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OVERSIGHT: MODERNIZING OUR NATION'S INFRASTRUCTURE

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

FEBRUARY 8, 2017

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED FIFTEENTH CONGRESS
FIRST SESSION

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OVERSIGHT: MODERNIZING OUR NATION'S INFRASTRUCTURE

WEDNESDAY, FEBRUARY 8, 2017

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

The Committee met, pursuant to notice, at 10:03 a.m. in room 406, Dirksen Senate Office Building, Hon. John Barrasso (Chairman of the Committee) presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Boozman, Wicker, Fischer, Moran, Rounds, Ernst, Sullivan, Cardin, Sanders, Whitehouse, Gillibrand, Booker, Duckworth, and Harris.

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

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

President Trump has made improving our Nation's infrastructure a top priority. Infrastructure is critical to our Nation's prosperity.

The Senate Environment and Public Works Committee has jurisdiction over our Nation's highways and roads, its locks and dams, and its ports. These things allow for American goods to go from the heartland to the coasts, and even overseas. They allow for flood protection for both rural and urban communities that save lives.

In addition, our Committee has jurisdiction over the environmental laws that impact the modernization of infrastructure. Doesn't matter whether the setting is urban or rural; rules and regulations can halt and delay the modernization of infrastructure, and the impact is particularly counterproductive if they are applied without understanding the difference between urban and rural.

Our Committee has members from both urban and rural areas. The members of this Committee represent New York City and Newport, Rhode Island; Nebraska City, Nebraska and Natchez, Mississippi; Wheatland, Wyoming, and even the town of Wyoming, Delaware. The diversity of these cities and towns makes it clear that solutions to address and pay for fixing our Nation's crumbling roads, bridges, and dams cannot be one size fits all. What works for Baltimore, Maryland, might not work for Baggs, Wyoming.

Big ticket projects on the scale of the Big Dig in Boston that cost billions of dollars or even projects that cost hundreds of millions of dollars are rare in rural and small States. Funding solutions that involve public-private partnerships—as have been discussed by Administration officials—may be innovative solutions for crumbling inner cities but do not work for rural areas, as today's testimony will show.

As was stated in the written testimony submitted today on behalf of Wyoming, Idaho, Montana, North Dakota, and South Dakota, "Public-private partnerships and other approaches to infrastructure investment that depend on a positive revenue stream from a project are not a surface transportation infrastructure solution for rural States."

This Committee has a number of members who represent small rural States: Delaware, Alabama, Alaska, Iowa, Nebraska, Rhode Island, Vermont, just to name a few. We didn't forget West Virginia. I want to ensure that the voice of these States is not lost in the overall discussion of how to fix our Nation's infrastructure. I want to work with my colleagues to address issues important to our States while also not ignoring the legitimate needs of large metropolitan areas, as well.

Stated in the written testimony submitted by the five Western States that I referenced earlier, Federal highways in our rural States enable "agriculture, energy, and natural resource products, which largely originate in rural areas, to move to national and world markets." This is true. It makes no sense that to simply fix the roads and ports in our urban areas while ignoring the roads and inland ports in our rural areas that allow for products from Wyoming, Nebraska, or Iowa to get to the world markets.

As testimony today will demonstrate, rural water systems also have unique challenges. They have been inundated by regulations from the EPA which harms their ability to modernize and to function. Rural water systems are challenged by the same regulations that big city water systems face, yet do not have the same resources to comply.

Any infrastructure solutions this Committee considers should help address rural challenges. These challenges include funding. Like their road project counterparts, these systems are not the best candidates for loans. It is important to note written testimony today from Mike McNulty, the General Manager of Putnam Public Service District in West Virginia. He states, "Due to a lack of economies of scale and lower medium household incomes in rural America, water infrastructure is often less affordable, a much greater cost per household. This means that a water infrastructure project poses a greater financial risk compared to the metropolitan project, and very importantly," he says, "requires some portion of a grant, not just a loan, to make the project feasible. The higher the percentage of grants required to make a project work results in less money repaid to the infrastructure funding agency and a correlating diminution of the corpus fund."

So we are going to have to find new ways to help pay to modernize these important rural projects. It is my hope that this Committee will work to find solutions that not only work for urban America but rural America as well. I urge my colleagues to work with me in a bipartisan way to find these solutions.

With that, I turn to the Ranking Member for his statement.

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

Senator CARPER. Thanks so much, Mr. Chairman. Thank you for bringing us together for an important—and I think invigorating—hearing.

I just want to say to our guests from Oklahoma, West Virginia, Wyoming, the other Wyoming, and from Colorado by way of Delaware, and from Delaware, welcome. We are delighted that you are here.

Mr. Chairman and colleagues, I say this to our guests. These folks have heard me say this more times than I want to remember, but my dad taught me—born in West Virginia, grew up in Virginia—my dad taught my sister and me that things that are worth having are worth paying for. That is what he said. Things that are worth having are worth paying for. And he used to say if you owe somebody money, work three jobs until you can pay that off, but you ought to take responsibility for your obligations.

The other thing my dad used to say to my sister and me—we would have chores to do, jobs to do around our house and garden, so forth—and he always said if a job is worth doing, it is worth doing well. From that I took the idea that everything I do I can do better. I think that is true of all of us. I think that is also true of every Federal and State program, infrastructure, roads, highways, bridges, water, wastewater, all of those things.

So my hope today is you will help us sort of think outside the box a little bit on how do we pay for this stuff. It is easy to come up with ideas on how to spend the money, but it is always hard to figure out how we are going to raise that money. So we need some help there and then some help in figuring out how we get better results maybe for less money or for the same amount of money.

Now my statement. For the record, I have something I want to ask unanimous consent that a couple documents, Mr. Chairman, be submitted for the record. I hold them in my hand.

Senator BARRASSO. Without objection.

Senator CARPER. Thank you. Thanks so much.

