

**CONNECTING AMERICA:
IMPROVING ACCESS TO INFRASTRUCTURE
FOR COMMUNITIES ACROSS THE COUNTRY**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

MARCH 1, 2017

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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WEDNESDAY, MARCH 1, 2017

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m. in room SD-106, Dirksen Senate Office Building, Hon. John Thune, Chairman of the Committee, presiding.

Present: Senators Thune [presiding], Wicker, Blunt, Cruz, Fischer, Moran, Sullivan, Heller, Inhofe, Lee, Johnson, Capito, Gardner, Young, Nelson, Cantwell, Klobuchar, Blumenthal, Markey, Booker, Duckworth, Hassan, and Cortez Masto.

**OPENING STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

The CHAIRMAN. Good morning, and welcome to everybody. This hearing will get underway.

Last night, President Trump called for renewal of our Nation's infrastructure. Today, we're going to hear from leaders representing the infrastructure needs of our geographically diverse country, from Miami Beach to Utah, and even from my own home state of South Dakota, Governor Dennis Daugaard. So I want to thank you all for being here today.

Though separated by thousands of miles, our communities are connected by a vital network of transportation and communications infrastructure. Providing this connection for people, goods, and information to travel safely and efficiently across America is a responsibility shared by all levels of government, as evidenced by our panel today.

Most recently, through the work of this committee and others, Congress reauthorized Federal surface transportation programs in the Fixing America's Surface Transportation, or FAST Act, the \$305 billion, five-year bill enacted to improve our Nation's infrastructure, increase safety, and enhance economic growth.

The first long-term transportation bill in a decade, the FAST Act provided needed certainty and was a big step in the right direction, but our Nation's infrastructure is too important to American competitiveness not to remain a critical focus of this committee.

For example, without a robust and efficient transportation sector, rural states like mine would be unable to get their goods to market. In 2015, South Dakota alone saw \$65 billion in freight flows trav-

eling to and from the state. The majority of that freight volume is made up of agricultural products, which help to feed Americans in places like Miami and Salt Lake City, and countless places in between.

Commerce does not end at our state lines, or even our national borders. In fact, in a recent letter to President Trump, over 200 agriculture producers and related businesses highlighted this point, stating, and I quote, “Infrastructure that supports rural communities and links them to global markets has helped make the U.S. the unquestioned leader in agriculture production.”

More broadly, a more efficient transportation network boosts the competitiveness of nearly every sector of our economy. Unfortunately, what used to be the best transportation infrastructure system in the world is now falling behind, unable to keep pace with the growing demands of our economy.

Similarly, while the U.S. is a global leader in broadband innovation and investment, millions of Americans still do not have access to the Internet, most of them in rural communities. Our digital networks have primarily been built by companies using private capital, \$1.5 trillion of private sector investment over the last 20 years. Yet, in many parts of our country, it is simply not economical to build broadband systems, leaving some communities behind. The Federal Government and many states have stepped in to address this funding gap, augmenting private capital with limited, but crucial, government support.

To continue bridging this digital divide, we need to examine existing programs to determine how best to improve their efficacy. And we need to explore new ways to reduce the cost of broadband, like reducing regulatory obstacles to deployment.

For example, the MOBILE NOW Act, which Ranking Member Nelson and I introduced and this committee approved earlier this year, would make broadband deployment more affordable by streamlining the red tape broadband providers face and by helping to make more wireless spectrum available for mobile broadband services. Enacting this legislation would be a great down payment toward ensuring that all Americans can benefit from the digital economy.

Fortunately, improving our infrastructure, for transportation and information, is an area where bipartisan agreement and cooperation among different levels of government can oftentimes be found. Of course, as we work to achieve our shared goals, we need to ensure that we are fully exploring funding options and being responsible stewards of Federal funds.

In transportation, as reaffirmed with the passage of the FAST Act, states and local governments receive an allocated share of Federal funding through formulas. This funding model has been widely considered appropriate and equitable for the states, as evidenced by the Senate’s strong vote of 83 to 16.

Outside of the direct funding model, infrastructure investment takes a variety of forms. Some of the more recently discussed, yet not necessarily new, approaches include bonds, tax credits, and credit assistance programs.

Compared to rural areas, high-population density urban areas may be conducive to a more diverse range of financing options, in-

cluding public-private partnerships, or so-called P3s. In some cases, P3s can enhance capital efficiency by transferring greater responsibility to private entities in exchange for access to some sort of revenue, such as tolls, fees, or availability payments.

Despite ongoing interest, however, P3s currently account for only a small share of highway projects, partly because many projects do not make financial sense for private sector investment. Even with these limitations, in an era of scarce dollars, such financing tools should be considered a valuable supplement, but not a substitute, for traditional infrastructure investment.

We should be focused on what works for different areas of the country, not locked-in to a particular approach. This includes supporting existing authorized programs that work. And that is not to say that the existing Federal funding system can't be improved or to suggest that more funding is always the answer.

In some instances, transportation providers and shippers have been saddled with unnecessary regulations and paperwork requirements that burden operations and inhibit capital investment. In other cases, a web of permitting processes unnecessarily slows project delivery and adds costs to project construction. Eliminating unnecessary hurdles, while maintaining an emphasis on safety improvements, can lead to a better use of both public and private dollars.

I want to thank all of our witnesses for being here today. I look forward to hearing your testimony. And I'm going to turn now to our Ranking Member, Senator Nelson, for his opening statement.

[The prepared statement of Senator Thune follows:]

PREPARED STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM SOUTH DAKOTA

Good morning. Last night, President Trump called for renewal of our Nation's infrastructure.

Today, we will hear from leaders representing the infrastructure needs of our geographically diverse country, from Miami Beach to Utah, and even from my home state of South Dakota, Governor Dennis Daugaard. Thank you all for being here today.

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For example, without a robust and efficient transportation sector, rural states like mine would be unable to get their goods to market. In 2015, South Dakota alone saw \$65 billion in freight flows traveling to and from the state. The majority of that freight volume is made up of agricultural products, which help to feed Americans in places like Miami and Salt Lake City, and countless places in between. Commerce does not end at our state lines, or even our national borders.

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Thank you to all of the witnesses for being here today. I look forward to hearing your testimony. I will now turn to Ranking Member Nelson for his opening statement.

The CHAIRMAN. Senator Nelson.

**STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM FLORIDA**

Senator NELSON. I, too, welcome you, and I think each of you can give us an important perspective from your state as to the infrastructure needs. The Chairman has laid out appropriately the needs. It was emphasized by the President last night. The President, as candidate, said that he wanted a trillion dollar infrastruc-

ture program. A bunch of us in the Senate took him at his word, and a month ago introduced a trillion dollar infrastructure bill.

You come to a state like mine, we are growing at 1,000 people a day, 365,000 a year, net. You can imagine the strain on the existing infrastructure, the roads and bridges. You can imagine that in the Nation, we have 56,000 miles of roads that need to be rehabbed.

In Florida alone, there are 200 bridges that, according to the State Department of Transportation, are structurally deficient. We have vast areas of Florida, unbelievably to outsiders, that are rural. We need rural broadband. A lot of it can be financed through the private sector, given the appropriate tax incentives.

Public-private partnerships are helpful, but in a growth state like mine, with the deficiencies in the roads and bridges all over the country, you can't do that all with a public-private partnership. You can't toll enough roads to solve our problems. And, oh, by the way, you'll get resistance from our citizen drivers to those toll roads. So we've got to be serious about an infrastructure plan.

Now, uniquely in this committee, we also handle telecommunications, and so a portion of the infrastructure monies are going to need to go to the Nation's aging 9-1-1 infrastructure to the Next Generation 9-1-1, and it's a national imperative to keep our citizens safe.

So this is what we're going to face. Most people would agree we need a Federal infrastructure plan. How are we going to pay for it? And that's where it begins to get a little sensitive.

So let us hear from you. Thank you all for coming. Thank you, Mr. Chairman.

[The prepared statement of Senator Nelson follows:]

PREPARED STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM FLORIDA

I'd like to thank all of the witnesses for being here today.

Our road, waterway, rail and broadband networks connect communities and help drive our economy.

But if we aren't vigilant, those networks can quickly decline.

We have seen the impacts of this decline throughout the country—

- Whether its congestion on our highways,
- bottlenecks at our ports and on our rail lines,
- the intensifying impacts of climate change, or
- aging infrastructure that threatens our ability to get people to work.

The numbers aren't looking good.

The American Society of Civil Engineers graded our infrastructure at a D+.

The Road Builders found that there are 56,000 structurally deficient bridges nationwide, including more than 200 in Florida.

The bad news doesn't end there.

As we will hear from Mayor Levine, climate change is undermining existing infrastructure in our cities already.

The main arteries of commerce—roads and pipes—are failing and rising seas, nuisance flooding, and saltwater intrusion accelerate the damage.

Not to mention the need to factor in climate change projections when planning the infrastructure of the future.

Rain-related flooding events in Southeast Florida have increased by 33 percent and tide-related flooding has increased by a whopping 400 percent.

Let me tell you, this is not good for business.

In 2015 alone, the Miami area experienced a record 18 tidal flooding events.

To address this economic and environmental crisis, Miami Beach, under Mayor Levine's leadership, has launched a \$400 million effort to raise sidewalks, install pumps, and rebuild roads at a higher level.

But we need to take action at the Federal level.

It requires a strong, dedicated commitment from the Federal Government to keep these networks in tip top shape and make sure they are safe and ready for the future.

It also requires funding.

Local governments cannot be expected to face this challenge alone.

Federal agencies provide essential tools to help communities plan infrastructure that is built to last.

While loans and financing can be helpful, they are just tools.

And these tools are useless, if you don't first have significant funding.

That's why my colleagues and I put out a blueprint for how we can invest in the President's call for a trillion dollars in infrastructure investment.

One area where this funding is critical is to build the projects that our going to prepare our states for the future—

Like the resilience initiatives discussed by Mayor Levine, repairing the Herbert Hoover Dike in Florida, or building new rail lines.

And it is essential that any investment in new infrastructure ensure that the project is designed to withstand future climactic conditions.

Further, we also need to address our broadband infrastructure.

That is why the Democratic Blueprint included \$20 billion to help the Nation expand access to essential high-speed broadband services, close the digital divide, and push the economy forward.

Even more significantly, a portion of those monies would be used to upgrade the Nation's aging 9-1-1 infrastructure to Next Generation 9-1-1—a national imperative to keep our citizens safe and enhance public safety.

Federal funding could help support critical projects like these across the country.

These kinds of infrastructure investments have lasting impacts on our economy for decades to come.

I look forward to hearing from the panel on how Federal investments can help improve our infrastructure.

I want to especially thank Mayor Levine from Miami Beach for being here today.

The CHAIRMAN. Thank you, Senator Nelson.

We have, as I said, a great panel before us today, and I want to recognize the Senator from Utah, Senator Lee, to introduce our Utah panelist.

Senator Lee.

Senator LEE. Thank you very much, Mr. Chairman.

It's great to have my friend Carlos Braceras before the Committee today. I've known Carlos Braceras for over 12 years, and very honored to have him before the Committee today. He's the Director of the Utah Department of Transportation, which oversees some 1,600 employees as well as the design, the construction, and the maintenance of Utah's 6,000-mile system of roads and highways during his long and impressive career at Utah.

Mr. Braceras has established for himself and for our state a top-notch reputation for thoughtful planning and creative partnerships with local governments and with private stakeholders, everyone who might be affected by what they do there.

And as the current Secretary-Treasurer of the American Association of State Highway and Transportation Officials, he can offer valuable insight into how Congress can minimize Federal barriers, barriers that tend to inhibit state and local governments from investing in infrastructure to begin with.

So I look forward to your testimony, Carlos. Thanks for being here.

The CHAIRMAN. Thank you, Senator Lee. And I do want to just recognize our panel. As I mentioned earlier, our Governor from South Dakota, Dennis Daugaard, is here. As Senator Lee pointed out, Carlos Braceras, the Executive Director of the Utah Depart-

ment of Transportation and Secretary-Treasurer of the American Association of State Highway and Transportation Officials. Ms. Shirley Bloomfield, who is Chief Executive Officer at NTCA-The Rural Broadband Association in Arlington, Virginia. And as pointed out by my colleague Senator Nelson, the Honorable Philip Levine, who is the Mayor of Miami Beach, Florida.

Senator NELSON. May I take a personal privilege?

The CHAIRMAN. Yes, sir.

Senator NELSON. The Mayor is a personal friend, one of the most recognized and accomplished mayors, who is dealing with another part of a problem of infrastructure, and that is that measurements over the last 40 years have shown that the Atlantic Ocean has risen in South Florida 5 to 8 inches.

What happens is at the seasonal high tides, the streets of Miami Beach are awash in seawater. And, therefore, he has had to spend millions and millions of dollars in very expensive pumps and the raising of the roadbeds to try to fix it, a new kind of infrastructure investment.

Cities in South Florida have had to move their city well fields further west because the heavier seawater intrudes on the honeycomb limestone support of Florida that is filled with freshwater, and as a result, they've got to get further away from the coast in order to tap that freshwater not being invaded by the seawater.

So the Mayor is a good one to have when we talk about a different kind of infrastructure.

The CHAIRMAN. Thank you, Senator Nelson. I'm going to start on my left, and your right, with Governor Daugaard. If our panelists could confine their statements to as close to 5 minutes as possible, it will make maximize our time to ask questions.

And I would also note, I think we're going to have a vote or two at about 10:30, and my preference would be that we roll through, and if we can keep a member or two here to do that, we will. If not, we will perhaps take a short recess. But I just wanted to put people on notice that that's probably going to occur here in the not too distant future.

Governor Daugaard, welcome.

**STATEMENT OF HON. DENNIS DAUGAARD,
GOVERNOR, SOUTH DAKOTA**

Governor DAUGAARD. Thank you, Chairman Thune, Senator Nelson, and members of the Committee. Thank you for the opportunity to be here this morning. I'm Dennis Daugaard, Governor of South Dakota. And my hope today is to offer a rural perspective on surface transportation infrastructure issues.

To get right to my key points, Federal transportation investment in South Dakota and other rural states benefits the whole Nation, not just those rural states. Highways in rural western states enable truck movements between the West Coast and large cities in the Midwest and the East. We are the bridge between those locations. They benefit people and commerce at both ends of the journey and along the way.

Rural highways and rail lines also enable agricultural products, energy, and natural resources, like lumber, to move from rural points of production to domestic markets and to the coasts and on

to world markets. Without a well-connected transportation system, many of these goods could not be exported.

Every year, my third point, rural highways enable tens of millions of visitors to reach Mount Rushmore in my state, and national parks, like Yellowstone. These tourism dollars are spent here in America boosting the economy. So there are plenty of great reasons for Federal surface transportation investments, even in a state like South Dakota and other rural areas.

Second, rural states have needs for surface transportation investment. If Congress passes surface transportation infrastructure legislation, any additional funds would be put to good use promptly in South Dakota and other states. Any additional funds would create jobs and economic growth and enhance safety.

However, I want to be sure that a rural state like mine benefits from any new infrastructure law in a meaningful way. I expect that any new infrastructure bill will encourage private sector investment and transportation infrastructure.

However, public-private partnerships needing sizable private returns are not a surface transportation solution for rural states. Even after supplementing project revenues with tax credits, our low traffic volumes in rural states do not generate sufficient income to attract investors.

Rural states are sparsely populated, yet they have extensive road networks, so the per capita costs of paying off principal and interest is high in rural states. That deters borrowing, and for a good reason. In short, any surface transportation infrastructure initiative that Congress crafts must take into account funding challenges facing rural states.

Rural states, as well as other states, need to benefit from the surface transportation portion of any infrastructure initiative, so the legislation can't be limited to P3s as a solution.

In addition, any surface transportation initiative should emphasize formula funding. Using the FAST Act formula-based distribution would ensure both rural and urban states participate substantially in a balanced surface transportation initiative.

Now, strengthening the surface—or excuse me—strengthening the Highway Trust Fund is an important objective. The Highway Trust Fund and the programs it supports and maintains, they maintain and improve America's surface transportation infrastructure.

But the Highway Trust Fund is in some jeopardy. Without legislation, after 2020, the Trust Fund will not support even FAST Act highway and transit program levels. In other words, it won't be able to support existing program levels. It won't meet the growing needs of the economy either. So, strengthening the Highway Trust Fund is worthy of consideration and action.

Just a few more points. Today, states do not receive the benefits of the FAST Act due to the part-year Continuing Resolution. States receive less than the FY17 appropriated level—or, excuse me, authorized levels. For some rail and truck safety programs, the part-year appropriations law continues programs as they existed before the FAST Act reforms. Promptly passing legislation to fully fund the FAST Act would enhance infrastructure investment and transportation safety.

Also, my prepared testimony and the map attached to it make clear that the draft Multimodal Freight Network, published by USDOT last year, leaves rural states underserved. In addition, stakeholders from across the Nation protested the proposed network. AASHTO called the highway component of that network insufficient, inadequate, and poorly connected. If USDOT won't make needed changes to that draft, I hope Congress will act to do so.

I also encourage Congress to increase Federal transportation program flexibility and simplify and expedite project delivery. We want each program dollar to deliver more benefits.

In closing, just two points. First, Federal investment in surface transportation infrastructure in rural states benefits the entire Nation. Second, P3s will not be an effective approach to improving surface transportation infrastructure in those rural states. So, any surface transportation infrastructure initiative must provide rural states meaningful funding from sources other than P3s so they can participate meaningfully in that initiative.

Thank you very much.

[The prepared statement of Governor Daugaard follows:]

PREPARED STATEMENT OF HON. DENNIS DAUGAARD, GOVERNOR OF SOUTH DAKOTA

Chairman Thune, Ranking Member Nelson, and Members of the Committee:

The President has raised the profile of investment in infrastructure on the national policy agenda. I commend this committee for following up by holding this hearing on important infrastructure issues.

Today, I'll offer a rural perspective¹ principally on issues concerning our Nation's surface transportation network. The surface transportation network needs to effectively connect rural America with the entire country, for the benefit of our Nation. Let me get right to my key points.

Significant Federal investment in the transportation network in rural states benefits the Nation. The entire nation gains from Federal surface transportation investment in rural states like ours. Those investments enable—

- truck movements between the West Coast and large cities in the Midwest and East, across states like South Dakota, benefitting people and commerce in large metropolitan areas at both ends of the journey and others along the way;
- agricultural products, energy, and other natural resources, which are largely produced in rural areas, to move by truck and/or rail to national and world markets;
- access to scenic wonders like Mount Rushmore, Yellowstone, and many other national parks.

Public Private Partnerships (P3s) and other approaches to infrastructure investment that depend on a project's positive revenue stream are not a surface transportation infrastructure solution for rural states. The low traffic volumes in rural states will not support tolls, even if one wanted to impose them. Projects in rural areas are unlikely to generate revenues that will attract investors to finance those projects—even if the revenues are supplemented by tax credits. While P3s could work in some parts of the country, for a surface transportation infrastructure initiative to be national in scope and have rural-urban balance, P3s are not enough. *Other funding approaches must be part of any national surface transportation infrastructure initiative for rural states to be able to participate in it substantially.*

Further, in a recent statement, the President emphasized fixing existing infrastructure before building new facilities. An emphasis on repairing infrastructure reduces the relevance of P3s as an aid to surface transportation investment. Resurfacing and reconstruction of roads and major preservation and maintenance work on rail facilities rarely generate the new revenue streams a private investor would want.

¹This prepared statement is presented not only for my own State of South Dakota, but also for the transportation departments of Idaho, Montana, North Dakota and Wyoming, who have concurred in this prepared statement.

Further, recent experience shows that financing approaches do not translate well to rural surface transportation infrastructure. The 2009 recovery act legislation authorized for a limited time so-called “Build America Bonds.” Under that program, of the five rural states supporting this testimony, only one used the provision to borrow for transportation. And in that case it was for a program where Federal funds, not state funds, would be used to pay off the loan.

Also, a recent 50 state survey by AASHTO found eight states either had no current use of bonds for transportation or used them only in the GARVEE circumstance, where Federal funds would pay back the borrowing. Those States are: Wyoming, Idaho, Montana, North Dakota, South Dakota, Iowa, Nebraska, and Tennessee.²

So, to provide for meaningful participation by rural states in any surface transportation infrastructure initiative, that initiative must provide the rural states meaningful funding from sources other than P3s.

There are needs for surface transportation infrastructure investment in rural states (and in all states). If Congress passes an infrastructure initiative including surface transportation funds, those funds would be put to good use promptly in South Dakota and, I’m sure, other states. The states would deliver projects providing safety, employment, economic development, transportation efficiency, and other benefits.

Using the FAST Act’s predominantly formula-based approach for the distribution of funds would ensure that both rural and urban states participate in the initiative and it would deliver the benefits of an infrastructure initiative to the public promptly. Other aspects of the FAST Act are also good precedent for a surface transportation infrastructure initiative. For example, the current approximately 4–1 ratio between Federal highway program funding and Federal transit program funding is appropriate. It is also consistent with a highly relevant and recent USDOT Conditions and Performance report, and should be continued. Further, formula programs, compared to discretionary or allocation programs, should continue to receive strong Federal funding emphasis in any Federal surface transportation infrastructure initiative.

Last year, with FAST Act formula funding, South Dakota resurfaced or rehabilitated 1,410 miles of asphalt pavement and 94 miles of concrete pavement, completed 41 miles of grading, built 14 new bridges and 8 culverts, and repaired or rehabilitated 66 bridges and culverts. It is a powerful statewide success story.

Also, we would have particular concern if, in any infrastructure initiative, any new transportation program elements were structured in a way that made it unrealistic for rural states to benefit. New program elements limited to extremely expensive projects likely would not be accessible by rural states, at least in a substantial way. That type of initiative may very well lack urban-rural balance.

Strengthening the Highway Trust Fund is a very important objective. The Highway Trust Fund (HTF) and the programs it supports are critically important to success in efforts to maintain and improve America’s surface transportation infrastructure. We deeply appreciate that the FAST Act provided financial support to the trust fund and its programs through FY 2020. Yet, past 2020 there will be no meaningful balance in the HTF to supplement revenues dedicated to the HTF. So, without legislation, after 2020, the HTF will not be able to support even current Federal surface transportation program levels, and will not meet the needs of the country that will grow as the economy grows.

In short, as part of any infrastructure effort, Congress should seek opportunities to strengthen the Highway Trust Fund. Such action could both improve the HTF’s long-term stability and enable it to at least support currently enacted program levels plus inflation.

While our focus today is on funding and financial issues, we also encourage Congress to take steps to increase Federal program flexibility and to simplify and expedite program and project delivery, so each dollar will deliver more benefits. One way to do that would be to provide each state with increased flexibility to direct funds to their highest priorities. South Dakota and other rural states face different transportation challenges than those faced by more densely populated states. All states would benefit from flexibility.

Many also have spoken in support of expediting the program and project delivery process. We agree. Reducing time and effort needed for regulatory and program compliance inevitably means a state DOT has more time and money to focus on delivering projects to the public. We do not address these issues in detail today, but we want to be clear, it is important to simplify the program, and related processes, in order to maximize the benefit of each program dollar.

²Transportation Governance and Finance, AASHTO, November 2016, page 75.

There have been unfortunate delays in Washington, D.C. that have prevented states and the public from receiving the benefits of the FAST Act, including funding increases and safety reforms in which this committee played a leading role. In the FAST Act, Congress increased funding for highway, transit and rail infrastructure and also for surface transportation safety programs. We are frustrated because while the Federal Government operates under a continuing resolution, funding levels legislated in FAST for FY 2017 are not in effect. We have a short construction season in South Dakota. So, a funding delay of a few weeks can sometimes translate to a year's delay in delivering a project.

In addition, reforms of safety programs developed in large part by this committee are not being fully implemented. Instead of receiving higher FY 2017 funding levels for a reformed motor carrier safety assistance program, we have seven months of hard to use funding, at FY 2016 levels, for the program that was modified or replaced by the FAST Act.

Under the continuing resolution, certain funds that the FAST Act provided for investment in rail freight facilities are not available. Those funds could be applied to state owned rail track used by small railroads. Such investments are very important to our farmers trying to get crops to national and world markets. When those products can move, we strengthen the economy and reduce the Nation's trade deficit.

So, Congress should appropriate full FY 2017 funding for FAST Act programs as quickly as possible.

Many significant rural and other surface transportation assets were not recognized in USDOT's draft National Multimodal Freight Network. The FAST Act requires development of a National Multimodal Freight Network (NMFN). USDOT has not yet designated that network. However, the draft of that network USDOT issued for comment last year was very disappointing. Stakeholders nationwide complained that important highways and other facilities were not included in that draft network. AASHTO commented that the highway mileage on that draft network is "insufficient, inadequate, and poorly connected."

To illustrate the lack of connectivity in the draft NMFN, attached to my prepared statement is a map of the highway component of the draft NMFN in South Dakota and some nearby states. You will see gaps in the network in those states larger than some sizeable states. That does not promote national connectivity.

Comments from individual states, including mine, identified additional shortcomings in the draft. Highway connections to grain terminals and agricultural shuttle train routes were left out. Also omitted were many rail short lines. These omissions discourage efforts to increase efficiency in transporting agricultural products from farms to national and world markets.

In short, too many important highways and rail lines were left off that draft network, particularly in rural areas. Those omissions, if not corrected by USDOT, will leave many areas underserved. It may complicate planning. It will discourage public and private investment in the omitted roads and rail lines, slowing economic growth. Congress certainly could take legislative action to establish a more extensive, better connected national multimodal freight network.

Public transportation provides benefits in rural states. Let me briefly mention public transportation, which benefits rural areas as well as big metropolitan areas.

The Federal transit program includes apportionments for rural transit. Federal investment in rural transit helps ensure personal mobility, especially for senior citizens and the disabled, connecting them to necessary services. Transit service is often a vital link for citizens in small towns to get to the hospital or clinic as well as to work or other destinations. Also, some rural areas are experiencing an increase in the age of the population. Public transit helps senior citizens meet essential needs without moving out of their homes. Any transit component of an infrastructure initiative should include transit in rural states as well as in large metropolitan areas.

Broadband deployment provides benefits in rural states. Let me briefly mention another type of infrastructure—broadband. The issues of broadband deployment in rural states are framed by the same considerations that frame transportation issues facing rural states—relatively few people and long distances. Thus, as with highways and rail, the cost per capita of deploying at least some broadband assets can be high.

Yet, for rural states and areas to fully participate in the economic and cultural life of the nation, and for the Nation to benefit fully from the talents and economic output rural Americans can contribute to the country, rural America needs broadband access. Clearly, there already is broadband access in many areas in rural states, but access to broadband can be improved, and I'm interested in seeing that happen. I look forward to working with the Congress on broadband infrastructure issues as they develop.

Before closing, let me mention additional reasons why strong Federal transportation investment in rural states is appropriate and benefits the Nation.

I mentioned truck movements from West Coast ports to Chicago or other heartland or eastern destinations. Almost 70 percent of truck movements in South Dakota do not have an origin or destination in the state, a percentage well above the national average for through truck traffic. This underscores that highways in rural states serve national commerce and provide vital connectivity.

Federal-aid highways in rural states also—

- have become increasingly important to the rural economy, with the abandonment of many rail branch lines;
- provide a lifeline for remotely located and economically challenged citizens, such as those living on tribal reservations; and
- facilitate military readiness.

The vast extent of Federal and tribal lands in many western states presents an additional challenge to improving surface transportation in those states. Idaho is well over 60 percent Federal and tribal lands; Wyoming, over 50 percent; Montana, roughly 30 percent. There are significant tribal lands on South Dakota's six reservations.

Development or use of Federal or tribal lands is limited, and state and local governments can't tax them. Yet, the Nation's citizens and businesses want reasonable transportation access to and across those lands. Such access is an expensive proposition for sparsely populated states. Significant transportation investment by the Federal Government remains a proper response, both in terms of apportionments to low population density states and in terms of direct Federal programs generally referred to as the "Federal Lands Programs."

Let me expand on the importance of the rural agricultural sector. In an average year, the corn, soybeans, wheat and sunflowers moved from South Dakota fields would fill over one million 18-wheel trucks. In 2014, South Dakota's agricultural exports were estimated at \$4.3 billion. Wyoming produces significant grain, sheep, and cattle. North Dakota leads the Nation in the production of many crops, including barley, durum wheat, and spring wheat. Montana is a leading producer of wheat, peas, and other crops and in 2016 exported 80 percent of its nearly billion dollar wheat crop. Idaho is also a major grain producer and possibly billions of people around the world have consumed Idaho potatoes.

Energy and other natural resources are largely located in rural states and areas, including oil, natural gas, or coal in Wyoming, North Dakota, and Montana and ethanol in South Dakota.

The surface transportation network is essential to moving these agricultural and energy products to national and world markets and improving the U.S. economy.

Quality transportation infrastructure in rural states helps ensure that American and international tourism dollars are spent in America, furthering national economic goals. For example, in 2016 visitors to Mount Rushmore totaled about three times the population of South Dakota. Similarly, that year there were roughly 10 million recreational visitors to Yellowstone, Glacier, and Grand Teton national parks. The entire population of Wyoming and Montana combined is approximately 1.5 million. Other important scenic destinations are located in this region: the Badlands National Park in South Dakota; Devils Tower in Wyoming; Theodore Roosevelt National Park in North Dakota; and the Craters of the Moon National Monument and the Sawtooth National Recreation Area in Idaho.

Rural western states have very few people to support each lane mile of Federal-aid highway—and preserving and maintaining this aging, nationally connected system is expensive. Yet, citizens from our states contribute to this effort significantly. Nationally, the per capita contribution to the Highway Account of the Highway Trust fund is approximately \$115. The per capita contribution to the Highway Account attributable to rural states is much higher; in South Dakota it is roughly \$190.

So, any surface transportation infrastructure initiative Congress may develop should be structured in a way that recognizes and responds to, among other considerations, the challenges facing rural states.

