transportation infrastructure projects?

Mr. MCGOUGH. It really boils down to certainty. Like any business, the difference between a short term or long term bill is the same for our businesses. If you look out and you don't know where your funding is coming from next year, you make business decisions based on that. You make business decisions whether that is to purchase software, to buy equipment, expand your facilities.

The same thing goes with State DOTs. They have no certainty of the funds, and short term planning really leads to short term decisions. The whole key for successful economic growth is a multiyear bill that gives the States, gives the contractors the ability to plan and know what to expect.

Senator BARRASSO. Thank you.

Senator Carper.

Senator CARPER. Mr. Chairman, I would just observe from the responses to those first questions that you have asked, that this is an exceptional panel, and we are delighted, seriously, and we are blessed with a lot of great witnesses. But today, I think these witnesses are just more than punching well above their weight, and we are glad that you made time for us, especially.

I am going to start off with a question I have for Mayor Fischer.

He leads a major city not far from where my sister and her family live in Winchester, Kentucky, and not far from where my mother lived the last 3 years of her life and just had received the best care in the world. So I have a special warm spot in my heart for Kentucky and the people of Kentucky.

I would ask my first question of Mayor Fischer, and that is, as we think about making Federal investments in our communities that can assist with economic recovery and bring equity and equality, how can we ensure that Federal investments provide access and opportunity to all individuals, no matter what neighborhood they live in, no matter what their zip code is? Could you just give us some thoughts on that, please?

Mr. FISCHER. Yes, thank you, Ranking Member. I think this is a tremendous opportunity to show the power of the citizens' money at work as we dedicate and increase allocations responsible for minority business participation in these contracts. A lot of the infrastructure development in our city would take place in and around communities in need. Many of them are opportunity zones, as well.

I would just like to echo the prior comments on the consistency that we could have this around funding year after year would allow the creation of more minority owned businesses as well, and give them the type of certainty that they could move forward, that they could employ local work force as well. These are good jobs in infrastructure, and we have ample opportunity for the work in our city, whereas we have $300 million of maintenance that is required just on our sidewalks and roads alone, while our local government is becoming increasingly strapped for other needs.

So there is no question there can be an equity overlay on this. Our city government uses a racial equity lens with all of our investments. It has been systemized to what we do. So it would be a tremendous opportunity to lift up our communities in need.

Senator CARPER. Thank you for that response.

Sometimes we focus too much, here on Capitol Hill, on where we disagree. I like to focus on where we agree. One of the biggest issues, and several of you have already commented on this, is how do we pay for this stuff that we are talking about? How do we pay for our roads, highways, bridges, and transit systems?

Here are a couple of areas where I think that Democrats, Republicans, and folks on this Committee led by our Chairman agree, we agree that things that are worth having are worth paying for, not just putting on the Nation's credit card and continue to add to our debt as if it does not matter.

We agree that those who use our roads, highways, bridges, and our transit centers have an obligation to help pay for them. We agree that there is no silver bullet when it comes to paying for transportation infrastructure, but there are a lot of silver BBs, and some of them are bigger than others.

And we agree that the source of funding must be predictable, and it must be sustainable. It cannot be stop and go. The last thing that folks need when they are building roads, highways, bridges, and transit systems is wondering whether or not the money is going to be there the next week, the next month, or the next year.

With that in mind, let me just ask of each of you, and we will start with, it is Mr. McGough?

Mr. MCGOUGH. That is correct.

Senator CARPER. Has anyone ever mispronounced your name, Mr. McGough?

Mr. MCGOUGH. Maybe a thousand times.

Senator CARPER. Today?

Mr. MCGOUGH. Not today.

[Laughter.]

Senator CARPER. Well, my question of you, Mr. McGough—we will get it right—what advice would you have, we will start off with you, what advice do you have to give us, my colleagues and me here on the dais, our staffs, about the importance of paying for infrastructure, maybe give us some advice on convincing some reluctant members around the country on the need to pay for that transportation infrastructure, and how to structure some existing fees and some new fees in order to avoid both a negative impact on our economy, and to be sustainable, even after we transition away from motor fuels over the next decade?

Mr. MCGOUGH. Thank you, Senator Carper. ARTBA has long supported a motor fuels tax increase as the most effective, transparent, and equitable way to pay for surface transportation infrastructure improvements. As you mentioned, Senator, there is no silver bullet to a complex problem.

That is why ARTBA has been steadfast and consistent in supporting any and all highway user fee proposals since the Highway Trust Fund revenue crisis began 12 years ago. I will tell you, it is going to take a unique combination of a number of things, and we agree wholeheartedly the users of the system should be paying, and for anything that's worthwhile, will cost us the dollars to do that.

Senator CARPER. Thank you.

Doug.

Mr. HOLTZ-EAKIN. I think, looking forward, and I have written on this, and we have had this conversation, that motor fuels taxes are not the appropriate base anymore, and that it makes sense to move toward something like a vehicle miles tax with adjustments for weight and axles, which cause the damage to roads and bridges. That is the endpoint; you want to end up there at some point in the future, when it is feasible.

Then working back, you could legislate that now and implement it over time, so that the Highway Trust Fund becomes sustainable.

But I don't think you should raise taxes in 2020, and I am not even sure about 2021. This is not the right time to sort of provide additional headwinds to the economy. So have the conversation, get it financed in a durable and sustainable way. I think that VMT is the future, but I don't think you should do that this year.

Senator CARPER. Yes. I would like to say that vehicle miles traveled is the future. We need a bridge to the future; in fact, we need a couple bridges to the future, and so, thank you for that.

Mayor, your thoughts please, and then my time is expired.

Mr. FISCHER. Yes, thank you so much. Mayors are agnostic as to where the funding comes from, but it has to come from somewhere.

I think part of this, too, is kind of a culture shift that we need to have in our country where citizens are proud of their infrastructure. We have the Ohio River Bridges Project here, which is a $2.5 billion project completed about 5 years ago, paid with tolls, so user fees.

But in America, it costs, the great American dream. We want everything, but we don't want to pay for anything, and we all know it doesn't work that way. So we have to get back to a time when we looked at our city buildings and our infrastructure, and whatever we invest in as a public, and say that makes me feel good, just like having public health properly funded as well.

As we talk about the money, let's talk about the collective, too, about we are proud as Americans, as Louisvilleians, and these are the kind of things we funded together.

We also have to look to the future, obviously, with more and more electric vehicles. So as was noted, how do we figure out how to tax vehicle miles traveled, local occupational taxes directed to our transit authorities as well.

And a gas tax is part of that, I believe. So it is a portfolio of diversification with an umbrella of pride around it, how about that, that Americans say, when we invest in things that help us all, that is something that is required for a strong America, and I am happy to be an investor in that.

Senator CARPER. I like that, umbrella of pride.

Thank you very much.

Senator BARRASSO. Thank you, Senator Carper.

Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

I am going to get into another subject here, and I would like to address this to Mr. McGough.

First of all, the FCC has just done the Ligado order, which would allow, it says, Ligado to repurpose the spectrum around GPS.

This would have a devastating effect on military. I chair the Senate Armed Services Committee, so I was naturally, that is where my concern was. In fact, there is one general that said this would pose "the most significant non-combat threat to our national security of my lifetime." That is what a big deal it is.

We had a great hearing; people understood it; it was well articulated. But it also affects everybody else, all of America.

We had, I think, we were allowed 30 days to file a motion for a reconsideration for a petition for a reconsideration of this thing, and there are eight petitions representing some 22 organizations.

One of those was ARTBA. You filed this petition with the American Farm Bureau, and the Association of Equipment Manufacturers. So what I would like to ask you is, can you speak to the impact this order would have on your members and on the construction industry?

Mr. McGough. Thank you, Senator.

The transportation construction industry is using more new, innovative equipment on job sites from tasks like surveying to utilities, grading control, enhanced material applications. This equipment uses GPS.

The Ligado proposal network shows significant interference with GPS and other signals, likely. Interference would be disruptive on job sites and can jeopardize safety and will most surely cause project delays.

Currently, there are over 900 million GPS receivers nationwide. Ninety-nine percent of those are operated by the private sector, none of which will be compensated under this order.

Even more concerning, if you look at the job site level, when you do have interference, the FCC order is to direct you to a 1–800 number. It seems illogical that you would have construction workers not realizing where their interference is coming from, and that that would not cause project delays as far as getting to a time of resolution.

We would urge the FCC to revisit their orders and the impacts that the Ligado order would have on everyday users that depend on a reliable GPS system.

Senator Inhofe. I appreciate that, and during this hearing, I did take the time to look up and find that there is, that Ligado has actually spent well in excess of a million dollars on lobbyists. So they are busy out there working. Someone is concerned about the amount of money that is going to be involved in this thing.

The second thing, what I mentioned to Mr. McGough, is as the Chairman said, I chaired this Committee for quite a while. This is the one area, you know, people in Washington, every time they want to spend money, they call it an investment.

In this case, it actually is an investment. It has an effect on everything else that comes up, and we see the return on this investment when companies locate new facilities and community.

We have experienced that in my State of Oklahoma. So I would like to have you kind of elaborate a little bit about what kind of return we would get on this investment.

Mr. McGough. Well, Senator Inhofe, as repairs and upgrades are made to the highway, street, and bridge networks, drivers, businesses, shippers, transit riders, will all save time and money. These users benefit as a result of decreased congestion, less money spent on vehicle repair, and safer roads.

A study commissioned by the U.S. Treasury Department found that for every dollar in capital spent on select projects, the net economic benefit ranged from $3.50 to $7.00. The trucking sector estimates $74 billion is added to the cost of goods due to congestion on our roads. So we are spending the money without the economic benefit. We just don't see it because it is buried in the cost of our goods and services.

Senator INHOFE. I want to also say, and I will say to both of my good friends, the Chairman, and the Vice-Chairman, that this is an area where it is popular. It is about the only tax you can find that is popular.

I can remember several of our good friends, without mentioning names, who were a few years ago running for Governor, and we are talking about spending and all that. They made the mistake of talking about infrastructure, and immediately, they were jumped on. So there is a very strong positive effect that we have when we talk about how we are going to be doing funding; yes, that's going to be a problem.

I appreciate one of the statements that you made about this is not the time that that can be done, but the fact that it eventually is going to have to be done. So I appreciate it very much, and this Committee.

I get more comments on this bill, I would say to the Chairman, than anything else that when I go back to Oklahoma. Good.

Senator BARRASSO. Thank you, Senator Inhofe.

Senator Cardin.

Senator CARDIN. Well, thank you, Mr. Chairman, and let me thank all of our witnesses.

It is a good follow up to Senator Inhofe that the two of us are in total agreement. Infrastructure does bring us together. It is a critically important area for us to make advancements. Our Committee has always worked in a very bipartisan manner.

Now that we recognize that over the last several decades, we have seen a decline in the percentage of our economy that has been devoted to infrastructure spending, we need to do smart investments coming out of COVID-19. I particularly appreciate the comment by Doug in regards to how we pay for it now.

I am for paying for it. But coming out of this COVID-19, we are looking for how we can create jobs. We recognize that. We have put trillions of dollars into the economy because we know the impact COVID-19 has had in our economy.

Now, we need to look at how we can create the jobs that have been lost from COVID-19. Investing in infrastructure gives us that opportunity to create good jobs.

But at the end of the day, as Senator Inhofe has pointed out, we also have an economy that can perform better for the people in our community, as well as give us a greater economic competitiveness. At the end of the day, we end up with a product that helps our constituents and helps our economy.

I am a strong proponent of looking at a robust infrastructure package, and our Committee has already passed a bill on this, in order to come out of COVID-19 with a stronger economy.

My question is to Mayor Fischer. As we look at putting together an infrastructure package, every community is different. I was proud to work in a bipartisan way to create the TAP Program, the Transportation Alternative Program, which gives additional funding at the discretion of local governments for what is best in their community.

In my State of Maryland, we need to have a balanced approach on infrastructure. Transit is critically important to the people of the Baltimore-Washington region, so we want to invest in transit.

We want to invest in neighborhood improvement type projects. We don't want to see one size fits all at the national level.

As a Mayor, can you tell me how important is it for you to have discretion as to how transportation programs are handled in your community, and having the ability to have the Federal Government as a partner in developing those types of transportation programs?

Mr. FISCHER. I appreciate the question, Senator. Obviously, I think the best government is the government that is closest to the people. We have long term plans in terms of Move Louisville that create a vision for what is possible a decade out, but then we have near term plans for what it is that we are trying to do today.

To give you some perspective on the challenge, Louisville represents about 33 percent of our State's GDP, but we get 3 percent of the funding for transit and for roads. There is this huge disconnect in terms of where the economy is being created and where the money is flowing toward that.

So the more that we can tie that into our local transportation planning, tie that into our arterials that feed into our highway system, to our complete streets where people sit outside and enjoy our great restaurants here in Louisville, it is that type of systemic approach toward transportation and public transit on top of that, and sidewalks on top of that, as pedestrian as that sounds, pun intended.

That is really important to create a great city, and the feel for a city where traffic is moving as seamlessly as possible, reducing congestion, and making sure our air quality is as good as it can be.

Senator CARDIN. Well, I thank you for that. In working with Senator Inhofe and now with Senator Capito on the Subcommittee on Infrastructure, we have recognized our States are different, so we try to give flexibility so that it can work in all parts of our country.

It is one of the reasons why we had a unanimous vote in our Committee, and I hope as we move forward, yes, it is important to invest today in infrastructure. We may not pay for it completely, but that is to get our economy back on track.

This is a good investment, like we have done already in the CARES Act. Let us look in a smart way to give the flexibility to the States and local governments to do what is best for their community.

Again, I thank you for you testimony. I thank all of our witnesses for their testimony.

I can just underscore what Senator Inhofe said, we are going to work bipartisan to get a strong infrastructure package moving in this Congress.

Senator CARPER. Mr. Chairman, could you yield to me for just 10 seconds?

Senator BARRASSO. Yes, Senator Carper.

Senator CARPER. I am reminded, as I am listening to what Ben was saying, unfortunately, everybody says we need to invest in transportation infrastructure. Almost never do I hear anybody say this is the time to do it. It is always over the horizon or around the corner.

We have used in recent weeks and months the term turning on the economy, the light switch versus the dimmer switch. I think with respect to funding, I agree, 2020, I don't think is the right time to raise taxes or fees. But I think we should start turning up the dimmer switch in 2021 in a variety of ways. Because it is always around the corner, it is always over the horizon.

Next year, I think we might be able to turn on the dimmer switch, provide some of the revenues that are needed, and just send a signal that we are not going to walk away from this and simply put it on our Nation's credit card.

Thank you.

Senator BARRASSO. Thank you.

Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman, and thank you all for being here today, and I join my voice in the chorus of being very excited about the infrastructure package.

Senator Cardin and I worked this through our Subcommittee. We built a lot of sustainability of materials and everything into this to hopefully build a longer life.

I wanted to ask the Mayor a question quickly on the flexibility that you are asking for. Because this is an issue that Senator Sullivan has a bill that I am on asking for the dollars that have gone to the smaller States to be able to have the Governor use the flexibility for city, county, and State lost tax revenue.

Our State has a gas tax, and I would include that in the package of lost tax revenues that would be important to a Governor. Do you have a thought on this in terms of what you see in Kentucky or in Louisville?

Mr. FISCHER. Yes. Our gas tax has been a declining source of revenue for our State for quite some time. As a result of that, we get less and less every year as well.

But I would definitely have this total bucket of all the funds that are available so that we can look at that as a system and allocate those to the places where we have the most vehicle miles being traveled, where the greatest economic impact is coming from, as well. We have to take care of our rural brothers and sisters as well. But the dynamism of the economy is in the cities, certainly here in Louisville, and Kentucky, and throughout the rest of the country as well.

The more that we can look at it as a system and not Balkanized into these different funds, I think that is the way that we maximize the funding.

Senator CAPITO. Well, like our State of West Virginia is down 27 percent in their gas tax.

I will say also to the credit of our State, we passed a State referendum 2 years ago that actually raised our gas tax, and actually said, this is important to us as citizens to have our potholes filled and new construction and all the things that in a mountainous State and a rural State are sometimes very difficult to maintain.

Mr. McGough, I wanted to ask you about bridges, because this is my State also where 21 percent of our bridges are deficient.

So when we were writing this highway bill that we have all talked about today, one of the set asides that I worked really hard in and wanted to make sure we were able to include is the $6 billion set aside that actually dedicates to bridge repair.

We have seen a lot, some large bridges across the country collapse to calamitous endings, but we also know in all of our areas, we have bridges that can't be used for school buses, can't be used for heavier trucks, and are a danger, really, in the communities. My State is one of these.

You highlight that in some of your comments. But when we ask CRS to report on this, I don't know if you are aware of this, they said that we are actually making better progress in our bridge repair than maybe the ARTBA had assessed in their report. Are you aware of that discrepancy in those two reports?

Mr. MCGOUGH. I am not aware of the discrepancy. I am aware that we are gaining ground on fixing our bridges as far as the percent deficient. But when you look at that, the number of years, decades that it would take to fix our bridges, that is the real challenge.

The dollars still need to be coming in to be able to fix the ones that are deficient. So while it may look better year to year, the real challenge is, how many years is it really going to take, in your case, in your State, to fix those deficient bridges.

Senator CAPITO. Right, and that is why I absolutely insisted that we include this in the package, because it is important not just in my State, but also a lot of other States.

Just on the issue of construction companies now, I know a lot of them have gotten PPP loans, a lot of them, some of them are, it seems like, when you are on the highway, there is a lot of construction. But I am sure it is a lot less than it was.

What are you seeing in terms of safety of your workers? What are you seeing in terms of confidence of rebuild?

Mr. Holtz-Eakin, I don't know if you have a comment on where you see this construction industry could help pull us out of where we are right now. I think, it would be an important part. And then we will get to health of workers.

Mr. HOLTZ-EAKIN. I guess what I would emphasize is that the supply chain is a really important part of the economy, and keeping it going in the face of the virus is actually a priority. It is one of the things we manage to do pretty well.