[The referenced information follows:]

United States Senate

Committee on Environment and Public Works

Hon. John Barrasso, Chairman

Hon. Thomas R. Carper, Ranking Member

Testimony of:
Ms. Debra Lee Ricker, Chair
American Traffic Safety Services Association (ATSSA)

February 8, 2017

Chairman Barrasso, Ranking Member Carper and members of the Committee, thank you for the opportunity to submit written testimony on behalf of the American Traffic Safety Services Association (ATSSA). My name is Debra Ricker, and I serve as ATSSA's Chair. ATSSA is an international trade association which represents 1,200 members who manufacture, distribute and install roadway safety infrastructure devices such as guardrail/cable barrier, pavement markings, rumble strips, signs and work zone safety devices.

In addition, I am the President of a traffic control company, Worksafe Traffic Control Industries Inc, based in Barre, Vermont. My company manufactures construction, highway and commercial signs and distributes traffic control devices throughout northern New England. I am especially excited that the Committee is holding a hearing on the modernization of America's infrastructure, because my company specializes in using smart, innovative technologies to enhance the safety and mobility of roadway users in work zones.

Fourteen months ago, Congress passed the Fixing America's Surface Transportation Act (FAST Act) which was signed into law by President Barack Obama. This five-year commitment to investing in America's transportation infrastructure was a significant step forward in combatting a multitude of challenges on our Nation's roadways. However, as many users of the system know, more and smarter investments are critically needed. The most recent Report Card for America's Infrastructure (2013) from the American Society of Civil Engineers indicated that the overall grade for infrastructure was a D+, with roads, ports, and bridges receiving a grade of D, C, and C+ respectively.[1] Certainly, this report was delivered prior to the enactment of the FAST Act; however, investments in our transportation system must continue to be a priority in the years to come.

It is critical that we not only increase our investments to the system, but just as importantly, we must use our investments wisely to ensure the best return on investment. In 2015, 35,092 individuals were killed on U.S. roads. Although this was a 7.2 percent increase from 2014, not all states shared this fate. In fact, Wyoming saw a 3.3 percent decline in fatalities, Oklahoma saw a 3.9 percent decline, and Delaware saw a 1.6 percent increase, which itself was still well below the national average.[2]

In order to tackle the challenge of roadway fatalities, states and local governments must not only continue to invest in roadway safety infrastructure projects, but they also must think about how best to utilize their limited resources.

As an industry, ATSSA is committed to moving Toward Zero Deaths on U.S. roads. Although this is an ambitious goal, a goal of anything less is unacceptable. Quite simply, when it comes to our own personal family's lives, zero deaths is the only acceptable goal. In order to achieve this, stakeholders, road users and elected officials must work together to deploy countermeasures that save lives, reduce serious injuries and make the best possible use of resources.

The FAST Act continued a tradition laid forth by SAFETEA-LU in establishing a dedicated program for roadway safety infrastructure. Named the Highway Safety Improvement Program (HSIP), this core

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[1] ASCE's 2013 Report Card for America's Infrastructure - http://www.infrastructurereportcard.org/executive-summary/

[2] NHTSA 2015 Motor Vehicle Crash Overview - https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318

Federal-aid highway program is committed to reducing fatalities and serious injuries through roadway safety infrastructure countermeasures.

ATSSA firmly believes in the Highway Safety Improvement Program specifically and the federal transportation program generally. While financing tools can be very helpful in parts of the country - they most likely would not work in my state of VT or other rural states or rural areas. We know that more than 50 percent of roadway fatalities happen on rural roadways – while less than 20 percent of the American people live in rural areas. ATSSA would ask this Committee and Congress to help ensure that rural areas can participate in any new infrastructure initiative.

As Congress and the new Administration work on an infrastructure initiative, it is important to remember that direct federal funding is the best and quickest way to ensure increased investments across the country. This is especially true when it comes to roadway safety infrastructure projects.

To this end, ATSSA believes that at least 10 percent of any new federal funds for highway projects should be dedicated to roadway safety infrastructure projects through HSIP. As American workers rebuild our nation's transportation infrastructure with investments from this package, safety must be a core principle of that investment. We have a unique opportunity to supplement our safety work from the FAST Act with a laser focus on the issue.

Chairman Barrasso and Ranking Member Carper, thank you for the opportunity to submit testimony as the Committee begins discussions on how best to invest and modernize America's infrastructure.

WRITTEN TESTIMONY OF STEVE COCHRAN
ASSOCIATE VICE PRESIDENT: COASTAL PROTECTION
ENVIRONMENTAL DEFENSE FUND

FOR THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

"OVERSIGHT: MODERNIZING OUR NATION'S INFRASTRUCTURE"

FEBRUARY 8, 2016

Chairman Barrasso, Ranking Member Carper, and members of the Senate Committee on Environment and Public Works, thank you for the opportunity to submit written testimony on the importance of considering natural features as we work collectively to modernize our nation's infrastructure.

My name is Steve Cochran, and I am the Associate Vice President for Coastal Protection for Environmental Defense Fund (EDF). EDF is a national environmental advocacy organization with more than two million members. Placing a strong emphasis on our core strengths of science and economics, we are dedicated to finding innovative approaches to solving some of the most difficult national and international environmental challenges. Whenever possible, we collaborate with private-sector partners, state and federal leaders, academic institutions, and other environmental organizations interested in maximizing incentives for market-based solutions to environmental problems.

We believe there is an immediate and compelling need for rebuilding America's worn and damaged infrastructure – the basic physical and organizational structures, systems, and facilities needed for the operation of our nation and its economy. This need is particularly critical within our coastal counties, which comprise only 10% of our nation's landmass but account for 42%[1] of the nation's GDP. Approximately 159.6 million people live in these densely packed coastal communities.[2]

Within these coastal communities, our infrastructure focus needs to be beyond buildings, roads, levees, and power supplies and instead inclusive of what has become known as "natural infrastructure," – natural and enhanced landscape features such as barrier islands, dunes, wetlands, coastal forests, and reefs. Simply put, focusing on these kinds elements in our coastal areas can provide essential, sustainable and powerful protections in the face of rising seas. This need to restore and enhance our traditional natural coastal protection stems from the fact that our nation's coasts have been stripped of their natural protections under the pressures of erosion, development, straightjacketed rivers. In the face of now rising seas, that has left major cities like New York and New Orleans swamped by storm surge; military installations such as Naval Station at risk, and caused billions of dollars in damage to economically significant ports, highways and other infrastructure.