Conclusion

In closing, I'll emphasize two points.

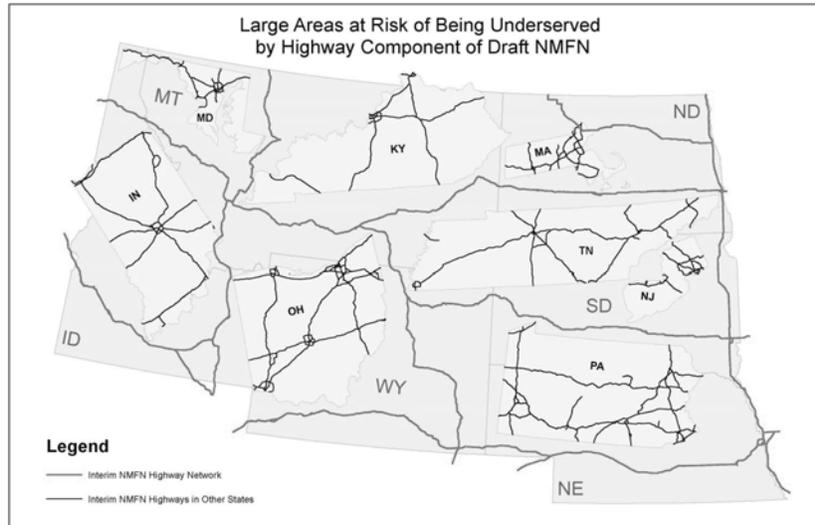
First, Federal investment in surface transportation infrastructure in rural states benefits the entire nation.

Second, P3s will not be an effective approach to improving surface transportation infrastructure in rural states. So, any surface transportation infrastructure initia-

tive must provide rural states meaningful funding from sources other than P3s, so that they can participate meaningfully in that initiative.

Thanks for the opportunity to present testimony today.

ATTACHMENT: HIGHWAY COMPONENT OF DRAFT NMFN IN SOUTH DAKOTA AND
ADDITIONAL RURAL STATES



The CHAIRMAN. Thank you, Governor Daugaard. And we will include your entire statement with the attachments in the record as well.

So, Mr. Braceras.

STATEMENT OF HON. CARLOS M. BRACERAS, P.E., SECRETARY-TREASURER, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS; EXECUTIVE DIRECTOR, UTAH DEPARTMENT OF TRANSPORTATION

Mr. BRACERAS. Chairman Thune, Ranking Member Nelson, and members of the Committee, thank you very much for the opportunity to be here today and share with you my thoughts on the connectivity of people, goods, and information that every community needs throughout our Nation.

My name is Carlos Braceras, and I'm the Executive Director of the Utah DOT. I'm also the Secretary-Treasurer of AASHTO. That's our association for all 50 DOTs plus the Puerto Rico and D.C. DOTs.

Utah is an interesting state in that we have 65 percent of our land owned by the Federal Government, so we're extremely rural, but 9 out of 10 Utahans live in an urban environment. So we have urban and rural issues.

It's important to remember the fundamental purpose of transportation. It's to grow the economy of our cities, our counties, and our country. And the interstate and national highway system plays a critical role in connecting all of America, especially rural areas, to

economic opportunities and amenities that contribute to a high quality of life.

The safe and reliable movement of freight ensures that the economic vitality of our country is strong and well-maintained. For example, AdvancePierre. It's a food service, it has a plant in Oklahoma, and it ships products throughout the country. It relies on the interstate transportation system to access both domestic and international markets. It's critical that this system is accessible and well maintained in states such as Utah, where nearly a quarter of our traffic on our interstate's system is freight traffic, such as AdvancePierre's food products.

Businesses located in my state and others rely on this system to move their products safely and efficiently. We need a strong national transportation system.

The national transportation system also serves our Nation's agriculture, ethanol production, and energy industries, which are largely located in rural areas. It also provides accesses to the scenic wonders of Arches, Bryce, and Zion's National Park in Utah, and many other great national parks and forests around our country.

Now, more than ever, it's important that we proactively prepare to meet users' demands and increase economic opportunities through investing in surface transportation and passenger rail service. The Federal role in investment in surface transportation has a successful track record in partnering with the states.

As you work with President Trump to deliver a major infrastructure initiative, we recommend two principles. Use the formula-based program structure currently in place because it is both the most effective and efficient way to put Federal dollars to work, and focus on direct funding rather financing mechanisms because only the former can truly help deliver much needed products—projects in every part of our country.

I believe that the FAST Act and Moving Ahead for America for Progress in the 21st Century, MAP-21, have made great strides in instituting major programmatic and policy reforms. However, there still exists further opportunity for improvements while still remaining responsible stewards of both the human and the natural environments.

We want to build on the success of these policy reforms, and AASHTO is asking to improve it by simplifying the NEPA Assignment application and audit process. This allows states to assume all of the responsibilities of the USDOT with respect to activities relating to environmental review, consultation, and approval.

Several years ago, I led an international delegation of U.S. experts to learn about performance measures and management. We visited six national—six nations and regional governments to learn, and one of the universal takeaways was that fewer high-level measures were more effective to move the transportation vision toward accomplishing the goals of the national and regional governments. AASHTO strongly supports the performance measures in MAP-21 and the FAST Act, but ask that we first get these up and running before new ones are introduced.

We also suggest that Congress consider authorizing a consolidated funding pilot program that treats all core funding provided to State DOT under the National Highway Performance Program,

Surface Transportation Program, and Highway Safety Improvement program as a single consolidated apportionment.

I strongly believe that with enhanced flexibility and implementation performance measures, that we can achieve better outcomes for the public's investment and greater transparency.

The State's DOT commend your leadership in consolidating the passenger rail title as part of the FAST Act. Your action enables many states to invest in modern passenger rail services that provide traveling public with more transportation choices, relieves highway and airport congestion.

To protect the taxpayers' investment in passenger rail and to ensure high-quality, on-time train service, states have implemented the stakeholder agreements as per the requirements of the bill. And performance-based, quantifiable measures, such as trip times, reliability, and frequency of services, are included in these agreements. The rights of private railroad owners will be maintained thanks to these.

We are truly at an inflexion point in transportation that is as significant as when the engine was merged with the horse and buggy. Today, it's the merger of technology and automobiles that's leading us toward the connected autonomous vehicle. And this isn't the future, this is now.

With 94 percent of all crashes in our Nation being the result of human error, we have the ability now to enhance public safety, save lives on our roadways, and improve mobility. It's right at our fingertips. But in order to achieve these amazing outcomes, we must first find the right balance between regulation and innovation.

As states, we like flexibility, but there needs to be some consistency so that cars traveling from Utah across this country can operate on a consistent basis. We need to respect personal privacy with the advent of more data being moving around. We have to address cybersecurity issues. Public agencies need access to appropriate data.

The state DOTs are absolutely committed to meeting the transportation needs of rural America and the policies to help move goods, people, and information safely and efficiently across the United States.

I would like to thank you for this time and this opportunity today.

[The prepared statement of Mr. Braceras follows:]

PREPARED STATEMENT OF HON. CARLOS M. BRACERAS, P.E., SECRETARY-TREASURER,
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS;
EXECUTIVE DIRECTOR, UTAH DEPARTMENT OF TRANSPORTATION

Introduction

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you for the opportunity to provide input on ensuring connectivity of people, goods, and information for every community across our Nation through infrastructure investment. My name is Carlos Braceras, and I serve as the Executive Director of the Utah Department of Transportation (UDOT) and as Secretary-Treasurer of the American Association of State Highway and Transportation Officials (AASHTO). Today, it is my honor to testify on behalf of the great state of Utah and AASHTO, which represents the state departments of transportation (State DOTs) of all 50 states, Washington, D.C., and Puerto Rico.

I first joined UDOT as a registered professional engineer and a geologist. Prior to my appointment almost four years ago as the Executive Director, I served as the Deputy Director for twelve years with previous experience as Region Director, Major Project Manager, Chief Geotechnical Engineer and Chief Value Engineer. In addition to serving as AASHTO's Secretary-Treasurer, I am also the Chairman of the AASHTO Subcommittee on Design and the Chair of the Technical Working Group of the AASHTO Center for Environmental Excellence. I am also the current Vice Chair of the Intelligent Transportation Society of America.

My testimony today will emphasize five main points:

- Ensuring a strong Federal role and investment in surface transportation;
- Critical importance of program funding, relative to financing, for rural areas;
- Opportunities to further cut the red tape in legislative and regulatory process;
- States' visible and important role in providing passenger rail service; and,
- Preparing for and harnessing significant technological advancements.

Ensuring a Strong Federal Role and Investment in Surface Transportation

Throughout the history of our country, transportation has played an integral role in the success of our economy. States have done an admirable job of addressing transportation within their boundaries, but there is clearly a need for a cohesive national transportation system. Take for instance, AdvancePierre Food Services, whose plant in Oklahoma ships throughout the country to other plants and retailers. Their success would not be possible without an effective interstate transportation system. While AdvancePierre's plants may be in Oklahoma and other states throughout the country, Utah's transportation system needs to be able to support businesses such as this; nearly a quarter of the traffic on Utah's interstate system is commercial freight vehicles, carrying goods like AdvancePierre's food products to Utah and through it. Just as AdvancePierre depends on a reliable, effective, well-maintained, and safe transportation system in Utah, the businesses located in Utah also rely on effective national transportation system to move its products across this country and around the world.

This is just one example of how our entire nation—including residents and businesses of major metropolitan areas and rural areas alike—is well-served by a strong Federal investment that improves surface transportation infrastructure in and across a large, Western states like ours. It drives home the point that our Nation's transportation system is one of the key foundational elements necessary to ensure the economic vitality of our country.

The state departments of transportations (DOTs) have the utmost appreciation for your Committee's leadership, along with your Senate and House members in partner committees to shepherd the Fixing America's Surface Transportation (FAST) Act in December 2015. This legislation ensures stability in the federally supported passenger rail, freight, safety, highway, and transit programs through 2020. While the five years authorized under the FAST Act has given us a temporary reprieve—thanks to over \$140 billion of General Fund transfers since 2008—from recurring deep cuts in obligations due to the \$15 billion annual gap between Highway Trust Fund receipts and outlays, the case for maintaining a strong Federal role and investment in transportation remains as important as ever.

For over one hundred years, we as a nation, have enjoyed the fruits of the Federal Government's highly successful partnership with state DOTs to build and maintain our surface transportation system. From the Federal-aid Road Act of 1916 establishing the foundation of a federally-funded, state-administered highway program that has been well-suited to a growing and geographically diverse nation like ours, Federal investment in all modes of transportation have allowed states and their local partners to fund a wide range of projects that serve the interest of the Nation as a whole. The Federal surface transportation program's inherent flexibility defers project selection and investment decision-making to state and local governments based on extensive public input from local communities and businesses to address their needs and ensure goods get access to a larger market than ever before.

Based on the Federal surface transportation program's track record of success, we recommend if you and the President deliver a significant infrastructure package in the coming months, any increase in Federal funds should flow through the existing program structure rather than expending scarce time and energy on untested new approaches. We are well-prepared to work with Congress to take advantage of our strong, productive partnerships with local governments to deliver on a major infrastructure initiative.

Critical Importance of Program Funding, Relative to Financing, for Rural Areas

As I noted, the Federal surface transportation program supports communities located in urban, suburban, and rural areas across our Nation. In rural areas, the transportation network specifically:

- Serves as a safe and reliable route for truck and personal traffic between other states and between major metropolitan areas, advancing interstate commerce and mobility;
- Serves the Nation's agriculture, ethanol production, energy extraction, and wind power industries, which are located largely in rural areas;
- Provides access to scenic wonders like Arches, Bryce Canyon, and Zion National Parks in Utah, and many other great national parks, monuments, and forests located in rural states;
- Is a lifeline for remotely located and economically challenged citizens, such as those living on tribal reservations;
- Enables people and business to access and traverse vast tracts of federally-owned land, and;
- Facilitates military readiness.

States with the greatest land area tend to be in the west. To illustrate distance, a driver traveling from Washington, D.C., to Boston, Massachusetts, could drive the same distance in Utah or Nevada and still be in the same state. Additionally, many western states are some of the most highly urbanized states in the nation, in fact five of the ten most urbanized states are in the west. In Utah, nine out of ten residents live in urban areas. Many other western states share those same characteristics with highly urbanized populations and large, sparsely populated rural areas in between. A strong national transportation network connects these urbanized areas across vast distances, ensuring that all communities in the United States have access to a safe and efficient transportation system.

We recognize that investment dynamics for rural areas differ significantly and fundamentally due to vast distances, sparse population density, lower volume of traffic, and a large proportion of Federal lands, in Utah, 65 percent of our land is owned by the Federal Government. Under these circumstances, direct Federal funding and grants based on formula apportionments can best meet the mobility and quality-of-life needs not only throughout the West, but also in rural communities elsewhere in the country. And if our rural communities thrive, our country as a whole thrives.

This means that financing tools that leverage existing revenue streams—such as user fees and taxes—are typically not viable, as the sole tool, in rural areas at the project level. We in Utah, and many of our state DOT peers, certainly appreciate the ability to access capital markets to help speed up the delivery of much-needed transportation improvements. But we also recognize the inherent limitations of financing; the vast spectrum of publicly-valuable transportation projects that nevertheless cannot generate a sufficient revenue stream through tolls, fares, or availability payments to service debt or provide return on investment to equity holders.

The state DOTs continue to support a role for financing and procurement tools such as public-private partnerships (P3s) given their ability to not only leverage scarce dollars, but to also better optimize project risks between public and private sector partners best suited to handle them. There are limited means to monetize non-revenue producing assets, like what Connecticut has done through its long-term rest area concession. But we maintain that financing instruments in the form of subsidized loans like TIFIA, tax-exempt municipal and private activity bonds, infrastructure banks, and tax code incentives are simply not enough to meet most transportation infrastructure investment needs.

Opportunities to Further Cut the Red Tape in Legislative and Regulatory Process and Requirements

After decades of adding layers upon layers of legislative and regulatory oversight for transportation, thanks to your leadership, both the FAST Act and the Moving America for Progress in the 21st Century Act (MAP-21) have instituted major programmatic and policy reforms. However, there exists still further opportunity to improve the efficiency and effectiveness of transportation programs and project delivery while remaining responsible stewards of both human and natural environments.

First, Congress should encourage the USDOT to implement provisions in both MAP-21 and FAST Act to remain consistent with congressional intent. A recent example of a problematic USDOT regulatory action is the onerous and unanticipated requirement regarding metropolitan planning organization (MPO) coordination. Al-

though state DOTs and MPOs already exemplify the kinds of coordination sought, the new regulation is anticipated to impose costly requirements with no benefits. In addition, AASHTO supports implementing statutorily authorized performance management frameworks for highway safety, bridge and pavement, system performance, and freight before further measures are considered and added. Several years ago, I led an international delegation of U.S. experts where we visited with six national and regional governments that were considered advanced in the area of performance measures and management. One of the universal key takeaways was that fewer, high-level measures were more effective to move the transportation vision toward accomplishing the goals of the national or regional governments.

Second, to build on the successful policy reforms in MAP-21 and FAST Act based on bipartisan support, AASHTO asks for the opportunity to continue improving the project delivery process. California, Florida, Ohio, Texas, and—as of the beginning of this year—my state of Utah are participating in the National Environmental Policy Act (NEPA) assignment program made available to all states in MAP-21. Based on our collective experience, some specific changes that will make this program increasingly efficient and more attractive to the states include simplifying the assignment application and audit process, allowing states to assume all of the responsibilities of USDOT with respect to engineering and other activities related to environmental review, consultation, permitting or other action required under any Federal environmental law for project review or approval, and allowing states in this program to be solely responsible for the development of their policies, guidance and procedures so long as Federal laws and USDOT requirements and guidance are met. Other expediting measures include decoupling fiscal constraint requirements from NEPA approval to allow construction-ready projects to proceed through environmental reviews and progress as money becomes available; ensuring that the statutory authority provided to adopt planning decisions in the NEPA process includes all of the flexibility previously provided in the planning regulations; and providing flexibility in developing project review project schedules and programmatic categorical exclusion agreements.

Beyond NEPA, many opportunities exist to streamline project delivery through updates to the Endangered Species Act, Section 4(f) reviews for historic sites, the Land and Water Conservation Fund Act, and transportation air quality conformity under the Clean Air Act. AASHTO is happy to work with you to provide specific recommendations for improvement in any of these areas. We also look forward to continued collaboration with USDOT's Build America Bureau. This would build upon our robust existing partnership through AASHTO's Center for Excellence in Project Finance by closely engaging with the Bureau's Federal Infrastructure Permitting Dashboard that was created under your leadership in the FAST Act.

Finally, to build on the current flexibility in the Federal-aid Highway program, Congress should consider authorizing a "Consolidated Funding" pilot program. This pilot program would build on the program consolidation efforts made in MAP-21 by treating all core funding provided to a State DOT under the National Highway Performance Program, Surface Transportation Program, and Highway Safety Improvement Program as a single, consolidated apportionment. States would only be eligible to participate in the program once they had an established performance management system that demonstrates a system of metrics and performance measures that assist and guide the state in the decision-making process to Federal program funding received through the pilot program. Under such a pilot program, suballocations to MPOs and other local government entities can remain unaffected. Utah is ready to step forward to pilot such a program and I am convinced that we will be able to demonstrate that we will be able to better meet both the transportation goals of this country and those of Utah, by allowing states to use the money on "right activity at the right time". I also believe that it would allow for increased transparency, so the public can see a better connection between their investment and outcomes achieved. I encourage Congress to seek additional opportunities to continue moving the Federal highway and safety programs toward performance and outcome-based programs that emphasize results rather than adherence to "process."

At the same time, I encourage Congress to restore state flexibility to allow limited use of Highway Safety Improvement funds to address driver behavior programs that improve roadway safety and help us achieve our shared goal Toward Zero Deaths. State DOTs engineer roads to be as safe as possible, and that includes providing drivers with a margin of error; when they make a mistake, the roadway must give them an opportunity to recover. However, national studies demonstrate that the critical cause for crashes is attributable to driver behavior in 94 percent of crashes. While it's important that we continue to engineer and construct roads to be safer, states should also have some program flexibility to work with our safety partners to educate drivers on the most deadly driver behaviors.

States' Visible and Important Role in Providing Passenger Rail Service

The state DOTs commend your leadership in consolidating the passenger rail title as part of the FAST Act, making this legislation a true surface transportation bill. Your action enables many states to further invest in modern passenger rail services that provide the traveling public with more transportation choices and relieve highway and airport congestion in a safe, environmentally responsible way.

Under Section 209 of the Passenger Rail Investment and Improvement Act (PRIIA), a state-supported routes program now includes 18 states and other entities under 19 operating agreements for financial support of 26 short-distance routes defined as those less than 750 miles. To protect the taxpayer's investment in passenger rail and ensure high-quality and on-time train service, states have diligently implemented the PRIIA requirement to negotiate stakeholder agreements before Federal funding could be released. Performance-based and quantifiable measures such as trip times, reliability and the frequency of service are included in these agreements. Because much of the passenger service in the United States rides on rails owned by private railroads, the rights of these stakeholders to continue to maintain and improve their own service have been incorporated into these agreements.

In FY 2015, states' partnership with Amtrak, the Federal Railroad Administration (FRA), and host railroads have resulted 14.7 million passenger trips, with five corridors topping at more than a million trips. A specific example of improvements in passenger rail travel under this program can be seen in increasing maximum train speeds up to 110 mph wherever possible on the Chicago-Detroit and Chicago-St. Louis corridors, as supported by the Illinois and Michigan DOTs. As additional track and signal work is completed, more segments will experience speed increases resulting in trip time reductions of nearly an hour on both corridors.

Some obstacles remain to ensure effective support for intercity passenger rail between states. The FRA's System Safety Program (SSP) needs to be revised to disallow service sponsors from being classified as railroads. This is due to the fact that service sponsors are planning entities and thus are not organized, nor staffed, with railroad-qualified personnel needed to fulfill requirements of the SSP rule. The state DOTs believe that service sponsors do not have the legal authority to compel host railroads, nor Amtrak, to comply with the SSP rule and designating service sponsors as railroads exposes service sponsors to other, broader railroad operating requirements for which public agencies are ill-equipped. We believe determining service sponsors as railroads is not based on sound data nor will it in any meaningful way improve safety.

Preparing For and Harnessing Significant Technological Advancements

I believe that we are at an inflection point in Transportation that is as significant as when the engine was merged with the horse and buggy, today it's the merger of technology with the car and truck as we know it. This will change the way we move goods, services and people on our roads and highways. In the future, I view data as the new asset that will dramatically enhance public safety, save lives on our roadways, improve mobility, enhance program and operational efficiency, and create jobs. It is important now more than ever, that we maintain relationships from local, state and Federal levels to ensure our transportation system is not a bottleneck of continued innovation.

Governments will need to build, redesign, and adapt roads, highways, and bridges to the autonomous and connected vehicle. Traditional investments include providing better lighting, consistent roadway design, better signage; these investments are especially needed on rural roads. Spectrum for vehicle-to-infrastructure systems using Dedicated Short Range Communications needs to be preserved, and rural broadband expanded. The National Highway Traffic Safety Administration also must move forward with industry on the proposal to establish a Federal Motor Vehicle Safety Standard for vehicle-to-vehicle communications (V2V). Cooperative V2V and vehicle-to-infrastructure (V2I) safety systems are needed to support fully automated vehicles, supported by robust research and deployment. Institutional capacity and workforce skills will need to be upgraded to operate, maintain and secure new smart roads and intelligent vehicles.

Promising potential abounds when it comes to the use of drones, or Unmanned Aerial Vehicles (UAVs). As of this past year, AASHTO identified 17 state DOTs conducting research regarding the use of UAVs. The aircraft have assisted state DOTs with bridge inspections, accident clearance, surveying and identifying, monitoring and mitigating risks posed by landslides, rockslides and flooding.

State DOTs strongly believe that the overall benefits will be seen with autonomous vehicles that are also connected with other vehicles and the infrastructure on which they operate. AASHTO is a founding member of the V2I Deployment Coali-

tion, on which I also serve, along with the Institute of Transportation Engineers and the Intelligent Transportation Society of America, and various transportation industry representatives. This began as a concept to create a single point of reference for stakeholders to meet, discuss and collaborate on V2I deployment related matters. And several states have already taken the initiative to develop policies to accelerate convergence of connected and autonomous vehicles and define industry interactions for full deployment.

For example, in Utah, the state legislature adopted HB 373 allowing UDOT to conduct a connected vehicle technology testing program on its roadways. We partnered with Peloton Technology to test a system which facilitates platooning of two-tractor-trailer rigs on a stretch of I-80. Both drivers continue to steer the trucks but an automated system controls acceleration, responds instantly to changes in speed of the front truck located 50 feet ahead, and respond to road hazards up to 800 feet away. The efficiency of air flow results in a savings of about five percent for the front truck and ten percent for the rear truck. States such as Florida, Michigan and Nevada have taken the initiative of policy changes and the state level, coupled with new guidance and standards at the national level, to effectively prepare for technological advancements that will provide a greater overall public value in the future.

Another area that has seen rapid gains is the use of “big data,” which refer to volume (large amounts of data), variety (different data being combined), and velocity (the speed at which new data is being produced and added to the analysis), used to analyzed computationally to reveal patterns, trends, and associations, especially relating to traffic patterns, human behavior, and interactions. A great example can be seen in 17 states—including Utah—partnering with the Waze, a popular driving app. Under its Connected Citizens Program, there has been increased and ongoing partnership between Waze and various governmental agencies to share publicly-available incident and road closure data to facilitate smoother movement of vehicles and people.

An important component to advance roadway technology is the ability to create a digital highway with fiber optics to make our roads smarter and safer, benefiting surrounding communities, including underserved rural areas. In Utah, we believe this is best accomplished through P3s and streamlining Federal regulations that provide maximum flexibility to states, which have enabled Utah to successfully support expansion of service provider networks. The property value of linear highway corridors is a major incentive enabling P3s. These partnerships began in the late 1990s when a change in Federal law allowed the states to accommodate longitudinal access of telecommunications facilities within interstate rights-of-way under certain conditions. Utah changed our state law to allow companies to lease or barter in-kind for this access. These successful P3s have enabled us to significantly expand highway operations over large, remote expanses of the state as well as enabling private providers to expand their service in both urban and rural areas. The Utah DOT deploys conduit and fiber with every road project that makes sense and coordinates road projects with any telecommunication company that wants to partner. Through these partnerships Utah has realized over 2,500 combined private and public miles of fiber, conduit and circuit, with a total value of almost \$75 million to the public.

Federal policies need to support P3s such as these by carefully considering the uniqueness of each partnership. The ability to be flexible is what makes these partnerships possible. Rigid regulations or mandates can remove the very flexibility that is needed, complicating implementation and adding unnecessary additional system costs.

Conclusion

State DOTs are absolutely committed to meeting the transportation needs of rural America and the policies required to help move people, goods, and information safely and efficiently across the United States. This week, literally as I speak, hundreds of state DOT leaders from all corners of our country are just a couple of blocks away attending AASHTO’s 2017 Washington Briefing. Over the next couple of days, most of them will be on the Hill meeting with their Congressional delegations advocating for the reaffirmation of a strong federal-state partnership to address our surface transportation investment needs.

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

The CHAIRMAN. Thank you, Mr. Braceras.
Ms. Bloomfield.

**STATEMENT OF SHIRLEY BLOOMFIELD, CHIEF EXECUTIVE
OFFICER, NTCA-THE RURAL BROADBAND ASSOCIATION**

Ms. BLOOMFIELD. Chairman Thune, Ranking Member Nelson, and members of the Committee, I am really delighted to be here today to share some thoughts with you. I'm Shirley Bloomfield, the CEO of NTCA-The Rural Broadband Association.

We represent about 850 small rural businesses that are deploying infrastructure to provide broadband and other services in 46 states.

Today, rural America really continues to be a fertile ground for innovation, and the deployment of broadband in so many ways has equaled what roads and bridges had meant in the past. So it is really the 21st century superhighway.

These small broadband providers are leaders in deploying networks and enabling innovative communications services, but for all of the progress that has been made to date in deploying rural infrastructure, there is still a lot of work to be done. Even where infrastructure is in place today, we've got to sustain these networks to keep pace with consumer demand and deliver affordable services.

It's also really important to remember what infrastructure actually enables. In 2016, the Hudson Institute, along with the Foundation for Rural Service, released a report that examined the economic benefits of broadband deployment. The report determined that investments in ongoing operations of small rural broadband providers, like NTCA members, contribute \$21 billion to \$24 billion annually to the Nation's gross domestic product, with 66 percent of that benefit actually accruing to urban America.

The report also found that rural broadband investment is a driver of economic growth, estimating that nearly 70,000 jobs are directly attributable to economic activity of these small rural broadband providers with about 54 percent of those jobs actually being in urban areas where some of the suppliers and vendors to these carriers actually reside.

And we can see the payback of rural broadband infrastructure investment in the economic and other activities that such networks enable. We have an initiative at NTCA called the Smart Rural Community, where we really highlight working with communities that enable telemedicine, public safety, distance learning, teleworking, all of these applications that are essential to job creation and economic growth in rural America.

Recognizing the benefits that flow from broadband infrastructure, the current administration did include telecommunications within the initial list of infrastructure priorities even prior to taking office.

Over 100 Members of Congress have concurred in a recent letter urging the President to include broadband within any wider infrastructure initiative. NTCA applauds that consensus already achieved on making sure that broadband is part of that priority and welcomes the chance to provide thoughts on how to tackle this further.

It may help to outline a few key objectives to consider in any broadband infrastructure initiative.

First, a plan should account for, if not leverage, efforts that are already underway to promote and sustain broadband investments.

Second, accountability should be demanded of those who receive resources through such a plan, and proven track records of success should actually matter.

Third, any plan must be carefully designed and sufficiently sized to tackle the challenges presented. Programs should aim to get broadband where it is not and to sustain it where it already is. And plans should also need to be backed up with sufficient resources to actually get the job done.

Fourth, we should look to get the best return on investments on infrastructure. Putting resources toward infrastructure that won't stand the test of time may turn out to be frankly a waste of resources and ultimately leave rural America behind.

Fifth, a comprehensive approach to promoting broadband infrastructure investment must tackle deployment barriers.

So against this backdrop, NTCA makes the following recommendations: Rather than reinventing the wheel, one promising course of action could be to leverage and to supplement the existing universal service program that we have in the High Cost arena, which is within the FCC's oversight and can help justify greater broadband investment.

The FCC's USF program represents a very logical focal point for renewed broadband infrastructure initiative. The FCC is the Nation's expert agency in telecom policy and is already tackling broadband challenges with respect to availability and to affordability. Recent USF reforms adopted by the FCC reorient the program toward broadband, ensure funding is targeted to where it is most needed, and define an efficient level of support in each area. The reform program rules also compel so much accountability, they actually include reporting literally on a location-by-location basis.

Particularly given USF budgets that are woefully underfunded, resulting in slower speeds and higher prices for far too many rural broadband consumers and businesses, we have a real opportunity to make sure that the FCC's programs can actually achieve their goals, as designed. And the good part of these programs is that they're already in place so they can hit the ground running without the need to start up a new program from scratch.

Of course, alternative new capital infusion or tax incentive programs could also play a role, but all these other things, like capital infusion, must still be coordinated with the FCC's efforts. And, frankly, tax incentives may not move the needle significantly on investments in areas that are already uneconomic.

Finally, the elimination of regulatory hurdles must be a critical component of any infrastructure initiative. In South Dakota alone, for example, the Forest Service permitting holdups delayed completion of a multimillion dollar fiber investment for more than a year.

Efforts are already underway to address a lot of these concerns. For example, the MOBILE NOW legislation introduced by the Chairman and Ranking Member Nelson highlight the significance of streamlined broadband deployment.