But that does say that if you have truck drivers, rail personnel, cargo pilots, and the attending crews, they should be a top priority for PPE and the ability to continue to operate as we go forward.

The virus isn't gone; we are going to have to, at least over a sustained period, protect them during the course of their job. That is not to diminish the first responders and the health front line workers, but people forget about the sort of economics of that supply chain sometimes, and it is very important.

Senator CAPITO. Right. We actually had a hearing in Commerce yesterday that this point was really hit hard on, particularly in areas that might be forgotten like rail or other arenas.

Mr. HOLTZ-EAKIN. The rail folks have been forgotten. It is important. They move a lot of cargo.

Senator CAPITO. Right.

Well, I think my time is over.

Thank you.

Senator BARRASSO. Thanks so very much.

Senator Whitehouse would be next; he has been in the room, and I know he has been following it. But I think right now, he may have had to step away, which would turn us to Senator Gillibrand.

Senator GILLIBRAND. Thank you, Mr. Chairman, Ranking Member. Thank you for holding this hearing today. I am really grateful that we have this chance.

It should go without saying that the impacts of COVID-19 on New York have been massive and are felt in every part of our economy, including our transportation systems. Our transit agencies across the State are experiencing staggering losses in revenue due to sharp decreases in ridership. That is true in New York City and in smaller cities across the State.

They all need our help. Public transit is an absolute lifeline for New Yorkers. The MTA has experienced a decrease in ridership of more than 90 percent during this pandemic.

This decrease is not because people in New York all of a sudden no longer want or need public transit. It is because people need to stay at home in order to stay safe.

But despite the decreased ridership, it remains absolutely essential that our subways, buses, and rail continue to operate so that healthcare workers can get to the hospitals to take care of sick people, and so people can continue to get their groceries and make other essential trips.

For so many of our citizens, particularly our lowest income community members and communities of color, those are the ones who are hit hardest by COVID-19. Public transit is not simply a choice; it is actually a necessity.

Continuing to provide Federal funding to replace the lost fare revenue so that our public transit system doesn't shut down is also essential. Once this crisis has passed, as it will, riders will come back. We have to ensure that transit agencies have the resources necessary to ensure those riders are safe.

Limiting transit options and relying on more vehicle traffic in a densely populated city like New York is not the answer. It will leave those who can afford to drive in gridlock and congestion, and those who can't, stranded.

The people left stranded will include seniors, people with disabilities, our veteran community, and many of the workers who have proved to be so essential during this pandemic.

I am not going to allow that to happen. So while I appreciate the opportunity to hold this hearing today to talk about the role of infrastructure in our recovery, we need action by the Senate as well. We need to listen to our States and our cities that need our help, and they need that help right now.

Infrastructure legislation in the Senate is almost always bipartisan, but a highway-only recovery bill would not be a bipartisan approach to address the true needs of this unprecedented crisis.

Mayor Fischer, my question for you is, what do we need to be doing to make sure that our public transit agencies are able to safely and reliably operate during this pandemic?

Mr. FISCHER. Thank you, Senator.

There are a multitude of challenges there in our city. You have the whole need for social distancing when you are on our transit system as well.

So our transit system, the local government funds it at about $10 million a year. It runs a structural deficit. As you all well know, the Federal Government provides most of the local funding, so it is most of the funding.

It is a question of, how do we operate in this new environment. Some people are now suggesting that people need to commute more in single cars to stop the spread of the virus.

So we are in this tremendously dynamic world right now, where people really aren't sure what the answers are. Oftentimes, they are polar opposites of each other when they are given.

Within those constraints, we are working on our safety issues within our transit system as we get our economy back to work.

But if I could, I just want to say one other thing. Around America right now, in our downtown areas, most of our businesses are boarded up, literally. So while we are focusing on the pandemic right now, we have got to get a relief valve here so that our streets are calm throughout America, so we can open up the economy as well.

That is just the reality we have in our cities right now where the house is burning, more or less. It is much calmer here in our city and many cities as well, but I just want to really emphasize on top of the coronavirus, this is a real issue that we don't understand how much longer is going to be going on.

But we have got to be speaking to our people to say we understand, and here is what we are moving forward, when we expect our economy to be coming back.

Senator GILLIBRAND. Can you talk about some of the benefits of having a reliable public transit system on economic development and the ability to recover?

Mr. FISCHER. Absolutely. So when we think about the impact of the coronavirus, the people who were most impacted were our front line workers who, in most instances, could be our African Americans, our Latino community, obviously everybody is aware of the disproportionate impact of COVID-19. Twenty-three percent of our population here is African American; about 31 percent of the deaths were African American. That is low, too, compared to most of our cities.

The ability to have public transportation to get these folks safely to work to a job that pays a living wage, by the way, is what should be happening here, is absolutely essential.

Also part of that is to make sure it is a housing solution that oftentimes, most every city in America has a lower income area, unfortunately, that oftentimes is not where the jobs are. So in our housing strategies, to have affordable housing throughout the community so people can get to jobs simpler is also an important part of the long term solution.

Senator GILLIBRAND. Thank you, Mr. Chairman.

Thank you, sir.

Senator BARRASSO. Thank you.

Thank you for your comments, I appreciate it.

Senator Cramer.

Senator CRAMER. Thank you, Mr. Chairman and Ranking Member Carper, both, and to this outstanding panel.

I agree with Senator Carper. We have got the A Team in front of us, and I appreciate this discussion very much. I think it is a timely discussion.

I have been a strong advocate for including transportation infrastructure as part of recovery since the very beginning, because it has a number of advantages. Some of you have talked about that.

First of all, it does have the advantage of creating immediate stimulus. Although it is not the primary purpose of building a transportation infrastructure to create jobs for building it, building things stimulates the economy. People working stimulates the economy.

It has the additional advantage the profitability of the private sector as its main purpose, the movement of goods and services, tourists, products, whether they are manufactured in St. Louis and going to California, or tourists going to Yellowstone or Delaware, or corn and wheat going from North Dakota to feed a hungry world.

But third, it is our responsibility. It is the responsibility of the Federal Government to lead a highway transportation bill and other transportation infrastructure. So it is the perfect time to do it.

To that end, that is why I wrote an op-ed at the very beginning of the discussion about the recovery promoting this, and I am glad we are having this hearing to do exactly that.

Dr. Holtz-Eakin, I have appreciated your testimony a lot, and you referenced a "patient strategy to bolster the supply capacity of the economy over the medium to long term." Very well said.

In fact, in North Dakota, when oil was booming and everything was high, prices were high, labor was high, concrete was high priced, everything to build anything was very high priced, but we needed to do it.

When oil prices went back down, our State had the wisdom and the foresight to continue building infrastructure when the costs of everything were lower. So when they came back, when the prices came back and the boom came back, we were well situated. So I think there is a good example there for us to follow.

My question, first of all, for you, Dr. Holtz-Eakin, we are really good in this town at kicking things, kicking the can down the road, right? Would you just, as an economist, maybe share with us some perspective on the difference between, or the advantages to a long term, well thought out infrastructure bill versus, say, a short term, even a 1 year extension?

Mr. HOLTZ-EAKIN. Oh, I think there is an enormous difference. This has come up already in terms of planning horizons. If you only have a short term extension, you are going to build things that have some sort of return over the short term, but they may not be the best thing over the long term. So now you have effectively diverted the funds to an unproductive use when you should have built them into a better long term plan.

My frustration with a lot of the proposals that have come up over the past couple years on the "big infrastructure bills" has really been twofold. No. 1, they start by saying infrastructure, and pretty soon, everything is infrastructure because they want to get in.

The good thing about this is it is what it is. It is a surface transportation reauthorization, and that is a part of infrastructure and good.

The second thing is the short term focus. Again and again and again, we can spend a trillion dollars this year, and maybe you can. But isn't the better thing to do to take a system that identifies high value projects and fund them in a sustained way so that they benefit for a long, long time? It is refreshing to see that approach.

Senator CRAMER. Mr. McGough, I would think even from a construction standpoint, there is some efficiency to Mr. Holtz-Eakin's point, to a long term plan. Is there not?

Mr. MCGOUGH. There is both the efficiency and the productivity from, especially from a long term planning standpoint. Even if you think out 5 years, that is long term.

We need, in the Nation, the ability to rebuild a lot of our roads and bridges.

If you look even at the ARTBA report for your individual States, those numbers of new lane miles is only set at 4 percent across the country. Most of those dollars are for reconstruction and repair and things along those lines, or additional lane miles within existing right of way. So it is very important that we maintain that course and that we put a robust bill in front of the full Senate and ultimately, in front of the President.

Senator CRAMER. Let me throw a hand grenade into the middle of the room.

Our President is a builder; he is a developer, and he loves low interest rates. I have heard him say both publicly and in private conversations, we should borrow a couple trillion free dollars, by that I mean interest free, to which I tell him, it is still debt. We should borrow a couple of trillion dollars and do it big.

Does that make sense, and whether it is a couple trillion or half a trillion, does it make sense in this economic time to do something like that, Mr. Holtz-Eakin, from your economic standpoint?

Mr. HOLTZ-EAKIN. No, that is not a good way to formulate the problem, I don't think. If you are borrowing a trillion dollars, you still have budgetary trade offs on where it is going to go, and you should put it in its most high value use. To just in advance, to decide that that is going to be infrastructure, to find somehow, without checking other potential investments, is a mistake.

So I like approaches that have an objective which is a highly connected national surface transportation network with efficiencies. That is a well formulated problem that I can understand funding. Taking a trillion dollars and throwing it at everything under the sun is not a well formulated approach.

Senator CRAMER. Thank you.

Senator BARRASSO. Senator Braun.

Senator BRAUN. Thank you, Mr. Chairman.

First of all, I don't think there is any one of us here that doesn't believe that infrastructure across the entire spectrum of it, Senator Gillibrand is right, in some places you need that. In many places, roads, and bridges.

I come from a recent example of where we made the hard decision in Indiana. I was sitting in on the Roads and Transportation Committee and Ways and Means, and got into the stark reality, when I followed the commissioner of highways out the door of the committee room, and I was talking about a road I was interested in. He said please, don't bore me with that. Tell me how you are going to help pay for it.

We did some interesting things in Indiana. I was an author of a bill that was nowhere in the country. It was a regional development authority bill that allowed enterprising local governments to put more skin in the game. We teed it up the next year, and have got early stages of a road project in place.

I don't know how what we are dealing with now is going to impact that. But somehow, we have got to convince people here where we borrow money for everything we do, we don't even cover maybe 23 percent of our current budget, we are borrowing to cover it, so it is no good.

We got 48 out of 50 stakeholders that were willing to pay user fees in Indiana to come testify and say, we want to pay more in road taxes. I know that diminishes in effect each year.

How do we, how do any of you convince the people that use the roads to come here and convince us that we need to adjust a user fee up that hasn't been changed since 1993?

Mr. McGough, could you start first, and then I would like to go around the horn.

Mr. MCGOUGH. Well, from ARTBA's standpoint, I had mentioned it earlier, that we have been consistent in supporting any and all highway user fees, and we believe that the users of the system should use that. I know through the years that people have stepped up and said that they were willing to pay more.

I mention it just from the road congestions, the safer roads, what is costing the truckers, if you look yearly, which is ultimately being passed on to you and I in the cost of our services.

I think it is time for Congress and the President, what was agreed, what has been said since 2016, and what has been said again this year, is to move forward with the bill to fix and put in a long term sustainable multi-year bill that we can count on as an industry, and it is been shown through the years to be bipartisan.

It is one of the more popular programs if you poll the American people. I think that it is time to make some tough choices and move forward.

Senator BRAUN. Thank you.

Mr. HOLTZ-EAKIN. I don't have a magic solution to that, but I think one of the real hurdles is making sure that there is a strong connection, an observable connection between the fee and the ultimate service the people get back.

If they feel they are paying a "user fee," and they don't see a highway that is being kept up in good shape and is congested, they start to wonder, is this really worth doing, and that becomes a problem.

Then it is just literally a tax; it is not a fee for service. So structuring the fees as close to the ground so people can see the link between what they pay and what they get, which we have done some, I think is a key part of the problem right now.

Senator BRAUN. Thank you.

And Mayor, when you answer the question, we have a thing called Community Crossings Grant in Indiana where we offered county and city governments the ability to get more money from the State if they put a little more skin in the game.

Do you have anything like that available to you, and what do you think of that idea to kind of stretch the Federal dollars that might come in on any project as well that is a separate thing, but a way to maintain and pay for roads, paid for primarily by city and county governments?

Mr. FISCHER. Yes, Senator, thank you from my neighbor here, just to the north of us.

No, we do not have a program like that, but anytime you can get that type of leverage or match that we totally want to take advantage of a situation like that.

I can just provide an observation of the cities around the country and different Mayors. To the previous comment, when citizens can say, if I pay this fee, and I am going to see this project come to fruition, you see a very high rate of success in those projects. I think it is in the neighborhood of two-thirds, so you are seeing billions and billions, it could be trillions of projects that are basically being locally funded taking place around the country right now.

There has been an increase in the local government matching of Federal funds in particular. The chart that I provided to you all shows that local government's increase in funding has gone up 116 percent from the period 2001 to 2015, versus the Federal Government's 55 percent. So you are seeing more and more activity from local governments in these areas with more difficult budget situations, obviously.

A prime example of what you are talking about here too, Senator, is the bridge that connects your State and my State, the Ohio River Bridges Project, which is driven by user fees, tolls. It has really helped both create jobs, I am a business guy, I just happen to be Mayor, but then the movement of transit throughout our city and our region as well.

Last thing, Kentucky does not allow localities to have specific referenda on projects. We would love, and we are working with our State government, but we would love a Federal issue here that says if locals want to vote on local projects, let them vote on local projects, and let them pay if they want to pay.

Senator BRAUN. Thank you.

Senator BARRASSO. Senator Boozman.

Senator BOOZMAN. Thank you, Mr. Chairman, and thank you all for being here. We do appreciate it very much.

Mr. Holtz-Eakin, you have had a very distinguished career being in economic policy and have been a great help in the past through the years.

I think you made a great statement when you talked about shovel-ready projects. That is great; that creates some jobs. But the real benefit is the economic activity that comes after that if they are worthy.

President Eisenhower, because of military reasons, built the interstate system. As a result of that, we became a leader in the sense of being able to move goods and services also. That lessened prices to consumers; that is a great thing.

Now, with globalization, not only are we worried about, again, the efficiencies, helping our producers now selling to our own population, but also trying to compete with globalization.

Can you talk a little bit about how important it is as we try to, and the logistics, how important that is, being able to compete with a worldwide economy?

Mr. HOLTZ-EAKIN. We are in constant competition with countries around the world, workers around the world, and we have to make sure that our workers have at their disposal the best technologies and the most efficient operating surroundings. There are some very particular things that come again and again, not all of which are solvable in this Committee.

But the connectivity between different modes is an ongoing problem in the United States, from ports to trains, and trucks to airplanes. And there are some high congestion areas that just jump right out on the West Coast.

Solving those has a big impact on the domestic economy, but also a big impact on our competitiveness. Because you spend a lot of money internally just getting stuff in and out. So I think that is very important.

There are some things that we know going forward are going to be more important. I think we are not going to see commercial air travel for leisure purposes be what it used to be, but air cargo and the capacity of planes to fly closer together, carry greater volumes, an air traffic system that looks forward and is better, these are all the kinds of things that are core infrastructure for a 21st century when you are competing globally.

Senator BOOZMAN. Yesterday, I was in a hearing in the VA Committee, and the Secretary of the VA was there. He was telling us that in the last few weeks, they had hired thousands of VA employees using the abilities that under this very difficult circumstance, where normally that would take a year. It is amazing.

Can all of you talk about, and we will start with you, Mr. McGough, about the importance of a 1 or 2 year project, that could be a 1 or 2 year project actually being closer to a decade project, if we can just reduce some of the—and again, doing it in the correct way.

A great example of that is the bridge that fell down in Minneapolis that was done in a year, that project. I don't know how long it would have taken if you did it in the conventional way.

How important is that? How would that save us money and allow us to get some of these projects done?

Mr. MCGOUGH. Well, what you have in the bill that you passed last July when I said common sense reforms, a lot of it is codifying the One Federal Decision and getting the lead agency when it comes to transportation. We would look to the DOT.

But being able to get reviews down to a 2 year window and moving forward, that is where a lot of your challenges come with moving projects forward.

It is the time to get construction started, and as you have seen in projects that have been fast tracked for accelerated delivery, that those roadblocks get out of the way, and you see what happens.

What we need as a Nation is some of those common sense policy reforms, where the average person, if you told them how long it would take to get a project up off the ground, they find it hard to believe that that is true. We need to shrink that timeline; that is where your efficiencies are going to be.

Mr. HOLTZ-EAKIN. It is enormously important on a project basis, obviously. But as a flavor of what is really at stake, my organization keeps track of every regulation issued by the Federal Government.

Over the 8 years of the Obama administration, it issued a major regulation, something that cost the private sector more the $100 million, at an average rate of 1.1 per day for 8 straight years, at a total cost of $890 billion, for $100 billion a year.

The Trump administration's approach to regulatory budgets has essentially stopped that in its tracks. There has been a modest increase; it was a negative coming into the pandemic. That has an enormous difference in economic performance. We saw that.

In this pandemic, the emergency waivers that we have seen across the Federal agencies have allowed people to do things flexibly and respond quickly. I think that has been just a huge success.

And to the extent you can make the progress you have in your bill, or codify things that have been done under emergency waivers, I think that would be valuable.

Senator BOOZMAN. Very good.

Mr. Mayor, can you do it very quickly, or the Chairman is going to yell at me?

Mr. FISCHER. OK, I will be quick. Thank you.

Great project management cannot be replaced, and obviously you want projects streamlined, and we always want safety at the forefront of all of these things. As we are doing that, we have got to remember that there are equity issues around the environment.

So there has to be an environmental justice issue overlaid on all these types of things, so our low income neighbors don't feel like, OK, here we go again, we are going to get the short end of that stick. The streets are clearly talking to us; that is not the right way.