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[1] Kidlow, J.T., Colgan, C.S., & Scorse, J., National Ocean Economic Program, *State of the U.S. ocean and coastal economies*, 2009.

[2] United States Census Bureau, *Statistical Abstract of the United States: 2012 (131st Edition)*, 2011.

Natural infrastructure is our first line of defense against the effects of damaging storms. Shellfish and coral reefs serve as speed bumps for waves, reducing their damaging energy. Dunes are wave shock absorbers and act as natural dams to deflect storm surges. Maritime forests and mangroves reduce wind speeds, slow the passage of water, and catch building-damaging debris. Wetlands and riparian floodplains are natural retention basins reducing the height of floods. A recent study found that existing coastal wetlands prevented $625 million in property damages during Hurricane Sandy, and that they can reduce annual storm damages by more than 20%.[3] Projects like San Francisco Bay's proposed horizontal levee[4] are using natural coastal features in combination with traditional infrastructure to provide protection, decrease the cost of dikes, and improve habitat and recreational space.

In my home state of Louisiana, over the last century more than 1,800 square miles of wetlands and barrier islands – a total land area the size of Delaware – have disappeared. Losing this protective natural infrastructure, the oil and gas industry is now facing major infrastructure problems as thousands of miles of oil and gas pipelines that were once buried underground are now exposed above water. The Port of South Louisiana complex – which handles more tonnage per year than any other port district in the western hemisphere – includes three of the world's top 10 ports most at risk due to natural disasters[5]. And recent estimates show the direct and indirect impacts of Louisiana's coastal land loss put between $5.8 and $7.4 billion in annual output at risk[6]. Extreme weather events and sea level rise are causing major coastal military installations – from Hampton Roads, Virginia to Ventura County, California – to put a priority on coastal resilience.

Restoring our natural infrastructure creates jobs as well. One study found that restoring our coasts can create more than 30 jobs for each million dollars invested[7]. In southeast Louisiana, the water management industry – which includes coastal restoration, coastal protection and urban water management – is growing faster than any other major sector in Louisiana's coastal zone. The sector includes entry to mid-level jobs in numerous fields and has the highest average wage among key industries – $69,277 per year. At a time when other commodity based sectors such as oil and gas have been shrinking, water management has already created approximately 44,000 jobs across Louisiana's Gulf coast[8]. In Florida, restoring the Everglades wetlands is expected to generate an additional 440,000 jobs over the next 50 years[9].

Finally, investing in improving natural coastal infrastructure would provide great returns on the federal government's investments by reducing post-disaster recovery payments. Floods,

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[3] Narayan, S., Beck, M.W., Wilson, P., Thomas, C., Guerrero, A., Shepard, C., Reguero, B.G., Franco, G., Ingram, C.J., Trespalacios, D., *Coastal Wetlands and Flood Damage Reduction: Using Risk Industry-based Models to Assess Natural Defenses in the Northeastern USA*, Lloyd's Tercentenary Research Foundation, 2016.

[4] The Bay Institute, *Green Infrastructure for the Global Warming Era: Horizontal Levee Coastal Storm-Surge Barrier*, 2016.

[5] RMS, *RMS Analysis Reveals the Ten World Ports at Risk of Highest Insurance Loss Due to Catastrophe*, 2016 and Port of South Louisiana Complex.

[6] Louisiana Coastal Protection and Restoration Authority, *Louisiana's Comprehensive Master Plan for a Sustainable Coast: 2017 Draft Plan Release*, 2017.

[7] Restore America's Estuaries, *Jobs & Dollars: Big Returns from coastal habitat restoration*, 2011.

[8] Restore the Mississippi River Delta, *Growth in Water Management Sector in Coastal Louisiana*, 2016.

[9] Everglades Foundation, *Everglades Restoration: A 4-To-1 Return on Investment*, 2012.

hurricanes, and severe storms account for the majority of FEMA's disaster spending, and it is well known that spending money upfront on preventing disasters is more cost-effective than responding to them; one study indicated prevention at least 4 times more cost effective[10]. In contrast, Hurricane Katrina continues to remind us of the human and economic costs the result from the failure to prepare and invest ahead of the next storm. Yet we continue to spend money in this "after the storm" approach.

It is absolutely possible to invest more thoughtfully. In Louisiana for example, the state has developed a comprehensive Coastal Master Plan for rebuilding its coast and protecting its cities, communities and industries, and has begun to invest heavily to do so. The plan includes both "grey" and "green" infrastructure – e.g., barrier islands, marsh creation, levees, and it features the dramatic use of natural assets like the Mississippi River through sediment diversion projects – controlled structures that allow nutrient-rich silt from the Mississippi River to disperse into adjacent areas to rebuild wetlands at massive scale. If completely implemented – and the state will need additional resources over time – the plan will help sustain the region's nationally-significant industries (e.g., shipping, energy, fisheries), help to protect 2 million people in South Louisiana from powerful gulf storms, and reduce expected damages by **$150 billion** over the next 50 years.

The bottom line is that coastal restoration and protection should be front and center in the growing discussion of how best to rebuild America. When done well it is extremely cost-effective, safeguards industry, creates jobs, protects American communities and safeguards national security – all compelling reasons to include it prominently on our national agenda for rebuilding America's infrastructure. We look forward to working with all members of the Committee on the development of a Congressional infrastructure proposal.