Similarly, the FCC Chairman, Chairman Pai, has a digital empowerment agenda, which contains really thoughtful suggestions on how to make it easier to build, maintain, and upgrade networks. Chairman Pai's recent announcement of a Broadband Deployment

Advisory Committee also represents a really sensible roll-up-your-sleeves approach and a step toward action.

So continued progress toward implementation, these ideas and policies, has to be seen as an essential component of a comprehensive broadband infrastructure initiative.

In conclusion, small broadband innovators have made great progress and are really eager to continue deploying infrastructure and delivering these critical services to rural America, and, frankly, all of America needs to participate in this global economy.

So the ability to recover the initial and ongoing costs of sustaining that infrastructure in High Cost rural areas is critical to this session—to this mission.

So thank you for the opportunity to testify. We really look forward to working with you on a comprehensive infrastructure strategy that will achieve our Nation's shared broadband goals.

Thank you.

[The prepared statement of Ms. Bloomfield follows:]

PREPARED STATEMENT OF SHIRLEY BLOOMFIELD, CHIEF EXECUTIVE OFFICER,
NTCA-THE RURAL BROADBAND ASSOCIATION

Introduction

Chairman Thune, Ranking Member Nelson, members of the Committee, good morning and thank you for the invitation to participate in today's hearing focused on infrastructure.

I am Shirley Bloomfield, Chief Executive Officer of NTCA-The Rural Broadband Association ("NTCA"). NTCA represents approximately 850 rural small businesses deploying broadband infrastructure in 46 states. All NTCA members are fixed voice and broadband providers, and many of our members also provide mobile, video, satellite and other communications-related services to their communities. The small telcos like those in NTCA's membership serve less than five percent of the population of the United States, but cover approximately 37 percent of its landmass. These companies operate in rural areas left behind by other service providers because the markets were too sparsely populated, too high cost, or just too difficult in terms of terrain.

These small broadband providers have been leaders in deploying advanced communications infrastructure that responds to consumer and business demands and connects rural America with the rest of the world. For rural America, such infrastructure enables economic development and job creation not only in agriculture, but for any other industry or enterprise that requires robust connections to operate in the modern world. But, for all their progress to date, the job of deploying and operating this critical infrastructure is not done, as operators still face the challenges of sustaining and upgrading existing networks to keep pace with consumer demand, delivering affordable services, and extending these networks into parts of rural America still lacking access.

Before turning to what policies could help promote the deployment and sustainability of broadband infrastructure in rural America, it is important to understand what benefits accrue to *both rural and urban America* when *every American* has reasonably comparable access to high-quality communications services at affordable rates.

Rural Broadband Investment in Action: Economic Development and Job Creation

Small, hometown broadband providers have led and are continuing to lead the way in deploying high-speed, sustainable broadband that responds to the needs of consumers and businesses in rural America. The broadband infrastructure they deploy enables applications that rural and urban communities can leverage for education, commerce, health care and government services. Broadband-capable networks facilitate greater interconnection of community resources and enable greater participation in the national and global economy.

To not have access to high-speed Internet today should be unimaginable, yet millions of rural Americans have limited or even no access to robust broadband. And while it is critical to deliver broadband to the unserved, it is just as critical that

those already receiving broadband remain served. There are many places in rural America where networks have been built by committed companies like those in NTCA's membership, but the sustainability of that infrastructure and the affordability of services remain in question. In many parts of rural America, the challenges of distance and density are so great that they cannot sustain even one broadband network. Section 254 of the Communications Act therefore rightly recognizes that our national policy is not merely about deploying infrastructure, but also ensuring that such infrastructure, once deployed, means something for the consumer—that is, “reasonably comparable” services at “reasonably comparable” rates for urban and rural consumers alike. If a network is built but then becomes unsustainable, or if the services offered over it are unaffordable or unreliable or cannot keep pace with increasing consumer demand, then these outcomes deny rural Americans the benefits of broadband and represent a terrible waste of the resources that help to make broadband infrastructure available in the first instance.

In April 2016, the Hudson Institute, in conjunction with the Foundation for Rural Service (FRS), released a report examining the economic benefits of rural broadband infrastructure.¹ This report determined that the investments and ongoing operations of small rural broadband providers contribute \$24.1 billion annually to the Nation's gross domestic product, with 66 percent (\$15.9 billion) of that amount accruing to the benefit of urban areas.² The report also found that rural broadband investment is an important driver of job growth, estimating that 69,595 jobs—54 percent of which are with vendors and suppliers in urban areas—can be attributed directly to economic activity of small rural broadband providers.³ These findings confirm that investment in rural broadband infrastructure yields returns that reach far beyond the confines of rural America.

Finally, the study found that rural broadband supported over \$100 billion in e-commerce in 2015. Nearly \$10 billion of that total involved retail sales, and Hudson estimates that if the broadband deployment in rural areas was equivalent to that in urban areas, sales would have been at least \$1 billion higher.⁴ Such data underscore that not only is the widespread availability of robust affordable broadband important for our national economy, but the direct act of investing in and operating broadband infrastructure is itself a substantial economic driver.

But, there are also jobs beyond the telecom technicians, engineers, materials suppliers, and manufacturers that are supported by rural broadband infrastructure. In Sioux Center, Iowa, a major window manufacturer built a 260,000 square-foot plant to employ 200 people. The company considered more than 50 locations throughout the Midwest, but selected Sioux Center in part because the rural broadband provider enabled this plant to connect with its other locations throughout the U.S. using a sophisticated “dual entrance” system that could route traffic to alternate paths, ensuring that the main headquarters 250 miles away and other facilities would remain connected. In Cloverdale, Indiana, a rural broadband provider met with developers and helped bring an industrial park to its service area. Powered by this provider's broadband, the facility brought more than 800 jobs to the area. These stories are repeated throughout NTCA member service areas, giving rise to the concept of the Smart Rural Community.

Rural Broadband Collaboration in Action: Smart Rural Community

Moving beyond the economic data and looking at actual applications in the field, it is clear that broadband enables and fosters innovative economic development, commerce, health care, education, and other activities and capabilities that contribute to the success and well-being of communities.

Many of these achievements in leveraging broadband infrastructure for the benefits of communities have been highlighted in NTCA's Smart Rural Community program. This initiative recognizes top-performing broadband providers in rural areas, as well as sponsoring on-going educational events and providing matching fund “micro-grants” to stimulate collaboration among broadband providers and other community leaders. The premise of this program is that a smart rural community relies both on high-capacity broadband infrastructure and on teams of highly motivated and collaborative leaders—the people behind the technology—to make the best possible, most productive uses of that infrastructure. This in turn helps with the sus-

¹The Hudson Institute, “The Economic Impact of Rural Broadband,” April 2016, (“Hudson Paper”). <https://s3.amazonaws.com/media.hudson.org/files/publications/20160419KuttnerTheEconomicImpactofRuralBroadband.pdf>.

²*Id.*, pp. 13–14.

³*Id.*, p. 13.

⁴*Id.*, pp. 19–20.

tainability of the networks once built, as well as driving greater demand for broadband as others see the potential applications and uses in practice.

NTCA's Smart Rural Community companies have deployed connected health carts in public schools whose students are challenged by persistent poverty; worked with local electric utilities to enable two-way meter reading, power outage data, and voltage alerts; worked with U.S. border control officials to support critical security functions along our Nation's southern border; and enabled local firefighters to view reported fires and locate nearby hydrants before firefighting teams arrive. Our Smart Rural Community grant program has brought local broadband operators together with hospice facilities and public school districts to create broadband-enabled solutions aimed at supporting the needs of the elderly and our aspiring youth, for whom access to increased educational and entrepreneurial opportunities can only yield benefits for the Nation. The Smart Rural Community therefore helps to highlight how the "rubber meets the road"—what the availability and sustainability of broadband infrastructure can mean for consumers, businesses, and communities in rural areas.

In a North Dakota community of 10,000 spread across an area of nearly 4,000 square miles, a rural broadband provider helped a small college become the first "laptop university" in the United States, providing a fiber backbone to support a campus-wide Wi-Fi network that enables portable laptop usage by all students. In Milltown, Wisconsin, an NTCA member serving six villages, 15 townships, and a Native American Reservation community connected six hospitals across two states to enable telemedicine services, including the ability to share critical diagnostic files with a major medical center for life-saving decisions when specialists are not available in the rural areas.

A Holistic Approach to Broadband Infrastructure

Broadband forms the foundation of these advancements in education, health care, and economic development. The critical role of this communications infrastructure is as necessary to these regions present and future needs as is electricity and other infrastructure that enables the ordinary course of a thriving society. The current administration has expressly recognized the importance of advanced communications networks, having included "telecommunications" within an initial list of infrastructure priorities even prior to taking office. The need to advance broadband infrastructure has also been expressly noted by over 100 members of Congress in a recent letter to the President urging him to include broadband within any broader infrastructure initiative. NTCA therefore applauds the apparent consensus already achieved with respect to making broadband an infrastructure priority, and welcomes the chance to participate in a further discussion on how best to tackle this priority.

Before turning to specific thoughts on paths forward, it may make sense first to outline a few key objectives for consideration with respect to any broadband infrastructure plan:

- *First*, the plan should at least account for, if not specifically leverage, what is already in place and has worked before. Creating new programs from scratch is not easy, and if a new broadband infrastructure initiative conflicts with existing efforts, that could undermine our Nation's shared broadband deployment goals.
- *Second*, there should be meaningful expectations of those who leverage any resources made available through such an initiative. Looking to providers with proven track records in delivering real results makes the most sense, but whomever receives any support should be required to show with specificity that they used those resources to deliver better, more affordable broadband that will satisfy consumer demand over the life of the network in question.
- *Third*, any broadband infrastructure plan needs to be carefully designed and sufficiently supported to tackle the challenges presented. This is a question of both program focus and program scope.
 - From a focus perspective, any infrastructure plan should aim toward getting broadband where it is not and also sustaining it where it already is; deployment of duplicative infrastructure in rural areas that are uneconomic—and may not even support on their own a single network—will undermine the sustainability of existing network assets.
 - From a scope perspective, deploying and sustaining rural broadband is neither cheap nor easy; we obviously need to recognize that finite resources are available to address any number of priorities, but any plan that calls for broadband deployment—especially in high-cost rural America—should match resources to the size of the problem to be solved.

- *Fourth*, any resources provided as part of an infrastructure plan should look to get the best return on such long-term investments. For networks with useful lives measured in decades, this should mean the deployment of infrastructure capable of meeting consumer demands not only today and tomorrow, but for ten or twenty years. Putting resources toward infrastructure that needs to be substantially rebuilt in only a few years' time could turn out to be resources wasted—and risk leaving rural America behind.
- *Fifth*, while the economics of deployment are an essential component of any infrastructure plan, a comprehensive approach to promoting deployment is required. Barriers or impediments to broadband deployment must also be addressed as part of any holistic plan to promote and sustain infrastructure investment. Put another way, the best-funded, best-planned networks may never deliver fully on their promise if they are caught in regulatory red tape and needless delay.

Any potential path forward with respect to broadband infrastructure policy should be evaluated against such criteria. As one example of a policy with promise, and as NTCA first outlined in a December 2016 letter to the National Governors Association when that group was evaluating infrastructure priorities in collaboration with the Presidential transition team, strong consideration should be given to leveraging and supplementing the existing high-cost Federal Universal Service Fund (“USF”) programs under the oversight of the Federal Communications Commission (the “FCC”) as a primary means of implementing a broadband infrastructure initiative. The USF programs have been in place for years, and the FCC has recently reoriented them under a “Connect America Fund” (“CAF”) banner to promote broadband in high-cost rural areas. The high-cost USF/CAF programs are essential both in justifying the business case for broadband infrastructure investment in the first instance, and then in keeping rates for services affordable atop the networks once they are built.

Unfortunately, these programs are also woefully underfunded to achieve their goals as designed, relegating tens of thousands of rural Americans to lesser broadband than their urban counterparts (or no broadband at all), and leaving millions of other rural Americans paying tens or even hundreds of dollars more per month than their urban counterparts do for the same broadband services. Such impacts undermine the benefit of building rural broadband infrastructure in the first instance, as well as hindering the value of broadband as a component of a broader economic development strategy. They put at serious risk the very ability of our Nation to achieve the universal service mission articulated by Congress in Section 254 for millions of rural consumers and businesses—and they will undermine the viability of a broadband infrastructure initiative if not addressed upfront.

Small businesses like those within NTCA’s membership have previously leveraged a mix of private capital, USF support, and entrepreneurial spirit to achieve an unparalleled track record of success in advancing rural broadband. NTCA members have made great strides in rural infrastructure investment, with our most recent broadband survey indicating that: (a) 71 percent of their customers already have access to at least 25 Mbps services; and (b) 49 percent of their customers already have access to “future-proof” fiber-to-the-home networks. At the same time, despite this initial track record of success by these small companies and the USF programs essential to their efforts, much more remains to be done. For example, those 29 percent of customers without access to 25 Mbps and those 51 percent of customers without access to fiber networks are almost certainly the “toughest to reach.” And while many rural consumers and businesses may be fortunate enough already to have access to broadband infrastructure comparable in quality to urban areas, it must not be overlooked that the USF programs are equally important in ensuring affordable rates for services on those networks.

The FCC’s high-cost USF programs therefore could represent a logical focal point for future broadband infrastructure initiatives. The FCC is the Nation’s expert agency in telecom policy, and it is already tackling the broadband challenges described above with respect to availability and affordability. Moreover, recent USF reforms adopted by the FCC have sought to: (1) reorient the programs toward broadband, (2) ensure funding is targeted to where it is needed (*i.e.*, to places where the market does not enable service delivery on its own), and (3) define what the FCC considers an efficient level of support in each area. The reformed program rules now compel significant accountability, to the point that support recipients must meet specified deployment obligations and literally geocode every new location to which they deploy broadband leveraging USF support. The FCC is also working to finalize rules that make USF resources in wide swaths of rural America available for companies of all kinds—cable companies, traditional telcos, wireless Internet Service Providers,

and satellite providers—to leverage in making the business case for rural broadband investment and service delivery. Although some implementation efforts remain ongoing and some questions remain outstanding, and while some minor conforming changes would likely be needed to implement any resources available as part of a new broadband infrastructure initiative, it would seem more straightforward to coordinate any new initiative as a supplement to such existing programs than to stand up an entirely new program from scratch and then attempt “on the back end” to coordinate that new program with ongoing efforts.

Indeed, as NTCA has recently described in filings at the FCC and elsewhere, additional broadband infrastructure resources, if flowed through the high-cost USF programs, could achieve immediate and compelling effects given significant and troubling current budget shortfalls in those programs. For example, providing additional resources to allow the FCC’s cost models and competitive bidding programs to function as designed could yield measurably improved delivery of broadband to tens of thousands of additional locations at higher speeds, and help deliver service to many more who currently face the prospect of no broadband at all. Industry estimates show that 71,000 more households would be the beneficiaries of better broadband infrastructure if the FCC’s cost model were funded as designed, while 47,000 households are currently at risk of receiving no broadband at all due to a lack of sufficient support.

Meanwhile, in other rural areas, additional resources could mitigate the fact that millions of rural consumers are still forced to pay tens or even hundreds of dollars more per month for standalone broadband than their counterparts in urban areas—*despite the fact that hundreds of Members of Congress wrote to the FCC in 2014 and again in 2015 expressly asking for this concern to be resolved*. Despite recent reforms to ostensibly fix this problem, NTCA estimates that due to USF controls that require more cost recovery from rural consumers, some consumers in Colorado could face rates as high as \$300 per month for broadband, while some in South Dakota could be facing charges over \$275 per month. From an infrastructure perspective specifically, it is far harder to justify future investments in broadband networks when consumers face prices such as these and cannot reasonably afford the services once delivered. These are concerns common to many rural consumers, and they are particularly acute of course in areas with significant rural poverty levels and tribal areas.

The FCC’s various high-cost USF programs—the Connect America Fund 2 initiative and the programs that enable service delivery in rural areas served by smaller businesses—therefore offer a ready-made platform that, with additional resources but with very little additional “heavy lifting” or process, could “hit the ground running” and yield immediate, measurable benefits for rural consumers. Other options could include alternative grant or capital infusion programs, comparable to what several States have used to address “market failure areas”—places where the business case for investment is difficult, if not impossible, to make without additional resources. At the same time, creating such programs would require more administrative effort than leveraging existing programs, and the rules for any such new program must still be informed by the objectives I first articulated above and any “lessons learned” from similar prior efforts at the Federal and State levels. For example, as a matter of program integrity and to ensure the most efficient possible use of resources, it would be necessary to ensure such a capital infusion program is accurately targeted to unserved areas rather than enabling installation of duplicative infrastructure; in effect, this means that any new program would still require substantial coordination with the existing USF programs, among other things. And although some have alternatively touted tax incentives as offering promise—and while there are certainly areas in which such incentives might help—such measures are unlikely to make a material impact in most rural areas where distance and density make it difficult, if not impossible, to justify a business case for infrastructure investment to start.

Regardless of what path is chosen, one key factor that requires further consideration is what sorts of broadband networks any infrastructure investment initiative should aim to promote. NTCA believes that if one is paying for and building an asset intended to last for a few decades, that asset should be built to last a few decades. Of course, in a world of finite resources, there is a difficult tension between, on the one hand, trying to reach as many unserved Americans as possible with networks that may cost less upfront and, on the other hand, deploying more sustainable “future-proof” networks to potentially fewer locations. This is not an easy choice. But NTCA submits that deploying a network that may be less expensive upfront—but which consumers will find substandard in just a few years’ time, or will require much more to operate and upgrade over time—makes little sense for either

the consumers who would use those networks or the American ratepayers or taxpayers who would ultimately help support them.

As a more traditional infrastructure analogy that may resonate: if one projects that car traffic is doubling every few years on a single-lane road, one likely does not rebuild the new highway with only two lanes and then go back to add two more lanes a few years later and yet two more lanes a few years after that. Instead, given the relatively high costs of infrastructure deployment and the disruption involved in repetitious construction, one builds the highway “the right way” the first time. The same should be true of our broadband networks. We should certainly look for a balanced approach to reach as many locations as possible, but not at the societal and economic cost of deploying networks that in only a few years’ time will look obsolescent and inadequate for the users consigned to them. It is therefore important that any rules adopted by the FCC to address distribution of any supplemental USF resources that may be made available through a broadband infrastructure initiative deliver the best, most balanced payback for both the American taxpayer and the users of the networks—*both* in the near-term *and* over the life of that infrastructure.

Finally, even given the significance of sufficient resources to ensure reasonably comparable services for rural and urban Americans alike, we must not forget the importance of streamlining and/or elimination of regulatory hurdles to and burdens upon deployment as part of any comprehensive broadband infrastructure initiative. In South Dakota, for example, a small rural provider’s multimillion-dollar fiber deployment requiring Forest Service approval encountered permitting holdups delaying completion of the project more than a year. In Utah, providers have faced construction delays due to inter-agency permitting disagreements between the Bureau of Land Management and the U.S. Department of Transportation. Other NTCA members have raised concerns about the need for inefficient and repetitive National Environmental Policy Act studies. Delays can also be caused by confusion regarding control of the rights-of-way for State roads. Meanwhile, increased or unreasonable costs for franchise rights and pole attachments can turn already high-cost rural infrastructure projects into unjustifiable or unsustainable investments.

Such roadblocks, delays, and increased costs are particularly problematic for NTCA members, each of which is a small business that operates only in rural areas where construction projects must range across wide swaths of land. There are, of course, many efforts already underway to examine and address such concerns. For example, the Mobile NOW legislation introduced by Chairman Thune and Ranking Member Nelson highlights the significance of streamlined permitting and siting in a national broadband deployment strategy. Similarly, FCC Chairman Ajit Pai’s “Digital Empowerment Agenda” contains many thoughtful suggestions on how “to make it easier for [Internet Service Providers] to build, maintain, and upgrade their networks,” ranging from greater scrutiny of local franchising regulations to ensuring reasonableness in the costs for pole attachments. Chairman Pai’s recent announcement of the formation of a Broadband Deployment Advisory Committee also represents a meaningful step in evaluating and taking real action on these issues. Continued progress in consideration and implementation of such ideas must be seen as an essential component of a holistic broadband infrastructure initiative.

Conclusion

Small, rural broadband providers are eager to continue deploying infrastructure and delivering services that rural America needs to participate in the modern world. But the ability to justify and then recover the initial and ongoing costs of sustaining infrastructure investment in high-cost rural areas is critical to this mission’s success.

NTCA is excited to participate in this conversation regarding broadband infrastructure initiatives, and we look forward to working with policymakers and other stakeholders on a comprehensive infrastructure strategy that provides the tools and capabilities needed to achieve our Nation’s shared broadband goals.

Thank you for the opportunity to testify, and for the Committee’s commitment to creating an environment conducive to broadband infrastructure investment in rural America.

The CHAIRMAN. Thank you, Ms. Bloomfield.
Mayor Levine.

**STATEMENT OF HON. PHILIP LEVINE, MAYOR,
CITY OF MIAMI BEACH**

Mayor LEVINE. Good morning. I would like to thank, first of all, Chairman Thune, thank you so much, Senator Nelson, and the entire committee for extending this invitation to testify before you today.

I am Philip Levine. I'm the Mayor of the City of Miami Beach, and I would like to share my unique experience and my knowledge on behalf of our city, where I have had the privilege to serve as Mayor for the past two terms.

Miami Beach is truly one of the most diverse cities in the country, one of the top destinations for tourists, and a key link between North and South America.

For over 40 years, I have proudly called Florida my home, having built a number of successful businesses in my community as an entrepreneur.

In my tenure as Mayor, I believe there are three topics that are crucially important to improving local infrastructure, not just for Miami Beach and for Florida, but for communities across America.

First, local communities face a challenge of resiliency. How can we build infrastructure that can last for future generations? In Florida, our Nation's third largest state, resiliency is a major issue. Along our shoreline, climate change is not just a talking point, but an immediate threat to communities up and down the coast. This is doubly true in South Florida, where the porous limestone base and low topography make our communities especially vulnerable to sea level rise.

Before I took office in Miami Beach, streets were frequently flooded on sunny days, with saltwater surging out of city drains due to king tides and elevated groundwater levels. Until recently, it was common to see residents sandbagging their local businesses or taking off their shoes to wade through knee-high water to access their homes or places of work.

With requests for Federal and State assistance frozen in permanent gridlock, we took bold, innovative, and immediate measures to protect the city and build resilience, using local funds to physically raise roads, install storm pumps, and build higher seawalls to keep our streets both dry from rain and tidal waters. The climate change crisis required immediate action and swift investments in our community, which prevented us from going through the often slowed Federal process.

A second challenge our local communities face is connectivity. The more connected we can make our major metropolitan areas, the better we're able to unlock our state's potential and attract more visitors and businesses. Plans to better connect Miami and Miami Beach, where over 300,000 vehicles go back and forth per day, have been in the works for decades. It was only recently that we have made some progress with a public transit option connecting mainland Miami and Miami Beach through the SMART plan, and not without a fight, and it is still many years in the future.

Currently in Florida, we are finishing construction on a high-speed rail system, the Brightline, which will connect Miami-Dade with the metropolitan area of Orlando. Soon, Miami residents and

visitors will be able to easily take a trip to Disney World, while Orlando residents and visitors can travel down to our beautiful beaches. I believe these efforts are a great beginning and will be a boon for our state and local economies.

However, whether in building resilience or creating connectivity between our cities, local governments can't do it alone. In Miami Beach, for instance, we need our Federal Government to be committed partners in protecting the assets and private property of our residents and businesses. By the year 2050, 25 percent of our streets will be below the projected high tides. We have defined about \$500 million of drainage improvements necessary to address flooding, but we still stand \$300 million short to complete these upgrades.

In the next 50 years, the U.S. Army Corps of Engineers estimates that Miami-Dade County will need over 23 million cubic yards of sand. Our beaches are a major economic engine in Florida, and annually draw tens of millions of tourists from around the world. There is no question that ignoring these challenges will only leave our community with losses, leaving residents and businesses with the suffering.

This leads me to my final and most significant point. We desperately need a renewed commitment between the Federal Government and local governments. The future of Florida's resiliency in transportation will not be determined only through local funding and efforts, but through a partnership between our cities and the Federal Government in Washington, D.C. It's time that the Federal Government appreciates that Connecting Cities is the future that will define the success stories so many Americans are craving.

A common refrain I hear from the mayors in Florida and mayors from around the country, is that the current Federal process, when it comes to urgent and ambitious infrastructure projects, is broken and frustrating. We are unable to get the help that we need from the Federal Government because the levels of analysis paralysis often slow down the opportunity for progress.

So where do we go from here? How can we advance bold, innovative long-stalled projects at the state level? The answer comes down to a real emphasis on Connecting Cities. We need the Federal Government to connect directly with municipalities and empower local governments to move projects through the Federal Government with speed and determination. We need to accelerate the review process, expedite funding mechanisms, and collaborate on the permitting requirements.

I understand there is, and will continue to be, a debate whether projects should be funded through public or private investment. However, I think if you asked mayors around the country, they would say that solutions should drive the discussion, and getting to yes on infrastructure investments must be the guiding voices.

Bridges, tunnels, and airports are not Republican or Democrat. When your constituents are stuck in traffic for hours at the end of a long workday on a clogged causeway, they're not asking themselves if that new bridge, tunnel, or transit system is going to be funded through Federal, state, or private funds. They just want an easier commute so they can get home to see their families.

This June, Miami Beach will be hosting the United States Conference of Mayors. Mayors across the country, both Republican and Democrat, will gather to work to solve the pressing issues of our communities. We have extended an invitation to President Trump and Vice President Mike Pence to speak and listen to the mayors, to learn about what frustrates us and what can be done together to fix our cities, and to hear their plans to rebuild our Nation's infrastructure post-haste.

One of my favorite proverbs, which I often quote, comes from Ancient Greece. The Greeks claimed that a society can only grow great when it plants trees whose shade they may never see. In our cities today, not only are we unable to plant the trees, but due to excessive regulation and bureaucracy, we can't even dig the holes to place the seeds.

Infrastructure is the backbone of our local and national economy. It determines where companies locate and where jobs are created. In the recent infrastructure plan submitted by Senator Nelson and Senate Democrats, their plan would create 15 million new jobs around our country. I would implore the Committee that if we are to build better infrastructure in states like Florida, we must find ways to fix the process so we can build a brighter, more interconnected, and more sustainable future. Let's have our Federal Government truly connect cities in the 21st century.

Thank you for this opportunity.

[The prepared statement of Mayor Levine follows:]

PREPARED STATEMENT OF PHILIP LEVINE, MAYOR, CITY OF MIAMI BEACH

Good morning! I would like to thank Senator Thune, Senator Nelson and the entire committee for extending this invitation to testify before you today. I am Philip Levine, Mayor of the City of Miami Beach and I would like to share my unique experience and my knowledge, on behalf of our city, where I have had the privilege to serve as mayor for the past two terms. Miami Beach is truly one of the most diverse cities in the country, one of the top destinations for tourists and a key link between North and South America. For over 40 years, I have proudly called Florida my home, having built a number of successful businesses in my community as an entrepreneur.

In my tenure as mayor, I believe that are three topics that are crucially important to improving local infrastructure, not just for Miami Beach and for Florida, but for communities across America.

First, local communities face a challenge of resiliency: how can we build infrastructure that can last for future generations?

In Florida, our Nation's third largest state, resiliency is a major issue. Along our shoreline, climate change is not just a talking point, but an immediate threat to communities up and down the coast. This is doubly true in South Florida, where the porous limestone base and low topography make our communities especially vulnerable to sea level rise.

Before I took office, Miami Beach streets were frequently flooded on sunny days, with saltwater surging out of city drains due to king tides and elevated groundwater levels. Until recently, it was common to see residents sandbagging their local businesses, or taking off their shoes to wade through knee-high water to access their homes or places of work.

With requests for Federal and state assistance frozen in permanent gridlock, we took bold, innovative and immediate measures to protect the city and build resilience, using local funds to physically raise roads, install storm pumps, and build higher sea walls to keep our streets dry from both rain and tidal waters. The climate change crisis required immediate action and swift investments in our community, which prevented us from going through the often-slowed Federal process.

A second challenge our local communities face is connectivity. The more connected we can make our major metropolitan areas, the better we are able to unlock our state's potential and attract more visitors and businesses. Plans to better connect

Miami and Miami Beach, where over 300,000 vehicles go back and forth per day, have been in the works for decades. It was only recently that we have made some progress with a public transit option connecting mainland Miami and Miami Beach, through the SMART plan, and not without a fight and it is still many years in the future.

Currently in Florida, we are finishing construction on a high-speed rail system, the Brightline, which will connect Miami-Dade with the metropolitan area of Orlando. Soon, Miami residents and visitors will be able to easily take a trip up to Disney World, while Orlando residents and visitors can travel down to our beautiful beaches. I believe these efforts are a great beginning and will be a boon for our state and local economies.

However, whether in building resilience or creating connectivity between our cities, local governments can't do it alone. In Miami Beach, for instance, we need our Federal Government to be committed partners in protecting the assets and private property of our residents and businesses. By the year 2050, 25 percent of our streets will be below the projected high tides. We have defined about \$500 million of drainage improvements necessary to address flooding, but we still stand \$300 million short to complete these upgrades. In the next 50 years, the U.S. Army Corps of Engineers estimates that Miami-Dade County will need over 23 million cubic yards of sand. Our beaches are a major economic engine in Florida, and annually draw tens of millions of tourists from around the world. There is no question that ignoring these challenges will only leave our community with losses, leaving residents and businesses with the suffering.

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A common refrain I hear from mayors in Florida, and around the country, is that the current Federal process, when it comes to urgent and ambitious infrastructure projects, is broken and frustrating. We are unable to get the help that we need from the Federal Government, because the levels of analysis paralysis often slow down the opportunity for progress.

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sustainable future. Let's have our Federal Government truly connect cities in the 21st Century!

Thank you for your time.

The CHAIRMAN. Thank you, Mayor Levine. And we appreciate that perspective from a city, particularly a big city, an area where we've got a lot of population and lots of infrastructure challenges and needs. So thank you for sharing that.