I just want to make a plug for one more thing: value engineering. We took our Ohio River Bridges Project from a $4 billion budget down to $2.5 billion, and it is a beautiful piece of infrastructure. So having the different ways to look at projects from gold plated to functional is very important so you can maximize all this.

And then, Senator, there are hundreds of billions of dollars of shovel-ready projects available today throughout America as well, as we work out untangling our bureaucratic messes on the other side, so people can get started on the work today.

Senator BOOZMAN. Thank you, Mr. Chairman.

Senator BARRASSO. Thank you very much, Senator Boozman.

Senator Van Hollen.

Senator VAN HOLLEN. Thank you, Mr. Chairman. Thank you and the Ranking Member, and the witnesses who are here with us today.

Let me just say at the outset that I was pleased to be part of the bipartisan vote in our Committee, in the EPW Committee, in support of the Highway Authorization Bill, a 5 year bill. As you know, Mr. Chairman, the Senate Banking Committee, on which I also serve, has jurisdiction over transit, the Senate Commerce Committee has jurisdiction over heavy rail.

We have not marked up a transit bill in the Senate Banking Committee. I would look forward to doing it just as soon as possible. So it is hard to compare what is happening in the Senate EPW Committee with the House.

As you know, the House Infrastructure Committee has jurisdiction over all of those components, not just highways, but also transit and heavy rail.

I hope we can get moving in the Senate on a bipartisan bill, but I would insist before any final vote in the U.S. Senate on a highway bill that it be merged with a bipartisan, a transit bill; this is a 5 year authorization bill we are talking about, and it needs to include transit.

I just checked, and every infrastructure bill that has passed the Senate in recent times has had both roads, but also transit, and it needs to stay that way.

So I hope we can get moving in the Banking Committee and the Commerce Committee as fast as the EPW Committee did. I commend you for moving quickly on a bipartisan basis on that piece. But really, we need all those pieces to come together, even in the Senate, just as the House needs to come together on all those elements.

To Mayor Fischer, thank you for acknowledging in your opening comments the painful issues that we have to sort out as a country with respect to systemic racism that are manifesting themselves again and again and again, most recently, with the murders that you mentioned. We need to get to the bottom of all those issues.

I do believe this part of making sure we have an economy that works for everybody, we need good transportation systems, both roads and highways, but importantly, transit systems.

So, could you talk about the importance to the city of Louisville about transit, and whether you agree that as we move forward in the Senate on the bill that passed the EPW Committee, it is also essential that we move forward on the transit reauthorization?

Mr. FISCHER. Thank you, Senator.

Yes, I just want to reemphasize the cries that we are hearing from the streets of America right now, and this is all of America, folks, and so we can't just say, we are going back to business as usual. If that is the case, this will continue and continue and continue with great damage, not just to human potential, but to our economy as well.

So the question is, what are some concrete investments that can be made that sends a signal to our communities that have been on the short end of the investment stick for a long period of time that their lives are going to become better? Public transit is one of those ways, because our African American communities, our low income communities, disproportionately count on using public transportation in our city, which is still primarily a car based city.

So a system that works well, that gets them quickly to their job; the average user of public transportation in Louisville has a commute that is twice as long. People that don't use public transportation, multiple stops, trying to go get groceries, taking care of kids, it is a complicating factor to their life on top of the burdens that they already have.

So this is a quick investment that could be made that sends a message to people that are suffering that says, I hear you. That is the most important thing that people want to hear right now, is that we hear what they are saying, and that we are providing help.

So, Senator, for those and all the other reasons that I have talked about previously, this investment is critical to be part of this bill.

Senator VAN HOLLEN. Thank you.

On the financing question, because as we all know, EPW has authorization jurisdiction, but we need the money to make all this really work.

A question on financing, Mr. Holtz-Eakin; it is good to connect with you again, even virtually, but I am curious. During this period of time, we just essentially had emergency $2.3 trillion spending to respond to the emergency of COVID-19.

I think all of us recognize that investing in our infrastructure is one of those long term investments that will pay dividends to our country. Interest rates are low. I have supported a whole variety of financing mechanisms. But I am interested at this point in time whether you think deficit financing infrastructure makes sense for our economy.

Mr. HOLTZ-EAKIN. As I said in my opening remarks, I think there is a place for this kind of an infrastructure investment in the recovery strategy. The emphasis thus far has been on front loading things, checks, unemployment insurance; that has been highly effective.

Believe it or not, disposable personal income in April went up $2.1 trillion at an annual rate. That is stunning, and it is because of the CARES Act and the $3 trillion in government transfers.

So that has been the focus. I think there does need to be this longer term, more patient approach.

As a matter of doing business in 2024, I would hope it would be paid for, and that you would have a good user fee in place. As a matter of doing business in 2020, it is less important.

The response to the crisis is the most important thing right now, and that involves taking care of the economy at the expense of tidying up the budget. There will be harder work to be done from a budgetary point of view past the pandemic, but now is not the time to do it.

Senator VAN HOLLEN. So, if I may, very briefly, Mr. Chairman, just to follow up on that. Look, we all want a 5 year paid for bill; that would be the best thing. But as I understand your answer, you do support some immediate infrastructure investments as part of the emergency response that would be paid for like the rest of the emergency bill by deficit financing. Is that correct?

Mr. HOLTZ-EAKIN. Yes. Part of it can be deficit financing; I have no problem with that. I want the infrastructure to be a sensible long term program that in other circumstances, we would do. I would like it to come online beginning now so that its benefits accrue in 2021 at the earliest, 2022, 2023. We are going to need that as part of the strategy.

Senator VAN HOLLEN. Thank you.

Thank you all very much.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you.
Senator Carper.
Senator CARPER. Thanks very much.
I want to go back to something that Doug Holtz-Eakin said to us, maybe in his opening statement, but I think he alluded to the fact that State and local governments, they vote fairly regularly to raise user fees to pay for infrastructure in normal times.

These are not normal times, but over 30 States have raised their user fees in the last, say, half-dozen or so years to pay for transportation infrastructure: Roads, highways, bridges, transit, and so forth.

And we find that it is perilous for us to even tiptoe close, even in a full blown economy, the longest running economic recovery in the history of the country over the last 11 years, and we are still almost fearful to say, Well, we ought to pay for transportation infrastructure.

There is a reason why something that is so hard for us is really easy to stay level. One of the reasons why is the ability that a State legislator has or a Governor has, speaking as a former Governor, in putting together a capital budget that says that these are the projects we want to build, county by county by county, roads by roads, and so forth, and in order to be able to afford those and have the benefit in those counties or those cities, we are going to raise a user fee. It might be a couple of pennies, it can be a dime or a nickel, whatever, but here's what we are going to get out of it.

In Delaware, Delaware's a little State, about 100 miles north to south, and 50 miles wide. The Federal Government pays not an inordinate amount of the share, but a significant part of the share, and we have any number of projects that are 80-20 Federal-State, like you and other States do.

I go to the ribbon cuttings for any significant, almost any significant transportation improvement project that has State-Federal money. I go to the ribbon cuttings at the end of the day, and I explain to people that are there, this is great, we are going to have this great project, and then we have a ribbon cutting, say look what we have done, and we have also paid for it, and here is how we paid for it.

We can do that in Delaware. It is harder to do in California, or big States like Texas, but we can do it. It is a part of the challenge, to make it clear to our constituents why we are going to raise a user fee, and what is the benefit from doing that.

I want to go back again and say, I agree fully with Doug. The future is vehicle miles traveled, whether it doesn't matter if you are driving a car, truck, or a van, if you are using gas, you are using diesel, you are using electric, you are using hydrogen for fuel cells, it doesn't matter. You ought to be paying your fair share. If you have a heavier vehicle that creates more damage, then you pay more through the vehicle miles traveled. That is where we ought to go.

If I could use a light switch, and do that, like, tomorrow, well, that is what I would do. We don't have a light switch in this case, we are going to use a dimmer switch. But I think we can use that dimmer switch in a smart way that moves us toward that future, and that is vehicle miles traveled.

I want to close with two quick questions, one for Mayor Fischer.

Again, Mayor Fischer, we thank you so much for your leadership and wish you well in Louisville, and the constituents that you have there, and wish you good luck as you assume the presidency of the National Conference of Mayors.

Here is the question. We talked earlier about uncertainty, and we are still looking at a lot of uncertainty with respect to the economic recovery. How does that uncertainty affect efforts to budget, including your transportation budget for the coming year, which I believe starts July 1st, and how important is it that any Federal aid come prior to the start of that fiscal year, or maybe as soon thereafter as possible?

Mr. FISCHER. Thank you, Senator.

Stability and knowing what our outlook is is extraordinarily important right now. Three of the riots going on around America, demonstration, civil unrest, we furloughed about 400 people. If we do not get more relief from the Federal Government, we are talking about 600 to 800 people more out of a job. Sixty percent of our budget is made up of first responders.

So the people that we are asking to help us get through the pandemic and now keeping peace in our streets, their jobs are at risk. To send that kind of message in today's environment just boggles the imagination. So what we are doing is we will use our rainy day fund to get through this as long as we can.

But cities across America desperately need a signal from the U.S. Senate and all of Washington that help is on the way, here is what it looks like, so that we can keep our cities running. If we can't keep our city government running, the economy is not going to come back. It was tough enough with the pandemic, but now with civil unrest, we just can't afford to be laying people off, No. 1, loss of jobs and just loss of stability as well.

If you guys can't pass anything before July 1st, send out a broad signal that, here is what is coming, it is coming in mid-July or mid-August, but we really need to say yes, it is coming, or you guys are on your own, so we can figure out where we are going to go from there. So any early visibility would be really appreciated by everybody all over America, the cities, and towns.

Senator CARPER. Thank you, Mayor Fischer.

Mr. Chairman, I have one more question, if could ask one of Mr. McGough?

Senator BARRASSO. Go ahead.

Senator CARPER. Thanks so much.

Mr. McGough, a number of States and cities have large or substantial rainy day funds. We started one, created one the year after I was elected the State Treasurer and Pete DuPont was elected Governor. We had the worst credit rating in the country under his leadership. We created a rainy day fund, which today has approaching $400 million, which is a lot of money for a little State. It is not going to be $400 million at the end of this year, I will assure you.

But a lot of States and cities have large or substantial rainy day funds that are quickly depleted due to the virus, and they are now facing the prospect of running out of money, as we are in Delaware, not too far down the road.

Our Federal Transportation Funds are a critical component of overall transportation spending. But our State and local partners provide maybe the lion's share in many instances for transportation funding.

Question: if the Federal funds remain consistent, how will construction funds and related industries be impacted by the reduction in State and local revenues, and would you agree that Federal action to begin backfill as least some of the lost State and local funds is critical to economic recovery and growth?

Mr. MCGOUGH. Senator Carper, I would agree. I believe from at least the State DOT standpoint, it would be a backstop that the loss in revenues from their portion of the motor fuels tax decreases is significantly affecting their budget.

Ten States have currently canceled or delayed projects to the tune of $5 billion. Thirty-two States have projected that they expect to have cancellations or delays in projects.

The money for the State DOTs is just for preservation. This doesn't change the need for a robust, multi-year infrastructure bill. That is what it is really going to take to put our economy back on track and get the growth that we need.

Senator CARPER. Thank you.

Mr. Chairman, just a closing thought, just with you and our colleagues, thanks again for this hearing, and I want to thank our staffs for helping to put together just a terrific panel.

Not everybody was able to participate, we have, as you might know, a bunch of other hearings going on, and some of them are really important, too.

So not everyone could be here, but it is been just a wonderful hearing. We would like to continue to follow up with you down the road.

Mr. Chairman, you and I have both talked about leadership before, and I think a lot about it; I know you do, too.

I think leadership is the courage to stay out of step when everybody else is marching to the wrong tune. Think about that. Leadership is the courage to stay out of step when everyone else is marching to the wrong tune. Not sure who said that, but I will say I said that, at least today.

Another thought on leadership is the words of Camus, a French philosopher. He used to say leaders are purveyors of hope. Think about that. Leaders are purveyors of hope. We are talking here about a lot of reasons for economy, equity, why it is important for us to adopt thoughtful legislation, to design, adopt, and fund it.

But the other plus here is hope. There are a lot of people in our country right now that don't have a lot of hope, and we can help provide a good measure of that, a good shot in the arm. They say, hey, they can work together, they can get stuff done that will actually us in our everyday lives and futures.

That is what is at stake here, and I am encouraged that we are doing the right thing. My hope is we, by our example, we can encourage some of our colleagues in the Senate and the House to do the right thing as well.

Thank you.

Senator BARRASSO. Well, thank you so much for your leadership and your partnership in this entire process.

We have letters supporting what we are doing that are here for the hearing, and I would like to enter in to the record letters of support we have received recognizing the need for action on highway infrastructure legislation and tout the benefits of the bill that we have passed in a bipartisan way.

They include letters from the American Association of Highway Transportation Officials, the Portland Cement Association, the National Stone, Gravel, and Sand Association, and ITS America. ITS America stands for the Intelligent Transportation Society of America, so we have all sides covered here, Senator Carper.

[Laughter.]

Senator BARRASSO. Without objection, those will be submitted.

[The referenced information follows:]

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

AASHTO

STATEMENT FOR THE RECORD FROM THE

American Association of State Highway and Transportation Officials

REGARDING

Infrastructure: The Road to Recovery

BEFORE THE

Committee on Environment and Public Works of the United States Senate

ON

Thursday, June 4, 2020

American Association of State Highway and Transportation Officials
555 12th St NW, Suite 1000
Washington, D.C., 20004
202-624-5800
www.transportation.org
info@aashto.org

INTRODUCTION

The American Association of State Highway and Transportation Officials (AASHTO) appreciates the opportunity to submit this Statement for the Record to the Senate Environment and Public Works Committee (Committee). As the association that represents the transportation departments of all 50 States, Washington, DC, and Puerto Rico, AASHTO provides the perspective of the nation's state departments of transportation (state DOTs) on the crucial role that highway infrastructure investment—through a robust, multiyear surface transportation reauthorization—can play to drive our nation's economic recovery and economic growth in light of the COVID-19 pandemic.

A safe, well-functioning, and resilient system is the foundation of a strong economy and it provides quality of life benefits such as access to employment, education, recreational, and health services opportunities. And we could not be more grateful for the hard work of your staff and fellow Committee members on the multiyear reauthorization of surface transportation programs and we again congratulate the Committee on the unanimous passage last year of America's Transportation Infrastructure Act (ATIA).

ATIA represents a very strong investment and policy package for state DOTs. We appreciate that it provides 90 percent of Highway Trust Fund dollars by formula directly to states, retains core program categories from the Fixing America's Surface Transportation (FAST) Act with existing federal share and transferability, improves program and project delivery, provides greater flexibility across a range of programs including freight, safety, and system resiliency—and does all of this as part of a robust, five-year investment package that would follow the FAST Act without any program disruption.

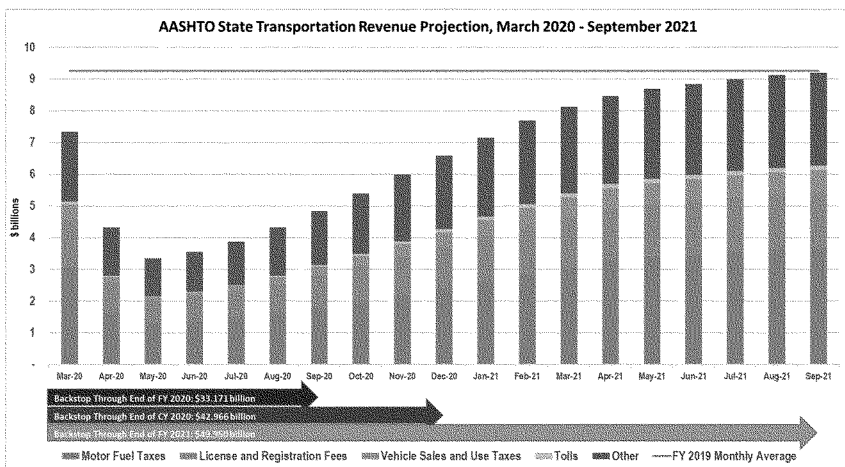
AASHTO welcomes today's discussion highlighting the importance of federal highway infrastructure investments and the especially timely need for reauthorization to aid economic recovery from our current national emergency. As this Committee continues to develop infrastructure legislation, we emphasize the immediate need for $50 billion in direct federal aid to state DOTs as crucial state transportation revenue backstop, and utilizing surface transportation reauthorization as platform for national economic recovery and growth.

IMMEDIATE REVENUE BACKSTOP FOR STATE DOTS

Despite the uncertainty and rapidly-changing nature of the current pandemic, state DOTs are working tirelessly to ensure the health and safety of their residents, employees, and the traveling public as they maintain their transportation systems. But state DOTs cannot continue to do its work without help from Congress.

On April 6, 2020, AASHTO requested Congress to provide $49.95 billion as an immediate revenue backstop for state DOTs in order to prevent major disruptions in their ability to operate and maintain their transportation systems during this national emergency. Compared to $111 billion in state transportation revenues in FY 2019, according to the National Association of State Budget Officers, preliminary projections from state DOTs show an estimated 30 percent decline in revenue, on average, for the next 18 months. This dire revenue estimate is consistent with recent traffic data showing that personal travel is still recovering from the low of 48 percent decline in April due to widespread stay-at-home orders.

All state DOTs surveyed in early April 2020 require the federal backstop in the coming months; for 39 percent of the surveyed states, this support is actually needed right now, not in a few weeks or months. This crucial federal backstop will prevent cancellations and delays of projects as well as potential job losses both in the state DOT workforce and the private sector.



The $50 billion federal backstop is absolutely crucial for every state DOT function—covering capital programs, operations, maintenance, and administrative support.

First, virtually every state is expected to face difficulties in delivering their capital and construction program, including delays in project design, bid lettings, and construction. And projects planned to address recovery from prior natural disasters like hurricanes and flooding are unable to continue in certain states. Not only will this create difficulties for state DOTs, but the cancellation or delay of projects will dramatically impact our private sector partners such as construction, design and engineering firms and their employees.