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[10] Multihazard Mitigation Council, *Natural Hazard Mitigation Saves: An independent study to assess the future savings from mitigation activities*, 2005.

Senator CARPER. As I think most of us know, our new President has raised the issue of America needing to modernize and rebuild aged infrastructure. As a point of concern, Democratic Senators, some of us here in this room, recently released a blueprint for addressing infrastructure challenges at large; not just roads, highways, bridges, but much more broader than that, including water and wastewater. I believe that members on both sides of the aisle are supportive of addressing this problem. This can be one of those issues that actually unites us, and at this point in time in our Nation's history we could use a few of those, so this is important for more reasons than not.

As a recovering Governor I look at most legislation through a particular lens, and the lens that I look at it through is how does a particular investment make for a more nurturing environment for job creation, job preservation. That is what I think about all the time. And in this case they got a bunch of factors that impact on a nurturing environment for job creation. I just want to mention a couple of them.

We don't think about this, I don't think, that much: quality of our work force, the skills that they bring to the workplace is important; affordable energy; safety, public safety; the idea of having access to capital, access to foreign markets; research and development, investing in the right things that actually generate job creation opportunities; tax policy; common sense regulations; access to decisionmakers; clean air, clean water; predictability. Businesses need predictability.

In 2013 an outfit, an arm of McKinsey, the big consulting company, called Global Institute, issued a report they called Game Changer in which it analyzes how the U.S. could dramatically transform and expand our economy. And one of the top game changers that they gave us was infrastructure investment, and here is what they said. The report showed that we need to invest between $150 billion and $180 billion more in infrastructure every year just to make up for years of underinvestment and to enable robust future growth. They said, the Global Institute told us in their report that if we invested at this level, it would add somewhere between 1.4 percent and 1.7 percent to GDP every year. Almost double GDP for the last quarter, if you will. It would create some 1.8 million new jobs by 2020.

For a lot of people that are, frankly, on the sidelines, would like to go to work, need to go to work, this would be a great place for them to go to work, working on these projects.

In the same report they found that one of the best ways to invest and get the most from our dollars is to maintain our existing infrastructure. Not just to do big, fancy, new projects, but to maintain our existing infrastructure. Infrastructure investment is critical for the economy in part because the direct jobs that we create in construction, restoration work, and displaced workers that we can help get back into the work force, which we need to do. But just as important is the fact that modern infrastructure helps people in businesses move more efficiently.

Last year, the average commuter, we are told this by Texas A&M, every year they give us a new update. They told us we wasted 42 hours per person sitting in traffic, not moving. Not moving

anywhere. And that is sort of a typical, I think that is like a work week for a lot of people, just sitting doing nothing.

More modern infrastructure would mean less time, pure resources wasted unproductively. Our Nation's health, our wealth, and security rely on production and distribution of goods and services. Every day people and goods move across an array of physical systems which are collectively known as our critical infrastructure. The critical infrastructure of our country, however, is aging and in need of significant capital investments—we all know that—to help our economy continue to grow.

The 2013 infrastructure report card issued by the American Society of Civil Engineers, some of them are here today, they gave us for roads, dams, drinking water, wastewater a D. D. They graded our inland waterways and levees with a D−. The ports received a C; bridges received a C+.

As we hear testimony I am particularly interested in hearing the witnesses' thoughts in three key areas. The first is that while financing techniques are a tool that may be appropriate for some kinds of projects, financing by itself will not solve all infrastructure needs regardless of whether we are a rural or urban State.

The second area I hope to hear more about is the need for broad investment strategy. And while traditional forms of infrastructure like roads and ports are essential to our economy, I feel we need more investments to protect our natural infrastructure as well, including our shorelines, our dune systems, our ecosystem restoration. Without these protections, risks to manmade infrastructure significantly increase and in many cases become unmanageable.

Finally, I am interested in hearing how the Federal Government—I think we are interested in hearing how the Federal Government can be more efficient, as I said earlier, with our current funding streams and get the most out of every dollar of Federal investment. Infrastructure is a shared responsibility with State and local governments and in some cases with the private sector, and I want to ensure that we are helping State and local governments with this shared burden while giving them the flexibility that they need. I also want to know how we can make sure that we are prioritizing the most critical investments and working to maintain the assets we have first before building new assets that we can't afford to maintain.

Finally, I must say no one size fits all approach will work to solve this challenge. We have to work in a bipartisan manner to really address these concerns. Build consensus on a path forward for the shared State-Federal-local government responsibility to our economy.

Last, Mr. Chairman, colleagues, there are a couple of people here before us I know pretty well. We welcome all of our witnesses, but I especially want to introduce Tony Pratt, current Administrator of the Shoreline and Waterway Management Section within the Delaware Department of Natural Resources and Environmental Control. The current president, I call him Mr. President, of the American Shore and Beach Preservation Association for our Nation. He will be discussing a wide range of water infrastructure-related issues and why protecting our natural infrastructure is as important as restoring our roads and bridges.

Shailen Bhatt, to our right, to Tony's left. Shailen comes to this hearing as the current Executive Director for the Colorado Department of Transportation, stolen from the State of Delaware, where he was the Secretary of the Department of Transportation. There he led a response to two hurricanes, introduced performance management to the agency, reduced agency debt by 30 percent while delivering $2 billion of infrastructure improvements.

I wrote one more note here. I said we are not blue States. This is for all of us. We are not blue States, we are not red States; we are the United States. We got States that are largely rural; States that are more urban in nature. The needs that we have in our rural States—whether it is water or if is transportation—will differ from maybe what we have in our more places like where Ben and I come from and represent. But we have to look out for each other. We have to look out for each other. And if we do that, we will all be ahead in the game.

Thank you so much. Welcome, everybody.

Senator BARRASSO. Thank you, Senator Carper.

Senator Inhofe, would you like to welcome your Oklahoma witness?