We did have—the vote has been called. We're going to do our best to stagger this so that we can cover it. Senator Blunt is going to go vote and hopefully come back and be able to take over the gavel for a while as we try and do our best to keep rolling.

So I'm going to start.

I want to ask, Governor Daugaard, you noted that the programs authorized under the FAST Act ensure both rural and urban participation in our Nation's surface transportation programs. Could you elaborate on the advantages of using existing authorized programs under the established formula shares in comparison to new policy designs or to a project-specific approach?

Governor DAUGAARD. Sure. Thank you, Senator. Well, first of all, the existing formula under the FAST Act is established, and it balances urban and rural needs. I talked about how the states in rural areas are the bridges between the more urban areas. To put a number to that, almost 70 percent of the truck traffic on South Dakota's interstates neither originate nor terminate in South Dakota, so we are truly a bridge between places outside South Dakota. And so when you have a formula, as the FAST Act does, that accounts for that, that's a good way to be sure that urban and rural balance is achieved and that rural investment does indeed help the urban areas because they need us.

Second, the formula system allows the state to choose the priority project. In discretionary funding, you've got to compete for grant projects. In a small state like South Dakota, we don't have big projects that are real sexy and get a lot of attention, and yet we know we have needs and we can prioritize those needs locally in the best way. So the formula system allows the state the discretion to choose the project that they want to attack first.

And, third, with a system that's already in place, you can more quickly deploy money. There's a sense of urgency offered by everyone here on this panel that things need to get done. And new systems, new approvals, new patterns, slow that down, and so using the FAST Act approval process and a quicker established system gets the money out the door and the projects built more quickly.

The CHAIRMAN. Thank you, Governor.

Ms. Bloomfield, the 2009 stimulus bill included tens of billions of dollars for infrastructure, which President Obama promised would be shovel-ready, and before long, "shovel-ready" had become kind of a punch line. But if Congress were to steer any additional funds toward broadband, how can we make sure that we do not repeat some of those mistakes and ensure that the taxpayers get real value from any digital infrastructure spending?

Ms. BLOOMFIELD. Senator, that's a great question. And a couple of things. There were definitely some projects that got funded through stimulus that made sense, but I think we learned some

really important lessons from stimulus, and that was there were projects that were duplicating existing infrastructure.

When you've only got resources that can go so far, you've really got to maximize what you have. So I think there are some lessons learned in terms of ensuring that you're actually putting money to those providers who actually know what they're doing.

Broadband is actually pretty hard business. People underestimate until they get into the business of how complex it can actually be. But that's why we really think if we look at the universal service program, the FCC has spent the last 5 years reforming this program, you actually have something in place that deals with rural areas that are served not only by my companies, by the larger companies, where, frankly, it is just simply uneconomical to provide broadband service when you've got 7 to 10 customers per mile of wire. Taking an existing program like that that has been established that actually also under the Connect America Fund Round 2 will actually be open to all providers where technology may make the most sense. So it may be a traditional broadband provider could be a satellite, it could be a wireless entity, the ability to kind of maximize what we have.

So again I think the beauty is we've learned some lessons from the last go-round, and we have some programs that are simply ready to go.

The CHAIRMAN. Thank you.

Director Braceras, as you mentioned in your testimony, technological advancements are going to change the way we travel and how we move goods. And given Utah's leading role in vehicle technology, how can we, at the Federal level, best utilize and promote these types of innovations for the increased safety and efficiency of our transportation system and its users?

And I would point out that last year on the highways, I think we lost 38,000 people. And it strikes me, at least, that 90 percent of those, they were human error, it was driving under the influence or distracted driving. So some of these new technologies it seems to me could save a lot of lives.

But could you talk a little bit about that and how you see these new technologies not only creating efficiency, but hopefully creating more public safety?

Mr. BRACERAS. Yes. Thank you, Mr. Chairman. We're really excited about the opportunities, and, in fact, we feel an unbelievable urgency to try to be facilitators to implement the technology because the benefits are going to be truly amazing. We're going to—94 percent of all crashes are human error, and when you consider that in Utah last year we lost 280 people on our roadways, if we could eliminate human error, we would have had 18 deaths on our roadways. I mean, so that's what's leading me to feel a lot of pressure to try to help implement the new technologies.

For us, we're convinced it's going to be a combination of not only these autonomous vehicles, but connected vehicles, so connecting vehicles to our infrastructure. And, in fact, we started a process in the 1990s of wanting to connect our traffic signals. And what we decided at that time is we wanted to have one traffic signal system in the entire state of Utah, not a system for every city, county, or state. And so today, we have 88 percent of every traffic signal con-

ected to our fiber optic backbone, and not only can the state control all those signals, but every city and county can as well. We let everyone have that ability. We've done this through public-private partnerships with our telcoms. So we exchange value for value with our telcoms our right-of-way, and what we do is we've been able to not only connect our signal at costs that we could not afford, but we also have pushed fiber optic and broadband access into our rural communities that never would have had it if we did not take that approach.

So being able to help states facilitate that type of partnership, working with some of the Federal regulatory agencies, that we have easements through a lot of properties, through the BLM and others, so helping work with them where we don't own the right-of-way, but we have easements to help them see that vision as well would be very helpful.

I think it's going to be important for us to protect the DSRC spectrum. We call it the safety spectrum. For us to realize these benefits, these cars have to talk to cars, the cars have to talk to the bridges, they have to talk to the stop signs. They have to have complete interconnection between it. And so we're convinced that being able to protect the DSRC spectrum is going to be one of those tools that we're going to have to have in order to be able to achieve these real benefits in the future.

Thank you.

The CHAIRMAN. Thank you, Mr. Braceras.

Senator Nelson.

Senator NELSON. I'll ask just one question so Senator Klobuchar can get in a question before we go vote.

Mr. Mayor, you're one of the superstars. The country is going to increase in population over the next 30 years by seventy—7-0—million people. Share with us the reason that it's important that we invest now for the future and also it's important for the cities.

Mayor LEVINE. Thank you, Senator. You know, I only wish that previous administrations in South Florida had invested in infrastructure 30, 40 years ago, and we wouldn't be dealing with roads that are underwater today. And like that Greek proverb I said, "the things we do today are for future generations, it's about making an investment." As an entrepreneur, I know that when you make investments, if you plan them and you think them through, they'll pay off.

I know as a mayor, and I talk to my fellow mayors across the country, the big issue that they have, of course, is that they want to plan these projects, they want to move them forward, but the inability to break through the Federal process, which is so challenging, it's probably like the hardest, most challenging, most difficult SAT question in this history of scholastic testing. OK? No one can get the answer. No one can figure it out. Everyone talks the talk, but no one can walk the walk.

So if the Federal Government would somehow figure out a system where they could I'm not saying bypass the states, but go directly to the communities, go directly to the mayors and the local municipalities, we're going to see more projects get done, and when it comes to transportation, whether you want to create an infrastructure of startups and communities and businesses, what do

millennials, what do people want? They want infrastructure. They want public transportation. And this requires investment.

I love public-private partnerships, I think they're fantastic, but it's like anything else. I don't care what business, who it is in a P3, show me the money, because if it doesn't make sense economically, there's not a P3, private company, in the world that's interested in getting involved. Someone has to pay for it.

I'm sure when President Eisenhower came about and was going to do our Interstate Highway Act, he didn't say, "Let's go find some private companies to go build the interstate highways," because there was no money to be made to do that unless you were a building contractor.

So we have to be realistic about this. But from a mayor's point of view, let's invest, but let's get the Federal process down to a science where mayors and communities and municipalities can access it without being stuck in the state capitals. Thank you.

The CHAIRMAN. Thank you, Senator Nelson.
Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you so much. And thank you, Senator Nelson, for giving me a few minutes of your time. And I also want to thank you, Senator Nelson. We've worked together on the 9-1-1 draft.

Ms. Bloomfield, you know how important that will be as part of broadband. I chair the—co-chair the 9-1-1 Caucus, and so we've been working on that, and I'll ask you a question about that on the record.

I just think this is a really exciting time for broadband because we've got the Administration putting this as a priority, now Secretary Ross, in this hearing, said that he believed it should be part of—in his nomination hearing—infrastructure. We've got Democrats and Republicans here really geared up for the Broadband Caucus, we even have a logo. And I think that there has just been this increased interest, as Senator Thune knows, from the public for not just having access to Internet, but having high-speed Internet because they need it to run their businesses, as the Mayor knows.

So just quickly, the NTCA announced the Smart Rural Community program. Could you just quickly describe that to me? And then I'll put my other questions on the record.

Ms. BLOOMFIELD. Senator, thank you. So I know you had a chance to meet with some of the broadband providers last week to talk about what's going on in Minnesota—

Senator KLOBUCHAR. And with Collin Peterson. That was—yes.

Ms. BLOOMFIELD. Very exciting. So our Smart Rural Community, you know, we have—our penetration is about 71 percent of rural citizens that are served by my member companies that have access to 25/3 capability, and about 50 percent have fiber to the home. It's not just about getting the broadband out there, but particularly rural constituencies, is teaching them how to use the broadband. Why is it more than just fast e-mail? You know, what can you real-

ly do to bring community service, economic development, jobs, opportunities?

So with the Smart Rural Community, which we actually have a number of communities in Minnesota that are Smart Rural Communities, it is taking the entire community and bringing them around to, what can broadband actually facilitate? It's getting the local mayors involved. It's getting the local transportation folks, public safety, and kind of gathering around the applications that can be really empowering.

So we've been able to designate it, and what we're finding is it's a great way to share the story of success. It's also a great way to make sure that people understand that when you go to rural America, you're not entering a backwater, you're entering incredibly vibrant communities, great places to raise your children, great infrastructure, great workforce, and it's a way to celebrate that.

So even as you enter into these communities, they've got highway signs, "You're entering a Smart Rural Community." When you think about locating jobs, when you think about bringing companies into those communities, the first thing on their checklist is whether you've got broadband. And we're able to celebrate the fact that we do, and it's important to keep it.

Senator KLOBUCHAR. Thank you so much.

Ms. BLOOMFIELD. Thank you.

**STATEMENT OF HON. ROY BLUNT,
U.S. SENATOR FROM MISSOURI**

Senator BLUNT [presiding]. Thank you, Senator Klobuchar.

Governor Daugaard, let's talk a little about the challenge that you may see, and then I think we'll go with the same question, a follow-up on this to Mr. Braceras, which is we think—what kind of obstacles would you remove for small states and small communities to have a better chance to share in the Federal money and programs that are available? Or do you feel like there is no obstacle there?

Governor DAUGAARD. Well, I think the FAST Act improved things. I think with the Continuing Resolution, some of the funding that was intended to be accessible through the FAST Act is yet out of reach. And some of the improvements in safety are yet unavailable. But the first thing that would be most near-term, I guess, would be to get a full budget year, get the FY17 budget finalized. That would help.

The concern that small states have again originates in the proposals that are seen in various—the President's proposal, others, that talk about P3s or other tax credits, or other ways to leverage private funding. And in small states, there's just not enough traffic to put a toll on and create a revenue stream that would repay the principal and interest required to attract investment. And there is just not enough local—there's not enough population to spread that among even the population of the state.

As I mentioned earlier, almost 70 percent of the truck traffic through South Dakota doesn't start in South Dakota, doesn't end in South Dakota, we're a throughway for that, and that's above the national average. So we're a heavily used bridge between other more urban parts of the Nation.

We also, though, are an originator of egg products. We have enough corn and wheat and soybeans and sunflowers to fill a million 18-wheelers every year. And so those 18-wheelers generally bring that produce to processors or to rail, and they're railed out from there. But we need roads to get to the rail because not every rail line reaches to every farmer's field.

So I would say the key element that I want to emphasize again is the formula methodology that's employed in the FAST Act should be retained. The FAST Act should be put into the FY17 budget in final form.

And then the Highway Trust Fund after 2020 needs to have a stable source of funding by some means. As Senator Thune mentioned in his opening remarks, we went quite a long time before we had a highway act, before we had the FAST Act, and we had multiple short-term extensions. And in a state like South Dakota, where we have a very short construction season, that made it very difficult for us to contract for projects, not knowing if the funding would be there.

So those are my thoughts. Thank you for the question, sir.

Senator BLUNT. Mr. Braceras.

Mr. BRACERAS. Yes, thank you, Senator. I'm not going to repeat what the Governor said. I would echo a lot of his comments. Let me start off with this thought. We hear a lot about the regulatory hurdles to delivering our projects, and let me just give you an idea of how we quantify that in Utah. We do an exchange program. And so what we do is where we have the state money available, we will exchange state money for Federal money, and we have local governments lining up to do this at 85 cents on the dollar, and we do this at a program level and at a project level, and this helps our local governments deliver projects. These local governments and rural communities are not doing Federal projects, you know, hundreds of them a year, as state DOTs do it.

Senator BLUNT. So you take some state money and allow that to be part of a local match?

Mr. BRACERAS. We exchange it out completely. So if a local government had a \$10 million project that was funded, we would give them \$8,500,000 for that project. They feel they're getting a steal for that.

So I'm just giving you some idea of how our communities are quantifying the regulatory hurdles that they have to go through, especially when you're not doing it, like I said, on hundreds of projects a year, as we are doing as a state DOT. So we will Federalize projects that we wouldn't do in the past. We tend to move that money towards fairly simple maintenance-type projects to limit the regulatory burden on that.

So that gives you maybe some sense of how hard this is for some of our communities to deal with the Federal requirements.

Now, I'm going to propose a thought that I'll say it—you can say it's a Carlos thought here, it's not representative of anyone behind me, but I would really like to see the Federal Government actually turn to states and allow states to certify that they've complied with all the rules and regulations as opposed to having to go and ask them, "Mother, may I?"

Let us work on a certification basis, and we could take the risk that we have complied properly, but I believe we can streamline things tremendously. And this is very similar to how NHTSA deals with the automobile manufacturers.

Senator BLUNT. Governor?

Governor DAUGAARD. Well, I was just going to comment that the system that Utah uses to relieve local governments from the Federal regulatory burden is also used in South Dakota. That's a signal I think that the regulatory burden on local governments is too great, and just as in Utah, South Dakota does not give dollar-for-dollar value. We're giving essentially less state money than the local would get in Federal money, but they're happy to get less money to be relieved of the burden because it's too burdensome for them, too onerous, and they're afraid that they will make a mistake and they'll use the Federal dollars inappropriately or—

Senator BLUNT. So you not only help with the application process, but also then with the—you become the monitoring, part of that monitoring, of how the money is spent?

Governor DAUGAARD. Well, actually, what we do is we just give them state dollars and we say, "You spend this in a way that you believe is appropriate for safety, for traveling, for durability, for the standards you want to achieve in your local areas, and we'll take the state and the Federal dollars and we'll use them in ways that meet Federal regs at the state level."

So the locals are no longer even using the Federal dollars, they're just using State dollars, which they can deploy without this measurement and reporting and without all the regulatory burden.

So the distributions to the locales with the Federal strings, they don't even want the money at that level, they'll just give it up at 85 percent on the dollar to the states because they're afraid to make mistakes in dealing with the Federal regs. We're doing that in South Dakota just like Utah is.

Senator BLUNT. And in terms of permitting, both from a state-wide perspective, let's say like Utah, Mr. Braceras, and then, Mayor, from your perspective, we've done some things where we can expedite highway construction. The Chairman and I worked together to put similar language in the FAST Act for rail construction. But how do you see permitting as it holds back what otherwise your state and your community are ready to do? And if it's not a problem, I would be glad to hear that, too.

But, Mr. Braceras.

Mr. BRACERAS. Yes. We would be very happy to work with this committee and with your staff, Senator, on—you know, we believe that there are enhancements that we could make at the policy level, at the regulatory level, and at the statutory level to make improvements to that regulatory process. There are duplicative processes that states and local governments need to deal with, and we believe we can still achieve great outcomes, we can speed up the process, we can put more of the public's money out on the road to work, and spend less of it dealing with regulatory burdens. And I could go through a few details, but there are absolutely improvements we could make at all three of those levels that would help our local governments, our rural communities, be able to deploy

projects faster and actually generate the safety and mobility benefits that we're trying to achieve.

Senator BLUNT. Yes.

Mr. BRACERAS. At the end of the day, we need to get these projects out on the ground as fast as possible.

Senator BLUNT. Well, Mayor, the same thing. As you decide something needs to be done, do you see needless obstacles between that moment and actually getting started to work?

Mayor LEVINE. Yes, Senator, and that's the big issue I think it comes down to. Local governments, I don't care how big the city is, it becomes so overburdensome, so—a massive wall that you literally can't get across because you can't figure out how to navigate the Federal Government. And then, for example, in our state, it's two separate entities.

So you're dealing with the state, you're dealing with the Federal Government, and what ends up happening in local politics is—you all may remember—is that people have limited attention spans, they have limited terms. So who is going to start getting involved in a process and a project that's going to require Federal Government help and state? By the way, you may be long gone as mayor or commissioner or whatever it is that you are, you're not going to even attempt it. It's so overwhelming that you don't want to go there.

And one of the suggestions I would have possibly in this committee, and I would invite, as the host mayor, every mayor in America will be pretty much down at Miami Beach June 23 to June 26, the U.S. Conference of Mayors we're hosting, and I know infrastructure is the key most important aspect to most mayors right now. And to have this type of setting in Miami Beach during the U.S. Conference of Mayors, to listen to the mayors and go back and forth, the amount of insight you're going to get from the ground up to understand the obstacles of getting these projects done I think will be really, really enlightening for the Senate.

Ms. BLOOMFIELD. And, Senator, if I could just interject as well. It's really important to broadband providers as well. And as folks talk about the FAST Act, and while we're not transportation entities, we do cross a lot of conduits.

So right now FAST Act is set at about a \$200 million level in terms of expediting some of that. You know, our projects are a lot smaller than that, so I think there needs to be some flexibility.

But absolutely, as folks do their assessments on where they're going to do broadband builds, they're looking at what it's going to take, how many hurdles they're going to have to go through, and how do you, as all of my fellow panelists have said, how do you synchronize your local, your state, and your Federal permitting process? It is absolutely critical.

Senator BLUNT. And in terms of let's talk a little bit about the broadband type applications to even transportation. Are you beginning to look any or all of you, as you're—if you've got a building project, looking in the future of vehicles that need broadband more than they—of putting that in projects? Do you want to—

Ms. BLOOMFIELD. Carlos is jumping to jump in on that one, but let me just say, to do all the great Internet of Things, you know, the Smart Cities, the Smart Highways, you really need the

broadband. So you kind of need that underlying infrastructure to do the things that I think are going to be so important and so innovative and critical for the economy as well as public safety to actually have the infrastructure out there.

So I look at, for example, the folks I serve, they cover about 40 percent of the land mass, 5 percent of the people. So you've got to be willing to take that infrastructure across a long way. And I look at the states of Utah and South Dakota, you're talking about a lot of stretches where there's a lot more land than there are people.

So, again, I look at my role here is we're the underlying infrastructure provider to do some of the applications that will be important.

Mr. BRACERAS. Senator, I spoke a little bit about this earlier, but we've had since, let's say, 1997, 1998, the policy that we want to dig once. And so every single project we do, we're going to put in either fiber, we'll either try to get dark fiber in there, or we'll just put an empty conduit in, and when you're putting in empty—if you're doing a pavement job in the middle of the desert and you've got 200 miles between cities, and you're doing 10 miles, and you're putting in conduit, just 10 miles, and then you're capping the ends of it, we did that with state money, it wasn't federally eligible at the time.

Well, what we have today is we have value that we've invested over the last 20 years that we're exchanging value for value with the telcoms, and we've been able to push fiber optic, and we did it selfishly. We did it to connect our traffic signal system to be more effective at moving vehicles, but what we've been able to do now is push broadband into rural parts of our community where Utah now is a very connected state, and through this public-private partnership.

But we took a risk, we took an absolute risk, that fiber optic was still going to be the technology needed at this point in time, and it's paying dividends for us right now.

Senator BLUNT. Governor, you're doing the same—are you doing anything like that in South Dakota?

Governor DAUGAARD. I can't say we're following a dig once policy in that sense, and we don't have any traffic like interconnectedness plans or effort underway.

But I will say one thing that we also share with Utah is a lot of public land. And so, as was mentioned earlier, both getting across public land, having the permission to do that, through an easement, that's important, and to the extent that that can get tied up sometimes in bureaucracy, that's a limiting factor.

And also the dollars. When you're talking about allocation between rural and urban states, you have to remember that in a lot of the rural, especially the western states, you've got large swaths of Federal property that can't be taxed, that people don't live on, or just live near, and yet we need to cross those lands and pay for the crossing and pay for the materials and the construction, and it benefits people at either end. So we need help in rural states just in the same way where a bridge in our highway system to more urban areas, those Federal lands act as a bridge between non-Federal areas and their communication needs.

Senator BLUNT. Yes. And, Mayor, on that topic of broadband, are you, either in your infrastructure that you're responsible for or in your building permit to new facilities, how are you dealing with that?

Mayor LEVINE. Well, Senator, I could tell you that before we get deep into broadband, we kind of want to—we kind of have to drain our city a little bit because as we puncture down, we hit sea level rise pretty quickly. So we're more focused right now on making sure our streets are high and dry and putting in pumps on our own.

But, of course, broadband is crucial, it's key, because all this interconnectivity, we all know it, this is what drives entrepreneurs, it drives business. This is what creates a 21st century society. We've done everything we can on a local level to make the process as easy as possible, but, once again, that goes up to the state, and the state has more control over these issues for the city.

Senator BLUNT. Yes. My last question, Ms. Bloomfield, would be FCC also reports to this Committee. Are there issues there that are particular obstacles, or are there issues that are being moved out of the way now by the new Chairman that we should know about?

Ms. BLOOMFIELD. We've been very impressed at how quickly Chairman Pai has been moving. So I think there are a few things to your question, Senator, and I appreciate it.

One, a lot of members of this committee about two years ago had really imported the importance of actually having rural consumers be able to afford standalone broadband, the idea that if you aren't taking a voice service, you could actually at least be able to access affordable broadband service, we call it standalone.

And one of the things that we have seen is the Universal Service Reform is just being completed over at the FCC. There are a few things that hopefully will be cleared up. And they put a new model in place, a lot of accountability, a lot of effort to ensure that there is affordability and sustainability in terms of broadband that's offered to consumers.

The problem is it's like having a car that has been built, but not enough gas to put in the engine, because what they did is the program for the High Cost portion of universal service, which serves rural America, is actually kept at 2010 levels, and it has been capped, no inflationary factor. So you've built this new system that actually isn't fully funded.

So when you all had expressed interest in ensuring that consumers could afford having just broadband service, what we're now finding is that is coming to about \$120 to \$150 a month at the median range for rural consumers. Well, that's not really very affordable. So we look at that and we think, yes, there are things still to be done in terms of ensuring that Universal Service can be fully funded.

The other thing is I would say that in terms of the regulatory issues that Chairman Pai is pushing, he's really taking a proactive look. Your interest on permitting and making sure Federal easements will be a lot smoother is really a top priority, and we're looking forward to working with him on that.

Senator BLUNT. Thank you.

The CHAIRMAN. Mr. Lee.

**STATEMENT OF HON. MIKE LEE,
U.S. SENATOR FROM UTAH**

Senator LEE. Thank you, Mr. Chairman. Thanks to all of you for being here today and for the testimony you've offered. What you do is critical to our Nation's infrastructure and to our transportation system.

Mr. Braceras, your presence here today elevates the discussion because, among other things, you're from Utah, and Utah is a place that is really into innovation. Throughout the Silicon slopes, we have put a real premium on investing in new technology. And as you brought up in your testimony, Utah has positioned itself rather nicely at the intersection of infrastructure on the one hand, and innovation on the other.

One example of this is in the field of autonomous and connected vehicles. In 2015, the Utah State Legislature, as you know, tasked the Utah Department of Transportation, which you had to study this issue, and to begin testing some of these new technologies on our highways. Recently, Chairman Thune and Senator Peters have begun to get the wheels turning on the Federal level, and I look forward to working with them to come up with any appropriate Federal measures.

So, Mr. Braceras, what are some of the lessons that you have learned at UDOT at the state and local level about autonomous and connected vehicles that we, on the Committee, should keep in mind as we move forward and decide what steps need to be taken here?

Mr. BRACERAS. Thank you, Senator, for that question. You know, when you're—I think everybody wants to be innovative, but it can sometimes be scary. So I think one of the most important things we need to do is we need to address the culture that we create in all levels of government about how we're going to treat people that try something that's innovative and may not work out the way we thought it was going to work out.

And so I think that's really fundamental that you see it pervasive in all levels of government. We're very good at punishing people that do something that didn't quite work, and we're not very good about rewarding those people that took a risk. And if you think about how we treat all those people that are in those—that hierarchy of government, I think that's an important culture point we need to put forward.

So we're convinced. We're going to almost double our population in Utah in the next 35 years, and that population is going to essentially be along the 100 mile—we call it the Wasatch Front, contained by mountains and lakes. And so we're quickly becoming very urbanized. And I tell people we're not going to be able to double the lane miles that we have in our state.

And so for us to be able to continue to be economically viable and to continue to enjoy the great quality of life we have, we have to think about how we're going to be more mobile. And so we are convinced at the DOT and our legislature that we're going to—that the future of technology is going to allow us to actually improve mobility and improve the safety features.

So our legislature asked us to study the future of autonomous vehicles. We refer to them as CAVs, connected autonomous vehicles.

And so our role is we've been working now to provide that connection to infrastructure so that if a bridge is icing up, I can communicate that bridge is being iced up to cars that are half a mile away, and so that those cars are aware of it, and they'll slow down and they'll behave appropriately. Or when I have a traffic signal that's about to change signal timing, it's communicating that to the vehicles on the road.

And so that means that we have to develop the standards for us to be able to communicate. So we need to have consistent standards for the vehicles to have that communication to our infrastructure and back and forth.

Today, we're taking a grid system, and we're just doing this on our own, we did apply for a pilot program on the connected autonomous vehicle pilot, and we didn't get it, but I was so convinced it was a great idea, we're doing it anyhow. And what we're doing is we're putting DSRC units in a grid in our Salt Lake City traffic signal system, and we're working with our transit authority and communicating with our buses.

So we know the schedule the buses are supposed to be on. We know how many people are on the buses. We also know how many vehicles are approaching on all legs of a traffic signal. And so now in this grid system, we're working to be able to keep buses on schedule. So the motivation is more people will use transit if they can rely that it's going to be on time.

And so it's taking that type of approach, of having to take a little bit of a risk, but realizing that that benefit that we're going to achieve is going to be just amazing. But if we don't find a way to create a culture that allows us to take those steps forward, we don't want, as government, to overregulate innovation, and that's a really important point. I see some governments wanting to be so actively involved in this game of the autonomous vehicle, sometimes maybe getting overzealous and overregulating.

And so we need to find just that minimum that we need to be able to regulate to assure that we have the safety and we have consistency of standards between vehicles and between states, but then let's back away. And I think that's really important.

So our legislature right now has moved a bill through, it's on the final reading calendar in the Senate, and what it's going to do, it's going to create a combined task force of myself, representing Transportation, our Department of Public Safety, our Department of Insurance, and our Tax Commission, and we're going to be working together to try to provide feedback for what types of bills our state level needs to be doing. But we also recognize there's a huge role for the Federal Government here because we need to make sure that we connect when we cross the borders.

Sorry for the long answer, Senator.

Senator LEE. No, that's very helpful. My time is expired. I was wondering if I could ask one more question. You know, Utah has been very successful in helping to integrate investors with public works projects and helping to innovate. We've got 5G deployment coming down the pipeline, we've got technology companies that are working hard to update both wired and wireless connections and to expand their reach. And in our state, wireless providers are al-

ready estimated to be investing a whole lot of money, possibly hundreds of millions of dollars, to deploy 5G to Utahans.

Can you explain to the Committee why it is that Utah, and the Utah Department of Transportation in particular, have been so successful in partnering with industry to deploy tech infrastructure often relying on private investment?

Mr. BRACERAS. I would say because we are trying our hardest to squeeze the towel and wring every bit of efficiency we can for the public's dollar. We realize we have this huge challenge ahead with our growth and with our goal of trying to get to zero fatalities.

So what we do is we try to partner with everyone. And if you take the approach to seek first to understand and look for the win-win—those are some famous Utahan Stephen Covey's habits—that's really the philosophy that we have. And so it's a very strong—it's pervasive within our organization, and it's a little bit to help ourselves. And we realized in order to help ourselves, we need to make sure that our private partners are successful. So there are no winner and losers, and there are only winners is our goal.

Senator LEE. Excellent. Thank you very much.

The CHAIRMAN [presiding]. Thank you, Senator Lee.

Senator Moran.

**STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. Chairman, thank you very much. Thank you all for being here today. I appreciate the conversation. I'm also serving on a committee that met at 10:30 this morning on infrastructure as well, the Environment and Public Works. So we're glad to see this is such a focus.

Ms. Bloomfield, you perhaps are the unique one in this hearing that's not taking place in EPW, and so let me direct a couple of questions toward you. First of all, I appreciate the expertise that you bring to broadband deployment issues. I've experienced that, and many Kansans have benefited from your involvement in the public policy arena.

In my Appropriations Committee role, I'm a member of the Agriculture Appropriations Subcommittee that has jurisdiction over the rural utility services as well as the Federal—FSGG Subcommittee, which has appropriations jurisdiction over the FCC. Those are two entities that have something to do with broadband deployment. There are probably others, there are others, and I would like for you to outline who else we deal with in this arena and how we might try to streamline the number of players that are involved.

But particularly with those two, one of the concerns that I've raised numerous times is with the previous order of the FCC that altered the reimbursement that rural telephone companies would receive on broadband that's already deployed, they may have, and as a result, have less revenue, less return on that investment. And one of the problems is that the rural utility services is a financier of that deployment, and you have this conflict in which the FCC is making decisions that reduce the ability for an RUS loan to be repaid.