Second, routine state DOT operations are expected to be adversely impacted, including rest area operations to support the trucking industry, traffic and safety management including incident response and 511, and public transportation and ferry services.

Third, the ability of state DOTs to implement asset management plans to maintain their system in a state of good repair is being challenged. Routine maintenance activities impacted include pavement repair and preservation, culvert replacement, ditch clearing, bridge repairs, signal maintenance, line painting, guardrail repair and replacement, and many other critical activities. Fourth, the ability for state DOTs to assist local governments in completing important transportation infrastructure projects will be impacted – having a cascading effect upon our local government partners.

And lastly, state DOTs are facing unprecedented administrative issues, including meeting payroll to prevent furloughs and layoffs. Suspension of pay and hiring freezes are already being implemented and IT infrastructure is severely constrained.

Simply put, the requested revenue backstop is critically important to make sure that current transportation work, projects and activities can be stabilized without major disruptions. State DOTs must receive the federal backstop in order to continue operations in the immediate weeks and months ahead. Without the backstop, the core capabilities of state DOTs will deteriorate and not allow them to be in a position to implement a much-needed, robustly funded reauthorization bill that, because of the leadership of this Committee, is pending in the Senate.

UTILIZING SURFACE TRANSPORTATION REAUTHORIZATION AS PLATFORM FOR NATIONAL ECONOMIC RECOVERY AND GROWTH

Transportation investment is a proven platform for economic activity with long-lasting mobility and productivity benefits. The Fixing America's Surface Transportation (FAST) Act, which has provided five years of funding stability and certainty to state DOTs, will expire in just over four months. As we continue to work through the economic shock of the COVID-19 pandemic, Congress must take bold and historic action to revitalize our nation's economy and secure our long-term future by enacting a robust, long-term surface transportation package that invests in highway, highway safety, transit, and passenger rail programs in every state and community across America.

According to the US Department of Transportation's *Conditions and Performance Report:23rd Edition* published earlier this year, our nation's total investment backlog in 2014—the latest year available—stood at $902 billion, with a highway and bridge backlog of $786 billion and a transit backlog of $116 billion. This cumulative backlog—resulting from decades of underinvestment—represents all highway, bridge, and transit improvements that could be economically justified for immediate implementation.

To address this backlog and stimulate the economy, we request that you double the amount of federal surface transportation funding and reauthorize these programs for at least another six years. These actions will finally put us on the path to eliminate this longstanding investment backlog by the end of this decade while meeting arising asset condition and performance needs to support and sustain our multiyear economic recovery and growth.

In providing these resources, we recommend that Congress utilize contract authority for funding stability and certainty. In addition, we ask you to focus on maximizing formula-based dollars provided directly to states through the existing core formula programs and avoid incorporating untested new programs and discretionary grants that tend to add both uncertainty and additional costs to project sponsors.

To assist in enacting the next surface transportation authorization, we appreciate your consideration of AASHTO's recommended policies adopted by our Board of Directors last October, including our Core Policy Principles:

Ensure timely reauthorization of a long-term federal surface transportation bill.

- Funding stability provided by federal transportation programs is absolutely crucial to meet states' capital investment needs, which take multiple years to plan and construct.
- A long-term transportation bill is needed in order to avoid an authorization gap upon FAST Act expiration in September 2020. Short-term program extensions cause unnecessary program disruptions and delays safety and mobility benefits to states and communities.

Increase and prioritize formula-based federal funding provided to states.

- The current federal highway program optimally balances national goals with state and local decision making.
- Formula-based transportation funding reflects the successful federal-state partnership by ensuring the flexibility necessary for each state to best meet its unique investment needs.
- Congress should increase the formula-based program's share of the Federal-aid Highway Program from 92 percent currently in the FAST Act.

Increase flexibility, reduce program burdens, and improve project delivery.

- Increase programmatic and funding flexibility to plan, design, construct and operate the surface transportation system.
- Reduce regulatory and programmatic burdens associated with federal programs that are not part of the project approval process.
- Modernize Clean Water Act, Clean Air Act, and Endangered Species Act processes to improve transportation and environmental outcomes and reduce delays.
- To streamline and improve project delivery, states should be provided with opportunities to assume more federal responsibilities and the associated accountability.

Support and ensure state DOT's ability to harness innovation and technology.

- Innovative approaches and technologies should be embraced to achieve a safer and more resilient, efficient and secure surface transportation system.
- State DOTs, as infrastructure owners and operators, need the 5.9 GHz spectrum for transportation safety and connected vehicle deployment purposes.
- Preserve state and local government authority to regulate operational safety of autonomous vehicles.
- Preserve state and local government authority to responsibly manage data collected from transportation technologies.

CONCLUSION

State DOTs remain committed to assisting Congress in providing the necessary multiyear economic recovery platform through robust transportation investment. We commend the Committee's tireless leadership on timely reauthorization of surface transportation legislation and we look forward to further strengthening the federal government's highly successful partnership with state DOTs in the months and years ahead to lead our nation's economic recovery and growth.

PCA Since 1916
America's Cement Manufacturers™

Portland Cement Association
200 Massachusetts Ave NW, Suite 200
Washington D.C., 20001
202.408.9494 Fax: 202.408.0877
www.cement.org

June 3, 2020

The Honorable John Barrasso
Chairman
Environment and Public Works Committee
410 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Tom Carper
Ranking Member
Environment and Public Works Committee
456 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Chairman Barrasso and Ranking Member Carper:

The cement industry appreciates the opportunity to submit comments for the Environment & Public Works Committee's "Infrastructure: The Road to Recovery" hearing. We believe investment in the nation's transportation and water infrastructure is a critical component to our nation's economic recovery.

The Portland Cement Association (PCA), founded in 1916, is the premier policy, research, education, and market intelligence organization serving America's cement manufacturers. PCA members represent 93 percent of the United States' cement production capacity and have facilities in all 50 states. Cement and concrete product manufacturing, directly and indirectly, employs approximately 610,000 people across the country, and our collective industries contribute over $125 billion to the U.S. economy. Portland cement is the fundamental ingredient in concrete. The Association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and promotes economic growth and sound infrastructure investment.

Annually, the United States uses approximately 260 million cubic yards of concrete to build and repair a variety of types of transportation and infrastructure. This number has been significantly impacted by the economic slowdown caused by the COVID-19 virus. In April, cement consumption nationwide decreased by 8.2 percent compared to the year before, a trend that is likely to continue.

Investment in infrastructure is critical to not only helping the cement industry recover from the economic downturn but the larger construction industry as well. To aid in this recovery, PCA urges Congress to:

- **Enact a Long-term and Well-funded Surface Transportation Reauthorization:** An efficient and well-functioning transportation network is essential to positioning the U.S. economy for a robust recovery. Fundamentally, we can no longer afford to defer investment in the nation's infrastructure. PCA encourages the Senate to act on America's Transportation Infrastructure Act which would significantly increase investment in order to help close the $2 trillion infrastructure investment gap to maintain our existing infrastructure and meet our nation's growing needs. Ensuring long-term, stable funding for the nation's surface transportation program will help states and metropolitan planning organizations continue to plan and start a range of much needed road, bridge, and transit projects. Additionally, increased funding for the transportation program should be targeted to major reconstruction and capacity expansion projects to address freight bottlenecks and fix structurally deficient bridges. A long-term reauthorization of the surface transportation program must also address the long-term solvency of the Highway Trust Fund.

- **Enact Critically Important Water Infrastructure Legislation:** Significant investment in water infrastructure, including U.S. Army Corps of Engineers projects, drinking and wastewater systems, ports, harbors, and inland waterways will help states and communities' advance critical projects ranging from improving the movement of freight, flood risk reduction, and advancing public health projects. To advance water infrastructure projects PCA urges the Senate to take up and pass the American's Water Infrastructure Act and the Drinking Water Infrastructure Act to advance important Corps projects and invest in water infrastructure programs like the Drinking and Clean Water State Revolving Funds (SRFs) and Water Infrastructure Finance and Innovation Act (WIFIA).
- **Provide Immediate Aid to State Departments of Transportation:** Projections show a significant decrease in state motor fuel tax and toll receipts as vehicle traffic has declined by 50 percent in most states due to work and travel restrictions. On average, states are estimated to face 30 percent declines in their transportation revenue through the end of fiscal year 2021. As a result, state departments of transportation are delaying projects that were previously set to move forward. Congress should provide aid to state departments of transportation to help offset the revenue declines so they can move forward with important projects to improve and maintain the nation's highways and bridges.

PCA appreciates the opportunity to share our perspective of the importance of infrastructure investment to the nation's economic recovery from the COVID-19 pandemic. The cement industry looks forward to working with you to advance critical infrastructure legislation. If you have any questions, please do not hesitate to reach out to me.

Sincerely,

Sean O'Neill

Sean O'Neill
Senior Vice-President, Government Affairs
Portland Cement Association

NSSGA
NATIONAL STONE, SAND & GRAVEL ASSOCIATION
www.nssga.org

June 4th, 2020

The Honorable John Barrasso
Chairman of the Senate Committee on
Environment and Public Works
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Thomas Carper
Ranking Member on the Senate Committee on
Environment and Public Works
513 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper,

On behalf of the over 400-member companies of the National Stone, Sand & Gravel Association (NSSGA), I welcome today's hearing, titled *"Infrastructure: The Road to Recovery."* As your committee understands well, a robust, multi-year surface transportation reauthorization is the most effective legislative tool to combat the economic impacts of the COVID-19 pandemic and put hundreds of thousands of Americans back to work. This hearing will underscore that need and highlight the immediacy by which we need to act.

NSSGA is the leading advocate and resource for the aggregates industry, who provide the critical raw materials found in virtually every surface transportation project; roads, highways, bridges, runways, pipelines and much more. Our membership represents more than 90 percent of the crushed stone and 70 percent of the sand and gravel produced annually in the United States. As your committee continues to advance bills that support our Nation's infrastructure, like *America's Transportation and Infrastructure Act* (ATIA) and *America's Water Infrastructure Act of 2020* (AWIA), NSSGA recognizes the urgency that Congress must pass these critical infrastructure reauthorization bills and gives all our support. As we face unemployment numbers rivaling the Great Depression and sit idle as countless public works fall into disrepair, infrastructure investment is the fastest and most enduring way to create jobs and realize a real economic recovery. The time to act is now.

Echoing the hearing's title, NSSGA loudly supports a surface transportation reauthorization bill that will address the more than $800 billion backlog of vital public works projects, which must be addressed to provide the motoring public safe and efficient roads, bridges and highways[1]. Without question, this backlog of vital projects emphasizes the chronic pattern of underinvestment for years. The current FAST Act expires on September 30 – less than four months from now – and if Congress cannot pass an appropriate reauthorization bill, it will create frustratingly long project delays; increased costs on taxpayers; and exacerbate an already underfunded and overutilized surface transportation infrastructure network.

This need is even more critical when you consider that state Department of Transportation agencies (DOTs) have had to absorb upwards of 30 to 45 percent in revenue declines due to "shelter in place" orders to limit the pandemic's spread and deter normal driving and daily commuting in almost every state in the union. We support an immediate infusion of funds to support these state DOTs, as many are now suspending or canceling their lettings for this summer at the height of the construction season,

1 https://www.infrastructurereportcard.org/cat-item/roads/

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NATIONAL STONE, SAND & GRAVEL ASSOCIATION

www.nssga.org

impacting various public works projects that were previously budgeted to begin or continue prior to the pandemic's spread. Ignoring the call to support state DOTs will blunt any infrastructure recovery package or highway reauthorization bill, no matter its size and scope, and will set back our country's infrastructure needs significantly. We hope the committee understands and advances this need so that bills like ATIA and AWIA can be leveraged and maximized to their full potential.

America's economy has come to a dramatic stop and unemployment figures have risen to historic highs because of the pandemic, and if we hope to recover quickly, we must support the countless public works projects that benefit local and regional communities. Infrastructure investment is the necessary tool to lead America's economic recovery, and NSSGA is here to advance that message throughout Capitol Hill. We urge Congress to come together and pass meaningful and impactful infrastructure investment.

I appreciate your committee's leadership, advancing sound infrastructure policies, and thank you for your consideration. As you continue to examine and advance a meaningful highway reauthorization bill and other matters relevant to the aggregates industry, please consider NSSGA as a resource. Thank you again for your time and interest on this critical issue.

Sincerely,

Michael W. Johnson
President and CEO
National Stone, Sand and Gravel Association

cc: Members of the Senate Committee on Environment and Public Works

ITS AMERICA

June 3, 2020

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
Commerce, Science, and
Transportation Committee
United States Senate
Washington, DC 20510

The Honorable Thomas R. Carper
Ranking Member
Committee on Environment and Public Works
Commerce, Science, and
Transportation Committee
United States Senate
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

In anticipation of the Committee on Environment and Public Works upcoming hearing entitled "Infrastructure: The Road to Recovery," the Intelligent Transportation Society of America (ITS America) writes to emphasize that in this unprecedented time, transportation technologies that address congestion, safety, and touchless transportation are being deployed in new and unforeseen ways to slow the spread of COVID-19, reinforce logistics and supply chains, and improve system performance as the American economy begins to reopen. As a result, ITS America supports policies in the reauthorization of the Fixing America's Surface Transportation (FAST) Act and a potential infrastructure bill that significantly increase investments in research, development, and deployment of technologies to make our transportation system safer and more resilient.

We also know that more assistance is urgently needed to ensure that state, city, and county departments of transportation, transit agencies, and public tolling authorities can keep the nation's transportation systems moving safely, especially as the country begins to reopen from the coronavirus pandemic without a vaccine but with a focus on protecting public health. With that in mind, we urge Congress and the Administration to provide flexible funding to offset the revenue losses at state and local departments of transportation, transit agencies, and public tolling authorities. State and local governments also require flexible federal funding to deploy lifesaving technologies that better protect pedestrians and cyclists and accelerate the deployment of biking, scootering, and walking infrastructure as communities pedestrianize streets to make it easier for people to get around while socially distancing.

We know that we cannot simply return to the transportation priorities that preceded the pandemic. COVID-19 has impacted every sector of the transportation industry. The ability of states and cities to revive their battered economies will depend on a safe transportation system. With this in mind, we urge Congress to provide states, cities, counties, transit agencies, and public authorities flexibility with federal funds to deploy technology to stop the spread of COVID-19, including funding for contactless payment systems and technologies that protect transit workers and passengers and Mobility on Demand services and programs such as micromobility, ridesourcing, and microtransit to connect vulnerable communities to health care and work. States and local governments have seen reductions in greenhouse gases during the stay at home orders, which will result in better health and environmental outcomes. ITS America urges Congress and the Administration to help states and local governments maintain lower greenhouse gases by providing investments to support vehicle electrification, including vehicle infrastructure, e-cargo cycling, and micromobility.

ITS AMERICA

The following are a few examples of how our members are deploying safety, congestion mitigation, and touchless transportation technology as the country moves from the public health emergency to the reopening of the nation's economy.

Safety Technologies

The **Port Authority of New York and New Jersey** hopes to pilot a technology originally designed for reducing Hospital Acquired Infections. Using ultraviolet light, the device creates hydrogen peroxide out of the surrounding air, which then seeks and destroys microbes in the air and on surfaces. The technology developers claim a 99.96% kill rate. It is an equipment-only solution (no chemicals required), so it is appealing from an ease-of-use perspective.

Cubic GRIDSMART can perform unique, advanced functionality to protect vulnerable road users, including bicyclists and pedestrians. GRIDSMART's enhanced features can detect bicyclists in the middle of intersections as well as pedestrians in crosswalks. This detection capability can be used to retime traffic signals "on the fly" to minimize conflicts with vulnerable users and allow extended clearance intervals for these users to exit intersections.

PrePass Safety Alliance's weigh station bypass and electronic tolling systems allow trucks delivering essential supplies to safely bypass inspection, weigh station, and toll facilities at highway speeds. PrePass technology helps keep drivers and toll facility and state agency personnel safe by reducing the need for person-to-person interaction. Qualified carriers equipped with PrePass RFID transponders or cellular connected devices are precleared for bypass and toll payments are processed electronically, keeping trucks on the road and on time. PrePass driver safety ALERTS™ also keep drivers informed of rest area closures, helping them find a safe place to rest during extended driving hours.

BLYNCSY traffic sensor technology has been adapted to provide contact tracing at universities and government buildings with the ability to cover 98 percent of people in those facilities and can be operational within a week.

Congestion Mitigation Technologies

The **Regional Transportation Commission (RTC) of Southern Nevada** is using predictive analytics to improve safety and efficiency on freeways, including key freight corridors and major arterials, by compiling and analyzing data to report in real-time the location of accidents and predict where dangerous driving conditions or congestion may occur. This technology enables faster validation and response to roadway incidents as well as more efficient use of resources to proactively deploy traffic patrols and abatement efforts with the goal of preventing incidents. Using historic and real-time data from freeway sensors, connected vehicles, and other sources, predictive analytics helps anticipate where congestion hot spots are likely to occur up to two hours in advance. More importantly, a tangential benefit has been RTC's ability to recognize and respond to incidents up to 12 minutes faster than before.

ITS AMERICA

Iteris is helping states and cities monitor speed, volume, delay, and congestion experienced by travelers of all modes as they navigate the impacts of the pandemic on mobility and safety on roadways. ClearGuide™ helps make the best traffic operations and planning decisions in an intuitive and easy-to-use interface. The technology analyzes large amounts of complex transportation data to produce real-time and historical visualizations that help identify problem areas before traffic congestion worsens.

Cubic Transportation Systems' SynchroGreen is an adaptive signal control component of Trafficware's ATMS platform, a field-proven software solution that reduces motorist travel time, delays, and stops. Used in states like Texas and Florida, this technology continuously assesses both current and predictive traffic trends for all phases of intersection movements within a traffic network, determining the optimal signal settings. It allocates time for each vehicle and pedestrian phase in real time as well as accommodates roadway incidents and events on-the-fly, adjusting signal timing as necessary to restore smooth traffic flows.