Senator INHOFE. Yes, I would. And let me mention, for the benefit of our witnesses and anyone else who might be interested, the Commerce Committee and this Committee have nine members that are on both, and they are meeting at exactly the same time, so if you see members going back and forth, we are doing double duty this morning. I think we can do a better job of coordinating those committees.

Anyway, I want to introduce the good looking witness we have.

Senator CARPER. I already introduced Tony.

[Laughter.]

Senator INHOFE. No, I am real pleased to introduce one of our witnesses because I have known Cindy Bobbitt for a long period of time. She is a Commissioner of Grant County, Oklahoma. She was elected to the Grant County Board 13 years ago and currently serves as Chairman of the Board. She has been actively involved for the past 8 years with the National Association of Counties, serving in many different capacities, including Vice Chair of the National Transportation Steering Committee. Furthermore, she serves on the Technical Oversight Working Group with the Federal Highway Administration Office of Safety.

As you can imagine Commissioner Bobbitt is passionate about our Nation's infrastructure needs, and her experience makes her an incredibly well qualified and informed witness for this Committee.

Grant County is an extremely rural agricultural county in the north central part of Oklahoma that relies heavily on proper infrastructure and has many infrastructure needs. In fact, they say that Grant County has as many bridges as they do people.

Commissioner Bobbitt knows the issues that rural businesses face, as she and her husband run a farm growing wheat, feed grains, alfalfa, and cattle. They have deep roots in Oklahoma, as their farm has been in their family since the Land Run of 1893. Commissioner Bobbitt grew up in rural life, driving a tractor at age 9, and she bought her first piece of land when she was 16 years old. She knows firsthand the importance of agricultural industry to

Oklahoma's economy and the needs of getting those goods to market.

Commissioner Bobbitt, I want to thank you for being here and for coming all the way from Grant County to Washington, DC.

Senator BARRASSO. Thank you, Senator Inhofe.

Senator Capito, could I invite you to please introduce your witness?

Senator CAPITO. Thank you, Mr. Chairman.

It is a great pleasure for me to introduce my friend, Mike McNulty, who is the General Manager of the Public Service District of Putnam County, West Virginia. He's testifying on the behalf of Putnam County, but also the West Virginia Rural Water Association and the National Rural Water Association.

Mike is known as an expert in our State and really throughout the Nation in this area. He received a Bachelor of Science from West Virginia Tech, and he has a Master's from Marshall University. He served as the General Manager since 2004, and he was previously the Director of the West Virginia Rural Water Association.

Rural communities—everybody has referenced this—have had particular challenges. In West Virginia not only do we have rural communities, but we have some tough terrain that poses significant challenges for the deployment and the maintenance and operation of drinking water and wastewater infrastructure.

But you know what? Mike has found a way, very creatively, in his area to work with the regulatory compliance and leveraging the Federal dollars to extend a lot of municipal water to a lot of people, and we talked just yesterday. There are still some people left that we can't forget about, and we won't forget about, but I know he will bring valuable insight to this Committee.

Mike, thank you for coming from West Virginia and the others from West Virginia Rural Water Association.

Thank you.

Senator BARRASSO. Thank you, Senator Capito.

And I would also like to introduce Bill Panos, who is the 17th Director of the Wyoming Department of Transportation, since October 2015. He is a graduate of California State University, where he studied both physics and forensic science. His previous work has included engineering and leadership positions with the TRW Corporation, the Commonwealth of Massachusetts, the State of Washington, and a number of local governments.

Immediately prior to heading WYDOT, he was the Director of Wyoming's School Facilities Department for 2 years.

We will now hear from our witnesses, and we will start with Bill Panos, Director of the Wyoming Department of Transportation.

I do want to remind the witnesses that your full written testimony will be made part of the official hearing today, so please keep your statements to 5 minutes so that we may have some time for questions. I look forward to hearing all the testimony today, beginning with Mr. Panos.

Please proceed.

STATEMENT OF WILLIAM T. "BILL" PANOS, DIRECTOR, WYOMING DEPARTMENT OF TRANSPORTATION

Mr. PANOS. Thank you, Chairman Barrasso, Senator Carper, and members of the Committee. I am Bill Panos, Director of the Wyoming Department of Transportation. Today I am presenting a statement for my own State of Wyoming and the Transportation Departments of Idaho, Montana, North Dakota, and South Dakota.

As Congress considers surface transportation infrastructure investment we hope that our comments will enhance understanding of transportation challenges facing rural States.

Let me get right to our key points.

Federal transportation investment in rural States benefits the Nation. Highways in our rural States enable truck movements between the West Coast and the large cities of the Midwest and the East. They benefit people and commerce at both ends of the journey. Our highways enable significant agricultural, energy, and natural resource products to move from their rural points of origin to national and world markets. Our highways enable tens of millions of visitors each year to reach scenic wonders like Yellowstone National Park and Mount Rushmore, so those highways ensure that tourism dollars are spent in America, furthering national economic goals.

So there is a national interest and plenty of good reasons for the Nation to invest in surface transportation in rural States. There are needs for surface transportation infrastructure investment in rural States as well as in all States.

If Congress advances a surface transportation infrastructure initiative, the additional funds would be put to good use promptly in Wyoming and other States. They would create jobs and provide safety, economic efficiency, and other short- and long-term benefits to the Nation.

Next, we have some thoughts on providing some of those benefits.

Public-private partnerships and other approaches that depend on a positive revenue stream are not a surface transportation infrastructure solution for rural States. The traffic volumes on projects in rural States are low and almost never feasible for revenue generation, so rural States are unlikely to attract investors for those projects even if any project revenues are supplemented by tax credits. Also, with sparse populations and extensive road networks the costs per capita of paying off principal and interest is high in rural States, a deterrent to borrowing for those projects.

Now, we do not oppose a role for P-3s in improving the Nation's transportation network, but they are unlikely to result in meaningful surface transportation investment in rural States.