Can you bring me up to date in that clash and where we are? And if you have suggestions, plus any suggestions about other entities that we ought to be paying—other Federal entities that we ought to be paying attention to that can help either get out of the way and make it easier for the deployment of broadband or help us encourage the broadband deployment?

Ms. BLOOMFIELD. You have painted the very complex picture, Senator Moran, and we have long appreciated you're willing to really roll up your sleeves on this.

So, yes, you painted it perfectly. We have universal service reform, and I know you have worked very closely, you actually have. The Chairman of the FCC is from Kansas, and that's really wonderful to have somebody in that leadership role who understands what it means to serve rural America.

So when the FCC went through their USF reform, at the end of the day, there is a lot more accountability, there is a lot of integrity in the program, a lot of effort toward—you know, USF is key toward sustainability and affordability for rural Americans, but the problem is the funding is insufficient. The High Cost portion of the fund is capped, and it's capped at 2010 levels.

So, you know, I look at now today—you know, think about 6, 7 years ago what your broadband needs were or what your family's broadband needs were, and what they are today and how that has really just grown, and how you actually really have to be focused on creating future-proof networks, right?

So you've got to be thinking about fiber, how important it is, regardless of where we are, because it has got that capacity to bring what consumers want.

So with the USF reform that went through, because the fact that the funding was insufficient, you're exactly right, what we're seeing now, for example, on the A-CAM model that was just approved, which a few hundred rural companies will be taking, because of the fact that the budget is insufficient, there are over 35,000 locations that won't be getting some of the broadband that would be anticipated if the funding were at the full funded level. So you start to see speeds go down, you see fewer households being able to get some of those services, and at the same time, your primary lending entity is RUS over at USDA.

RUS has not met its lending maximum for the last several years because of the fact that there is so much economic pressure that these small broadband providers can't make a business case to actually justify the loan, so they're not getting the loan approval that they need to capitalize building these networks. So you get caught up in a quagmire. And we've got a few other lending entities that are out there, RTFC and CoBank, but neither one of them are able to justify making a loan. So to that end, they're interrelated.

And I think that is one of the important things about USF being fully funded and the ability to get the broadband out there, is folks will then be able to capitalize it using some of these programs, and USF will be used to ensure that rural residents and rural businesses will be able to have affordable and comparable broadband services.

So when you mentioned those agencies, absolutely key. Commerce will play a role in terms of NTIA as being the adviser to the

President on telecom issues. And the White House Office of Science and Technology Policy also tends to be a player in these discussions. But between the FCC and RUS, you've really hit some of the key areas.

Senator MORAN. Let me conclude by asking you to make sure I understand what you said. And when you said there is lack of resources or there is not enough money—

Ms. BLOOMFIELD. Right.

Senator MORAN.—what you're talking about is money within the USF fund and how it's allocated.

Ms. BLOOMFIELD. Exactly.

Senator MORAN. And it's not a congressional appropriation that we're missing. Now, Congress has some ability, I suppose, to influence the FCC and to make some decisions that would make RUS more capable of making loans. But the issue here is how the USF is managed. Is that correct?

Ms. BLOOMFIELD. Exactly. So whether Congress chooses to play a role and certainly will have a very key voice in that, again, the fact that that and the rural health care program are the two that are capped, and there are no inflationary factors, so you are not even able to grow to current levels.

And, again, when I think about broadband, talk about a program where capacity and need are continually growing, so not even having the ability to keep up with what that demand is, is going to be really important.

Senator MORAN. Thank you for your answers.

Ms. BLOOMFIELD. Thank you.

The CHAIRMAN. Very good. A complex question from a complex guy.

[Laughter.]

The CHAIRMAN. Senator Hassan is up next.

**STATEMENT OF HON. MAGGIE HASSAN,
U.S. SENATOR FROM NEW HAMPSHIRE**

Senator HASSAN. Thank you, Mr. Chair.

And thank you to our panelists.

And hello, Governor. How are you? Nice to see you.

Mr. Mayor.

I am sorry that I missed a good deal of your testimony earlier. We had competing Committee hearings.

So I wanted to start out with a question to you, Ms. Bloomfield, and if you've already touched on it, I apologize. But I want to thank you in particular for being here to help us grapple with the challenges that rural communities, like so many in my state of New Hampshire, face in getting connected to broadband. There has been a lot of focus for a long time on the digital divide, but it has persisted, and it tends to spring urban communities forward while rural communities are held back because of their lack of modern technology. I also know that the challenge isn't insurmountable, and we need more resources and some creative thinking.

So my question for you is, should an infrastructure bill move forward, what would be at the top of your wish list to ensure that rural Americans in New Hampshire and across the country make strides in closing the digital divide?

Ms. BLOOMFIELD. Thank you for the question, Senator. And I would give it to you probably in about four points.

Senator HASSAN. OK.

Ms. BLOOMFIELD. One, you've missed a long discussion about universal service, but it is key in ensuring it is fully funded to provide the resources, number one.

Two, is there a role for new capital infusion and tax incentive programs? Potentially. They would need to be coordinated with the FCC, but there is absolutely a role to look creatively at some of this.

Third, streamlining some of the processes. Some of the regulatory burdens, things that come out in MOBILE NOW, things that will allow companies to move faster with fewer hurdles to jump through will definitely be—my companies on average have 26 employees, they spend about 580 hours a year doing paperwork and jumping through hoops. It's a lot when you've got 26 people and you really want them out on the road putting that fiber into the ground.

The last thing that I would say is sometimes it's connecting the dots, and we see that a lot. I have 850 carriers. They're amazing. They do great things. Part of it is their customers are their neighbors. This is their community. But I think we can do a better job as a whole, as an industry, as a country, connecting the dots. Where are those communities that are unserved? How do we get to them?

One of the things that we've just initiated with a partner of ours is something we kind of call *broadbandmatch.com*. It's how do you take those areas that are really looking for infrastructure and connect it to those providers who know what they're doing, who can hit the ground running, and might have an interest in coming in and actually helping out when they can make a business case to do so? So I think there are some interesting things we can be looking at.

Senator HASSAN. Thank you. And another question just is, as we see transportation systems utilizing safety and other technologies, how important is it for us to make sure that rural communities can upgrade and access supports for these modern transportation systems?

Ms. BLOOMFIELD. Well, I'm probably the least prepared to talk about transportation, so I will defer to my transportation experts here.

Senator HASSAN. Excellent. Thank you.

Ms. BLOOMFIELD. Thank you.

Senator HASSAN. Well done.

Mr. BRACERAS. Well done. Yes, it's important that we provide those connections to our rural communities. Having spent a great deal of my youth in your state, Senator, I'm very familiar with New Hampshire. And in the state of Utah, I can tell you our rural communities are very concerned that they not be forgotten.

Senator HASSAN. Yes.

Mr. BRACERAS. They're not as well represented in our legislature, they're not as well represented in the big city, in Salt Lake City, and so it's getting out and making sure that you understand what they need and listening to those communities.

From a transportation perspective, we tend to prioritize projects based on things such as traffic and trucks. And when they start to see that prioritization process, they start to worry about, "What's there for me?"

And so what we've done is, we've kind of created a different category of prioritization for our rural communities. We call it a chokepoint program, and what we try to do is, we develop a little bit different criteria. And it's amazing, a \$1 million project in a rural community makes a huge difference, whereas you're in the urban area, you're in the ten, twenty, thirty million dollars type of a thing. And so it's recognizing that it's different, it's no less important, and trying to set up a process by which they can compete fairly is what we've tried to do.

Senator HASSAN. Great. Thank you. And my time is almost to a close, so to Mr. Mayor and the Governor, I just wanted to say I'll be following up a little bit because one of the things I also want us to focus on is whether there are existing programs like TIGER grants, and TIFIA that have been useful in your communities, both rural and urban. And part of our discussion as we approach this new infrastructure effort, I hope, will be to see if we can support existing programs and perhaps fund them more because they've been deeply useful in New Hampshire, and I assume they have been in these, too.

The CHAIRMAN. Thank you, Senator Hassan.

Senator Inhofe is up.

**STATEMENT OF HON. JIM INHOFE,
U.S. SENATOR FROM OKLAHOMA**

Senator INHOFE. Thank you, Mr. Chairman. First of all, I say to Mr. Braceras, it's nice to see you again since you testified before the Committee that I chaired. It was 2 years ago, almost exactly 2 years ago. And when I was Chairman in that position, as you well know, I was proud to spearhead a lot of the permitting reforms, in MAP-21 as well as in the FAST Act that we passed.

In your remarks, you mentioned that there are many opportunities to streamline project delivery through updates in the Endangered Species Act. In fact, 2 weeks ago, the EPW Committee held a hearing on reforming the Endangered Species Act. In Oklahoma, we have the American burying beetle, which has caused substantial delays in building roads and bridges in spite of the numerous conservation efforts by impacted stakeholders. It's kind of interesting because we were talking about the difficulty it is to delist or reduce a listing. And it seems like it's easy to list but very difficult to delist, and this is something that we're wanting to change. Have you got any suggestions on what Congress can do right now in terms of this concern we have?

Mr. BRACERAS. Thank you, Senator, for that question. Your comment is very on target because, you know, in government, it's always easy as we add to programs, but as a government, it's really hard to take away. And so that's something that we focus on internally, is we ask ourselves, what will we not do in order to be able to get to this priority? And, in fact, in the 43 years since the Endangered Species Act was enacted, there are over 1,600 species

that have been listed, but only 47 have been delisted. So it seems like we're maybe not making the progress we wanted to there.

You know, I think one of the most important things—and this is speaking as a state obviously—is that Congress can really work to ensure that states are more actively listened to and can be involved. We have a good working relationship with our U.S. Fish and Wildlife Service, but we don't think they completely understand that we care as much or more so about our environment in Utah, and we don't need to be protected by U.S. Fish and Wildlife.

Senator INHOFE. Yes, I would have to say that we went through the same thing in Oklahoma. In fact, it was about 4 years ago, I guess, that the Director of Fish and Wildlife, we asked them to come by, and on two occasions, we had a hearing about that. He came back with a complete mind change, that the people who are the landowners have every bit as much, if not more concern for the environment and for all of the—and so I think that's an observation that's not confined to that.

Now, also you might address not just endangered species, but some of the regulations, the EPA regulations. We have to deal with these every time we pass a bill, like we did in the FAST Act. What would you say about the problems that come, arise, from the over-regulations that we are subjected to?

Mr. BRACERAS. Well, you know, the people that are administering the laws that you passed are well-intentioned people. I like to remind them that it's their job to administer the law, it's not their job to save the planet from us.

But some of the things I would say specifically that we could look at is maybe looking at transportation conformity. And Congress could make several changes to improve our project delivery by taking a look at the various cycles that we have on what we call our State Implementation Plans, or SIPs, and how that lines up with the National Ambient Quality Standards and require that the initial transportation conformity does not apply until 6 months after EPA approves the SIPs to the motor vehicle emission budgets.

We would ask that you maybe consider excluding marginally non-attainment and attainment maintenance from transportation conformity requirements since they are in compliance with the Clean Air Act. And this is a sore point for Utah. We have some geography that creates a challenge for air quality. We live in a—most of our population lives in a basin, and so our atmospheric and our geography create a challenge where we are not in conformity on an air quality issue. We would like for those types of factors to be taken into account when they make these determinations.

Senator INHOFE. Yes. Well, you know, I think we did that. I know in the FAST Act, and at that time I was chairing the Committee, on the Environment and Public Works Committee, and Senator Boxer even agreed to some of these changes and it made a huge difference in terms of miles that we could construct, and we are doing that.

My time is about expired, and I wanted you to just get on record saying something about the spectrum. In your testimony, you highlighted the need for preserving spectrum and the need to expand rural broadband to support the implementation of autonomous ve-

hicles. Any comments you want to make about that to expand on that?

Mr. BRACERAS. We think we are right at the forefront right now of being able to realize the tremendous benefits from these tremendous new vehicles that we have, the autonomous and the connected vehicle, and the DSRC spectrum is critical for us to be able to allow our vehicles to talk to each other and to the infrastructure. So we ask that Congress protect that spectrum to be able to preserve this opportunity to realize these benefits.

Senator INHOFE. Thank you. It's nice to have you back in the Committee here.

Mr. BRACERAS. Thank you.

Senator INHOFE. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Inhofe, and your good work on the last highway bill, which is now law.

My neighbor to the south on Highway 83, Senator Fischer.

**STATEMENT OF HON. DEB FISCHER,
U.S. SENATOR FROM NEBRASKA**

Senator FISCHER. Thank you, Mr. Chairman. I appreciate you having this hearing today.

Ms. Bloomfield, as you know, in 2011, the FCC committed to create Remote Areas Fund. That was to provide broadband to areas of the country that are really the costliest and they are the most difficult to serve. And yet to date, the FCC is not taking what I would call substantial steps to implement the Remote Areas Fund.

What's your understanding of the status of that fund at the FCC? And do you think that they should continue working toward implementing a fund? Or is this something that maybe Congress should look at including in an infrastructure project, a bill that moves forward here?

Ms. BLOOMFIELD. Thank you for the question, Senator. And your interest in rural broadband has really been critical to moving this. All of these programs are so—the universal service programs are so interrelated.

So one of the interesting things about the Remote Areas Fund has been obviously, as with everything, I feel like a broken record, but it is lack of funding, it's lack of resources that are in that program. The interesting thing is that there is actually less of a need in some of those really remote areas as you—if we could fully fund some of these other programs, it will allow carriers to build further and further out into their networks and to provide services at higher speeds, thereby reducing the number of folks that you actually are going to have to meet with the Remote Area Fund, but there will always be parts of this country, I think there are a lot of these parts that our folks serve, that are already uneconomical. There are going to be some areas that are just astronomically difficult to build out to. So there will always be a need.

I think that the Remote Area Fund has kind of found its way kind of on the bottom of some of the other reforms that have come through. So we remain very hopeful.

I think, Chairman Pai again is very focused on rural areas and rural infrastructure. So my guess would be you'll hear next week

probably more from him about their intentions on that fund. But as with everything, it's kind of like all boats rise.

As you can kind of move some of that infrastructure out and build it further out, you'll get more of those citizens connected, and then we'll have the ability to figure out, what is the right size for that Remote Area Fund?

Senator FISCHER. OK, thank you. I'm going to ask you about another fund now.

Ms. BLOOMFIELD. OK.

[Laughter.]

Senator FISCHER. The Connect America Fund.

Ms. BLOOMFIELD. Right.

Senator FISCHER. And we're looking at a commitment by the FCC of \$4.5 billion per year to support the deployment in rural areas. Do we need all these funds? You know, when you talk about this fund and that fund and the overlap, and we're doing this, we're doing that—

Ms. BLOOMFIELD. Right.

Senator FISCHER.—every single one of them I think has good intentions, but when we're looking at shortfalls, how do we bring it all together to make sure that we are going to get the services needed?

Ms. BLOOMFIELD. So your point is well taken. There are a lot of universal service funds under the umbrella. You've got the High Cost Fund, which you referenced, which is part Connect America Fund, which primarily has gone to initially to the price cap carriers that are out there, which are the larger carriers that are not my membership. And then a portion of that fund is the High Cost Fund, which goes to the smaller rural providers. So you've got that piece of it.

You've also got the program that provides Lifeline and Link Up, which is a USF program for low income. You have the E-Rate that will provide support to schools and libraries. You talk about Remote Area Funds, but there is also talk about tribal support. So you've got a lot of things under one umbrella that all do very specific things.

When I think about the High Cost Funds, so I think about \$4.5 billion, and that is everybody, that is from AT&T down to the smallest cooperative, in terms of the ability to build out broadband where it's affordable for rural residents, that is where universal service is really, really important, and when you—

Senator FISCHER. So we just—we—I hate to interrupt—

Ms. BLOOMFIELD. Oh, no, please do.

Senator FISCHER.—but I'm running out of time. So we can—we need to make sure we have funding available.

Ms. BLOOMFIELD. Funding is critical.

Senator FISCHER. Because these funds are important.

Ms. BLOOMFIELD. Absolutely. And not to confuse one more thing, but there is now the CAF II fund. That one is going to be very interesting because that's going to go to the areas where carriers have chosen not to take it.

Senator FISCHER. Thank you. Thank you. And I wanted to ask the Director a question. I missed your comments about Utah with your state exchange that you have there and point out that I hap-

pen to have a bill, the Build USA Infrastructure Act, that really showcases what we're doing in Nebraska with that program as well, and it is successful in the states, and I think we need to use it at the Federal level.

Also, I wanted to ask you that in your written testimony, you had stated that Utah is going to assume the Federal NEPA process for transportation projects. And Nebraska is also working with the Federal Highway Administration on that. And just I'm out of time, but could you just say a couple benefits that you have seen to your state through doing that?

Mr. BRACERAS. Yes. Thank you, Senator, for the question. We have finally signed off with the Federal Highway Administration on NEPA Assignment. We're very excited about it. And we see this as primarily too many times as a state DOT, we would say, as we're doing an Environmental Impact Statement, we would say, "Those feds won't let us do this," we blame them. And so what I tell my folks is now we take responsibility for decisions.

We're now the decisionmaker on NEPA Assignment. We would ask that—we believe there are some streamlining opportunities with the process that it's taken to get to this. It took over a year to be able to get a signed document with Federal Highway Administration on this. And the audit requirements that have been imposed are significant. But we're very excited about this. We believe it's going to make us more responsible, and we believe we're going to be able to move the process along faster, and we're still going to be able to protect the environment and our communities.

Senator FISCHER. OK. Thank you, sir.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Fischer.

Senator Cortez Masto is up next.

**STATEMENT OF HON. CATHERINE CORTEZ MASTO,
U.S. SENATOR FROM NEVADA**

Senator CORTEZ MASTO. Thank you. I apologize for being in and out. So some of what I might say may be a repeat of questions that have already been asked.

But, first of all, let me just say to the Director, you mentioned autonomous vehicles and unmanned aerial systems. I'm from the great state of Nevada, and as you well know, in your written testimony, you highlighted what we are doing there, so thank you for that, that plug for the state. But I think what I'm getting from your comments, both written and today, is that you agree that the West has great potential to host research and testing and development and manufacturing for future opportunities for this type of technology to improve safety. Is that correct?

Mr. BRACERAS. Absolutely, Senator. In fact, I attended—I was on a panel at the Consumer Electronics Show, down in Las Vegas in January, where I was participating with a gentleman that had a company that was 3D printing autonomous vehicles, and he said 40 percent of that vehicle was 3D printed, and in two years' time, 90 percent of it would be printed with 3—would be 3D printed. And the point he was making is we're moving from a major manufacturing to micromanufacturing, and that manufacturing sites were going to be able to be much more dispersed around this country.

The opportunities that we have in front of us with the technology that's happening right now is absolutely going to save lives. It's going to make our mobility so much better. And Nevada is one of the states that's leading in this area. You have actually licensed a driver, a handicapped driver, to use an autonomous vehicle in the first state in the country to do that.

Senator CORTEZ MASTO. Thank you. I appreciate that. And then just recently I had the opportunity to speak to some incredible residents from our rural communities who have concern about rural broadband. So, this is a question both for the Governor and Ms. Bloomfield. I wasn't here, and I understand, Governor, you talked about the challenge with public lands.

In Nevada, 84 percent of our lands are public lands, and the challenges we have there not only with bringing the broadband there, but also I would like more discussion from you, if you would, on additional challenges that we see. I will tell you, one thing that they highlighted to me is just the fact that it is also a challenge to get the telecom equipment there: the translators, the towers, easements with public lands.

Do you mind commenting on how we can tear down some of those barriers and address some of those additional issues that we see in rural communities? And let me just say this—she's going to hate that I pointed her out—but my college roommate lives in Elko, Nevada, and when she wants to watch a movie on Netflix, she has to tell everybody in the family to get off the Internet so they can watch a movie streaming without interruption.

That's what's happening in our rural communities, and it is so important to bring broadband not just to grow the economy, but to bring telemedicine, to bring education, to bring behavioral services. That's one of the things why I want to highlight, how do we incentivize companies to come out there as well? Because I know P3 doesn't work in those communities, and private equity.

So, I would love your thoughts on how we incentivize also companies to come out and help us bring those services to our rural communities.

Ms. BLOOMFIELD. All right. I'll take the first crack at that, Senator. Thank you very much. And you raise—you know, as we're talking here today and talking about Congress potentially doing an infrastructure package, that is where I think I look at, how can Congress do something that will help leverage the FCC and the universal service programs to actually provide additional resources to those areas that are very difficult to reach and that are underfunded? That will help in some of those cases.

You also raised some of the bureaucratic issues. For example, in the state of Wyoming, I have a company that in the state of Wyoming, the Bureau of Land Management, BLM, is actually looking at doing—requiring bonding as you go across Federal land. Well, we get it, that's for oil, you know, and some other potential environmental disasters. For a small telco to have to go through that process, really onerous. Railroad crossings, pole attachments, local easements, all of those things are burdens that just make it very difficult.

And you're in a state where Federal lands are far and wide, and if you're bringing a fiber optic network out there, you're doing a lot

of crossing. And so it's not just the cost, but it's the regulatory burdens on top of that. So there are some ways that I think particularly Congress can jump in and play a really critical role.

And, you know, as Carlos was talking about, you know, all this great infrastructure and all the great things you can do, and you talk about wireless, all of—you know, wireless needs wires, so you still need that fiber network. And as we all get excited about 5G, that is going to need a lot of fiber out there, and you're going to need to be able to cross a lot of land to do it, and you're going to have to be able to access it.

The other challenge, for example, my guys have with fiber is they're last on the list. The larger carriers will be the first to actually have access to the equipment. And if you're providing services in a state like Montana or North Dakota, you've got a really short window where you can do some of your builds, so—

Governor DAUGAARD. Thank you for the question, Senator. I don't profess to be an expert in broadband by any means. I do profess to be an expert in living in rural states, I've done that all my life, but it is a challenge in some of the remote rural areas of South Dakota. In the western part of our state, we have a lot of public lands; in the east, not so much. Crossing public lands and the easement and the ability to do so is a challenge in some areas.

Our local telecoms, our rural co-ops, have banded together and created some fiber rings in South Dakota, so they've been attentive to economy of scale in that way. I think the government, both at the State level as well as Federal, can be a partner with creating some basic infrastructure, and then if we can get fiber close by some of these smaller communities, then it might make economic sense for some of the rural telecoms to invest and be able to recover their investment from the folks who live in those smaller communities.

Those folks like your friend who live maybe out in the country by themselves, it's a bigger challenge. I'm one of those folks, too. I live out in the country when I'm not being the Governor of South Dakota, and we have I'd say OK broadband. It's not the best, but it's OK.

And I'm hoping that some of the technology advancements will give us a jumpstart over the cost that it apparently is the cost that we see today to bring fiber and to bring wireless to some of those very remote areas. Again, I don't have any answers, but I know it's a challenge and I know it's something consumers want very much.

The CHAIRMAN. Thank you, Senator Cortez Masto.

Senator Moore Capito.

**STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM WEST VIRGINIA**

Senator CAPITO. Thank you, Mr. Chairman. And thank all of you for being here. It's really important to all of our states.

I'm going to go to broadband first, which I know we've been talking a lot about it. Our state of West Virginia ranks 48th in the Nation in broadband deployment, with over 30 percent of our citizens not being able to get broadband services. And so I came up with a Capito Connect Plan—nice little jingle there—to try to shine a light on this. I mean, we have a business in Wayne County, West

Virginia, who sells—a small business, sells handmade and imported church goods and homemade soap products, the Holy Cross Monastery. They had to pay \$150,000 to try to get their Internet to a serviceable way to provide because they have a large customer base. But that's not the only one. There is also Chef Eric Hott in Rio, West Virginia, who sells products, and he has now suffered loss over loss because he can't get the connectivity that he needs.

So we know it has the economic development issues. As Ms. Bloomfield will know, Hardy Telecommunications is a good example of a rural telecom that's really spread its wings and has helped a lot in our rural areas, and I would like to see more significant investment in that.

My question is—and I think Senator Klobuchar mentioned a Senate Broadband Caucus, Rural Broadband Caucus, and I want to thank—invite anybody to join. Everybody has rural areas, no matter how rural or urban your state is, it's very important.

But I guess I would just like to get on the record from you, Ms. Bloomfield, what else, besides economic development, can rural broadband and can robust broadband bring to a community, urban or rural, in your all's opinion?

Ms. BLOOMFIELD. Well, Senator, in your leadership on the Senate broadband caucus, you know intimately well, particularly things like telemedicine and some of your leadership in that area, there are some amazingly innovative things, and there's a ton. We can talk about what you can do with border security with broadband, we can talk about public safety.

I look at education and I look at telemedicine, and I think those are really—when you think about rural demographics, you think of a lower income population, an aging population. What can we do to allow people to age in place? They want to stay in their rural communities, but it's really hard. It's hard. I have elderly parents. It's hard when you're not sure, did they take their medications today? The ability to use broadband to actually be able to monitor their activities, monitor their health care, and bring some of these services closer to where people are can be revolutionary.

We're actually trying to get a project up and running with VA in Kentucky to do some telemedicine with local vets in a small community where it's a 3-hour drive to the local VA center. The ability for people to not only be able to do diagnostic work, but to do mental health resources, to do their paperwork, things that we take for granted, the ability to go online and complete those, are huge.

So I think there are some amazing things that can really not only add to the economic vibrancy of rural America, but really the quality of life, and that's really important.

Senator CAPITO. Right. I mean, I was just at Mineral County Middle School and asked for a show of hands within the student population, there were probably 80, 80 people, 80 young students, fifth graders, there. Half of them—I said, "Who has trouble when they go home getting service?" and half of them raised their hands. So you send them home with an assignment, they're going to be behind.

Ms. BLOOMFIELD. Right.

Senator CAPITO. I would like to just make a comment that I think is important, too, in this area, is we've heard a lot about the states having different regulatory issues, not just in broadband, but in transportation and everything. If it doesn't already exist, I would think that any State legislature would welcome—and Governors—states' best practices where you can really work with your power company and others to be able to site any kind of fiber and deployment. So if that doesn't exist, I would encourage either through the National Governor's Association or somebody to come up with this because I think the legislatures around the country are wanting to know how to best solve this problem.

Governor, I would like to ask you a question. Just quickly, you mentioned again being from rural states, that the private—this is something that has concerned me, that the private sector part of an infrastructure package that the President might be putting together could be problematic for a rural area because you don't have the dollars, you don't have the population, you don't have the paybacks. You can put a toll road out in the middle of nowhere when you're not going to generate the revenues.

What is the solution to that? Is it further bonding by the states to be able to match dollars? Is it just straight-out Federal funding? I mean, I think that's going to be probably a nonstarter. You would figure that, too, as a Governor. So just some thoughts there.

Governor DAUGAARD. Well, I think you've said it well. It is true that private-public partnerships probably won't work well in rural states, especially for highways. We just don't have the traffic volume to generate payback to the investors.

Senator CAPITO. Right.

Governor DAUGAARD. Tax credits really are about the same way. You're not going to have private investors looking for tax credits because they want investment return as well.

Senator CAPITO. Right.

Governor DAUGAARD. They just don't want tax credits alone. So I don't presume to prioritize for you where your funding is going to come from, but it really boils down to direct formula funding.

The FAST Act is a good pattern, I think, that Congress came up with, and we're pleased with it in South Dakota. Getting the FY17 budget in place will help see some of those dollars that are held up by the Continuing Resolution. And we think it also preserves the good rural-urban balance, and that's something that we're afraid of if you go to discretionary funding or other patterns. Rural states generally don't fare well in those situations. We would rather have straight formulas, let the states prioritize the state projects. We're close to the ground. We know what's more important and what's secondary and what's tertiary, let us prioritize them.

Senator CAPITO. Right.

Governor DAUGAARD. And the systems for implementing and spending the money are already known and in place.

Senator CAPITO. Right. I think—and I'll finish up here. I think Mr. Bracer mentioned in his comments if we could sort of more lump sum it down to the states rather with all the different pots that's created would give you the flexibility that you need. It sounds like a good idea to me. Thank you, sir.

The CHAIRMAN. Thank you, Senator Capito.
I have Senator Young, Senator Duckworth, Senator Johnson, and Senator Blumenthal.

**STATEMENT OF HON. TODD YOUNG,
U.S. SENATOR FROM INDIANA**

Senator YOUNG. So thank you, Chairman. That last line of inquiry was a nice pivot to some questions I have. So I hail from the state of Indiana, the “Crossroads of America.” We are the hub of several major interstate highway systems. My colleagues have heard me put forward that moniker before, and it won’t be the last time. And so we have a real interest in making sure we come up with sustainable ways to fund our surface transportation and to finance them where that’s a possibility. And we have a diverse mix of rural and urban and everything in between in our state, like so many others.

We know that the FAST Act expires in 2020, and one would hope that would prompt this body to consider additional financing options to maintain the solvency of the Highway Trust Funds. CBO projects the cumulative annual deficit to those funds will approach \$140 billion by 2027. So Congress we know must begin this debate in earnest now to avoid our historic reliance on General Fund transfers.

Mr. Braceras, the National Surface Transportation Policy and Review Study Commission proposed that we establish an independent commission similar in nature to the Postal Regulatory Commission to develop a national strategic plan for transportation investment and related revenue adjustments. Could you perhaps speak to the potential benefits of adopting this approach and having specific legislative recommendations come from that independent commission focused on financing and funding options?

Mr. BRACERAS. Thank you, Senator. There have been several commissions that the Congress has authorized in the past—

Senator YOUNG. Right.

Mr. BRACERAS.—that have done very good work and have provided, I think, some good recommendations. I am always a fan of bringing together smart people with a very focused goal and asking them to brainstorm and come back with ideas. So I think it can be nothing but—we can see nothing but benefit from that type of an approach.

I’m a strong believer that we need to provide—you know, we need to know the difference between revenue and financing, and we need to have both, but we need to have adequate revenue and we need to have ongoing revenue, and I believe that needs to be tied, there needs to be a tie to a user base.