Touchless Technologies

Due to the recent COVID-19 pandemic, and in an effort to keep the **Michigan Department of Transportation (MDOT)** Transportation Operations Center (TOC) staff and public safe, two of MDOT's largest TOC's - the Statewide TOC (STOC) in Lansing and the Southeast Michigan TOC (SEMTOC) in Detroit - moved to a virtual setup, with decisions being made and implemented within 48 hours at the beginning of April and the end of March, respectively. While there were early challenges, MDOT was able to maintain all TOC service with little to no impact because much of the planning for transitioning to virtual TOC's was done well in advance of the pandemic. MDOT's ATMS system, which allows MDOT to run all of its TOC's and ITS devices, is web-based and allows users to remotely login into the state's network though a VPN. This allows TOC's to be flexible by assisting one another during peak traffic periods or allows TOC's to temporarily relocate due to unforeseen events. In addition, MDOT has been testing laptops for operational purposes to replace aging desktops and allow for more mobile operations, which gives both TOC's enough computers for each operator. MDOT also has a large supply of Freeway Courtesy Patrol Radios, which equips each operator with his/her own radio in the field and saves time. Communication among TOC staff was a primary concern early on, but the use of Microsoft Teams quickly mitigated these concerns.

While the Committee on Environment and Public Works does not have jurisdiction of transit programs, we want to highlight two examples of how ITS America members are using touchless technology to protect both riders and employees.

The **Central Ohio Transit Authority** (COTA) is and will be implementing a wide range of technologies to protect its riders and employees. These technologies include a contactless payment system, driver safety barriers, employee temperature screening, state-of-the-art disinfecting techniques, and new on-demand routing schemes. COTA will continue to explore other emerging technologies that support safe and secure transit.

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In May 2019, **Uber** launched its first mobile ticketing collaboration with Denver's Regional Transportation District (RTD) and expanded in January 2020 to Las Vegas' Regional Transportation Commission (RTC). With the tap of a few buttons, transit riders in these two cities can plan end-to-end journeys and pay for their bus or train ride in the Uber app on their mobile device. This technology allows riders to quickly purchase fares without needing to handle cash, have exact change, or use a separate fare vending machine, which results in a more seamless and convenient transit ride with zero public touch points.

As the trade association representing stakeholders across the transportation sector, including state, city, and county departments of transportation, metropolitan planning organizations, automotive manufacturers and suppliers, technology companies, engineering firms, and research universities, ITS America expresses our strong support for the actions taken by Congress and the Administration to minimize the impact of COVID-19 on the American economy, the transportation system, the traveling public, and transportation workers, and their families.

In closing, ITS America wishes to thank the Committee on Environment and Public Works Chairman John Barrasso, Ranking Member Tom Carper, and the Members of the Committee for their leadership in passing the America's Transportation Infrastructure Act last summer. We urge the Senate Committee on Commerce, Science, and Transportation and Committee on Banking, Housing, and Urban Affairs to complete FAST Act reauthorization bills that provide funding for the rapid deployment of intelligent transportation technologies by transportation agencies and providers across the entire country well ahead of the expiration of the FAST Act this September.

Sincerely,

Shailen Bhatt
President and CEO
The Intelligent Transportation Society of America

ITS AMERICA

cc:
The Honorable John Boozman (R-AR)
The Honorable Mike Braun (R-IN)
The Honorable Shelley Moore Capito (R-WV)
The Honorable Kevin Cramer (R-ND)
The Honorable Joni Ernst (R-IA)
The Honorable Jim Inhofe (R-OK)
The Honorable Mike Rounds (R-SD)
The Honorable Richard Shelby (R-AL)
The Honorable Dan Sullivan (R-AK)
The Honorable Roger Wicker (R-MS)
The Honorable Cory Booker (D-NJ)
The Honorable Ben Cardin (D-MD)
The Honorable Tammy Duckworth (D-IL)
The Honorable Kirsten Gillibrand (D-NY)
The Honorable Ed Markey (D-MA)
The Honorable Jeff Merkley (D-OR)
The Honorable Bernie Sanders (D-VT)
The Honorable Chris Van Hollen (D-MD)
The Honorable Sheldon Whitehouse (D-RI)
Ron Thaniel, Vice President of Legislative Affairs, ITS America, rthaniel@itsa.org

Senator CARPER. Mr. Chairman, I would also ask unanimous consent to submit one more for the record. It is a report from the American Public Transportation Association on these singular benefits of transit including reduced congestion, traffic safety benefits, better air quality, economic development, and more. It turns out $1 billion invested in transit can result in, I am told, in some $5 billion of economic growth, and that is a pretty good deal where I come from.

Thank you.

Senator BARRASSO. And put a lot of people to work, as well, so thank you so much for that. Without objection, those are all submitted.

[The referenced information was not received at time of print.]

Senator BARRASSO. I want to thank all of you for your testimony.

I agree with members of the panel on both sides of the aisle that said we have the A Team here today, all three of you. I want to thank all of you.

There are no more questions from those of us here.

Other members may submit questions for the record. We ask that you respond to those, so the hearing record will then stay open for the next 2 weeks.

I want to thank all of the witnesses for your time and your testimony.

Thank you, Mr. Mayor, for joining us remotely.

The hearing is adjourned.

[Whereupon, at 11:56 a.m., the hearing was adjourned.]

[Additional material submitted for the record follows:]

May 18, 2020

The Honorable Mitch McConnell
Majority Leader
United States Senate
Washington, D.C. 20510

The Honorable Nancy Pelosi
Speaker of the House
United States House of Representatives
Washington, D.C. 20515

The Honorable Chuck Schumer
Minority Leader
United States Senate
Washington D.C. 20510

The Honorable Kevin McCarthy
Minority Leader
United States House of Representatives
Washington, D.C. 20515

Dear Leader McConnell, Speaker Pelosi, Leader Schumer, Leader McCarthy,

The COVID-19 pandemic is a national crisis and the need to address the health and safety of communities as well as the economic futures of people across the nation is paramount. As Congress works to restart the American economy and put people back to work, you have an opportunity to create a large number of green, long-term jobs performing vital conservation and restoration work. Similar to the establishment of the Civilian Conservation Corps during the recovery from the Great Depression, Congress can revive the United States economy by investing $25 billion in new and existing conservation programs that will create hundreds of thousands of direct jobs and provide benefits to people, communities and the environment.[1]

On the ground conservation and restoration work has myriad benefits. Most importantly, this work is needed in virtually every corner of the United States, creates quality jobs impossible to outsource, and can provide employment opportunities for low-wealth communities, Black, Brown, Indigenous and other people of color, and younger people, all of whom are suffering disproportionately from this current economic downturn. Conservation work can—and should—be conducted in an equitable manner, guaranteeing fair wages and utilizing project labor agreements, community benefit agreements, local hire, and other provisions and practices that ensure the rights of workers and promote environmental justice.

The United States can overcome this economic hardship while protecting and restoring our unique natural resources which includes a diverse array of fish and wildlife and our national wildlife refuges, forests, parks, monuments and other public lands. Restoring wildlife, wild lands and waterways contributes to significant public health benefits for all people. As Congress begins to plan for the post-pandemic recovery, we urge you to provide funding for federal agencies and existing federal grant programs to support the work of state and local governments and agencies, Tribes, public universities, and small businesses to immediately implement the following conservation and restoration projects for the benefit of all.

[1] Economic activity generated by restoration activities is well documented, producing between 13 and 30 jobs for every $1 million invested. Restoration of coastal wetlands can create as many as 29 jobs for every $1 million invested. https://cdn.americanprogress.org/wp-content/uploads/issues/2011/09/pdf/public_lands.pdf; see also Nielsen-Pincus, Max and Cassandra Moseley. Economic and Employment Impacts of Forest and Watershed Restoration in Oregon. Ecosystem Workforce Program. Working Paper Number 24, Spring 2010. https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/10776/WP24.pdf?sequence=1

RESTORING WILDLIFE AND PUBLIC LANDS

Prioritizing Endangered Species Recovery[2]

Threatened and endangered fish, wildlife and plants are found across the United States, and every imperiled species would benefit from additional conservation work to further their recovery. Despite their importance, recovery programs have been consistently and significantly underfunded, with recent estimates indicating species receive less than one-quarter of the funding scientists indicate is required.[3] Habitat restoration, the removal of invasive plants, the humane management of invasive animal species, and translocating and restoring species to their historic range all are contingent upon having sufficient funding and capacity. The U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA) work in close partnership with other federal, state, local agencies, Tribal governments and private landowners, and these collaborations helped to save the California condor, gray whale, black-footed ferret, and the bald eagle from extinction. Similar work on other species could put thousands of people to work on environmentally beneficial projects in a COVID-19 stimulus bill.[4][5] Recovery projects should be prioritized whenever possible when Congress funds the other conservation initiatives discussed below.

Restoring Public Lands

Public lands – including national forests, national parks, national wildlife refuges and lands managed by the Bureau of Land Management – are crucial to the conservation of our nation's fish and wildlife and the well-being of its people. Unfortunately, landscapes and habitats on public lands nationwide have suffered significant harm and are in need of environmental and cultural resource restoration. Similarly, much of the infrastructure associated with the use of public lands has been abandoned, left in disrepair, is no longer needed, and/or creates hazards for public land users and wildlife. We urge Congress to significantly increase funding for reclamation and restoration work on public lands to create significant job opportunities and improve the beauty, function, and safety of public lands. Examples of projects and funding recommendations include:

- Removal of unauthorized and unneeded roads and trails that negatively impact fish and wildlife habitat, movement, and security,[6]
- Reclamation of orphaned well pads and abandoned mines,[7]
- Removal of degraded and abandoned rangeland infrastructure, debris, and waste,
- Conversion and repair of existing or damaged rangeland infrastructure to mitigate impacts to fish and wildlife and safeguard sensitive habitats, and
- Fully fund and expand the U.S. Youth Conservation Corps.[8]

[2] The Endangered Species Act a popular law that enjoys the support of 90 percent of American voters. "Poll Finds Overwhelming, Broad-Based Support for the Endangered Species Act Among Voters Nationwide," Tulchin Research. 2015. https://earthjustice.org/sites/default/files/files/PollingMemoNationalESASurvey.pdf
[3] See for example https://defenders-cci.org/files/ESA_recovery_costs_2019.pdf,and https://www.biologicaldiversity.org/programs/biodiversity/pdfs/Shortchanged.pdf.
[4] https://www.fws.gov/ecological-services/about/what-we-do.html
[5] https://www.fisheries.noaa.gov/feature-story/habitat-restoration-supports-jobs-stewardship
[6] The Legacy Roads and Trails Remediation Program (LRT) is an example of a very successful program created by Congress to address problems with the USFS's massive roads and trails system. LRT has created many thousands of good jobs while restoring watersheds and habitat, improving access and recreation, and providing drinking water protection. See e.g. https://www.fs.fed.us/restoration/Legacy_Roads_and_Trails/
[7] https://www.americanprogress.org/issues/green/reports/2020/04/29/484158/congress-can-help-energy-states-weather-oil-bust-coronavirus-pandemic/
[8] https://www.nps.gov/subjects/youthprograms/ycc.htm

Restoring Watersheds and Coastal Areas

Watershed and coastal restoration projects have immediate positive impacts for local communities, wildlife and water quality including long-term benefits for advancing biodiversity and building resilience. For example, numerous national wildlife refuges are located along coasts and waterways and serve a crucial role buffering coastal areas and communities from climate change-induced sea level rise, hurricanes and other storms, protecting shorelines, decreasing erosion, and sequestering carbon. Federal, state, local and Tribal agencies have already identified countless conservation projects that could be immediately implemented with additional funding.[9] Project funding should be prioritized to improve water quality, fish habitat, connectivity and stream flows; serve disadvantaged and frontline Environmental Justice communities; and recover endangered species. Below are examples of watershed protection and restoration projects, many of which are supported by existing programs and could be immediately implemented with additional funding.

- Decommissioning, repairing and/or relocating roads that negatively impact waterways and water quality, including removal or replacement of culverts to reconnect stream segments and re-establish passage of native aquatic species,[10]
- Restoration of natural stream channels and hydrologic flows including removing dams and water diversion infrastructure and gully stabilization,[11]
- Restoration of coral reefs, coastal dunes, and estuaries,[12]
- Creation of wetlands and other natural alternatives to gray infrastructure,[13] and
- Humane management of invasive animal species, removal of invasive plant species and restoration of native vegetation for wildlife habitat and stream bank stability.[14]

Safeguarding Key Wildlife Corridors[15] and Reducing Impacts to Wildlife from Infrastructure

Connecting fish and wildlife habitats is critical to conserving biodiversity in the face of habitat fragmentation, climate change, and other individual and cumulative stressors, which will increasingly trigger geographical shifts for wildlife populations and plant communities. Many benefits accrue from facilitating the safe and unimpeded movement of fish and wildlife — from saving lives by reducing collisions between vehicles and wildlife, to restoring functional wildlife corridors.[16] The activities listed below would create smart infrastructure with significant economic returns, support state efforts to mitigate the harmful effects of roads, and help create more climate resilient landscapes that protect people and wildlife.

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[9] For example: https://www.epa.gov/hwp/what-epa-doing-healthy-watersheds, https://www.fisheries.noaa.gov/topic/habitat-conservation#how-we-restore,
[10] See LRT program above and https://www.fisheries.noaa.gov/national/habitat-conservation/reopening-rivers-migratory-fish
[11] https://www.fisheries.noaa.gov/national/habitat-conservation/current-and-past-community-based-restoration-projects
[12] https://www.epa.gov/nep and https://www.noaa.gov/topic-tags/coastal-restoration
[13] A single acre of wetlands can hold up to 1.5 million gallons of rain or melting snow. Wetlands, once constructed or restored, also require little to no maintenance investment, a savings over conventional water treatment options. See: Function and Value of Wetlands. EPA 843-f-01-002c. Sep. 2001. Available at https://www.epa.gov/sites/production/files/2016-02/documents/functionsvaluesofwetlands.pdf, https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30004TBD.TXT, and https://www.wateronline.com/doc/constructed-wetlands-a-low-cost-alternative-0002
[14] See for example: http://escalanteriverwatershedpartnership.org/success-stories/healthy-rivers-and-healthy-communities-story/ and https://www.troutheadwaters.com/services-restoration-mitigation-climate-more/, and https://www.beaverinstitute.org/management/stream-restoration/
[15] Congress should consider incorporating the bi-partisan Wildlife Corridors Conservation Act, H.R. 2795 and (S. 1499) and the Tribal Wildlife Corridors Act of 2019, H.R. 5179 (S. 2891) passed by the House Natural Resources Committee in 2020, and the bi-partisan wildlife crossing pilot program (Section 1125) and related provisions expanding wildlife infrastructure funding eligibility found in S.2302 unanimously passed by the Senate Environment and Public Works Committee in July 2019.
[16] https://www.fhwa.dot.gov/publications/research/safety/08034/08034.pdf

- Identification and management of wildlife corridors by increasing agency capacity, funding improvements, and directing grants to landowners, states, and Tribes,
- Construction of wildlife overpasses, underpasses, and bounding fences across busy roads and highways[17],
- Removal, re-siting, or modifying infrastructure that is a barrier to fish and wildlife migrations and movements,
- Burial of transmission lines to reduce bird strikes and other impacts to wildlife, and
- Developing and employing technology to reduce impacts to wildlife from energy production and other infrastructure.

Addressing Invasive Species and Restoring Native Plants

Invasive species undermine critical infrastructure, placing entire communities at risk, overwhelming some of the most treasured and biologically significant landscapes in the United States, and leading to degraded habitat for fish and wildlife.[18] For example, over two million acres in the National Refuge System are infested with invasive plants and more than 1,700 invasive animal populations are found on refuge lands, yet current funding and capacity only allows treatment of a small fraction of the impacted acres.[19] Addressing the proliferation of invasive species, restoring degraded landscapes, and protecting vital infrastructure is urgently needed, and will provide many new jobs while generating substantial returns on investment.[20] Timely examples include, but are not limited to:

- Substantially increase federal and state agency staffing in the areas of import/border inspection for agriculture and wildlife,[21]
- Fund additional invasive species strike teams on national wildlife refuges and other public lands to remove invasive plants and humanely manage invasive animals,
- Fully fund the Bureau of Land Management Plant Conservation and Restoration Program to implement the National Seed Strategy,[22] including the construction, operation and maintenance of up to five native seed storage facilities across the country,
- Scale up existing contracts for seed collection and research and support native plants material development on Tribal lands, including culturally significant plants, and
- Establish a comprehensive national survey of invasive plants and animals.

Promoting Wildlife Coexistence

Wildlife and humans are increasingly coming into contact due to expansion of the development footprint into wildlife habitat. The need to increase coexistence efforts where wildlife conflicts are already occurring or are likely to occur is clear and demonstrable. Additionally, efforts must be made to safeguard wildlife from negative impacts associated with human development by implementing non-lethal programs and projects in communities that are in need of adaptation for coexistence with native wildlife. This may include but is not limited to:

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[17] For a list of potential projects, see https://wildlandsnetwork.org/wp-content/uploads/2020/05/Wildlife-Crossing-List-for-Infrastructure-Funding.pdf

[18] https://www.doi.gov/sites/doi.gov/files/uploads/invasive_species_impacts_on_infrastructure.pdf, and https://www.doi.gov/sites/doi.gov/files/uploads/invasive_species_impacts_on_federal_infrastructure.pdf

[19] Cooperative Alliance for Refuge Enhancement: Testimony submitted to U.S. Senate Appropriations Committee Subcommittee on Interior, Environment and Related Agencies FY 2021 Appropriations Request for National Wildlife Refuge System

[20] https://www.doi.gov/sites/doi.gov/files/uploads/isac_green_economy_white_paper.pdf

[21] Reaser and Waugh 2007; https://portals.iucn.org/library/sites/library/files/documents/2007-058.pdf

[22] https://www.blm.gov/sites/blm.gov/files/programs_natural-resources_native-plant-communities_national-seed-strategy_pca_Framework.pdf

- Development and implementation of wildlife-friendly waste management strategies,[23]
- Installation of electric fencing and application of other non-lethal wildlife deterrents,
- Creation and maintenance of livestock composting facilities and carcass removal programs,
- Expansion of on-the-ground community outreach and education programs,[24]
- Increasing funding for federal, state and Tribal non-lethal wildlife conflict specialists, and
- Funding of pilot programs geared to creative non-lethal solutions to conflicts in the urban wildlands interface.