Any surface transportation initiative should strongly emphasize formula funding. Using the predominantly formula-based FAST Act approach to distribution would ensure that both rural and urban States are participating substantially in a surface transportation initiative. Any surface transportation infrastructure initiative should continue the current approximate four to one ratio between Federal Highway Program funding and Federal Transit Program funding.

Also, we would have particular concern if in any surface transportation infrastructure initiative, any non-formula elements were structured in a way that made rural State participation unrealistic. New program elements limited to extremely expensive projects likely would not be accessible by our 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 and the programs it supports are critical to maintain and improve America's surface transportation infrastructure. We appreciate that in the FAST Act Congress provided financial support to the Trust Fund and its programs through fiscal year 2020. Yet without legislation, after 2020 the Highway Trust Fund will not be able to support even FAST Act Highway and Transit Program levels much less meet needs that will grow as the economy grows. So, strengthening the HTF—the Highway Trust Fund—is worthy of consideration and action.

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. We want each program dollar to deliver more benefits.

Before closing I will briefly mention that our rural States face significant transportation funding challenges. We are geographically large. We often include vast tracts of Federal land and cannot be taxed or developed. We have extensive highway networks and have low population densities. This means that we have very few people to support each lane mile of Federal highway. Yet rural States contribute to this effort significantly. Nationally, per capita contribution to the highway account of the Highway Trust Fund is approximately $111. Per capita contribution to the highway account attributable to Wyoming is three times as much, at approximately $319.

So any surface transportation initiative Congress develops should be crafted in a way that takes into account funding challenges facing rural States.

In conclusion, Mr. Chairman, those are some of our key points, and thanks again for the opportunity to be here today.

[The prepared statement of Mr. Panos follows:]

Statement of the Transportation Departments of
Wyoming, Idaho, Montana, North Dakota, and South Dakota
before the
Committee on Environment and Public Works, United States Senate
presented by
William T. Panos, Director, Wyoming Department of Transportation
Regarding
Modernizing Our Nation's Infrastructure – Rural Perspectives
February 8, 2017

Chairman Barrasso, Ranking Member Carper, and Members of the Committee:

I am Bill Panos, Director and chief executive officer of the Wyoming Department of Transportation. Thanks for this opportunity to appear before the committee. Today, I'll offer a rural perspective on several surface transportation infrastructure issues, including challenges in funding surface transportation infrastructure investments.

Importantly, the transportation departments of Idaho, Montana, North Dakota, and South Dakota have joined the Wyoming DOT in this statement. As Congress considers infrastructure investment issues, we hope our comments will enhance understanding of the often overlooked rural perspective.

Key Points

I'll summarize our key points at the outset.

Significant Federal transportation investment in rural States benefits the nation. The entire nation, including residents of major metropolitan areas, is well served by Federal investment that improves surface transportation infrastructure in and across rural States like ours. Among other benefits, Federal-aid highways in our rural States enable:

- truck movements between the West Coast and the large cities of the Midwest and East, benefitting people and commerce in the big metropolitan areas at both ends of the journey;
- agricultural, energy, and natural resource products, which largely originate in rural areas, to move to national and world markets; and
- access to scenic wonders like Yellowstone National Park and Mount Rushmore.

Public Private Partnerships (P3s) and other approaches to infrastructure investment that depend on a positive revenue stream from a project are not a surface transportation infrastructure solution for rural States. The relatively low traffic volumes on projects in rural States, including on projects that provide excellent public benefits, are not suitable for tolls, even if one wanted to impose them. In short, projects in rural areas are unlikely to generate revenues that will attract investors for bonds or other instruments to finance those projects – even if the revenues are supplemented by tax credits for investors. We do not, however, oppose a role for P3s in improving our transportation network because P3s can work under certain conditions. But P3s are not enough. **Other funding approaches must be part of any national infrastructure initiative for rural States to be able to participate substantially in the initiative, particularly as to surface transportation infrastructure.**

Utilizing the current predominantly formula-based FAST Act approach to distribution would ensure rural and urban States are participating in the initiative, and it would help push the benefits of any new infrastructure initiative out to the public promptly. In a recent statement, the President emphasized fixing existing infrastructure before building new facilities. With exceptions, that's what State DOTs are doing today under the formula-oriented FAST Act, with States deciding how to spend the available funds.

Further, an emphasis on fixing existing infrastructure reduces the relevance of P3s as a funding source, as resurfacing and reconstruction projects tend not to generate new revenue streams. This is another reason that, at least as to surface transportation, an infrastructure initiative cannot rely heavily on P3s.

There are needs for surface transportation infrastructure investment in rural States (and in all States). In Wyoming, under leadership from Governor Mead and our legislature, with welcome multi-year funding stability from the Congress via the FAST Act, and with Wyoming's efforts to be efficient in using scarce dollars, the surface transportation system in our State is in better condition now than many expected not long ago. Yet, Wyoming's estimates indicate that current funding does not enable Wyoming to maintain, much less improve, its road and bridge conditions. If Congress chooses to advance an infrastructure initiative including surface transportation investment, the funds would be put to good use promptly in Wyoming and, I'm sure, other States. There would be safety, employment, and other immediate benefits.

Let me also mention briefly that we may be approaching a time of increased needs related to technological advances. For example, prospects for use of connected and automated vehicles are advancing. At some point States and cities may well begin installation of meaningful amounts of equipment, as part of the highway infrastructure, to facilitate vehicle to infrastructure communication, to improve safety. The cost of those investments may not be captured fully in many current needs studies. But they hold out promise for reducing fatalities and improving safety performance.

The current ratio between Federal Highway Program funding and Federal Transit Program funding is appropriate, consistent with a highly relevant and recent USDOT Conditions and Performance report, and should be continued.

Formula programs, compared to discretionary or allocation programs, should continue to receive strong Federal funding emphasis in any Federal surface transportation infrastructure initiative.