For the public to be able to understand what they’re getting, they have to understand the impacts that they’re causing. I like to think of if we were to think about funding our transportation system the same way we fund utilities right now, I think we would have a more serious conversation about the actual users paying for the actual use and impacts that they’re having. So we believe, I believe, that having an approach, the same approach as we have to utility funding, might be a useful thing to think about.

One of the things that we're doing in the West that I think is important is we have, out of the 18 western states, we have about 11 of us now working together on what we call Western RUC. It's a road user charge program. So it's basically looking and doing pilot studies on road uses charges, paying by vehicle mile.

As we see the increased vehicle efficiency, which is a really good thing, we want to see that—

Senator YOUNG. Yes.

Mr. BRACERAS.—we're starting to see revenues declining. And so we have to establish a clear national goal. What are we trying to establish with our national transportation system? We need to—and then fund that with long-term sustainable—

Senator YOUNG. I'm going to interject and thank you for the thoughts. I think the utility sort of construct is a useful way to think about this.

We also should consider, though, a model like that as you've got a user fee of sorts, whether there might be social benefits to—and therefore we should socialize the cost of some of these rural investments. I think that's a serious conversation for us to have as well.

I'm going to pivot very quickly to a different topic. It's rail safety. In your testimony, Mr. Braceras, you very briefly discussed obstacles confronting inner-city passenger rail, also very important to my state. Last year, the Federal Rail Administration issued a regulation, it's the System Safety Program, which inhibits inner-city passenger rail services, such as the Hoosier State Rail.

Implementation of this rule, whose impact on safety is debatable, could be really detrimental to the continuation of my state's rail line, which connects Indianapolis to the Chicago metropolitan area. And maybe you could speak to the unintended consequences of what I would perceive as a suboptimal rule and the impact it could have on vital rail corridors, such as then in my state.

Mr. BRACERAS. Yes. Yes.

Senator YOUNG. In 30 seconds or less.

Mr. BRACERAS. Thirty seconds or less. We believe that service sponsors need not to be classified as railroads. I think that's what it comes down to right now. Service sponsors are mostly planning organizations. They're not set up to have the safety oversight that FRA is asking them to do. So if there can be a redefinition to not allow safety—surface sponsors to not be classified as a railroad, we think that would go a long way in addressing those issues, Senator.

Senator YOUNG. That was very helpful. Thank you so much. And I will yield to my good colleague from the state of Massachusetts, if he would appreciate being yielded to. Mr. Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you. I very much appreciate the opportunity. Thank you all for being here.

The E-Rate program. The E-Rate program is a program that is now 20 years old. I am the House author of it in the 1996 Telecom Act. What it does is it provides \$4 billion a year for Internet access for rural schools, for inner-city schools, for libraries. That's how in many instances many of these schools are able to be online. When that law passed, only 14 percent of classrooms had Internet access.

And you know the communities that have it, the wealthier communities, right? So if you're going to democratize access, if you're going to close the digital divide, then you need programs like that.

So, Mr. Bloomfield—Ms. Bloomfield rather, does NTCA support the E-Rate program?

Ms. BLOOMFIELD. So NTCA has long been a proponent of ensuring that every school and library has access to sustainable and affordable broadband. You know, in our communities, our schools are the lifeblood, and the folks who run my small communication providers, their kids go to those schools, their grandchildren go to those schools. So it's really, really important to ensure that that rural fiber gap is filled. It's really important.

Senator MARKEY. Would you oppose cuts in the E-Rate program?

Ms. BLOOMFIELD. The only concern we would have, Senator, is when E-Rate money is used to overbuild existing fiber. So we look at that and say if you've already got a school, a rural school, that has a fiber network—in most of my communities, it's one of their anchor institutions. So to use that money that can go so much further to actually ensure affordability for these schools to actually build their own fiber network, we think that's inefficient. When you've already got that fiber connection, to have two fiber connections, one supported by two different universal service programs, I would take issue with that. But I think the core of the E-Rate program remains to be critical.

Senator MARKEY. Apart from that, you would wholeheartedly support E-Rate?

Ms. BLOOMFIELD. We are——

Senator MARKEY. Yes.

Ms. BLOOMFIELD. We are supportive.

Senator MARKEY. OK. Great. Any other comments on E-Rate?

Ms. BLOOMFIELD. Nope. That is all I have to share with you.

[Laughter.]

Senator MARKEY. OK. Great. Thank you.

We have more than 60 Mayors representing communities across the country who have sent a letter to the President and Congressional leaders calling for broadband investment to be a part of the infrastructure package. We have the letters that are here. And I ask unanimous consent, Mr. Chairman, that these letters be included in the record.

Senator JOHNSON. Without objection.

[Laughter.]

[The information referred to follows:]

NEXT CENTURY CITIES
March 1, 2017

Hon. DONALD J. TRUMP
Washington, DC.

Hon. MITCH MCCONNELL
Washington, DC.

Hon. PAUL RYAN
Washington, DC.

Dear President Trump, Majority Leader McConnell, and Speaker Ryan:

Broadband Internet access is necessary infrastructure, and key to prosperity. It empowers entrepreneurship and economic growth, arms our teachers and students for success in the classroom, and gives our citizens a voice in the national dialog on our future.

That is why we, the undersigned representatives from 62 cities and counties across the nation, call on you to include broadband in any infrastructure legislation.

We are all part of Next Century Cities, a nationwide, non-partisan and non-profit membership organization of mayors and local government leaders who are com-

mitted to achieving better, faster, more affordable broadband Internet access. As mayors and municipal officials, we have each championed access for our residents to high-quality broadband in ways that are right for our communities. We are eager to have the Federal Government take steps in an infrastructure package that will truly increase Internet access for millions of Americans, and do so in ways that recognize the importance of local leaders in making these lofty plans a reality in our towns and cities across America.

Specifically, we call on you to ensure the following principles are included in any Federal infrastructure plan:

- *Promote Broadband Access.* Seventeen percent of Americans (and some 53 percent of rural Americans) lack broadband access.¹ There is an urgent need for increasing last-mile and middle-mile fiber networks to bring connectivity to all Americans. As such, Congress should consider preferencing proposals from communities that have taken steps to facilitate right of way access through policies such as One Touch Make Ready and Dig Once. Similarly, Congress should consider preferencing state applications for funding in states that have eliminated unreasonable barriers to local Internet choice.
- *Promote Broadband Affordability.* The price of connectivity strains household budgets, putting Internet access out of reach for too many Americans. Competition will drive down costs, so any infrastructure plan should include incentives for new market entrants and overbuilders.
- *Promote Local Solutions for Broadband.* As we show, city governments have been leaders in designing their own networks, implementing public-private partnerships, and leading the way with new multi-provider, open-access delivery models. Any infrastructure plan should include funding for these arrangements. Solutions should include nonprofit models, especially including telephone and electric co-ops.

We believe the Internet is nonpartisan and that collaboration benefits all. As such, we encourage you to learn from local voices like ours, and we look forward to working with members of both parties to ensure policies that promote greater access and increased deployment of next-generation broadband in any infrastructure legislation.

Sincerely,

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Ammon, ID

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¹ See *2015 Broadband Progress Report* at <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2015-broadband-progress-report>

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Stephen P. Weisz
President & CEO
Marriott Vacations Worldwide Corporation
Chairman of the Board, American Resort
Development Association



The Real Estate Roundtable

March 2, 2017

The Honorable John Thune
Chairman
United States Senate
Committee on Commerce, Science and Transportation
512 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Bill Nelson
Ranking Member
United States Senate
Committee on Commerce, Science and Transportation
254 Russell Senate Office Building
Washington, DC 20510

Re: "Connecting America: Improving Access to Infrastructure
for Communities Across the Country"

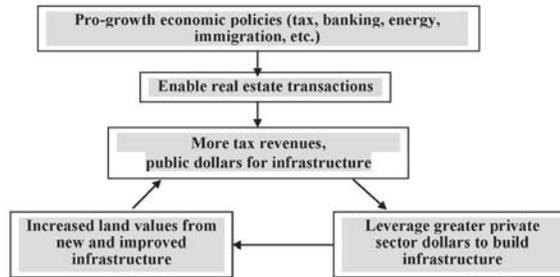
Dear Chairman Thune and Ranking Member Nelson:

On behalf of The Real Estate Roundtable,* please include this letter in the record of yesterday's hearing referenced above.

According to a global survey of government officials and private sector executives, the most important factor influencing real estate decisions around the world is the quality of infrastructure—that is, transportation, utilities, and telecommunications systems. Real estate and infrastructure have a synergistic, two-way relationship as growth in one of these asset classes spurs growth in the other. Safe and reliable infrastructure enhances the value of those properties it serves—which in turn generates greater tax revenues that cycle into a stream that amplifies and leverages limited public dollars needed to fund infrastructure projects:

* The Roundtable brings together leaders of the nation's top publicly-held and privately-owned real estate ownership, development, lending and management firms with the leaders of major national real estate trade associations to jointly address key national policy issues relating to real estate and the overall economy. By identifying, analyzing and coordinating policy positions, The Roundtable's business and trade association leaders seek to ensure a cohesive industry voice is heard by government officials and the public about real estate and its important role in the national and global economies. Collectively, Roundtable members' portfolios contain over 12 billion square feet of office, retail and industrial properties valued at more than \$1 trillion; over 1.5 million apartment units; and in excess of 2.5 million hotel rooms. Participating trade associations represent more than 1.5 million people involved in virtually every aspect of the real estate business.

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As your and other congressional committees consider how to chart a course that aligns with President Trump's ultimate vision for a national infrastructure plan, please consider these thoughts and recommendations:

- **A "Capital Stack" for Infrastructure:** Various funding and financing sources should be maximized to pay for infrastructure so that no single source is at risk. The Highway Trust Fund is periodically on the brink of insolvency and provides insufficient capital for all of the repairs to make our roads, bridges and transit safe—much less expand and grow these systems. Aside from the Highway Trust Fund, the following sources should be considered to supplement the gas tax as layers of the infrastructure capital stack:
 - **Foreign Investment:** Policies should be geared to bring foreign capital into the U.S. for the targeted purpose of infrastructure investment. In the tax arena Congress should consider (1) a reduced repatriation tax rate for offshore corporate earnings, and (2) repeal of the Foreign Investment in Real Property Tax Act (FIRPTA) to encourage foreign sources of capital to invest in U.S. infrastructure. Additionally, as Congress assesses comprehensive immigration reform, visa programs may be tailored to attract foreign investment capital channeled to help repair and modernize our infrastructure.
 - **Public-Private Partnerships (P3s):** The Roundtable understands that P3s are not a panacea or an appropriate financing platform for all projects. However, we respectfully suggest that federal policies to foster more public-private co-investment in infrastructure merit your Committee's focus. Optimally, P3s provide access to private equity investments, improved budget certainty, accelerated project delivery, greater efficiencies and innovations in design and construction, and transfer of risks to private sector partners. Of course, public funding is still requisite to attract private partners in the first place, and any project must generate sufficient returns and reliable revenue streams to draw the private sector's interest. To optimize appropriate use of P3s, federal guidance and model enabling legislation should be crafted to guide states and localities to authorize a full range of partnerships for all types of infrastructure. Additionally, federal P3-fostering programs like the Transportation

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Infrastructure Finance Innovation Act (TIFIA) should be maximized and expanded to other infrastructure asset classes. In this manner, limited taxpayer dollars can back loans, loan guarantees, and standby letters of credit that will leverage far greater multiples of private sector capital.

- **Tax Exempt Private Activity Bonds (PABs).** Congress should assess whether federal IRS caps on tax-exempt PABs should be raised or lifted to the extent they are dampening investment in infrastructure. Additionally, federal legislation should be considered to expand scope of PABs to cover construction of public buildings (schools, hospitals, prisons, convention and civic centers, etc.)
- **Broad Definition of Eligible Infrastructure:** Programs like TIFIA and PABs are geared toward transportation. That scope is too limited. Similar financing models should be created to enable resilient energy systems (e.g., gas pipelines, the electric grid); telecom structures for cyber-secure Internet access and information delivery; water/sewer infrastructure to avoid Flint-type catastrophes in distressed urban areas; and first-class schools, hospitals, community centers and other social infrastructure.
- **“Fix it First”:** Filling potholes, repairing bridges, and improving existing rail and transit lines may not draw political attention and publicity through “ribbon-cutting” ceremonies that kick-off new projects. But such ordinary repair and maintenance activities are the backbone of safe and reliable infrastructure systems. Specific federal funding sources and programs should be identified and designated for critical infrastructure repair and maintenance, while other sources should be devoted for longer-term growth and expanded capacity.
- **Move Toward Performance-Based Finance Programs:** Traditional federal transportation dollars are allocated to states based on pre-set formula grants. As policymakers take a fresh look at infrastructure programs, they should examine merits-based processes where projects compete for federal support if they meet performance-based criteria tailored to particular infrastructure “asset classes” (e.g., minimize rush hour traffic jams, move volume of goods through ports, relieve airport congestion, meet clean drinking water standards, improve Internet access in underserved communities, reduce burdens on the power grid during times of peak demand, etc.). Projects that fail to meet performance criteria should lose government assistance and/or meet deadlines to get back on track.
- **Apportion Transportation Funding Based on Evolving Demographic and Economic Trends:** For example, the Highway Trust Fund generally provides insufficient dollars for mass transit—only 20%—while roads receive 80% of funds. Infrastructure capital sources should be re-assessed and re-apportioned to match the changing and aging demographics of our population and its demands for more mobility, less car-dependent options.
- **Lever Federal Finance Tools in Local “Value Capture” Districts:** State and local governments are best suited to determine where growth is directed within their borders, and what neighborhoods and communities would benefit most from infrastructure improvements. For example, locally designated Tax Increment Finance (TIF) Districts and Special Service Areas (SSAs) capture a portion of the increased value on properties benefitting from infrastructure in

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those areas. Combining such strategies with proven federal tools (*e.g.*, grants, TIFIA, tax-exempt PABs) can provide viable revenue streams to finance infrastructure, and may also expedite local approval processes as these zones already have some form of development pre-approval.

- **Establish Procedures for More Efficient Inter-Governmental and Inter-Agency Reviews and Approvals:** Federal, state and local bureaucracies all have mandated roles in reviewing and approving the siting and financing of infrastructure projects. And, multiple agencies within each level of government have specialized missions to protect particular resources (*e.g.*, wetlands, species habitats, historic resources) as infrastructure is financed, developed and built. Where federal infrastructure funding sources are in play, Congress should encourage (and as necessary, establish by law) procedures for inter-governmental and inter-agency consultations to minimize duplication in government reviews, allow simultaneous and concurrent approvals, and require standards for efficient and proportionate resource mitigation.
- **Ease Regulatory Burdens for Projects of Same Size and Scope in Same Location as Existing Infrastructure:** If a bridge or road is proposed in the same place as a crumbling one in disrepair, and adds no or minimal traffic, regulatory approvals to obtain federal dollars should be streamlined. Likewise, if lead-tainted water pipes need to be replaced and safer ones will be located in the same spot, public-private partners should be able to swiftly cut through the red tape and bring the project to fruition.

Thank you for considering our comments. We hope you turn to The Roundtable as a resource as your committee considers policies to improve and modernize our nation's infrastructure. For more information, please contact Duane Desiderio, Senior Vice-President and Counsel with The Roundtable (ddesiderio@rer.org; (202) 639-8400).

Sincerely,



Jeffrey D. DeBoer
President and Chief Executive Officer

cc: Members of the Senate Committee on Commerce, Science and Transportation

FIBER TO THE HOME (FTTH) COUNCIL AMERICAS
McLean, VA, March 8, 2017

Hon. JOHN THUNE,
 Chairman,
 Senate Committee on Commerce,
 Science, and Transportation,
 Washington, DC.

Hon. BILL NELSON,
 Ranking Member,
 Senate Committee on Commerce,
 Science, and Transportation,
 Washington, DC.

Dear Chairman Thune and Ranking Member Nelson:

On behalf of the Fiber to the Home (FTTH) Council Americas,¹ I submit these written comments in response to the Committee's March 1 Hearing on "Connecting America: Improving Access to Infrastructure for Communities Across the Country."

Consumers and communities around the country understand that all-fiber broadband networks are critical infrastructure for the 21st century. That is why they are rapidly leaving their slow-speed services and clamoring to have access to all-fiber networks. And, at the Council, we believe, just like you, that all Americans, the maximum extent, should have access to these robust, future-proof networks. Quite simply, consumers and communities that have all-fiber networks will thrive; those that do not will suffer.

Deploying all-fiber networks, particularly in remote areas, can be daunting, and in areas where private investment is not sufficient, Federal and state governments should step in. Targeted, efficiently distributed subsidies, of course, are useful, but there are many other actions that the Federal Government can and should take to facilitate this investment that do not involve adding additional funding.

The Council recommends that the Federal Government proscribe two actions: (1) an online broadband deployment handbook; and (2) an interagency broadband deployment consulting service to assist providers in navigating Federal permitting policies and procedures and accessing Federal funding resources.

First, the Administration should develop an online Federal broadband deployment handbook that can serve as a one-stop shop for prospective broadband infrastructure projects, including at least the following four components:

- *A Roadmap for Accessing Federal Funding.* The handbook should include an easy-to-use roadmap of all Federal resources available for funding different aspects of broadband infrastructure deployment—from developing feasibility plans through actual construction. The Council has developed a similar guide as a part of its Community Toolkit, which provides local communities with information about Federal funding which can be used to deploy all-fiber networks.
- *Clear Instructions for Permitting.* While the existing Federal Dashboard contains information about permitting, this information can be overwhelming for small providers and communities. The handbook, therefore, should have clear instructions that enable providers and local communities to understand the permitting process that governs access to Federal assets, such as poles, ducts, conduits, and other rights of way.
- *A More Complete Broadband Map.* The handbook should include a more complete national broadband map that providers and local communities can use when applying for funding or permits. This map should denote all underserved and unserved areas, as well as Federal assets that providers could use to expedite deployment, such as highway conduit and Federal buildings.
- *Best Practices for Local Communities.* The handbook should also include a collection of best practices that local communities can leverage to improve the business case for all-fiber deployments. The FTTH Council Community Toolkit seeks to provide strategies to enable communities to lower barriers to fiber deployment by gathering information about existing infrastructure, assisting providers with gaining access to rights of way, and facilitating permitting, construction, and maintenance processes.² Most importantly, creating such a com-

¹The FTTH Council is a not-for-profit association whose mission is to accelerate deployment of all-fiber access networks by demonstrating how fiber-enabled applications and solutions create value for service providers and their customers, promote economic development, and enhance quality of life. The more than 250 members of the Council represent all areas of the broadband access industry, including service providers of all types and hardware and software equipment vendors.

²See FTTH Council, Community Toolkit, <http://toolkit.ftthcouncil.org/>.

pilation is the work that Chairman Pai has recognized as the mission of his proposed Broadband Development Advisory Committee.³

Second, the Executive Branch should re-establish an interagency consultancy to assist communities and providers—particularly smaller entities—in understanding and navigating the Federal permitting process and available Federal funding sources for broadband infrastructure deployments. This consultancy will complement the online handbook by enabling interested parties to work with the Executive Branch to develop strategies and leverage Federal resources to build networks in a more cost-effective and timely manner. Based on their unique expertise in facilitating and funding broadband builds, the Council proposes that this consultancy be housed within either at the National Telecommunications and Information Administration or Rural Utilities Service.

Finally, where the Federal Government decides to provide direct subsidies for broadband builds in unserved areas, it should ensure they are future proof and scalable. There is a strong undercurrent in today's Federal funding discussions that consumers in unserved areas are so desperate for broadband and will settle for second class service. But, consumers in these remote areas can already receive low-speed satellite delivered broadband. What they need is access to higher performance broadband that will enable them to be full participants in our economy and society. Accordingly, Federal agencies should be empowered to fund broadband that, within appropriate cost boundaries, provides consumers in unserved areas with the network technology that will give them service reasonably comparable to urban consumers over the longer term.

The Council appreciates that you recognize that broadband infrastructure is critical to our country's economic future, particularly in our rural areas. As experts in such infrastructure deployment, we stand ready to engage with the Committee to design mechanisms to maximize this investment for all Americans.

Very truly yours,

HEATHER BURNETT GOLD,
President and CEO,

Fiber to the Home Council Americas.

NATIONAL URBAN LEAGUE
New York, NY, March 9, 2017

Hon. JOHN THUNE,
Chairman,
Committee on Commerce, Science, and
Transportation,
United States Senate,
Washington, DC.

Hon. BILL NELSON,
Ranking Member,
Committee on Commerce, Science, and
Transportation,
United States Senate,
Washington, DC.

Dear Chairman Thune and Ranking Member Nelson:

As President and CEO of the National Urban League, and on behalf of its 88 affiliates in 36 states and the District of Columbia, thank you for holding this important hearing on "Connecting America: Improving Access to Infrastructure for Communities Across the Country." The National Urban League (NUL) approaches this issue from the lens of inclusion and equity, given that the employment and economic opportunities available in infrastructure investments are especially compelling for African Americans and other minorities.

The National Urban League is committed to an infrastructure action plan that aims to thwart the critical economic and digital divide in urban and other underserved communities. In the area of surface transportation construction, we know that these projects provide access to well-paying jobs and, if accessed, can bring economic relief to the unemployed and under-employed. Yet, research¹ has shown that low-income workers, women, people with disabilities and communities of color are vastly underrepresented in transportation sector jobs when compared with their overall participation in the workforce. This represents a missed opportunity for connecting these communities to quality jobs, especially given the good wages and benefits that often accompany transportation work. In addition to the workforce perspective, the National Urban League is also committed to insuring that minority-owned

³<https://www.fcc.gov/document/chairman-pai-forms-broadband-deployment-advisory-committee>

¹"All Aboard! Making Equity and Inclusion Central to Federal Transportation Policy," by PolicyLink, 2009. Accessed at: http://equitycaucus.org/sites/default/files/AllAboard_final_web.pdf

businesses have fair and equitable access to the business side of any infrastructure/surface transportation investment plan.

Given that broadband access is necessary for basic participation in our society and economy, and given that computer ownership and Internet use strongly correlate with household income and educational attainment, any infrastructure plan must address the broadband needs of all communities. For the National Urban League, “universal broadband adoption” refers to the set of broad and targeted investments, tools and innovations needed to fully

deploy wired and wireless broadband; to make devices and content affordable, available and usable; and to support the ability of students and workers to utilize broadband to build their 21st century knowledge, skills, careers and businesses.

As Congress and the Administration begin to grapple with comprehensive investments in our Nation’s infrastructure, in order for such investments to be fair and inclusive, they must include the following provisions clearly written into any legislative proposal:

- (1) *Specific provisions that ensure and commit to the inclusion of and meaningful participation by MINORITY BUSINESS ENTERPRISES (MBEs).* For far too long, too many have treated MBEs as an afterthought. This must stop and it is time for Congress to ensure that MBEs obtain meaningful participation in any infrastructure initiative. It requires assurance of supplier diversity, *i.e.*, proactively promoting business programs that encourage the use of African American owned businesses as suppliers of goods and services. It includes an emphasis on the creation of a diverse supply chain that ensures the inclusion of diverse groups in the procurement plans for infrastructure improvements and expansions.
- (2) *A specific commitment to fund JOB TRAINING and WORKFORCE DEVELOPMENT as a central and essential part of any plan.* Provisions must focus on enabling young workers and urban residents to benefit from any infrastructure plan through training, pre-apprenticeships, and related approaches, including Registered Apprenticeships within the telecommunications and technology sectors. It must promote meaningful skills development, technical training, internships and job placement opportunities for African Americans and urban community members. This must be fully integrated into any proposal. Once again, it cannot be separate or an afterthought. We loudly and forcefully champion this. Without this, the benefits will not be broadly and fairly shared.
- (3) *In addition to transportation investments, we believe that any comprehensive infrastructure plan must also include improvements in our community facilities such as SCHOOLS, PARKS, LIBRARIES, COMMUNITY CENTERS, NEIGHBORHOOD CENTERS AND COMMUNITY FACILITIES.* These are tools that mayors and urban advocates will insist on so that the benefits will be broadly and fairly shared.
- (4) *The INCLUSION OF LOCAL HIRE PROVISIONS*, where at least 20 percent of the workers are made up of workers from the local community. Many communities have employed local and targeted hire provisions on projects large and small with positive results for local residents and the local economy.ⁱⁱ
- (5) *METROPOLITAN PLANNING ORGANIZATIONS (MPOs)* must play a larger role in the decision making process to fund projects.

The National Urban League has long advocated for a major investment in our Nation’s neglected infrastructure. Recognizing the role that infrastructure investment can play as a “job-creation machine,” the National Urban League called for the concept of an infrastructure bank when we released our blueprint for economic equality, *The Opportunity Compact*, in 2007. The *Compact* called for the creation of an Urban Infrastructure Bank to fund reinvestment in urban communities. In 2008, we provided written testimony to the Senate Committee on Banking, Housing and Urban Affairs, in support of the National Infrastructure Bank Act, with recommendations to improve the bill for urban communities. Additionally, as part of the release of our 2016 State of Black America report, we introduced our Main Street Marshall Plan which calls for a plan to fund comprehensive urban infrastructure investments.

ⁱⁱ “A New Day, New Legacy For Gary, Indiana,” by Mayor Karen Freeman-Wilson, *2015 State of Black America Save Our Cities Education, Jobs +Justice*, National Urban League, 2015, p.124.

On behalf of the National Urban League, I look forward to working with Congress to ensure that our concerns and recommendations are fully integrated into any final plan to invest in our Nation's vast infrastructure needs.

Very truly yours,

MARC H. MORIAL,
President and Chief Executive Officer,
National Urban League.

Senator MARKEY. Thank you. I appreciate it.

And I also ask for unanimous consent to enter into the record a letter on the schools health, libraries, and broadband coalition also supporting greater broadband investment for schools, libraries, and health care providers. I have these letters here, too.

Senator JOHNSON. Without objection again.

[The information referred to follows:]

March 1, 2017

Hon. JOHN THUNE,
Chairman,
Hon. BILL NELSON,
Ranking Member,
Senate Committee on Commerce, Science, and Transportation,
Washington, DC.

Dear Chairman Thune and Ranking Member Nelson,

On behalf of the Schools, Health & Libraries Broadband Coalition (SHLB Coalition), I respectfully ask that this letter and the attached document called "A Rural American Broadband Connectivity Program" be inserted into the record of the March 1, 2017 hearing on "Connecting America: Improving Access to Infrastructure for Communities Across the Country".

The SHLB Coalition is a non-profit, 501c3 advocacy organization that receives financial support from the Bill & Melinda Gates Foundation and membership dues. Our broad-based membership includes schools, libraries, telehealth networks and other anchor institutions, broadband providers, public interest groups, state broadband officials and others.¹

We support greater investment in public broadband infrastructure, especially in rural areas, to provide anchor institutions such as schools, libraries and health providers with open, affordable, high-capacity broadband connections to the Internet. We also believe that funding for broadband infrastructure can best be awarded through an open, competitive application process, similar to the process used for the Broadband Technology Opportunities Program (BTOP). Our suggested approach for new broadband investment is contained in the attached document.

Sincerely,

JOHN WINDHAUSEN, JR.,
Executive Director,
Schools, Health & Libraries Broadband (SHLB) Coalition.

¹A complete list of SHLB Coalition members is available at www.shlb.org/about/coalition-members.

RURAL AMERICAN BROADBAND CONNECTIVITY PROGRAM

A broadband infrastructure
proposal from the SHLB Coalition



Rural ABC Program

JANUARY 2017



GOAL

The goal of this program is to ensure that every American community has affordable, high-capacity broadband connectivity to the Internet through its community anchor institutions (CAIs).¹ This document recommends a variety of policy measures to encourage commercial and non-commercial broadband providers to deploy fiber and wireless broadband networks efficiently and to make those services available to the general public at affordable prices through each community's anchor institutions.

WHY IS BROADBAND FOR ANCHOR INSTITUTIONS A NATIONAL PRIORITY?

Providing high-capacity broadband to and through anchor institutions is a cost-effective way to solve the "digital divide." While strong evidence² exists linking access to high speed broadband with economic benefits, social engagement, educational attainment, and personal health, most broadband investments to date have improved broadband access in urban areas but not in rural markets. Thirty-nine percent of rural Americans (23 million people) lack access to 25 Mbps broadband service (41 percent on Tribal lands), compared to only 4 percent of urban residents. Rural residents are suffering economic distress and a diminished quality of life in part because they do not have adequate access to high-speed Internet services.

Focusing on deploying broadband to and through community anchor institutions in rural and hard-to-reach areas has many advantages, such as:

- High-speed broadband creates jobs, promotes economic growth, enhances digital learning and promotes telemedicine;
- Anchor institutions can serve as "anchor tenants" that help to make broadband networks economically sustainable;
- Deploying to anchor institutions is more cost-effective than deploying to every home;³
- Anchor institutions are well-established and stable members of the community with resources to serve the general public; and
- Anchor institutions serve the public interest, not special interests.

¹ Community anchor institutions include community centers, public housing, hospitals and health clinics, senior citizen centers, museums, community colleges, public media, schools, libraries, and other non-profit community-based organizations.

² See, e.g. Datz, Orszag and Willig, "The Substantial Consumer Benefits of Broadband to Households," July 2009, at https://internetinnovation.org/files/special-reports/CONSUMER_BENEFITS_OF_BROADBAND.pdf. See also, Lehr, "Anchor Institutions Help to Secure Broadband's Promise," at <http://www.shlb.org/uploads/Policy/Policy%20Research/SHLB%20Research/Anchor%20Institutions%20Help%20Secure%20Broadband.pdf>.

³ Bringing broadband to anchor institutions is a cost-effective first step to bringing broadband to the whole community.