Conclusion

Bold investments to stimulate the economy through the restoration of public lands, waters, fish and wildlife habitat not only have the potential to put hundreds of thousands of people to work, but also to ensure more resilient ecosystems and communities throughout the United States that will result in enduring public health benefits and quality of life improvements. Accordingly, funding should be directed at programs that focus on restoration rather than resource extraction, promote coordination and cooperation with local communities, and embody the principles of environmental justice. Recovery funding should fully comply with all laws designed to safeguard the environment, workers and the public. Scientists warn that relaxing environmental standards will only lead to future pandemics.[25] For that reason, we urge you to strengthen our bedrock environmental laws including the passage of legislation to restore critical protections under the Endangered Species Act, the Clean Water Act, the Clean Air Act, and the National Environmental Policy Act.

We must also ensure that our programs and policies are designed to protect against future pandemics. Decades of scientific studies have warned that—in addition to live wildlife markets—habitat destruction and biodiversity loss also create significant risk of zoonotic disease spillover into the human population.[26] The projects and programs we have outlined above, which focus on changing our relationship with the natural world by restoring lost and degraded fish and wildlife habitat, promoting coexistence, and increasing biodiversity, are key steps toward protecting against future pandemics.

Thank you for your attention to these important issues and proposals. We look forward to working with you on a stimulus package that provides relief and recovery from the crisis triggered by COVID-19, and safeguards the health and resilience of people, public lands and wildlife for generations to come.

Sincerely,

Advocates for Snake Preservation
Advocates for the Environment
Alabama Rivers Alliance
Alaska Clean Water Advocacy
Alaskans for Wildlife
All-Creatures.org

[23] http://www.bearsmart.com/managing-communities/waste-management/
[24] For example: hiring additional wildlife rangers, conducting bear identification and bear spray deployment clinics, printing and distribution of education materials, conducting livestock husbandry workshops, purchase of equipment for removal of attractants, etc. See also: http://fwp.mt.gov/fwpDoc.html?id=95623
[25] Settele, Josef, Sandra Díaz Eduardo Brondizio, and Dr. Peter Daszak. COVID-19 Stimulus Measures Must Save Lives, Protect Livelihoods, and Safeguard Nature to Reduce the Risk of Future Pandemics. April 27, 2020. Available at https://ipbes.net/covid19stimulus.
[26] See, e.g.: Ostfeld RS, Biodiversity loss and the rise of zoonotic pathogens. Ja. 2009. Available at https://www.ncbi.nlm.nih.gov/pubmed/19220353; Wilkinson, David A., Jonathan C. Marshall, Nigel P. French, and David T. S. Hayman. Habitat fragmentation, biodiversity loss and the risk of novel infectious disease emergence. Dec. 2018. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6303791/.

American Indian Mothers Inc. (AIMI)
Animal Legal Defense Fund
Animal Welfare Institute
Animals & Society Institute
Animals Are Sentient Beings, Inc.
Animas Valley Institute
Association for the Study of Literature and Environment (ASLE)
Audubon Naturalist Society
Audubon Society of Central Arkansas
Audubon Society of Central Maryland
Bark
Battle Creek Alliance & Defiance Canyon Raptor Rescue
Bayou City Waterkeeper
Berkeley Partners for Parks
Bernheim Arboretum and Research Forest
Bird City Wisconsin
Bird Conservation Network
Bonobo Conservation Initiative
Born Free USA
Boulder Rights of Nature
Brighter Green
Buffalo Field Campaign
Cahaba River Society
Cahaba Riverkeeper
Californians for Western Wilderness
Carnivore Conservation Act
Cascades Raptor Center
Cascadia Wildlands
Center for Biological Diversity
Center for Food Safety
Champaign County (IL) Forest Preserve District
Chesapeake Conservancy
Christian Council of Delmarva
Citizens Committee to Complete the Refuge
Ciudadanos Del Karso
Clark Fork Coalition
Climate Law & Policy Project
Coalition on the Environment and Jewish Life
Coalition to Protect America's National Parks
Conservation Council For Hawaii
Cool Planet
Cougar Rewilding Foundation
Defenders of Wildlife
Delaware Valley Ornithological Club
Delta Institute
Earth Action, Inc.
Earth Ministry/Washington Interfaith Power & Light
Earth Path Sanctuary
Earthjustice
Earthworks
Eastern Coyote/Coywolf Research
Eastern Oregon Legacy Lands
Endangered Habitats League
Endangered small animal Conservation fund
Endangered Species Coalition
Environmental Action Committee of West Marin
Environmental Protection Information Center
Florida Wildlife Federation
Footloose Montana
Franciscan Action Network
Friends of Animals
Friends of Bell Smith Springs
Friends of Blackwater, Inc.
Friends of Hackmatack National Wildlife Refuge
Friends of Harbors, Beaches and Parks
Friends of the Bitterroot
Friends of the Eel River
Fund for Wild Nature
Gallatin Wildlife Association
Geos Institute
Global Justice Ecology Project
Grand Canyon Trust
Grand Staircase Escalante Partners
Great Old Broads for Wilderness
Greater Hells Canyon Council
Greenpeace USA
Hands Across the Sand /land
Health Professionals for a Healthy Climate
Healthy Gulf
Hills For Everyone
Hilton Pond Center for Piedmont Natural History
Hoosier Environmental Council
Illinois Environmental Council
Illinois Ornithological Society
In Defense of Animals
Inland Ocean Coalition

International Fund for Animal Welfare
International Marine Mammal Project of Earth Island Institute
Jemez Peacemakers
Kauai Women's Caucus
Kentucky Natural Lands Trust
Kettle Range Conservation Group
Klamath Forest Alliance
KS Wild
League of Conservation Voters
Libby Creek Watershed Association
Life of the Land
Little River Waterkeeper
Living Rivers & Colorado Riverkeeper
Living Rivers & Colorado Riverkeeper
Long Branch Environmental Education Center
Los Padres ForestWatch
Madrone Audubon Society, Sonoma County
Maryland Ornithological Society
Maryland United for Peace and Justice
Mass Audubon
Michigan Audubon
Michigan League of Conservation Voters
Milwaukee Riverkeeper
Minnesota River Valley Audubon Chapter
MountainTrue
National Wolfwatcher Coalition
Native Plant Conservation Campaign
Natural Land Institute
Natural Resources Defense Council
NC WARN
Nevada Wildlife Alliance
New Mexico Wild
Noel J. Cutright Bird Club
Northcoast Environmental Center
Northeast Oregon Ecosystems
Northern California Council, Fly Fishers International
NYC Audubon
O.U.R.S
Oasis Earth
Ocean Conservation Research
Oceanic Preservation Society
Oregon Wild
OVEC-Ohio Valley Environmental Coalition
Patagonia
Pathways: Wildlife Corridors of NM
Paula Lane Action Network, Sonoma County
Pelican Island Audubon Society
Pennsylvania Habitat Connectivity
Pesticide Free Zone
Physicians for Social Responsibility Philadelphia
Predator Defense
Prince Georges Audubon Society, Incorporated
Project Coyote
Public Citizen
Public Lands Project
Puget Soundkeeper Alliance
Rachel Carson Council
Rainforest Biodiversity Group
Raptors Are The Solution
Residents for a Liveable Moreno Valley
Resource Renewal Institute
RESTORE: The North Woods
Rio Grande Waterkeeper (WildEarth Guardians)
Rocky Mountain Wild
Rogue Riverkeeper
Russian Riverkeeper
Sacramento River Watershed Program
Salem Audubon Society
San Jose Peace and Justice Center
San Luis Valley Ecosystem Council
SanDiego350
Santa Clara Valley Audubon Society
Save Our Sky Blue Waters
Save The Colorado
SAVE THE FROGS!
Sequoia ForestKeeper®
Sierra Club
Sky Island Alliance
Social Compassion in Legislation
Soda Mountain Wilderness Council
South East Idaho Environmental Network
South Florida Wildlands Association
Southern Maryland Audubon Society
Southern Utah Wilderness Alliance
Southwest Environmental Center
Tennessee Ornithological Society
Tennessee Riverkeeper
The Carl Safina Center
The Lands Council

Toxic Free NC
Trout Headwaters, Inc.
Turtle Island Restoration Network
Unexpected Wildlife Refuge
Union of Concerned Scientists
Utah Native Plant Society
Ventana Wilderness Alliance
Western Environmental Law Center
Western Great Lakes Bird and Bat Observatory
Western Watersheds Project
Western Wildlife Conservancy
Western Wildlife Outreach, WA
Wild Horse Education
Wild Nature Institute
Wild Virginia
Wild Zone Conservation League
WildEarth Guardians
Wilderness Watch
Wildlands Network
WildWest Institute
WildWest Institute
Wisconsin Society of Ornithology
Wyoming Wildlife Advocates
Xun Biosphere Project
Yellowstone to Yukon Conservation Initiative
Yuba River Waterkeeper

Alternative Fuels & Chemicals Coalition

Advocating for Public Policies to Promote the Development & Production of Alternative Fuels, Renewable Chemicals, Biobased Products, and Sustainable Aviation Fuels

June 2, 2020

The Honorable John A. Barrasso
Chairman
Senate Committee on
Environment & Public Works
512 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Thomas A. Carper
Ranking Member
Senate Committee on
Environment & Public Works
420A Hart Senate Office Building
Washington, DC 20510

Re: June 4, 20202 Committee Hearing, "Infrastructure: The Road to Recovery"

Dear Chairman Barrasso and Ranking Member Carper:

The Alternative Fuels & Chemicals Coalition (AFCC) respectfully requests that the committee give consideration to this letter and its attachments during its hearing on "Infrastructure: The Road to Recovery." AFCC also requests that this letter and attachments be placed in the record for the hearing.

The nation faces significant challenges with the state of its infrastructure and the economic distress that has been caused by the COVID-19 pandemic.

AFCC would like to propose a pilot program to address both challenges: A no-new-cost *In-Place Infrastructure Repair Pilot Program.* The pilot program, which would fit in with and complement the Department of Transportation's Center for Accelerating Innovation, would be funded by designating a percentage (approximately 5%) of the funds that are available through the Department of Transportation's existing infrastructure rehabilitation and improvement programs. The funds would be directed to projects that lend themselves to the use of commercially proven and emerging products that are certified by the Secretary of Transportationand can make infrastructure repairs more quickly and at reduced cost compared to current methods of infrastructure deconstruction and reconstruction.

There already are several technologies and products that can do this. Please see the attached set of testimonials, as an example of the technologies /products available, describing the tests and use of one of these products by NASA, the U.S. Army Corps of Engineers, and U.S. Navy, along with a project cost comparison prepared by Purdue University **showing a savings of up to 88% per project with as good as or better results than the low bid that was received for deconstruction and reconstruction.** That means up to eight infrastructure repair projects could be completed for the current cost of one repair.

The pilot program will test the efficacy and cost- and time-savings of using surface-applied products, processes, and technologies to make all or a part of a repair to major infrastructures, along with the ability of these products to restore infrastructures to "a state of good repair" as defined in section 24102 of Title 49 U.S. Code. **If successful, the program will allow infrastructure repairs to be completed in a fraction of the time at a fraction of the cost, thus allowing existing funds to go much, much further in repairing the nation's infrastructure.**

We look forward to working on this with you and addressing any questions you may have.

Respectfully submitted,

CJ Evans

CJ Evans, Executive Director

A Collaborative Government Affairs Effort
Organized by Kilpatrick Townsend & Stockton and American Diversified Energy Consulting Services
1200 G Street, NW, Suite 800, Washington, DC 20005
Telephone: +1 202-922-0144 Email: info@AltFuelChem.org Website: www.AltFuelChem.org

IN-PLACE INFRASTRUCTURE REPAIR PILOT PROGRAM FACT SHEET

THE NATION'S INFRASTRUCTURE IS CRUMBLING:

- The Federal Highway Administration (FHWA) has posted a report on the estimated 2018 replacement and rehabilitation costs for structurally deficient National Highway System (NHS) bridges.
- The report lists ***4,783 structurally deficient*** NHS bridges in the 50 states and Puerto Rico.
- ***FHA estimates it would cost $16.37 billion to rehabilitate all 4,783 bridges, which is 68% of the full replacement cost of $24.1 billion*** for deconstructing and reconstructing the deficient bridges.

THAT IS JUST THE COST FOR NHS BRIDGES:

- It does not include the cost of rehabilitating deficient bridges maintained by states and localities.
- Nor does it include the costs of rehabilitation and replacement for structurally deficient roads, tunnels, public transportation, passenger and freight rail, airports, ports, dams, water impoundments, pipes, pipelines, public works, schools, and public buildings.
- The American Society of Civil Engineers' (ASCE's) 2017 Report Card assigned a grade of "D+" to the nation's overall infrastructure.
- *The ASCE estimates the U.S. needs to spend some $4.5 trillion – almost 5% of the nation's gross domestic product – by 2025 to fix the country's roads, bridges, dams, and other infrastructure.*
- That's not all; Larry Summers, the Harvard economics professor and former Secretary of the Treasury, has called the case for spending more on infrastructure maintenance "overwhelming;" he estimates that *extra car repairs caused by deficient roads and bridges are equivalent to a 50-cent to $1 tax per gallon of gasoline.*
- Greg DiLoreto, past president of the ASCE, agrees; he estimates poor infrastructure costs every American family $3,400 per year due to auto repairs and extra gasoline and time stuck in traffic.

TAKE THE REHABILITATION OF THE WASHINGTON MEMORIAL BRIDGE AS AN EXAMPLE:

- This 3-year, $227 million rehabilitation project started in the fall of 2018; it is now halfway done.
- One sidewalk and one lane of traffic have been closed and will remain closed for the duration of the repair, causing a 3-year disruption in traffic which interferes with morning and evening commutes.

IMAGINE IF THIS REPAIR COULD BE DONE IN 3 MONTHS VS. 3 YEARS FOR 1/10TH THE COST:

- There are commercially available products that have been used successfully by NASA and the U.S. Army Corps of Engineers, among others, that could make this possible.
- ***These products can be used to make in-place repairs via surface applications that inhibit and repair corrosion, seal and strengthen cracked and crumbling concrete, and restore structural integrity to a state of good repair as defined in section 24102(12) of Title 49 United States Code without extensive, costly, and time-consuming deconstruction and reconstruction.***
- A September 17, 2019 article published by the World Economic Forum, "6 innovative technologies about to transform our infrastructure," describes several other innovations, such as 3D printing and lightweight prefabricated road modules made of recycled plastic waste, which could revolutionize the ways in which repairs are made and the costs and time they require.
- One U.S. company already is on the way to making building materials through a patented chemical extrusion process that uses unsorted plastic wastes, including those that currently cannot be recycled, to create building materials such as concrete girder and beam replacements that not only have the compression strength of concrete, but three times concrete's tensile strength, and are not affected by freezing or thawing, or degraded by UV light.
- *With these products, as many as 10 other bridges could be repaired for the same cost of the Washington Memorial Bridge's repair, in a fraction of the time, with much less traffic disruption.*

ESTABLISH A PILOT PROGRAM TO TEST & APPROVE COMMERCIALLY AVAILABLE PRODUCTS & TECHNOLOGIES THAT WILL SAVE TIME & MONEY & EXPAND THE NUMBER OF REPAIRS THAT CAN BE MADE WITH EXISTING INFRASTRUCTURE REPAIR FUNDS:

- See proposed legislative language (attached) establishing an In-Place Infrastructure Repair Program in a new section 6030 under TITLE VI – INNOVATION as part of the reauthorization of the FAST Act.

IN-PLACE INFRASTRUCTURE REPAIR TESTIMONIALS

BACKGROUND:

- The following testimonials focus on one of the several products that can be used under the proposed In-Place Infrastructure Repair Pilot Program.
- The product selected has been in use for 30 years. **Its current treatment system was developed in collaboration with NASA. It has been used successfully by NASA, the Department of Defense, and U.S. Army Corps of Engineers, among other local, state, and federal agencies.**
- **Purpose of the testimonials is to illustrate the effectiveness, cost-savings, and extended useful life that products certified under the In-Place Infrastructure Repair Program would provide.**

NASA

NASA Center: Kennedy Space Center, 1998 - Reference Number: KSC-SO-31, Environment and Resource Management, "Corrosion Resistance on Launch Pads at Cape Canaveral"

Billions of dollars' worth of structures are literally eaten away by corrosion. To fight this destruction, **a Space Act Agreement between Kennedy Space Center and SURTREAT®** merged Kennedy Space Center research, tied to electrical treatments of structural corrosion, with chemical processes developed by SURTREAT, Inc. of Pittsburgh, PA. The combination of technologies has resulted in a unique process with broad corrosion-control applications. As the "NASA Spinoff" reports state:

- *"... of all the concrete in ... NASA's field centers, probably none has it harder than that in the structures at Kennedy Space Center. Not only is the seaside campus ... constantly bathed in damp, salty air, but some of its concrete is in and around the Cape Canaveral launch pad, where rocket boosters blast it with white heat, hydrochloric acid, and other hazards, while it's simultaneously sprayed with water for cooling. For these reasons, in February 1996, Kennedy entered into a Space Act Agreement with Surtreat to test its products ... Joe Curran, a NASA-contracted corrosion engineer at Kennedy, set up the testing ...*
- ***"Surtreat's vapor-migrating inhibitor was a top performer and was subsequently used on Kennedy's Launch Pad 39A and other reinforced concrete structures at the space center ...***
- *"NASA has also developed a new technology that will further advance these efforts – a liquid ... coating applied to the outer surface of reinforced concrete to protect the embedded rebar from corrosion.* ***Surtreat licensed this new coating technology*** **[known as VCI Coatings primer]** ***and put it to use at the U.S. Army Naha Port, in Okinawa, Japan.***
- *"The new coating prevents corrosion of steel in concrete in several applications, including highway and bridge infrastructures, piers and docks, concrete balconies and ceilings, parking garages, cooling towers, and pipelines ...*
- ***"Ten years later, NASA is still using this combined approach to fight concrete corrosion ..."***

U.S. ARMY CORPS OF ENGINEERS

US Army Corps of Engineers®

Based on NASA's recommendation, the U.S. Army Corps of Engineers (USACE) provided SURTREAT® with a grant to incorporate its corrosion inhibitors into the USACE's military spec primer for coating rusting steel.