Strengthening the Highway Trust Fund is an important objective. The Highway Trust Fund (HTF) and the programs it supports are critical to success in efforts to maintain and improve America's surface transportation infrastructure. We deeply appreciate that, in the FAST Act, Congress provided financial support to the trust fund and its programs through FY 2020. Yet, under current law, past 2020 there will be no meaningful balance in the HTF to supplement the revenues dedicated to the HTF. As a result, without legislation, after 2020, the HTF will not be able to support even FAST Act highway and transit program levels.

So, as part of any infrastructure effort, Congress should be alert for opportunities to strengthen the Highway Trust Fund and its ability to support vitally important surface transportation programs. If an infrastructure initiative provides short term funding help for surface transportation but the HTF

proverbially falls off a cliff after FY 2020, the surface transportation program would suffer from instability and uncertainty. Moreover, without legislation, the ongoing Federal surface transportation program past FY 2020 would not meet even current Federal program levels, and would not meet needs, which will grow as the economy grows.

So, to the extent that Congress considers various approaches to investment in America's surface transportation infrastructure, strengthening the HTF is worthy of consideration and action. Such action could both improve the HTF's long term stability and enable it to support at least 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 that each dollar will deliver more benefits. One way to do that would be to provide each State with increased flexibility to direct scarce funds to their highest priorities. The DOTs in Wyoming, South Dakota, Idaho, Montana, and North Dakota face transportation challenges different from those faced by the DOTs of densely populated States.

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 that a State DOT has more time and money to focus on actual project delivery. We do not address these issues in detail today. But we raise them at least generally because we want to be clear that it is important to simplify the program and related processes and to maximize the benefit of each program dollar.

Further Discussion

In the rest of our statement we'll elaborate on some of our key points and make a few additional points.

P3s won't advance surface transportation investment in rural States. We noted at the outset that the relatively low traffic volumes on routes in rural States, including on projects that provide excellent public benefits, will not generate net revenues that will attract investors to finance those projects – even if tax credits are provided. We recognize that in shaping any infrastructure investment initiative, Congress will explore ways to attract private sector funding to infrastructure investment.

But we don't see those efforts bearing much fruit in the rural setting. For example, the 2009 recovery act legislation authorized for a limited time so-called "Build America Bonds." Records of that provision show that of our five rural States 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. Additional rural States, such as Nebraska, Iowa, and West Virginia, did not use the provision for transportation, either.

Also, a recent 50 State survey by AASHTO found that 8 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.[1]

[1] Transportation Governance and Finance, AASHTO, November 2016, page 75.

That many rural States would use bonds for transportation rarely if at all is not surprising given that it would be rare for there to be a positive revenue stream from projects in the rural States to pay off the bonds – in whole or even part. With sparse populations and extensive road networks the cost per capita of paying off principal and interest is high in rural States. So, to provide for meaningful participation by rural States in any new infrastructure initiative, that initiative must provide the rural States meaningful funding from sources other than P3s.

The current ratio between Federal Highway Program funding and Federal Transit Program funding is appropriate and consistent with a highly relevant and recent USDOT report.

In any infrastructure investment legislation, Congress will have to decide the types of infrastructure to support and the extent of that support. Without commenting on the full range of transportation and non-transportation infrastructure, we do support the weighting of surface transportation infrastructure funding adopted by Congress in the FAST Act. Under the FAST Act, Federal highway program funding is roughly 4 times the level of transit program funding.[2] Congress should continue that weighting as to surface transportation programs in any infrastructure initiative.

In that regard, we note for the Committee USDOT's 2015 Report on the Conditions and Performance of the Nation's Highways, Bridges, and Transit (the "C&P Report"), made public by USDOT by January 12, 2017 press release.

This recent C&P Report uses 2012 data as a base year. It reports that, to maintain conditions and performance at 2012 levels, annual capital investment in roads and bridges by all levels of government would have to be $89.9 billion; for transit, annual capital investment of $17 billion would be required to maintain conditions and performance at 2012 levels.[3]

The report includes additional investment scenarios, including one for improving the condition of highways and bridges by making capital investments with a positive benefit to cost ratio (and eliminating the large backlog of such needs). That would require capital investment in roads and bridges by all levels of government of $142.5 billion for each of 20 years. For transit, the nearest counterpart in the report is based on an assumption of "high growth" in transit ridership. For that scenario capital investment by all levels of government of $26.4 billion annually for 20 years would be required.[4]

Our point in referencing this material is not to endorse every number to the penny. But the data is from the same USDOT C&P report and selected by USDOT for the "highlights" of the report. Thus, this data seems to us to represent at least a good general guide to relative levels of surface transportation investment opportunity. In each of those highlighted scenarios the highway investment level required to achieve the scenario objective is over 5 times the level for the most comparable transit investment scenario.[5]

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[2] Actual expenditures may be slightly less favorable to highways than program levels. The highway program is more flexible than the transit program and, for years, many States have transferred significant highway program funds to transit projects.
[3] See 2015 C&P Report, Highlights, at pages x and xvi.
[4] See 2015 C&P Report, Highlights, at pages x and xvi.
[5] As presented by USDOT in its 2015 C&P report highlights section, the highway and bridge data concerns all roads. If the highway/bridge data were limited to Federal-aid highways, the ratios would still be approximately 4-1 (see C&P Report,

More broadly, however, the report illustrates that many surface transportation projects throughout the country, with a positive benefit to cost ratio, can't be undertaken at current funding levels.

Significant Federal transportation investment in rural States benefits the nation.

This key point warrants elaboration. Consider truck movements from West Coast ports to Chicago or other heartland or eastern destinations. These and other movements traverse States like ours and benefit people and commerce in the metropolitan areas at both ends of the journey.

In Wyoming, about 90 percent of the trucks on Interstate 80 have origins **AND** destinations beyond Wyoming's borders; a clearer indication of national interest is hard to imagine.