Anchor institutions are a vital part of the economy in rural communities. For instance, a rural hospital with only 25 beds is typically one of the three largest employers in the county, employing (on average) 141 people while generating \$6.8 million in wages, salaries and benefits. Access to affordable, high-capacity bandwidth can determine whether the health institution can survive financially. Ensuring that these anchor institutions have adequate broadband to accomplish their mission is often critically important to the economic health of the whole community.

ANCHOR INSTITUTIONS' BROADBAND DEFICIT

Unfortunately, many rural schools, libraries, hospitals and health clinics and other anchor institutions have insufficient broadband connectivity, as shown by the following:

- **42%** of schools do not have enough capacity to meet the FCC minimum broadband standards, which means that students are not able to engage in on-line learning and cannot develop the digital skills needed for today's workforce. Schools and school districts are moving towards student-centered, personalized learning utilizing digital applications and devices. High-speed broadband access enables schools to expand learning options, allowing students to create content, to participate in virtual courses that may not be available on their campuses, and to collaborate with experts or other students remotely. The CoSN 2016 Annual Infrastructure Survey found that 57% of school districts said cost was a barrier to broadband connectivity. Many rural districts pay ten times more than the urban district average of \$5 per Mbps.⁴
- **41%** of libraries have a broadband connection that is 10 Mbps or less, which is far below the FCC minimum broadband standard that each library receive at least 100 Mbps. The low speed access means only a handful of library patrons can use the Internet at the same time and just several patrons watching videos can slow access to a catatonic state. Libraries specialize in providing skilled personnel, digital literacy training, computers, laptops and Wi-Fi connections to the general public, but their level of service depends on having a robust broadband connection. With greater bandwidth, the local library could ensure that everyone in the community has access to essential Internet-based services.
- **88%** of non-metro health providers have less than a 50 Mbps connection, which means that they cannot implement telemedicine solutions to improve health care in rural areas. Rural citizens may not have access to doctors and specialists in their local communities, but a broadband connection from a local health clinic to an urban hospital can bring the best quality medical care to rural consumers via telemedicine.⁵

WHAT APPROACH SHOULD BE TAKEN TO ADDRESS THE RURAL BROADBAND PROBLEM?

To overcome the challenges above, we recommend a program to incentivize capital investment in broadband infrastructure projects that otherwise would remain unfunded.

First, local communities will conduct a needs assessment and identify the gaps in broadband coverage. The community should consult with multiple stakeholders and the broadband industry to determine how to aggregate demand and attract capital investment.

⁴ CoSN's 2016 Annual Infrastructure Survey, Nov. 11, 2016, at <http://www.cosn.org/Infrastructure2016>.

⁵ The data from the National Broadband Map (which last collected data in 2014), showed that there are over 347,000 community anchor institutions. The above statistics only cover schools, libraries and health providers. We do not have data concerning the broadband access for hundreds of thousands of other anchor institutions, but we think it likely that these other anchor institutions have even less broadband capability than schools, libraries and health providers.

The federal government would then make available a variety of financial instruments to incentivize the most cost-effective and market-based investment strategies to fill those gaps in coverage. These tools should include "dig once" deployment strategies, low-interest and subsidized bonds, low-interest loans, tax credits, and direct funding for both up-front capital costs and (in the highest cost regions) operational expenses. It is important to make a variety of financial instruments available to both commercial and non-commercial providers so that communities can choose which strategy is best suited to promote deployment of high-capacity broadband to the anchor institutions in its region.

This proposed program would supplement, not replace, existing Universal Service Fund (USF) programs.⁶ The existing USF programs have been enormously helpful in increasing broadband connectivity across America, but these programs have not solved the problem in the most rural and hard-to-reach areas.

The program should also leverage other infrastructure investments, such as highway, bridge, and tunnel projects where broadband infrastructure can efficiently be installed together. Innovative financing options (such as tax credits) should be made available to fund installation of conduit and/or fiber as part of the construction of any lateral infrastructure. By driving down the total cost of construction, the program would bring critical broadband infrastructure to the heartland of America that might otherwise face uncertain financing due to difficult project economics in rural and hard-to-reach areas.

The program would not give preference to, or exclude, any type of provider and would be open equally to telecommunications carriers, cable companies, wireless companies, municipal and non-profit providers, or any other legally and technically qualified entity eligible to be chosen by the state, county and local community to serve its broadband needs.

CONCLUSION

To compete in the New Economy, America will need a rich supply of educated, creative, capable workers from all walks of life - rich and poor, rural and urban. This broadband program will help to revitalize rural and hard-to-reach communities by providing access to affordable, high-speed broadband through our nation's community anchor institutions to every person in America.

The SHLB Coalition is a 501(c)(3) non-profit membership organization dedicated to promoting open, affordable, high-capacity broadband for anchor institutions and their communities. www.shlb.org. For questions concerning this proposal, please contact John Windhausen, Executive Director of the SHLB Coalition, at 202-263-4626, or by email at jwindhausen@shlb.org.

⁶ The ABC program does not duplicate the FCC's Connect America Fund because that Fund is primarily focused on residential consumers, while the ABC proposal is primarily focused on anchor institutions.

Senator MARKEY. Thank you, Mr. Chairman.

We already have a template for success in 2009 in western Massachusetts. We actually received \$45 million as part of the Recovery Act to build 1,200 miles of fiber optic cable connecting 120 communities to broadband, 400,000 households and businesses.

When people think of Massachusetts, they don't think rural, they don't understand that a third of the state is trees once you get past Boston and Worcester, and we have the same issues that any other state would have. So, we thank you for that.

And to the Mayor of Miami Beach, climate change, resilience, infrastructure. We've got a problem in Boston. We're now talking over the next 40 years, how do we build a huge blockade out in Boston Harbor to stop what is happening with the rising tides? The Gulf of Maine, which is Boston Harbor, et cetera, is the fastest warming body of water in the world. So water expands and the tides are getting higher, the storms more intense, and as a result, the impact is going to be greater.

Can you talk about Miami, the impact, and what you might expect or hope from the Federal Government in any infrastructure package that would help your city?

Mayor LEVINE. Thank you, Senator. And I appreciate your Boston accent, and if I listen to you more, I'm going to get mine back, because I'm from Boston.

Senator MARKEY. What high school?

Mayor LEVINE. I actually grew up as a kid there, went to Edward Devotion in Brookline, Coolidge Corner.

Senator MARKEY. Interesting, yes.

Mayor LEVINE. I was born in Needham.

Senator MARKEY. Great.

Mayor LEVINE. So I hear your Boston accent and I feel very comfortable. And, of course—

Senator MARKEY. Thank you. And let the word go forth that a new generation of leaders in Miami have the correct accent.

[Laughter.]

Mayor LEVINE. Of course. Of course. Of course. If you went into my office, you would see a lifeline mural of President Kennedy's inauguration with his famous words above.

Senator MARKEY. Oh, yes, yes.

Mayor LEVINE. And, of course, his house was right around the corner from mine, where I grew up.

Senator MARKEY. Yes.

Mayor LEVINE. Thank you for your great question. I was elected Mayor of Miami Beach in 2013, and at that time, some of our main roads were underwater constantly, and, by the way, during sunny days. As you can imagine, very unnerving for residents, for visitors, for investors. Some people get swept into office. I always say I got floated into office in Miami Beach.

And I said we're going to come up with a plan. There's no book written, there's no—no city has ever tackled what we have done, but what we did is we assembled all our engineers together and we said, "Let's get on it, whatever it may be." We began raising roads, putting in pumps, raising seawalls, and making sure that these areas no longer would be underwater.

Now, under no circumstances have we declared victory against Mother Nature, because, as you know in Boston, it continues to rise. But what we've had to do is we've had to utilize our own funding. We raised our stormwater fees. We went out and raised money through bond issues. And by the way, as you can imagine, everyone here is a lot of elected officials, it's not fun to get into office and say, "I'm going to raise your taxes." It's one of the things you did, but I said, "Listen, I want to be the Mayor of Miami Beach. I don't want to be the Mayor of Atlantis." OK? So we're going to do what we have to do.

So the issue for us, of course, is, how do we ever get Federal funding? We didn't. We found the same way as when you want to do a light rail or transportation, the process is so overwhelming, so staggering, you can imagine with something that's happened before, but with something that's never happened before, like sea level rise, it was very challenging, and we have not received Federal funding.

What we need is to have something in an infrastructure bill that allows coastal communities—Miami Beach is a poster child, but the fact of the matter is it's happening in Boston, like you, and I know my friend Mayor Walsh is dealing with it as well.

We have to come up with a way to make our cities resilient because when you're on the coast, your future may not be assured. And we're learning as we go. We're not experts. But we think that it requires money. That's what it comes down to.

Senator MARKEY. Yes. My hope is that when we do an infrastructure bill, that we, like broadband, think about these infrastructure investments as well. It's always better to start out where you're going to be forced to wind up anyway. It's always better that way, so that we make the investments so that in the end we're protected against the inevitable, either we reduce greenhouse gases or we increase the size of the walls, but you don't really have a choice, you have to go one way or the other, and in some places it's already too late, you're going to have to go in both directions, and Miami is the perfect example.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Markey.
Senator Duckworth.

**STATEMENT OF HON. TAMMY DUCKWORTH,
U.S. SENATOR FROM ILLINOIS**

Senator DUCKWORTH. Thank you, Mr. Chairman. I want to thank the Chairman for holding this very important hearing.

When I travel across Illinois, it doesn't matter whether I am in a blue county or red county or Chicago or the great metropolis of El Paso, Illinois, people want the same thing, infrastructure investment. And I'm hearing—we've had a long discussion here on broadband, and I'd like to touch on it a little bit more.

Ms. Bloomfield, I would like for you to talk a little bit more about the CAP II program and sort of flush that out for us a little bit and what you think priorities from Congress could be.

I met with the Mayor of Rock Falls, Illinois, just yesterday, and one of the things he pointed out to me was that—it's a rural community—they're actually floating a bond to raise the money in

order to get broadband themselves. They had broadband, but it was so unaffordable by the one provider that would never answer his phone calls when he was trying to up the level of broadband because it was just over the threshold, but it wasn't enough to attract large companies and manufacturers into town, the kids were still having trouble doing homework.

So he decided he was going to do this himself as a mayor. We have Mayors here who know exactly what that takes, that, you know, self-direction. They've raised the money, they're going to do it, and suddenly the Internet provider is now coming and calling him and saying, "Hey, we can give you a better deal. You don't need to do this," the same folks who never answered his calls before.

Ms. BLOOMFIELD. Yes.

Senator DUCKWORTH. So remarkable what a little competition will do. But can you talk a little bit about the CAP II program and maybe just 1, 2, 3, what you think priorities could be for this body, to help us achieve that? It's not just rural, I know you're rural, but I have parts of Chicago where we can't get good Internet access, where kids can't do their homework either.

Ms. BLOOMFIELD. Yes. It's a great question, Senator. So without getting totally into the weeds of universal service because your eyes will start rolling into the back of your head, the Connect America Fund was actually a part of the High Cost universal service program that is directed toward those companies that are price cap companies, a little bit larger companies.

So part of it has been to incentivize those companies to actually—which are not part of my membership—but to incentivize them to basically say, you know, we've got to give you motivation to build into those rural communities, because—you know what?—we know you're facing competition in Chicago. How do we provide you support to bring broadband out to those rural communities where your rate of return is not going to be what it's going to be in a more urban, more densely populated area?

So the Connect America Fund was established for that reason. The carriers have just finished that process. They are now choosing where those locations are that they are going to take that support for. So we are going to see where they're taking that support. Where they choose not to take the support, the thing that I think is interesting about that part of the program is that money will then go up for auction in a few years, so other providers, hopefully my members, for example, will be able to go in and say, "Okay, you're not going to build into that rural community in Illinois. But you know what? I'm the small broadband provider nearby. I'd like to get in, build that, use that support, and bring service to the people who need it with more of a community-based kind of thought behind it."

So there is the Connect America Fund, there is the High Cost Fund, which the smaller carriers are under, but, again, the CAF II is what the FCC just actually voted some rules out last week, so I think we're going to see some interesting movement there. So I think that's one thing to be hopeful for.

The other thing is I think you raised a really important point. How do you connect the dots? How do you get people to be thinking

about where service is needed and who is willing to provide those services? How do we do more efforts beyond trying to—you know, if you can't get somebody to return your phone calls, and they don't see the benefit of broadband in the community, how do you get community leaders doing some things that are interesting?

One of the things I always cite is I was in Minnesota last week at a broadband summit, and what the state of Minnesota has done is they have jumped in and said, "You know what? We're going to augment USF and Federal efforts, RUS, all of these other programs." And they're actually doing a very targeted—they actually have somebody in the State government who serves as their State Broadband Director, and her job 24/7 is to think about, who has broadband? Who doesn't have broadband? How do we get it out there?

So they are in their second or third year. They are actually making incredible real progress on the ground combining Federal support programs with State funding on the ground. And there are communities that literally year-by-year, with strict accountability, are now getting broadband access.

I think there are models like that, we've seen it in New York recently, that are really intriguing and are really an interesting partnership between what you see on the Federal level and what you can do on the State level.

Senator DUCKWORTH. Is that fund, once it goes up for auction, is that—who would be eligible to bid on it? Are we still working on the rules for that? Because if we pull ops to it, could—you know, is it for commercial purposes only?

Ms. BLOOMFIELD. You know, I'm not entirely sure, and we'll get back to you on that, but it will be open to all carriers, so it will be open to wireless, it will be open to satellite, it will be open to WISPs, it will be open to traditional broadband companies, telephone companies. It will be open to anybody who's interested in going and providing the service. So it's technology agnostic.

The thing I would say, however, and we saw this with stimulus, we saw this with some of the FCC broadband experiments, if you've got precious resources, you really want it to go to somebody who knows how to get the job done.

Providing broadband service is actually very complicated and it's very expensive. So to kind of throw money at a problem is not the answer, which is why I'm hopeful that as this money comes up from auctions, you will see folks who are willing to build future-proof networks who actually know how to get the job done.

Senator DUCKWORTH. Thank you. I yield back.

The CHAIRMAN. Thank you, Senator Duckworth.

Senator Johnson.

**STATEMENT OF HON. RON JOHNSON,
U.S. SENATOR FROM WISCONSIN**

Senator JOHNSON. Thank you, Mr. Chairman.

You know, we all agree that we need to invest money into infrastructure. President Trump is talking about a trillion dollars. We had an \$800 billion stimulus that I still don't know where it went to. The best accounting on that is maybe \$100 billion was spent on infrastructure. The rest is just gone.

We're \$20 trillion in debt. The projected deficit over the next 30 years is \$103 trillion added on top of that. So, Mr. Mayor, you said it comes down to money. Yes, and we're running out of it.

So I want to ask you all the exact same question about accountability. For my briefing of this hearing, I was given a political investigation, it's called *Wired to Fail*. It was published in 2015 talking about the rural utility service. And the Administrator at the time, Jonathan Adelstein, was talking about a \$3.5 billion program that was going to connect nearly 7 million rural Americans.

The investigation showed that roughly half of the nearly 300 projects, RUS-approved as part of the 2009 Recovery Act, didn't drawdown the full amounts of the order. Forty of the projects never even got started. Even the Rural Utility Service admitted it was not going to provide better service to the 7 million residents it once touted. Instead, the number is in the hundreds of thousands. And the representative from the Government Accountability Office said we are left with a program that spent \$3 billion and we really don't know what became of it.

So if you go into this project saying we'll spend \$3.5 billion, connect 7 million people, that would come down to about \$500 bucks a person. If it's hundreds of thousands, if it was 300,000, that was \$10,000 a person. If it was 600,000, that was \$5,000 a person.

How can we make sure that we hold people accountable, government accountable, so that if we have a trillion dollar infrastructure bill, we actually know they're going to be shovel-ready projects, the cost estimates are going to be accurate, and we don't waste the taxpayers' hard-earned money?

And we'll start with you, Governor.

Governor DAUGAARD. Thank you, Senator. Well, I think a straightforward answer would be to block grant things like that to the states. I think in South Dakota we're as frugal as you'll find. We have one of the smallest tax burdens in the Nation. We have one of the smallest budgets in the Nation. We are among the smallest of states by population. Our budget is balanced. We're a AAA credit-rated state. Our pension is nearly fully funded.

And so we're running our ship well, I think. And I think states can be trusted to do what's in the best interests of their citizens. And the closer you get to the projects, the more accurately you'll be able to assess what the costs are and the better you'll be able to oversee them.

Senator JOHNSON. So you're saying the Federal Government is not particularly good at attaching strings to make the spending efficient. So maybe block grants to the states combined with a private-public partnership so there are some real incentives there to spend the money wisely.

Governor DAUGAARD. If you're talking about broadband, yes, I think there might be some opportunities for private investment, and there will be some areas where private investment won't go because there are just too few consumers to get payback. But I think a combination of block grant dollars or state-invested dollars, along with, in some places, private investment, that can work.

Senator JOHNSON. Mr. Braceras.

Mr. BRACERAS. Yes. I think your question is fundamentally so important because at the end of the day it comes down to what I

call our most important currency that we have at the Utah Department of Transportation, and I think every elected official, it's trust. And so we have to be trusted that we're going to use the public's pot of gold in a way that will get the results that we tell them we're going to get, and so we take that very seriously.

So as the Governor said, at the State level, there's a very direct connection between, "Did you do what you said?" and people can see whether you did it or not.

Now, we're not a broadband provider, but we're a broadband facilitator, and so a lot of discussion has been about broadband. I would offer that you could look at opportunities to break down the silos within government. A lot of the challenges to provide broadband to our rural communities is the length between those communities, and a lot of that—those lands are owned by the Federal Government.

There's not a great incentive right now for the different branches of government to work together toward a common vision. I think if there was a clear articulation, "We're going to put a man on the Moon," "We're going to accomplish this," and we expect every branch of government to work together to achieve it, and we ask our partners, the states, to help lead that effort, we can go a long ways.

Senator JOHNSON. Government close to government, what a concept.

Ms. Bloomfield.

Ms. BLOOMFIELD. So, Senator, a couple of things. Under the Stimulus Act, there were about 100 NTCA member companies that actually did get stimulus funding and—you know, but think of it in the context of these are existing broadband providers, state fiber networks, they knew what they were doing.

So I guess that would be one of my main points. First of all, leverage the existing programs that you already have. Two, you know, go with people who know what they're doing to get the job done. They've got to be good stewards of Federal support, and that's going to be really important.

Your point on accountability, absolutely. And that's one of the things I find encouraging about the FCC's recent reforms. You actually have to report on a location-by-location basis what you are doing and what you have built.

The last thing I would say is Wisconsin is actually a role model in terms of some of the easements. They have something called Broadband Forward in the state, which is actually a harmonization among all of the communities and the state PUC so that there is a streamlined process that if you're going to deploy broadband, the state has already gone through and kind of certified what areas are broadband-ready, which I think is eliminating a lot of those regulatory hurdles as well.

Senator JOHNSON. Again looking to the states, real quick, Mr. Mayor.

Mayor LEVINE. Real quick. Listen, before I was the Mayor, I was an entrepreneur and built some very large companies, so I look at things more from a business perspective. I love the idea of P3s. The issue with P3s are, you know, if there is no real reason for a private company to invest in a project, they're not going to. We have

this thing called banks, and banks will lend money to cities and do these projects. So for a P3 to be a bank, it's just a bank. It is what it is unless there's revenue.

But I've learned in my life and in business, and I think, for example, Warren Buffett has probably noticed with Berkshire Hathaway and all his various companies that run somewhat independently, is that you've got to run from the ground up, you can't build from the top down.

So the Federal Government at that level, with the amount of process, bureaucracy, what it takes to make these projects happen, it is so overwhelming, it's so ridiculous, that it needs to be from the bottom up.

I like what the Director said from Utah, great idea. I want to move you to Florida. OK? Because the fact of the matter is that, why are we duplicating these services? If the state is going to do the same thing, let the state do it, work with the municipalities, but you've got to move it.

As far as we're running out of money, hey, I understand that, but I've got to tell you something, we can't afford not to invest in infrastructure, we can't afford not to invest in resiliency, because then we'll really run out of money. You run a business——

Senator JOHNSON. Yes, we can't afford to waste the money again. It's a pretty unanimous opinion here.

Mayor LEVINE. Absolutely.

Senator JOHNSON. Turn the money over to the states, hold them accountable.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Johnson. And by the way, the two best funded retirement systems, state systems, in the country, are South Dakota and Wisconsin.

Senator JOHNSON. Good, responsible folks.

[Laughter.]

The CHAIRMAN. Senator Blumenthal.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thanks. Thanks, Mr. Chairman.

Director Braceras, I take your point about trust and avoiding any waste of taxpayers' pot of gold, and we all know resources are limited. There's no endless pot of gold. So if the choice were yours and you had to sacrifice road building in Utah and your fellow transportation officials around the state and the American Association of State Highways and Transportation Officials had to do the same, would you give up your roads to build a wall along the border at the cost of \$20 billion to \$30 billion?

Mr. BRACERAS. Well, I feel like I'm entering a political discussion right now.

Senator BLUMENTHAL. Well, that's what choices are about, spending taxpayer money. Correct?

Mr. BRACERAS. I understand that. I'm just——

Senator BLUMENTHAL. They are setting priorities and making those choices, sometimes they're hard choices.

Mr. BRACERAS. I believe strongly, Senator, that, as a nation, we have to establish goals and we need to prioritize those goals. Obvi-

ously, based on the business that I'm in right now, I believe strongly that infrastructure is a foundation for our economy and quality of life. We would not be the country we are today without the Transcontinental Railroad.

Senator BLUMENTHAL. And it's a matter of national security. Wouldn't you agree?

Mr. BRACERAS. Without the interstate system, we would not be the country that we are, we would not be one country, we'd be a lot of different separate regions. And so I believe strongly that infrastructure, whether it be broadband, roads, transit, is critical for our Nation.

Senator BLUMENTHAL. And should be given priority.

Mr. BRACERAS. From my perspective.

Senator BLUMENTHAL. Mayor Levine, how do you feel about that question?

Mayor LEVINE. Senator, thank you for the question. I absolutely 100 percent believe we need a wall. We need a wall around the state of Florida to stop the water from coming into our state.

[Laughter.]

Mayor LEVINE. And I am a big believer in it. I wrote an article in *Time Magazine* about it. We need a resiliency wall, and it's not just about Florida, it's going to be other coastal communities around—

Senator BLUMENTHAL. I was going to say, it's not just Florida, it's—

Mayor LEVINE. No.

Senator BLUMENTHAL. So my colleague from Massachusetts has raised the danger there. We have a coastline in Connecticut that—

Mayor LEVINE. Absolutely.

Senator BLUMENTHAL.—requires resiliency support and funding. That's a critical infrastructure requirement. Correct?

Mayor LEVINE. Absolutely. No question.

Senator BLUMENTHAL. Governor, how do you feel about it?

Governor DAUGAARD. Well, I don't presume to tell you what your priorities should be at the national level—

Senator BLUMENTHAL. But you're a state official, and Senator Johnson, although he's left, has said we ought to give the states more say in these decisions. You're the Governor of a sovereign state, and the Federal Government has limited resources in that pot of gold, and you're here to advise us. Should it be the wall or should it be improving the roads and railroads and bridges of South Dakota?

Governor DAUGAARD. Well, the statement I made and I stand by is that the states do a better job of spending the dollars that are available. And so we have limited dollars available, then give the states more autonomy in deciding how they should be prioritized, and I think we can also spend them more effectively.

Senator BLUMENTHAL. So rather than build a wall, we ought to give South Dakota—and I'm with you on that one—more say and more resources to improve its roads and rail and other critical building blocks for our economic future, it's not just this abstract term "infrastructure." I hate the word because it's so difficult to relate to people, but it's how they travel, how they deliver goods, get

to work, the schools, and ports, and, yes, the VA facilities of South Dakota. You'd rather have the money to do improvements there, wouldn't you?

Governor DAUGAARD. Again, what I'm saying is I'd rather have the state make decisions about the dollars that are allocated to us from the Federal budget about how those dollars are spent and what the priorities should be and the processes that provide for accountability. I think the states are in a better position to make those judgments than the Federal Government is.

Senator BLUMENTHAL. I was a state official for 20 years, not in the more elevated position you have, I was just the Attorney General of our state, but I would have been advocating, just as you are, also as a member of the state legislature.

So thank you all for being here today. I appreciate it. I'm hopeful that we can build more resiliency on our coasts and more roads and bridges and better behaved facilities and really safeguard our national security by addressing our critical building block needs in our Nation, and I appreciate your commitment and your hard work in that regard. Thank you.

The CHAIRMAN. Thank you, Senator Blumenthal.
Senator Sullivan.

**STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA**

Senator SULLIVAN. Thank you, Mr. Chairman. And I want to thank the witnesses for your testimony today. A very important topic.

I want to follow up a little bit on the themes that Senator Johnson was focused on. I have a few examples of Federal Government permitting dysfunction. So we had a hearing last year on airport infrastructures. The Sea-Tac Airport in Seattle expanded a runway. It took 15 years to get the Federal Government's permits before they could begin construction.

In my state of Alaska, it took almost 20 years to permit a gold mine, the Federal Government to permit that. It took 7 years and \$7 billion for Shell to get the permit from the Federal Government to drill one exploration well in 100 feet of water in my state. It took 14 years to permit the Gross Reservoir—water reservoir—in Colorado.

A GAO study found that federally-funded highway projects take between 9 and 19 years from permitting to completion for America, 9 to 19 years. That's a GAO study. That was 10 years ago. I guarantee it's worse now.

A typical EIS can take 6 years to complete and over \$2 million for cities and states like yours.

So from my perspective, any major permitting or any major infrastructure initiative has to include permitting reform, or we're just going to waste the money, like the Obama initiative did, which I agree with Senator Johnson, not a lot of shovel-ready projects when it takes 6 years on average to permit a bridge in America. It's lunacy.

So we're going to be introducing, and I certainly want to get some of my colleagues on the other side of the aisle to help us with this, the Rebuild America Now Act, which will focus on what I

think the vast, vast majority of Americans see as critical, Federal Government permitting reform, so we don't have this madness of 15 years to permit a new runway in Seattle.

So I would welcome, just open it up to, any and all of your ideas on what additional ideas we should include in the bill that we're going to introduce, and, hopefully, if we have an infrastructure initiative, permitting reform has to be part of it, or we're just wasting money—the taxpayer money of all Americans.

So, really, I just want to open it up for your ideas on what the Federal Government can do in terms of permitting to make it more efficient, not cut corners, but nobody in America thinks it makes sense to take 6 years to permit a bridge.

Any of the witnesses. I welcome your thoughts, all of you.

Ms. BLOOMFIELD. I would just jump in, Senator, and say that's one of the reasons we've supported MOBILE NOW with a lot of the streamline provisions that are in there that are really important to get broadband deployed out in rural areas. We think we would be really interested in seeing what your legislation looks like. Completely agree.

And I think the more you can harmonize, because it's not just the Federal permitting, it's then the states and then it's the local. How do you get all three bodies in a collaborative way to streamline that process? So if you get one done, it doesn't necessarily take care of the other two.

The other thing I will say is that Chairman Pai over at the FCC is really doing this very hands-on advisory council on broadband where I think he's going to have folks sitting around the table really talking about, "What are those obstacles? How do we eliminate it?" So I expect to see some really interesting pieces of constructive advice coming out from that committee.

Senator SULLIVAN. Well, if any of you want to submit ideas for the record to this hearing, we would certainly welcome those. Any other thoughts or suggestions on Federal Government permitting?

Yes.

Mr. BRACERAS. I'll just do this very quickly, Senator. There is very little incentive for the Federal agencies to step out and take a risk and say yes in the permitting process.

Senator SULLIVAN. Yes. They love the delays.

Mr. BRACERAS. There's a lot incentive because otherwise they're making a decision, they're taking risk on this. There needs to be more deference given to the lead agency that's leading the EIS. I've got an EIS right now, we've spent over \$20 million on it.

Senator SULLIVAN. Geez.

Mr. BRACERAS. We're into this 7—

Senator SULLIVAN. What was it for?

Mr. BRACERAS. This is for West Davis Highway. We're into it 7 years. We're about to issue the final EIS on this right now, and we're still battling some different Federal regulatory agencies that want to introduce another alternative after 46 have been studied and over \$20 million.

So we need to find a way to give more deference for the lead agency, in this case, Federal Highway Administration, to be able to listen to all sides and make decisions and move on, not essen-

tially have a standoff, and that's what we end up with a lot of times.

Senator SULLIVAN. Great. And that's a great idea, by the way.

Anyone else? Mr. Mayor?

Mayor LEVINE. Senator, I agree with you 100 percent. We've seen it in Miami Beach, we've seen it in Miami, that once you start to go through the Federal permitting process, it's literally impossible. OK? I said before it's like the toughest SAT question you ever attempted to answer, it's literally impossible.

But I think the key here, and what I'm hearing from everybody, is that like take the handcuffs off. OK? Take the Federal handcuffs off. Let the states, let the cities, let them forward as fast as possible. Try to remove the Federal process. Put more responsibility on a local level.

And once again, I don't want to sound like a commercial, but Miami Beach is hosting the United States Conference of Mayors in June. Every mayor in the country will be here. President Trump is invited, and Vice President Pence. I think it would be amazing if there was some way that you could hold a committee hearing like this in front of the United States mayors and listen to them, get their thoughts, because they're going to come up with ideas and thoughts that we haven't even thought about today, and I think it's a wonderful venue to potentially have a remote committee meeting.

Senator SULLIVAN. Great. Governor?

Governor DAUGAARD. Another thought would be thresholds, dollar thresholds, below which permits are not even considered at the Federal level. In Mr. Bracer's previous testimony, he was mentioning how local governments that get Federal Highway dollars are essentially turning them back to the states, the states are paying—exchanging 85, 90 cents on the dollar, and the localities are happy to get fewer dollars without strings, and the Federal—and the states will take those Federal dollars and will be attentive to the strings that go with them because we do enough of them that we can manage through the Federal bureaucracy when these smaller communities, it's over their heads.