- The coating was evaluated by the U.S. Army Corps of Engineers in 2012 and was found to be effective on rusty surfaces to the point that it offered 5-10 times the corrosion-inhibiting properties of a standard primer.
- **SURTREAT'S chemical corrosion inhibitors have been incorporated in the approved specifications used the Federal Highway Administration and the *Unified Facilities Guide Specifications* used worldwide by the U.S. Military.**
- SURTREAT further partnered with the USACE by commencing a 10-year study of SURTREAT's technology applied on structures within two U.S. military installations in Okinawa, Japan.

AMENDMENT TO S.2302 AMERICA'S INFRASTRUCTURE PROTECTION ACT OF 2019 TO CREATE AN IN-PLACE INFRASTRUCTURE REPAIR PROGRAM

AN AMENDMENT TO CREATE AN IN-PLACE INFRASTRUCTURE REPAIR PROGRAM.

(a) TERMS AND CONDITIONS.— Title I, Subtitle A of S.2302, America's Infrastructure Protection Act of 2019, is amended as follows to make use of new products, processes, and technologies to repair, rehabilitate, and restore damaged and failing infrastructure to a state of good repair as defined in section 24102 of Title 49 United States Code without extensive, costly, and time-consuming deconstruction and reconstruction.

(1) by adding a new subsection (K) following subsection (J) at the end of section 1101(b)(1), to read as follows:

"(K) IN-PLACE INFRASTRUCTURE REPAIR PROGRAM.— For the In-Place Infrastructure Repair Program under section 1131 of this Act, five percent of the funds that are available for infrastructure rehabilitation and improvement under this Act, as well as under titles 23, 33, 40, and 49 United States Code, sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act (Public Law 94-210), and Fixing America's Surface Transportation (FAST) Act (Public Law 114-94), shall be designated for use in carrying out the In-Place Infrastructure Repair Program, with such percentage to be increased upon recommendation of the Secretary of Transportation in the annual appropriation bills approved by Congress."

(2) by making subsections (1) and (3) effective immediately upon passage of this Act; and

(3) by adding at the end of Title A a new section 1131 after section 1130, to read as follows:

"SEC. 1131. IN-PLACE INFRASTRUCTURE REPAIR PROGRAM.

"Section 6002 of the Fixing America's Surface Transportation (FAST) Act (Public Law 114-94) is amended as follows to make use of new products, processes, and technologies to repair, rehabilitate, and restore damaged and failing infrastructure to a state of good repair as defined in section 24102 of Title 49 United States Code without extensive, costly, and time-consuming deconstruction and reconstruction:

"(a) by adding a new subsection (a)(7) to read as follows:

"(7) IN-PLACE INFRASTRUCTURE REPAIR PROGRAM.— To carry out section 6030 of this Act, five percent of the funds that available for infrastructure rehabilitation and improvement under this Act, as well as under titles 23, 33, 40, and 49 United States Code, and sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act (Public Law 94-210), shall be designated for use in carrying out the In-Place Infrastructure Repair Program, with such percentage to be increased upon recommendation of the Secretary of Transportation in the annual appropriation bills approved by Congress."

"(b) by adding at the end of Title VI a new section 6030 after section 6028, leaving section 6029 blank, to read as follows:

"SEC. 6030. IN-PLACE INFRASTRUCTURE REPAIR PROGRAM.

"(a) ESTABLISHMENT.— An In-Place Infrastructure Repair Program is hereby established within the Department of Transportation to provide funding for in-place infrastructure repairs which shall be made available through the grant and contract awards that are available on a competitive basis through the programs for infrastructure rehabilitation and improvements in titles 23, 33, 40, and 49 United States Code, in sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act (Public Law 94-210), and this Act.

"(b) CERTIFICATION.— The Secretary of Transportation shall establish criteria for certifying commercially available surface-applied products, processes, and technologies along with criteria for certifying new surface-applied products, processes, and technologies that are approved for use under this section as one-for-one replacements, on a measure or volume basis, for infrastructure deconstruction and reconstruction to inhibit and repair corrosion, seal and strengthen cracked and crumbling concrete, and stabilize an infrastructure.

"(c) OTHER AGENCIES.— The Secretaries of the Departments of Agriculture, Defense, Commerce, Energy, Housing and Urban Development, Interior, and National Aeronautics and Space Administration may make a percentage available, at their discretion, of the grants and contracts which they award for infrastructure rehabilitation and improvement as provided under this section and in accordance with the certifications and criteria established by the Secretary of Transportation, following successful implementation of the pilot program described in subsection (g).

"(d) GRANT AND CONTRACT AVAILABILITY.— Grants and contracts shall be made available on a competitive basis to all non-profit and for-profit entities, tribes, and divisions of government that meet the criteria for receiving grant and contract awards under this section.

"(e) GRANT AND CONTRACT AWARD CRITERIA.— Entities qualifying for grant and contract awards under the In-Place Infrastructure Repair Program shall employ a surface-applied product, process, or technology that has been certified for use under this section and demonstrate to the satisfaction of the Secretary that it has the necessary equipment, skilled labor, and experience to make in-place repairs to weakened, deteriorating, and corroding infrastructure, in lieu of deconstructing and reconstructing all or a part of the infrastructure, to restore structural integrity to a state of good repair as defined in section 24102 of Title 49 and extend the useful life of the infrastructure.

"(f) PROJECT ELIGIBILITY.— Projects eligible for grant and contract awards under this section shall include, but not be limited to infrastructure rehabilitation and improvement projects for highways, bridges, tunnels, public transportation, passenger and freight rail transportation, airports, ports (including inland ports and land ports of entry), pipelines, canals, and other public works infrastructures, including repair projects for infrastructures that are located on tribal land and for which title or maintenance responsibility is vested in the Federal Government, providing that:

"(1) At least 15 percent or more of an infrastructure repair project can be completed by using an approved product, process, or technology under this section, in lieu of deconstruction and reconstruction, to complete the repair; and

"(2) Use of the approved product, process, or technology will reduce the cost and time that it takes to complete of the repair.

"(g) PILOT PROGRAM.— The Secretary shall carry out the In-Place Infrastructure Repair Program as a pilot program during fiscal years 2021 and 2022 to test the efficacy and cost- and time-savings of making in-place infrastructure repairs using approved surface-applied products, processes, and technologies as a means of demonstrating that:

"(1) Structural integrity can be restored to a state of good repair as defined in section 24102 of Title 49 United States Code without extensive, costly, and time-consuming deconstruction and reconstruction;

"(2) Environmental damage can be reduced;

"(3) The useful life of the infrastructure can be extended;

"(4) New and recently repaired infrastructures can be strengthened and protected against premature corrosion, cracking, and crumbling; and

"(5) The number of infrastructure repairs that can be completed each year can be accelerated and expanded by making in-place, surface-applied repairs, where effective and practical, in place of deconstruction and reconstruction.

"(h) PUBLIC NOTICE.— The Secretary shall provide public notice announcing the In-Place Infrastructure Repair Program and the availability of grant and contract awards for in-place repairs through existing programs.

"(i) CHANGES TO EXISTING PROGRAMS.— The Secretary shall issue updates to existing programs incorporating the In-Place Infrastructure Repair Program into program descriptions, and grant and contract announcements and solicitation requirements.

"(j) CONCRETE REPAIRS.— The Secretary shall specify that all concrete repairs made through titles 23 and 49 of the United States Code shall include a mitigation program for the entire substrate to prevent premature degradation or accelerated corrosion from occurring, for which the grant and contract awards under this section may be used;

"(k) PILOT PROGRAM REPORTS.—

"(1) Not later than (60) days after the end of fiscal years 2021 and 2022 the Secretary shall report to the Committees on Transportation and Infrastructure, Energy and Public Works, and Appropriations on the results of the In-Place Infrastructure Repair Pilot Program and the funds that were used to carry out the program; and

"(2) As part of the Secretary's report to the Committees on Transportation and Infrastructure, Energy and Public Works, and Appropriations, the Secretary shall recommend:

"(A) Whether the In-Place Infrastructure Repair Pilot Program should be extended;

"(B) Whether the program should be established as a permanent program and the percentage of funds available from existing programs that are designated for use in carrying out the In-Place Infrastructure Repair Program should remain the same or be increased; or

"(C) Whether the appropriations as authorized under subsection (m)(3) shall be added to and made available to increase the number of in-place infrastructure repairs that can be carried out through existing grant programs.

"(l) PUBLIC NOTICE.— Not later than ninety (90) days after the end of each fiscal year the Secretary shall publish a report on the results of the In-Place Infrastructure Repair Program and the locations in which in-place infrastructure repairs have been completed on a public website.

"(m) FUNDING.—

"(1) PILOT PROGRAM.— Funding for the pilot program shall be provided through the grant and contract awards that are available on a competitive basis through the programs for rehabilitation and infrastructure improvements as provided under titles 23, 33, 40, and 49 United States Code, sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act (Public

Law 94-210), and Fixing America's Surface Transportation (FAST) Act (Public Law 114-94), notwithstanding any other provision of law, by designating five percent of the funds available through these programs for use in carrying out the In-Place Infrastructure Repair Pilot Program.

"(2) CHANGES IN THE PERCENTAGES OF GRANTS USED.— The Committees on Appropriations shall use the Secretary's reports on the results of the In-Place Infrastructure Repair Pilot Program to establish the percentage of funds that shall be designated from each of the existing Department of Transportation grant programs, which may be increased in the annual appropriation bills approved by Congress, for in-place infrastructure repairs for fiscal years 2023 through 2031.

"(3) AUTHORIZATION OF APPROPRIATIONS.— There is authorized to be appropriated for each of the fiscal years 2023 through 2031 such additional sums as are necessary, to be added to one or more of the infrastructure rehabilitation and improvement programs through which funds are made available for in-place infrastructure repairs, to increase the number of such repairs that can be carried out on an annual basis."

U.S. NAVY – U.S. ARMY CORPS OF ENGINEERS - 6/8/2016

Final Report for N62470-14-D-3006 at U.S. Military Installations Okinawa, Japan - Prepared for Naval Facilities Engineering Command, Project No 340531156,

- *"Because corrosion of steel reinforcement is an ongoing expensive maintenance issue, effective treatments are studied to reduce the impact of corrosion on military infrastructure. The structures selected for this test are in particularly corrosive coastal environments. Two project sites in Okinawa were selected due to the harsh environment and visible deterioration of concrete ...*
- *"A series of compressive strength measurements were made ... The average measured value was 5200 psi, which is an increase from the previous measurements ... We compared the most recent corrosion rate ... 6 months after treatment, and ... 3 years after treatment. The 3-part SURTREAT system ... is effectively protecting the rebar from corrosion. To date, an average reduction in the corrosion rate by 79 to 80% has been realized.*
- *"Results: Over 10 years later the concrete is stronger than when first poured and corrosion has been reduced ... 80% which will significantly extend the life of these assets."*

PURDUE UNIVERSITY

PURDUE UNIVERSITY, EMERGING TECHNOLOGIES, ECT FACT SHEET, "SURTREAT® - Concrete Restoration & Protection," 2007

- *"The most direct measurement of the corrosion rate, polarization resistance, was increased by 300% after application of Surtreat.*
- *"Half-cell potential and corrosion current measurements also reflect a significant decline in corrosion rates after application of Surtreat corrosion inhibitors.*

PROJECT COST COMPARISON	SURTREAT	ALTERNATIVE*	SAVINGS
Albright Parking, Columbus, OH, Parking Structure Rehab, 1990	***$173,500***	***$1,400,000***	*88%*
Port Authority, Pittsburgh, PA, Bridge Foundation Restoration, 1991	***$32,000***	***$240,000***	*87%*
U.S. Department of Energy Nuclear Site Fernald, OH – Storage Pad Protection, 1995	***$170,000***	***$510,000***	*67%*
Essex Waste Management Warehouse Floor Protection, 1996	***$31,617***	***$250,000***	*87%*

*"*Alternative Cost" describes the restoration estimate based on an engineering study or the lowest bid."*

University of Pittsburgh

RESEARCH AND DEVELOPMENT, UNIVERSITY OF PITTSBURGH, APPLIED RESEARCH CENTER

The SURTREAT system has been used successfully by utilities, nuclear storage facilities, water treatment plants, port authorities, and airports. Representative projects include St. Luis Pass Bridge, TX; Alcosan Wastewater Treatment Plant, PA; and the Eskom Nuclear Power Plant in South Africa.

- ***"The coating lasts 10 years or more, reducing maintenance costs over the lifetime of the structure;*** *... testing has proven that the treatment yields reductions in rebar corrosion potential, water penetration, chemical reactivity, and water-soluble chloride, while generating increases in hardness, flexural strength, and pH levels.*
- ***"The treatment also provides resistance to chloride penetration and problems associated with freezing and thawing of the porous structures.***
- ***"The solutions used are water-soluble and environmentally safe,*** *and in testing have shown no effect on the turbidity, pH, or dissolved oxygen content levels in water.*
- *Surtreat's formulations bond inorganic compounds to structures, where they become part of the steel and concrete matrix indefinitely.* ***It leaves no residues, coatings, or materials that could potentially harm humans, animals, fish, or the environment."***

THIS IS JUST ONE OF THE PRODUCTS THAT COULD PROVIDE SIGNIFICANT BENEFITS UNDER THE IN-PLACE INFRASTRUCTURE REPAIR PROGRAM

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Washington Office
25 Massachusetts Ave., NW
Suite 500
Washington, D.C. 20001
(202) 789 -7850
Fax: (202) 789-7859

Statement for the Record of

The American Society of Civil Engineers

on

"Infrastructure: The Road to Recovery"

United States Senate

Committee on Environment and Public Works

June 4, 2020

Introduction

The American Society of Civil Engineers (ASCE)[1] appreciates the opportunity to submit a statement on the importance of long-term, strategic investment in our nation's infrastructure systems. ASCE is eager to continue to work with the Committee in 2020 and beyond to find ways to further improve our nation's vital surface transportation infrastructure systems and to address the economic impacts felt during the COVID-19 pandemic.

As the pandemic continues to have sweeping economic consequences across all sectors in the United States, many American families and businesses are looking to Congress to provide both short-term relief and long-term economic recovery. While recent Congressional action has addressed some of the immediate economic impacts of the pandemic, many economists believe additional action is needed to ensure the health of the American economy. As Congress develops additional legislation, ASCE urges policymakers to prioritize our nation's infrastructure and get people back to work, using the economic slowdown to make strategic and sorely-needed investments to strengthen the networks that are the foundation of our economy.

Presently, many of our infrastructure assets have reached the end of their design life. Coupled with long underinvestment and inadequate support, a large and growing investment gap of $1.1 trillion over the next ten years has emerged. This gap must be closed if we hope to both repair and modernize our surface transportation infrastructure systems to be competitive in the 21st century.

ASCE's *2017 Infrastructure Report Card*

Infrastructure is the foundation that connects the nation's businesses, communities, and people, serves as the backbone to the U.S. economy, and is vital to the nation's public health and welfare. Every four years, ASCE publishes the *Infrastructure Report Card*, which grades 16 major infrastructure categories using a simple "A" to "F" school report card format. ASCE released its *2017 Infrastructure Report Card*[2], giving the nation's overall infrastructure a grade of "D+," with an investment gap of $2 trillion over the next 10 years – and the total investment needed is nearly $4.6 trillion.

As our infrastructure continues to age, and investments do not keep pace with needs, the

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[1] ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents more than 150,000 civil engineers individually in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a non-profit educational and professional society organized under Part 1.501(c) (3) of the Internal Revenue Code. www.asce.org.

[2] https://www.infrastructurereportcard.org/

gap between identified investments and the public commitments to meet those needs widens every year. Failing to close that gap risks rising costs, falling business productivity, plummeting GDP, lost jobs, and ultimately, reduced disposable income for every American family to the tune of $9. For these reasons alone, now is the time to invest in our nation's infrastructure. Compounded by the current crisis, infrastructure investments can provide both an immediate and long-term boost to the struggling American economy, and ensure we remain globally competitive in trade and commerce.

Solutions

ASCE recommends the inclusion of key investments to maintain and modernize our nation's infrastructure, create jobs, support economic growth, and increase the resilience of our systems. ASCE therefore urges Congress to include the following in any further legislation to boost the nation's economy:

Reauthorize surface transportation programs and increase funding to address our project backlogs: ASCE urges Congress to include a multi-year surface transportation reauthorization that addresses the long-term solvency of the Highway Trust Fund and modernizes our roads, bridges, and transit systems. While one-time infusions into our nation's surface transportation program have had varying degrees of success, investment in a multi-year surface transportation program is a guaranteed way to provide both short-term and long-term economic benefits. We applaud the Committee in introducing and passing S. 2302, America's Transportation Infrastructure Act (ATIA) of 2019. This legislation addresses the needs of our ever-changing highway system, and we continue to urge the committees of jurisdiction in both chambers to introduce legislation to ensure we have a comprehensive package that addresses all the challenges in our surface transportation network.

Support relief for state departments of transportation (DOT): While the current surface transportation investment gap remains, under the current crisis state DOTs are unable to generate the revenue needed to prevent major disruptions in their ability to operate and maintain their transportation systems. Under this pandemic, individual state revenues are estimated to be impacted by 45% in the next 18 months. This is a result of expected decline of 50% for state motor fuel taxes, a 67% decline in toll road traffic, and a 77% decline in ferry traffic. Because of this sharp decline, state DOT's ability to provide a match for federal funds will be constrained and further impact available federal financing opportunities. Congress must provide the necessary $49.95 billion in backstop relief to our state DOTs to ensure capital construction and operation programs continue in a timely fashion, preserving safety and mobility across our nation's transportation systems.