Senator SULLIVAN. It's actually cheaper, right? Because if it's 40 percent increase in costs because of the permitting delays, it's not—it doesn't even make sense from an economic standpoint to accept the money.

Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Sullivan.

Senator Cruz.

**STATEMENT OF HON. TED CRUZ,
U.S. SENATOR FROM TEXAS**

Senator CRUZ. Thank you, Mr. Chairman. And I want to thank the witnesses for being here today and the Chairman for holding this important hearing. And let me say, Senator Sullivan has been a real leader on addressing the regulatory barriers to infrastructure, and this is a very, very important issue. I think the questions and answers that just went on were helpful and valuable. And let me encourage the witnesses to indeed take those questions and go home and give it some additional thought. And I would encourage you to supplement your testimony in writing with specific ideas.

A conversation I had with Secretary Chao about the upcoming infrastructure bill, which obviously the President emphasized last night, is that it will be wholly ineffective if that legislation does not include major regulatory reforms, making it actually possible to build roads, to build bridges, to put infrastructure in place, and with legislation moving through Congress, that is a tremendous opportunity to get reg reform with real teeth that could facilitate the construction of billions of dollars of new infrastructure. And each of you are dealing with these questions on the ground.

So I would encourage you, not just the answers, the thoughtful answers, you gave here, but to spend some time creatively thinking about specific reforms that ought to be included in legislation that may well be moving through Congress this year.

Let me shift to a related topic, which is our top priority I believe should be jobs and economic growth, and I think this hearing has focused quite rightly on jobs and economic growth.

One opportunity that I think poses tremendous possible benefits is the deployment of a next generation 5G wireless network. Just recently, in January 2017, *Accenture* released a report that found that, “this next generation of wireless technology is expected to create 3 million new jobs and boost annual GDP by \$500 billion, driven by a projected \$275 billion investment from telecom operators.” And it’s worth noting that of that \$275 billion, \$93 billion is expected to be spent on construction.

However, realizing that economic potential is going to require Congress and the Federal Government to ensure that new spectrum is made available through FCC incentive auctions, and that has been a long-time focus of this committee, of the Chairman, a long-time focus of mine. And it’s also going to require state and local governments to work collaboratively with industry because a 5G network infrastructure is going to involve the deployment of 10 times or even 100 times more antenna locations than 3G or 4G networks, which could lead to issues pertaining to local fees, to zoning, to rights-of-way, to access to government-owned infrastructure.

And so my question to all the witnesses is, What opportunities are there in the development of 5G wireless networks? And what specific steps does the Federal Government need to take to make spectrum available and to remove regulatory barriers and to work cooperatively with state and local governments to create an environment where it can happen?

Ms. BLOOMFIELD. All right. As the telecommunications person, I guess I’ll go first. You raised a really important point, and 5G really has some exciting promise. We’re waiting for some of the standards to come out, which I think will be—give some clarification.

In terms of spectrum, one of the things that I think is always a challenge for spectrum is the way historically spectrum has been auctioned has been on really large plots. So it could be the entire state of South Dakota. So I look at a state like Texas, you’ve got a lot of rural areas, you’ve got a lot of areas where, frankly, larger carriers aren’t necessarily interested in getting that spectrum. They may want the major highways. How do you make sure to bring the value of 5G to everywhere that you get it out there?

So one of the things that we’ve historically tried to work on is, how do you create those opportunities where you also create small-

er spectrum auctions? My companies can't go in and bid billions of dollars, but they're willing to bid to be able to serve their areas. Half of my member companies actually have spectrum, and about 25 percent offer MobilePlay.

So we'd like to get in the game. We think it's really important to make sure that that farmer on the tractor has the same access to his ability to do GO, you know, smart agriculture, as anybody else. So that's one piece.

The second piece is I think that your point on permitting, really important, and I think the FCC has already started a proceeding to get ahead of the game to start looking at, what is it going to take to get some of that permitting through with all of those tower locations?

And the last thing I would say is the downside for 5G potentially in rural markets is it's a small cell initiative, so you're going to have to have that tower or that antenna every couple of hundred yards. So it's going to take a lot of infrastructure, it's going to take a lot of fiber, and I think there is going to be a need to kind of look at what makes the most sense as you build it out in those markets.

Senator CRUZ. Right. Mm-hmm.

Mr. BRACERAS. I'll jump in real quick, Senator, on this one. We're not altogether on understanding what the vision is right now for the 5G. I can tell you I just learned that we have been approached over the last 6 months through my permitting officer. So I've got permit officers all over the state, and they get people coming in saying, "We want to get into your right-of-way," and they've never heard of 5G, and they're now showing them plans that show antennas all over the place. And so they don't understand what this means, what our goals are as a state or as a Federal Government.

So I think we need to do a better job articulating what our shared vision is for this and how we can use the shared resources of this United States to be able to achieve those goals. We kind of have I think some folks getting out ahead, and it's going to hurt a little bit because people are—the folks at the permit level will dig in to protect their area without understanding whether or not they're expected to work to achieve their goals.

Governor DAUGAARD. One thing I think I would add to that previous two speakers is as we deploy a 5G network, I think we have to give a lot of attention to the security of that network. Dakota State University is among four that the National Security Agency has identified as a regional coordinator of intellectual capital that's being applied to network development and the security of the network.

And so I don't—I really don't know enough about spectrum to add anything to that aspect of your question, but I do know that at Dakota State University, we're very concerned about the security of the network. And building out a network and then thinking about security is backwards. We need to first think about the security of the network, and then build it out.

Mayor LEVINE. Thank you, Senator. I'm definitely not a telecommunications expert. As a matter of fact, this is the longest I've ever gone not looking at my cell phone. OK?

[Laughter.]

Mayor LEVINE. But the fact of the matter is that I think what you brought up earlier, which is true, whether it's telecommunications, whether it's bridges and tunnels and roads, the Congress could appropriate a trillion dollars and it could be sitting there in a bank waiting to go for every state and city in the country, but I can promise you nothing will get done, and the reason nothing will get done is because the process is absolutely broken. The permitting process is broken, the system is broken, there's analysis paralysis.

It's almost like it's not even about the money. I think it's about the process. The process must be streamlined, I don't care if it's telecommunications or it's a new road, it needs to be—we're in a race. We're in a race with the rest of the world. And unfortunately in this race, it seems like we're all wearing handcuffs and weights on our legs, and we can't really compete. So I think that's, to me, priority number one. I see it as a mayor.

Senator CRUZ. Thank you very much.

The CHAIRMAN. Thank you, Senator Cruz.

And I would concur with your suggestion to the panelists, and that is, if you can come up with some thoughts and ideas that you could submit to us about how to streamline and lessen these regulatory hurdles and barriers that exist today, that would be very, very helpful. I do think that—I hope that we can do something in terms of a package of legislation that would liberate a lot of the, not only businesses, but state and local governments from some of these requirements. So thank you.

I have one last question I need to ask and then we'll close this out.

But, Ms. Bloomfield, there are in my state and across the country many tribes that struggle greatly from a lack of access to quality Internet services. And I'm wondering if there are any success stories your members have had in deploying on tribal lands from which policymakers might learn. Do you have any suggestions for this committee on what could be done to improve broadband access on tribal lands?

Ms. BLOOMFIELD. Thank you very much, Senator. So actually we've got about 10 tribal telephone companies that are within our membership, so we have the opportunity to see really intimately what they're up to. CRST, the Cheyenne River Sioux Tribe telecommunications cooperative in South Dakota actually was able to utilize our U.S. loan recently to actually build out their fiber network. They actually now have penetration to about 90 percent of the reservation. And they've also created some really interesting job opportunities out there.

So the tribal entities that are actually either served by tribal cooperatives or those that actually cross over on tribal lands do have some really unique challenges. You've got a lot of demographic challenges. You've got a lot of economic challenges.

But one of the things the FCC has also been looking at is a tribal fund, and again this is still kind of waiting to see where the funding of some of these other programs are, but there will be additional resources that they have designated that will be going to support tribal lands for those areas that also have not taken advantage of the existing universal service program.

So we saw Gila River down in Arizona recently. They were purchased from Mountain Bell years ago. They've gone from a 10 percent penetration on their tribal lands to about a 90 percent penetration for broadband for their residents. Broadband on tribal lands is going to be just as important in every other community, so definitely top of mind.

The CHAIRMAN. All right. Well, listen, I appreciate everybody for your patience and indulgence. It has been a long hearing, but I think a very productive one, a lot of ground covered, and I thought very substantive in terms of our discussion and I think solutions that have been suggested. So thank you for your time.

We will keep the hearing record open for 2 weeks, and if during that time we have Members on our Committee, and I think we do, who would like to submit some written questions for the record, we would ask that you all, as best you can, submit those written answers to the Committee as soon as possible.

So, again, we thank you, and this will wrap it up and adjourn the hearing.

[Whereupon, at 12:44 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF TIM KOXLIEN, CEO, TELEQUALITY COMMUNICATIONS, INC.
(RURAL HEALTH TELECOM)

Rural Health Telecom, a subsidiary of TeleQuality Communications, Inc., based in San Antonio, TX, and founded in 1999, is a telecommunications/telecom service provider to health care facilities in the predominantly rural areas of 30 states.

Our overarching concern, shared with rural telehealth providers, is a rapid and ubiquitous rollout of a robust and universal broadband infrastructure that will insure direct access to telehealth services. We appreciate the FCC effort to create funding that will meet its goal of broadband access to all Americans by 2020.

Ancillary concerns include removing regulatory burdens on infrastructure deployment that is critical to project initiation and success, and increased funding for Universal Service Fund (USF) projects, specifically the Rural Health Care (RHC) program.

USF has been widely regarded as a success since its creation under the Telecommunications Act of 1996. It remains vital to the expansion of broadband to unserved and underserved communities across the Nation. Yet, overall funding of USF programs is insufficient.

This is particularly evident in the RHC Program, which is poised to see funding shortfalls for the first time due to the combination of a recent surge in funding applications, the addition of Skilled Nursing Facilities to the list of entities eligible to request funding, and the \$400 million funding cap that has never been increased, nor even allowed to grow at the pace of inflation. Immediate action is essential, including a funding cap increase, to avoid loss of critical service to rural healthcare providers.

With robust funding on the table, a commitment to a level playing field for competition and innovation is likewise imperative. Early signals from newly appointed FCC Chairman Ajit Pai indicate a likely reduction in unproductive regulations and an opening of competitive markets for the delivery of broadband services. Given increased funding and adoption of a “lighter touch” with respect to regulations, progress should be rapid.

We urge the Committee to draft necessary legislation and build support and commitment among members of the Committee and the Senate at large on an urgent timeline in order to assure 56 million Americans who reside in rural areas, as well as all citizens, the benefits of cutting-edge telehealth services.

We should never forget the distinct difference with respect to health care needs and access in rural areas versus urban communities in the United States. Income generally is lower in rural communities. Health services may be hours away. Accidents on farms and country roads are higher than in urban areas. Families are larger. The population is older. And the quality of care is sparser and often less proficient.

We commend Chairman Thune and Ranking Member Nelson for their sagacious leadership in proposing and advancing legislation that will address the issues identified in this comment, and we stand ready and able, individually and in association with others, to support your urgent efforts to assure all Americans access to the best telehealth care and services in the world.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MAGGIE HASSAN TO
HON. DENNIS DAUGAARD

Question. I'm pleased we are all in agreement that the state of our Nation's infrastructure is unacceptable and that we owe it to our constituents to make meaningful upgrades. In this bipartisan effort to improve and modernize our infrastructure, it's important to note—we may not need a big brand new government program to make meaningful change. There are some programs that work well today that we can better utilize to bring needed improvements home to our states. The TIGER grant pro-

gram, for example, has been hugely successful in providing support for infrastructure across the country and has clear bipartisan support. New Hampshire's Sarah Mildred Long Bridge and Memorial Bridge are two projects that benefited from this program and it could do even more with more resources. Senate Democrats released a blueprint for infrastructure investment that suggests increasing funding for this successful program over ten years could improve infrastructure and create 130,000 jobs. Do you agree that we should consider expanding existing successful programs like TIGER, to deliver infrastructure benefits to our home states in the fastest, most efficient way possible? Are there other successful programs that you believe we could better utilize to bring benefits to our communities?

Answer. South Dakota supports increasing the formula funding programs authorized under the FAST Act as the primary focus of any increased infrastructure funding. Formula based programs allow states to quickly respond when funds are made available and deliver projects that are progressing in the planning pipeline. Formula programs also facilitate long-range planning and the implementation of plans because the funding levels are more certain.

Using the FAST Act's predominantly formula-based approach for the distribution of funds also would ensure that both rural and urban states participate in additional funding and it would deliver the benefits of an infrastructure initiative to the public promptly. Formula programs, compared to discretionary or allocation programs, should continue to receive strong Federal funding emphasis in any Federal surface transportation infrastructure initiative. South Dakota has received TIGER funding in the past and we are appreciative. However, there is no guarantee we or any other state would receive discretionary funding in the future. That is why a strong emphasis on a formula-based approach is critical to implementing a state's long-range planning.

Also, to increase the reliability of the formula programs, strengthening the Highway Trust Fund is a very important objective. The Highway Trust Fund (HTF) programs are critically important to efforts to maintain and improve America's surface transportation infrastructure. We deeply appreciate that the FAST Act provided financial support to the trust fund and its programs through FY 2020. Past 2020 there will be no meaningful balance in the HTF and legislation will be needed to provide funding to support even the current Federal surface transportation program level, as well as any increase in program levels.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. DENNIS DAUGAARD

Question 1. In my state of Nevada, we are focused on constructing a future Interstate 11 that is designated to run from Phoenix to Las Vegas, and then further north to help relieve and manage the widespread growth in the southwest. Are there new projects in your state that are being developed, or ready, that require a significant Federal investment? And in your opinion, what is the balance between investing in new infrastructure, and repairing the old?

Answer. Deciding the proper balance between new projects and preservation is best left to each individual state so its decision-makers, who are closest to the facts and issues, can respond appropriately to its unique circumstances. In South Dakota, we also have areas that need new projects and highways and we try to serve those needs, but limited funding is a constraint. However, we continue to focus our funding primarily on preservation of our existing transportation system because of the current funding levels.

Question 2. Like you, I'm from a state with a focus on renewable energy. Can you tell us about how the renewable energy sectors in your state are integrating with the electrical grids to get the power to customers? From your perspective, is that something you see as needing significant Federal investment?

Answer. South Dakota has two major sources of renewable energy that are used to generate electricity. The first major source is hydroelectric dams that are situated along the Missouri River. Extensive infrastructure exists to transmit and distribute the energy produced by the dams. The Western Area Power Administration is responsible for the administration of the hydrogeneration and its distribution, and it owns transmission lines to distribute the power. It goes without saying that the construction of the Missouri River hydroelectric dams required major Federal investments and the dams have shaped energy generation in the region for more than 6 decades.

The second major source of renewable energy in South Dakota is wind energy. South Dakota has tremendous wind power potential. We are seeing utilities construct large wind projects in South Dakota and tying those resources to distribut-

able natural gas plants. South Dakota's wind industry growth is limited by the lack of transmission lines to densely populated metropolitan areas. However, progress is being made. Construction of the CAPX2020 transmission project is currently underway in South Dakota, Minnesota, North Dakota, and Wisconsin. When completed the project will represent 2 billion dollars of new investment in transmission lines that can move clean wind energy from South Dakota to more populated metropolitan areas. The CAPX2020 project was funded primarily through private funds, but some Federal money was used in the project.

The model used to fund the CAPX2020 project is one that can be used to fund and build new transmission lines in other locations where wind and solar are available, but are not connected to major areas of energy demand by existing transmission lines.

Finally, certain incentives from the Federal Government have allowed wind energy development to take hold. Without those incentives, we likely would not have seen as much development of this renewable resource.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. CARLOS M. BRACERAS

Question 1. In my state of Nevada, we are focused on constructing a future Interstate 11 that is designated to run from Phoenix to Las Vegas, and then further north to help relieve and manage the widespread growth in the southwest. Are there new projects in your state that are being developed, or ready, that require a significant Federal investment? And in your opinion, what is the balance between investing in new infrastructure, and repairing the old?

Answer. The appropriate balance is different in every state, and neither preservation nor new construction is truly a priority over the other; both are essential. Each state must create its own strategy, performance measures, and performance tracking system to achieve the needed outcomes in a transparent way. Clear national goals are also crucial because they provide a framework for states to work within while also allowing flexibility for states to tailor their efforts to fit the unique needs and challenges they face.

Utah and Nevada are the number one and number two fastest growing states in the country (based on U.S. Census Bureau data for percentage growth 2015 to 2016). In Utah, we expect to almost double our population within the next 35 years. That means we face an incredible opportunity and challenge to keep pace with the expected increased demand on capacity, which will be virtually impossible to meet through new construction only. In Utah, we have adopted a philosophy that we must invest in improved mobility, operations and safety to accommodate for growth as efficiently and effectively as possible.

The construction of new capacity also remains an important part of our overall strategy for addressing increasing demands on our transportation system. Here in Utah, we too are implementing new freeway-like facilities; however, we are funding these projects with state dollars, choosing to utilize Federal dollars instead for maintenance and preservation work. In Utah, we have found this to be a more effective approach to deliver projects. We are able to streamline budgets and schedules on our larger, more complicated projects by using state funds, which have fewer associated regulations and requirements. Federal funds are most effectively used on projects with simpler scopes—such as maintenance and preservation—in which where the requirements for use are less onerous. The exact strategies for preservation have varied as the conditions of our system, the size of our budget and the needs of our population have changed over time.

Question 2. Like you, I'm from a state with a focus on renewable energy. Can you tell us about how the renewable energy sectors in your state are integrating with the electrical grids to get the power to customers? From your perspective, is that something you see as needing significant Federal investment?

Utah does not anticipate an immediate need for significant Federal investment to support or expand renewable energy implementation in our state. Partnering between public and private sectors will be essential, and market forces will primarily drive the speed and direction of implementation. Incentives can play a role in early stage deployment, but can pose challenges if held long-term.

Currently, costs for wind and solar have declined substantially and they are increasingly competitive with conventional resources, implying that incentives may not need to play the role they have in the past; however, modifying incentives is problematic once an industry becomes accustomed to the incentives profile. For that reason, we favor a more organic approach driven by natural market forces.

It's also important to recognize that Utah is an "all-of-the-above" state as it relates to energy, and we recognize the importance of a diverse energy portfolio for providing resilient, affordable, sustainable energy. Integration of intermediate resources, such as wind and solar, must be considered in the context of storage of other resources on the system and transmission system capacity. Public-private partnerships can provide a more deliberate approach to planning and integration than straightforward incentives.

Finally, we support encouraging responsible energy development across resources as the best path to realize our energy and environmental goals.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
SHIRLEY BLOOMFIELD

Question. As co-chair of the Next Generation 9-1-1 Caucus, I know our Nation's 9-1-1 system is in urgent need of upgrades. On February 28, I attended a Next Generation 9-1-1 technology showcase and announced new draft legislation with Senator Nelson. The Next Generation 9-1-1 Act of 2017 would provide billions of dollars of Federal funding through the existing 9-1-1 grant program to assist states and localities in upgrading to Next Generation 9-1-1.

Ms. Bloomfield, Next Generation 9-1-1 relies on high-speed broadband. If there is not widespread broadband access in rural areas is there a danger of a rural-urban divide in terms of public safety?

Answer. As Carriers of Last Resort, NTCA's members provide essential telecommunications services in rural areas of the country, providing necessary communications links to end users and Public Safety Answering Points ("PSAPs") alike. Among other things, these carriers ensure that rural consumers, no matter where they live, are able to place a voice call and connect with 9-1-1 ("911") public safety services. In addition, rural telecommunications operators provide critical communications services for PSAPs and other community anchor institutions. However, as you noted, broadband is the next communications frontier, and without access to high-speed broadband, rural areas will be left behind the digital revolution, with inferior services to those available to their urban counterparts. Although rural citizens may reside in remote areas of the country, their need for access to emergency services is no less important.

In regard to public safety, the transition from traditional 911 to Next-Generation 9-1-1 ("NG911") will enable a variety of new capabilities and services that benefit public safety, first responders, and, ultimately, the end user. NG911 will allow the general public to communicate with PSAPs via real-time voice, video, and/or text, from any wired, wireless or IP-based device. In addition, NG911 will allow the public safety community to leverage advanced call delivery applications and seamless data transfers across 911 and first responder systems. NG911 encompasses new hardware, software, policies, procedures and training, and is predicated upon the availability and adoption of broadband by the entirety of the 911 community—including end users and PSAPs.

The transition to NG911 will require the acquisition of substantial capital assets by PSAPs, including new equipment and the reconfiguration of networks and terminating facilities. As such, this technological and service transformation will require significant resources derived from a consistent and adequate funding mechanism. As such, NTCA supports mechanisms that will ensure that rural communities have access both to the underlying broadband infrastructure needed in the first instance to make effective use of services like NG911 and to the additional technical and financial assistance required to fully and specifically participate in the NG911 transition.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MAGGIE HASSAN TO
SHIRLEY BLOOMFIELD

Question. I'm pleased we are all in agreement that the state of our Nation's infrastructure is unacceptable and that we owe it to our constituents to make meaningful upgrades. In this bipartisan effort to improve and modernize our infrastructure, it's important to note—we may not need a big brand new government program to make meaningful change. There are some programs that work well today that we can better utilize to bring needed improvements home to our states. The TIGER grant program, for example, has been hugely successful in providing support for infrastructure across the country and has clear bipartisan support. New Hampshire's Sarah Mildred Long Bridge and Memorial Bridge are two projects that benefited from this program and it could do even more with more resources. Senate Democrats released

a blueprint for infrastructure investment that suggests increasing funding for this successful program over ten years could improve infrastructure and create 130,000 jobs. Do you agree that we should consider expanding existing successful programs like TIGER, to deliver infrastructure benefits to our home states in the fastest, most efficient way possible? Are there other successful programs that you believe we could better utilize to bring benefits to our communities?

Answer. We could not agree more that, many times, a brand new government program is not needed to make meaningful change. Instead, more effective use of programs already in place—especially where the primary problem with those programs has been a lack of sufficient resources—can offer more immediate promise and results than standing up new programs from scratch.

An example of a program that has been very successful, but needs additional support to complete its mission, is the Federal Universal Service Fund (USF). In rural areas, the High-Cost portion of the USF is intended to ensure rural consumers have access to affordable and comparable voice and broadband services like their urban counterparts. USF needs to be fully funded to operate as intended to meet the broadband needs of rural consumers, and today it is not.

NTCA has previously asked the FCC to fully fund USF support as originally designed—which would require another \$250 million in 2017 (\$110 million for model-based support and \$140 million for non-model support) and likely comparable amounts in subsequent years to cover the budget shortfalls for the USF programs for small rural carriers that are the only communications option for the most rural 35 percent of the U.S. landmass. This underfunding means many rural locations will not get served as designed and/or that broadband rates for those rural consumers fortunate enough to receive broadband will be hundreds or even thousands of dollars higher per year than what an urban consumer would pay for the same service.

Providing sufficient funding is essential to comply with statutory universal service provisions, fulfill the will of Congress in writing to the FCC in 2014 and 2015, and achieve the intended goals of the FCC's reforms—to enable small rural carriers to continue investing responsibly in advanced communications networks and to enable rural consumers to pay broadband rates reasonably comparable to those available in urban areas. NTCA believes there can be no more effective way to tackle broadband challenges in the most rural parts of our country than to make better use of a sufficient High-Cost universal service mechanism.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO SHIRLEY BLOOMFIELD

Question 1. What kinds of Universal Service Fund reforms could help alter the outlook for a company interested in deploying broadband? And, beyond siting matters, what specific challenges have your members faced in Nevada to initiate or improve broadband service in the state?

Answer. For a small, rural broadband company interested in deploying broadband, NTCA believes the Universal Service Fund (USF) must be fully funded to operate as designed and as required by law to meet the broadband needs of rural consumers.

NTCA has previously asked the FCC to fully fund USF support as originally designed—which would require another \$250 million in 2017 (\$110 million for model-based support and \$140 million for non-model support) and likely comparable amounts in subsequent years to cover the budget shortfalls for the USF programs for small rural carriers that are the only communications option for the most rural 35 percent of the U.S. landmass. This underfunding means many rural locations will not get served as designed and/or that broadband rates for those rural consumers fortunate enough to receive broadband will be hundreds or even thousands of dollars higher per year than what an urban consumer would pay for the same service. The impact of these funding shortfalls will certainly be found in Nevada which has a mix of model-based and non-model supported rural carriers that are challenged by large remote serving areas.

Providing sufficient funding is essential to comply with statutory universal service provisions, fulfill the will of Congress in writing to the FCC in 2014 and 2015, and achieve the intended goals of the FCC's reforms—to enable small rural carriers to continue investing responsibly in advanced communications networks and to enable rural consumers to pay broadband rates reasonably comparable to those available in urban areas. NTCA believes there can be no more effective way to tackle broadband challenges in the most rural parts of our country than to make better use of a sufficient High-Cost universal service mechanism.

Turning to deployment challenges, small broadband providers in Nevada and in other states are often forced to devote staff to costly and sometimes redundant approval processes while multi-million dollar investments are put on hold. Rights-of-way applications, for example, can be complicated by a multi-agency effort at the Federal level that requires navigating different processes. In terms of rights-of-way and access to other critical inputs such as pole attachments and conduits, policies and procedures must enable providers to operate on an equal footing in terms of cost and timing of access.

But going beyond siting matters, NTCA members face other challenges in deploying and operating broadband networks. For example, substantial costs are incurred in providing sufficient “middle mile” capacity to connect rural Nevada to the rest of the world. Specifically, to meet broadband obligations, providers in Nevada and other rural areas are incurring greater and greater middle mile and bandwidth costs due to over the top services, which also has the effect of reducing IPTV and even landline voice telephony revenue.

Question 2. With the challenges of siting broadband projects on Federal public and tribal lands, would you favor an interagency working group that coordinates agencies like the Federal Communications Commission, the Bureau of Land Management, Bureau of Indian Affairs, and National Telecommunications & Information Administration to come up with streamlined solutions to barriers denying rural Nevadans quality Internet access? Who are the other stakeholders or Federal agencies would need to be represented in these discussions to ensure we close the digital divide?

Answer. Yes. An interagency working group could be helpful for interagency coordination purposes. In addition, creating standard procedures across multiple agencies to the maximum extent possible would be highly beneficial. In fact, government at all levels—state and local, counties, tribal lands, and Federal—should work collaboratively to harmonize processes to reduce the transaction costs of broadband deployment and expedite placement of facilities.

Other stakeholders or Federal agencies that should be represented in these discussions include: the Rural Utilities Service and the United States Forest Service from the U.S. Department of Agriculture.

Question 3. From the American Recovery and Reinvestment Act (ARRA) Nevada received 12 awards totaling \$66.7 million, can you give me your insights on the performance of those investments, and of the overall seven-plus billion dollars that was invested in broadband through ARRA? And in other words, what worked and didn't work? Were there elements of your broadband deployment objectives that went well or were lacking in that legislation and its implementation?

Answer. The ARRA allowed many companies to do many great things. It helped many NTCA members and their state fiber networks extend previously unavailable broadband deeper into rural areas. However, it was also a rushed set of programs that didn't always take good stock of the lay of the land in terms of identifying where true broadband challenges resided. Thus, even as the ARRA enabled deployment in areas like those served by NTCA members where broadband was still needed, the ARRA also led at times to deployment to locations where existing providers already had fiber in place. There also appear to be cases in which companies formed on the fly quickly to chase the stimulus opportunity, only to find that they weren't really capable of delivering on big promises in the time required.

So in terms of “lessons learned” testimony, NTCA would suggest looking to leverage experience in two specific ways: First, look to leverage existing providers who have a track record. If you want it done right, get the right people for the job. Experience matters. Second, look to leverage processes put into place in the FCC's Universal Service Fund/Connect America Fund program and efforts at the state level like those in Minnesota and New York that look to target funding to where it is needed to enable deployment or upgrades.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MAGGIE HASSAN TO
HON. PHILIP LEVINE

Question. I'm pleased we are all in agreement that the state of our Nation's infrastructure is unacceptable and that we owe it to our constituents to make meaningful upgrades. In this bipartisan effort to improve and modernize our infrastructure, it's important to note—we may not need a big brand new government program to make meaningful change. There are some programs that work well today that we can better utilize to bring needed improvements home to our states. The TIGER grant program, for example, has been hugely successful in providing support for infrastructure across the country and has clear bipartisan support. New Hampshire's Sarah

Mildred Long Bridge and Memorial Bridge are two projects that benefited from this program and it could do even more with more resources. Senate Democrats released a blueprint for infrastructure investment that suggests increasing funding for this successful program over ten years could improve infrastructure and create 130,000 jobs. Do you agree that we should consider expanding existing successful programs like TIGER, to deliver infrastructure benefits to our home states in the fastest, most efficient way? Are there other successful programs that you believe we could better utilize to bring benefits to our communities?

Answer. Senator Hassan, I agree that we should consider expansion, or at a minimum, the continuation of the highly successful TIGER grant program. Under this program “shovel-ready” public infrastructure projects were built nationwide; without this critical TIGER Grant program, these projects would have continued to languish as passive paper documents.

In addition, the City relies on the State Transportation Enhancement Funds, derived from Federal sources. Over the last 2 years, the City has used over \$1.5M in Transportation Enhancement Funds to implement critically needed transportation infrastructure repair and replacement—ranging from reconstruction of heavily-traversed bridges, to growing our Safe Routes to School network, to expanding heavily used citywide trolley service that provides a critical mobility service for our senior citizens.

As our region struggles with increasing traffic congestion, with the resulting economic costs, we will continue to rely more heavily on the Federal Transit Administration’s Capital Investment Grant Program (CIG) in the Fixing America’s Surface Transportation (FAST) Act, which authorized \$2.3 Billion annually for CIG grants through FY 2020.