Build resilience into infrastructure: In addition to anticipating what hazards and conditions roads, bridges, drinking water pipes, wastewater treatment plants, airports, and energy lines must withstand, engineers are also thinking through how technology, population shifts, and other trends will change communities' needs. In summary, an integrated systems approach is needed to tackle resilience. The National Institute of Building Science (NIBS) has found that every $1 spent through government-funded mitigation grants saves the county $6 in future disaster-related and recovery costs. Incentivizing lifecycle costs and long-term maintenance also returns dividends; NIBS also reports that every $1 spent on upfront construction costs and long-term maintenance to bring buildings up to contemporary codes and standards returns $11 to building owners in the event of a disaster. Making targeted investments in the right manner, using the best available data and industry standards, innovative materials and technologies, and considering lifecycle costs will create benefits for years to come.

Conclusion

Across the nation, our future recovery depends on reliable, modern infrastructure to provide a good quality of life for Americans and to support economic growth. There is a unique opportunity during these challenging times, while traffic is minimal and people stay home, to maintain and modernize these critical assets and jump-start job growth. ASCE looks forward to working with the Committee to address the infrastructure challenges facing our nation during the pandemic and we look forward to working together to help stimulate our economy and ensure public health and safety.

Date: June 3, 2020

To: United States Senate Committee on Environment and Public Works

RE: Hearing Entitled "Infrastructure: The Road to Recovery"

From: The Congressional Sportsmen's Foundation
Jeffrey S. Crane
President

Dear Chairman Barrasso, Ranking Member Carper, and Members of the Committee:

I write today to express strong support to promote infrastructure investments to stimulate the economy during the COVID19 Pandemic. Specifically, I write today to express the support of the Congressional Sportsmen's Foundation (CSF) for S. 2302, the America's Transportation Infrastructure Act of 2019 as a means to stimulate the economy.

Established in 1989, CSF works with the Congressional Sportsmen's Caucus (CSC), the largest, most active bipartisan caucus on Capitol Hill with nearly 250 Members of Congress from both the House and Senate. Fifteen years ago, CSF extended the legislative network from Washington, DC to states across the country, establishing the bipartisan National Assembly of Sportsmen's Caucuses, which today is made up of 49 state legislative caucuses, and includes over 2,500 legislators. Ten years ago, CSF established a bipartisan Governors Sportsmen's Caucus, which includes more than half the governors from throughout the country. Together, this collective force of bipartisan elected officials works to protect and advance hunting, angling, recreational shooting and trapping for the nearly 40 million sportsmen and women who spend $90 billion annually on our outdoor pursuits.

As the country begins to repair and rebuild from the impacts of the COVID19 Pandemic, we need to develop pragmatic, thoughtful solutions to help the country recover in accordance with the recommendations of public health officials. Fortunately, the leadership of Chairman Barrasso, Ranking Member Carper, and Senators Capito and Cardin in the development of America's Transportation Infrastructure Act of 2019 has placed the Senate in a unique position to repair our nation's infrastructure while simultaneously providing more financial certainty to Americans by creating new opportunities for employment.

CSF is supportive of S. 2302 in its entirety but would like to draw your attention to a few specific provisions contained in the bill as introduced. Specifically, CSF believes the increase in funding for the Federal Lands Transportation Program will help promote access for sportsmen and women while providing opportunities for Americans to get back to work. Another provision CSF would like to draw attention to is the Forest Service Legacy Roads and Trails Remediation

Program, which under S. 2302 would require the Secretary of Agriculture to perform maintenance and repairs on National Forest System infrastructure including roads, trails, and bridges. CSF believes the Forest Roads and Trails Act language contained in S. 2302 in conjunction with the funding provided under S. 3422, the Great American Outdoors Act, will take critical steps forward to restoring the infrastructure within our National Forests.

A third provision contained in the America's Transportation Infrastructure Act that CSF strongly supports is the establishment of the wildlife crossings pilot program, which would provide $250 million over 5 years to reduce wildlife-vehicle collisions. The U.S. Department of Transportation estimates that one to two million wildlife-vehicle collisions occur each year (300,000 are reported to national crash databases) that result in approximately 26,000 human injuries. Unfortunately, wildlife-vehicle collisions are only increasing across the country, but thanks to the leadership of Chairman Barrasso, Ranking Member Carper, and Senators Capito and Cardin, S. 2302 takes an unprecedented step forward to reduce these collisions. The pilot program contained in S. 2302 represents the single greatest contribution to reduce wildlife-vehicle collisions in the nation's history – something that is overwhelmingly supported by the sporting-conservation community. This provision will not only enhance habitat connectivity and mitigate the impacts of wildlife-vehicle collisions, but will also establish the construction of wildlife crossings such as highway overpasses, underpasses, culverts, and other appropriate crossing structures, which will create increased demand for shovel ready jobs across the nation.

While CSF recognizes the America's Transportation Infrastructure Act must be considered by a number of additional Senate Committees where we hope additional priorities such as the Sport Fish Restoration and Boating Trust Fund will be added before the bill receives floor time, we would like to express our sincere appreciation to the Committee for revitalizing the conversations around S. 2302. CSF stands ready and willing to assist the Committee to ensure this bill moves through the Senate with strong bipartisan support.

Sincerely,

Jeff Crane

Jeffrey S. Crane
President

Statement

of

The Design-Build Institute of America

Before

United States Senate Committee on Environment and Public Works

Regarding

Infrastructure: The Road to Recovery

June 4, 2020

Contact:
Louis J. Jenny
The Design-Build Institute of America

Chairman Barrasso, Senator Carper and Members of the Committee, thank you for holding this hearing titled *Infrastructure, the Road to Recovery* and thank you for the opportunity to submit this statement for the record.

The Design-Build Institute of America (DBIA) supports a comprehensive infrastructure stimulus package and commends this Committee for moving forward with important infrastructure legislation. Infrastructure can and should be an essential part of our nation's recovery from the economic distress resulting from the pandemic. Further, infrastructure investment is one of the few issues in this era, which garners wide support across parties, regions and states. Americans in cities and rural areas, no matter their political persuasion, understand that our nation's bridges and roads, airports and public transit, water and sewer pipes – which serve as a bedrock of our economy — are in desperate need of improvement. Study after study has shown that much of our nation's infrastructure is either structurally deficient, functionally obsolete or both. Despite rare bipartisan agreement and recognition of the problem, there are no easy answers for how to solve a problem that's been decades in the making.

Design-build is a method of project delivery in which one entity – the design-build team – works under a single contract with the project Owner to provide design and construction services. Research has shown that design-build out-performs other delivery systems in schedule, construction and delivery speed as well as cost. Further, design-build is the fastest growing, most popular delivery system in the nation. Design-build is being embraced nationwide with research estimating nearly half of all construction in the U.S. will be design-build by next year. That represents an 18% growth since 2018.

The Design-Build Institute of America is the nation's authority on Design-Build Done Right®. DBIA's membership includes professionals from across the project delivery arena, including architects, engineers, contractors and, of note, public sector officials who use design-build to better assure successful projects. Together we collaborate and innovate to deliver some of America's most successful infrastructure projects that go far in ensuring design excellence, sustainability and significantly improved life cycle costs.

Design-build has a proven track record of producing exceptional outcomes on projects of all types and sizes, in all economies, and delivering economic recovery for decades. During the economic downturn of 2007-2009, when it was a priority to get projects started and completed as quickly as possible, the advantages of design-build were demonstrated in all types of projects and its use across the nation expanded exponentially.

Some examples of the use of design-build in times of disaster include:

- During the COVID-19 lockdown, the state of Florida has expedited $2.1 billion in road and bridge work to provide a boost to the suffering economy while maximizing the less populated roads. Design-build teams for the $802 million downtown Miami I-395/SR 836/I-95 and Tampa Bay's $864 million Howard Frankland Bridge projects will accelerate delivery by nearly a month, helping to speed Florida's COVID-19 recovery.

- On Aug. 1, 2007, the I-35W bridge over the Mississippi River collapsed. MnDOT expedited an emergency design-build contract to replace the collapsed structure by the end of 2008.

The project included reconstruction of I-35W from Washington Ave. to 4th Street, approximately 3/4 of a mile in length. The river crossing included a 10-lane freeway (five lanes in each direction) with accommodations for future Light Rail Transit. And, in spite of a difficult Minnesota winter, the project still came in two months ahead of schedule.

- A vital $20 million post-Katrina project to replace the three damaged St. Bernard Parish Pump Stations in New Orleans was delivered on budget in just 18 months, a full year faster than using tradition design-bid-build project delivery.

Design-build requires a different mindset and approach than traditional project delivery. Without a thorough understanding of design-build by the entire project team, its advantages may not be fully realized. We, therefore, do not seek to mandate the use of design-build. DBIA, however, does want to encourage officials tasked with delivering infrastructure projects to have design-build as a tool in their toolbox to make an informed decision about the project delivery method best suited to achieve the goals of each project. We are confident that with the right information and authority, officials will continue to turn to design-build, allowing them to maximize tax-payer dollars and create stellar infrastructure.

DBIA would like to work with the Committee to find methods and language that would encourage funding recipients to consider ***all*** project delivery methods, including design-build, to ensure taxpayer dollars are maximized and projects are delivered using the best method for each unique project. Our goal is to help communities nationwide achieve the best value related to cost, schedule, quality and maintenance on vital infrastructure projects

Thank you again for holding this hearing and for the opportunity to submit these comments. The Design-Build Institute of America stands ready to work with the Committee on passing infrastructure legislation and putting in place the tools to get America back to work when the time is right.

NATIONAL ASSOCIATION of COUNTIES NACo

June 2, 2020

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Tom Carper
Ranking Member
Committee on Environment and Public Works
United States Senate
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper,

The National Association of Counties (NACo) and the 3,069 counties, boroughs and parishes that we represent write to thank you for holding the upcoming June 4 hearing entitled, "Infrastructure: The Road to Recovery." We appreciate the Committee's focus on infrastructure and believe that, as intergovernmental partners, we can achieve many shared goals in this area and promote success on a national scale. **As the boots on the ground, county officials can provide a unique perspective that we hope you will consider as you select witnesses for future hearings that examine the state of infrastructure in America.**

Owning 45 percent of the nation's public road miles – compared to 32 percent owned by cities and towns, 19 percent by states and 3 percent by the federal government – and 38 percent of the National Bridge Inventory, counties are leaders in the nation's transportation systems. Additionally, we invest $134 billion annually in the construction of infrastructure and the operation and maintenance of public works, including jails, hospitals, schools and public water systems, that connect and serve people, businesses and economies. Counties believe that, through a strong intergovernmental partnership, investing in our nation's infrastructure can be a key component of a successful recovery from the severe economic impacts of COVID-19.

Finally, as major owners and operators of America's transportation and infrastructure systems, counties stand ready to work with you to modernize, enhance and secure our nation's infrastructure network. From supporting daily commutes to facilitating the movement of goods around the globe, we believe that transportation and infrastructure are core public sector responsibilities and appreciate your attention to this important matter.

Sincerely,

Matthew D. Chase

Matthew D. Chase
CEO/Executive Director
National Association of Counties

NPGA
NATIONAL PROPANE GAS ASSOCIATION

NPGA Submission for the Record
Infrastructure: The Road to Recovery
June 4, 2020

The National Propane Gas Association (NPGA) is the national trade association of the United States propane industry with a membership of approximately 2,800 members, along with 38 affiliated state and regional associations representing all 50 states. NPGA's membership includes retail marketers of propane that deliver the fuel to the end-user; propane producers, transporters and wholesalers, and manufacturers and distributors of equipment, containers, and appliances. Propane is an abundant clean domestic fuel that can be used in many applications to help the U.S. significantly reduce emissions across the economy and the transportation sector.

As Congress considers infrastructure investment as a component of COVID-19 relief legislation and continues to work on the next surface transportation reauthorization, it is in the best interest of the nation's economy and environment to proceed with an all of the above approach when expanding the Alternative Fuels Corridor program to include grant funding opportunities for refueling and charging infrastructure.

Section 1413 of the *Fixing America's Surface Transportation (FAST) Act*, created the Alternative Fuel Corridors program in 2015 to incentivize the adoption of alternative fuel vehicles by identifying refueling and charging locations along the interstate highway system. Under the program, segments of the highway system with adequate refueling or charging infrastructure are designated as Alternative Fuel Corridors and receive federal funding to install signage identifying this infrastructure. This signage helps increase the range of alternative vehicles, making them more viable for businesses and consumers alike. The four fuels eligible for the program are propane, natural gas, hydrogen, and electricity (battery electric vehicles).

S. 674 and H.R. 2616, the *Clean Corridors Act of 2019*, would expand this program to create grant funding opportunities for the installation of refueling and charging infrastructure along designated corridors and address other costs associated with their operation. Currently, both bills exclude some of the alternative fuels included in the original Corridors program. The Senate Environment and Public Work Committee also included language in its surface package, S. 2302, *America's Transportation Infrastructure Act of 2019,* and the House Transportation and Infrastructure (T&I) Committee's H.R. 2 the "Investing in a New Vision for the Environment and Surface Transportation (INVEST) in America Act." During the June 17 T&I Committee markup of H.R. 2, a bipartisan amendment was approved to include both propane and natural gas in the Clean Corridors program. The 37 members supporting the amendment represent all regions of the United States, underscoring the importance of including all Alternative Fuels Corridors-eligible fuels in grant funding opportunities for refueling and charging infrastructure.

The exclusion of certain alternative fuels from the proposed legislation is counterproductive and misguided. As Congress continues to reduce emissions across all sectors of the economy, it is critical to capitalize on a wide range of technologies that can solve the various challenges created by different applications and locations across the United States (U.S.). Unlike certain alternative fuels, propane is portable, affordable, and has a readily available and abundant domestic supply. Propane engines are efficient and able to operate under extreme heat and cold. A study conducted by West Virginia University found that propane school buses produce 0.07 g/mi of NOx in cold weather, while the same vehicle class with a diesel engine produced 0.62 g/mi in the same conditions.[1] Additionally, the emissions reductions offered by propane are available with current technology. Renewable propane can increase these emissions reductions, which can be used without modification of existing engines and vehicle technology. Moreover, domestic private industry, including companies like Cummins and Roush, continue to innovate new engine technologies that are cleaner and more efficient. Exclusion of propane autogas from grant funding opportunities and other policy initiatives poses a severe risk to ongoing research and development activities that would benefit the environment.

As of June 2020, there are more than 18,000 propane school buses operated by 962 school districts and contractors across 48 states.[2] School buses manufactured in the United States by Blue Bird, with Ford engines using ROUSH Cleantech fuel systems are 75% cleaner than the EPA's current emissions standard with a NOx level of 0.05 g/bhp-hr.[3]

Currently, propane engines produce 24 percent fewer greenhouse gas emissions, 20 percent fewer NOX emissions, and 60 percent fewer CO emissions than diesel engines. Propane also reduces smog-producing hydrocarbon emissions by 80 percent.[4] Additionally, the life cycle of propane autogas vehicles exceeds diesel equivalents and requires less maintenance and component replacement, further reducing the overall carbon footprint of building and operating the vehicle.

The existing propane Alternative Fuels Corridors are also located primarily in the Midwest and Southern U.S., where grid infrastructure are powered mainly by fossil fuels. While both House and Senate Clean Corridors proposals include electric vehicles, which have zero tailpipe emissions, the upstream energy source supplying the grid does itself have a carbon footprint.

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[1] IN-USE EMISSIONS AND PERFORMANCE TESTING OF PROPANE-FUELED ENGINES: PERC DOCKET 20893, https://cdn.propane.com/wp-content/uploads/2019/07/WVU-School-Bus-Emissions-Final-Report-June-2019.pdf (last visited June 15, 2020).

[2] SCHOOLS THAT USE PROPANE: PROPANE AUTOGAS BUSES FROM COAST TO COAST, PROPANE AUTOGAS BUSES FROM COAST TO COAST, https://propane.com/for-my-business/school-transportation/schools-that-use-propane/ (last visited June 16, 2020)

[3] https://www.blue-bird.com/images/brochures/vision-propane-bifold-web-ready.pdf

[4] ROUSH CLEANTECH: PROPANE VISION, https://www.roushcleantech.com/blue-bird-vision-propane/#benefit-down (last visited Oct. 25, 2019).

For example, renewable propane has a carbon intensity as low as 19 g CO2/MJ while California's electricity production has a carbon intensity of 40 g CO2/MJ when considering total life cycle emissions.[5] In addition to relying on coal and other carbon-emitting energy sources, outdated grid and inefficient grid technology further increase the overall environmental impact of these vehicles. Unfortunately, the short-term outlook for these problems is daunting, and long-term viability also relies on significant technological advances.

Propane vehicles are also cost-competitive. While the price of a new diesel school bus is approximately $100,000, a propane school bus only costs approximately $7,000 more.[6] Currently, the cost of an EV school bus is nearly triple this amount. Additionally, a single propane refueling pump can service an entire fleet of vehicles and refill times are similar to gasoline or diesel.

NPGA encourages Congress and the Administration to maintain a pragmatic approach to alternative fuels technology and ensure parity in future policy initiatives to allow for immediate reductions in vehicle emissions and continue to incentivize private industry to invest and innovate in domestic sectors.

NPGA Contact:
Michael Baker
Director, Legislative Affairs
National Propane Gas Association
1899 L Street, NW, Suite 350
Washington, DC 20036
(202) 466-7200
mbaker@npga.org

[5] CALIFORNIA PROPANE: RENEWABLE PROPANE, https://www.usecaliforniapropane.com/why-choose-propane/renewable-propane/#:~:text=Renewable%20propane%20is%20being%20produced,CO2%2FMJ%20for%20California's%20electricity.(last visited June 3, 2020).

[6] PROPANE SCHOOL BUSES REDUCE TRANSPORTATION DEPARTMENT MAINTENANCE COSTS, https://www.roushcleantech.com/portfolio/propane/ (last visited June 16, 2020).