More generally, the Federal-aid highways in rural States provide many national benefits. They --

- serve as a bridge for truck and personal traffic between other States and between major metropolitan areas, advancing interstate commerce and mobility;
- serve the nation's agriculture, ethanol production, energy extraction, and wind power industries, which are located largely in rural areas;
- provide access to scenic wonders like Yellowstone National Park, Mount Rushmore, and many other great national parks, monuments and forests located in rural States;
- have become increasingly important to rural America, with the abandonment of many rail branch lines;
- are a lifeline for remotely located and economically challenged citizens, such as those living on tribal reservations;
- enable people and business to access and traverse vast tracts of Federally owned land; and
- facilitate military readiness.

Agriculture in rural States is of national importance and transportation helps deliver agriculture's full benefit to the nation. You know, Mr. Chairman, that Wyoming produces significant grain 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. South Dakota and Idaho are also major grain producers and possibly billions of people around the world have consumed Idaho potatoes. The highway network is essential to moving these important products to national and world markets and improving the U.S. economy.

Energy and other natural resources are largely located in rural States and areas, including our States. Wyoming has internationally significant coal resources. North Dakota oil production is internationally important. These resources often begin their move to market on the highway system. So the infrastructure is important to improving the contribution of the energy sector to the economy.

Similarly, without a strong road network in the rural West, access to many of our country's great

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Executive Summary, at page ES-18). Transit systems (buses) not infrequently operate on other than Federal-aid system roads though the transit data does not appear to disaggregate data for such operations.

national parks and other scenic wonders would be limited. The residents of major metropolitan areas may travel the roads approaching national parks or monuments infrequently. But they want quality highway access to these national treasures for those special trips. Millions of those special trips are made even though the roads leading to the parks are distant from the Interstate System. For example, in 2016 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. Similarly, visitors to Mount Rushmore total about three times the population of South Dakota.

Other important scenic destinations are located in this region: Devil's Tower in Wyoming; Theodore Roosevelt National Park in North Dakota; the Badlands National Park in South Dakota; and the Craters of the Moon National Monument and the Sawtooth National Recreation Area in Idaho. Investment in highways that provide access to these wonderful places also helps ensure that American and international tourism dollars are spent in America, furthering national economic goals.

In addition, Federal investment in surface transportation in rural States enhances the ability of those States to address safety needs on many rural routes, not only on the Interstate and NHS routes that carry extensive through traffic. The investments supported by Federal highway and surface transportation programs also create both direct and indirect jobs and support economic efficiency that promotes growth.

Rural States face funding challenges.

Yet, our States face significant transportation infrastructure funding challenges. We can't provide all these benefits to the nation and ensure a sufficiently connected national system without Federal investment. We –

- are geographically large;
- often include vast tracts of Federal lands;
- have extensive highway networks; and
- have low population densities.

This means that we 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 $111.45. The per capita contribution to the Highway Account attributable to rural states is much higher. In Wyoming it is much, much higher -- $319.87.

The vast extent of Federal lands in many Western States presents a particular challenge to improving surface transportation in those States. Idaho is well over 60 percent Federal and tribal lands; Wyoming, over 50 percent; Montana, roughly one-third.

Development or use of Federal lands is limited, and State and local governments can't tax them. Yet, the nation's citizens and businesses want reasonable opportunities to access and cross those lands. This is an expensive transportation proposition for sparsely populated States. Significant investment of transportation dollars by the Federal government has been, and 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."

So, any surface transportation infrastructure initiative Congress may develop should be structured in a way that recognizes and responds to these funding challenges facing rural States.

Any infrastructure initiative should emphasize formula funding, at least for surface transportation.

Should Congress advance a surface transportation infrastructure initiative, that portion of any infrastructure initiative should emphasize formula funding. Discretionary and allocation programs are generally slower to put funding to work than formula programs. So, the approach that puts the funds to work faster has much to commend it, including generation of direct and indirect jobs, prompter deployment of projects that enhance safety, and prompter deployment of projects enhancing freight movement.

In addition, we would have particular concern if, in any infrastructure initiative, any new non-formula surface transportation programs 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 our States, at least in a substantial way. So, that type of initiative may very well lack urban-rural balance.

We have similar concerns that an infrastructure bank/fund would end up being relatively inaccessible for projects in rural States. Again, in rural States, projects are unlikely to have revenue streams to support borrowing. Plus, the application and approval process would mean that funds could not be put to work as promptly under such a program as they would be under formula programs.

Public Transportation

Before closing, let us mention public transportation, which is not just for big metropolitan areas. Even though our States' share of Federal transit program funds is small, transit plays a role in the surface transportation network in rural States.

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 an often vital link for citizens in small towns to get to the hospital or clinic as well as to work or other destinations. 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 financial recognition of rural as well as urban transit.

Conclusion

Federal investment in surface transportation infrastructure in rural States helps move people and goods throughout the country, helps move agricultural, energy and natural resources to market, and is in the national interest for the many reasons we have presented. We have also explained why P3s will not be

an effective approach to improving surface transportation infrastructure in our rural States. We are hopeful that Congress will give recognition to the points we have raised today as it considers a possible infrastructure initiative.

That concludes our statement. I'll be pleased to respond to questions at the appropriate time though, to the extent the responses go beyond the positions we have addressed in writing, I am able to respond only for my own department.

We (the transportation departments of Idaho, Montana, North Dakota, South Dakota, and Wyoming) thank the Committee for its consideration and for the opportunity to present testimony today.

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Senate Environment and Public Works Committee
Hearing entitled, "Oversight: Modernizing our Nation's Infrastructure"
February 8, 2017
Questions for the Record for Mr. Bill Panos

Chairman Barrasso:

1. Director Panos, during the February 8 hearing you replied to some questions regarding user fees as a means of supporting surface transportation investment. I understood your replies as directed towards issues regarding user fees for surface transportation at the state government level, in Wyoming, not as comments on surface transportation user fees at the Federal level.

Please confirm and elaborate as appropriate.

Reply: Mr. Chairman, you are correct that in responding to questions at the February 8 hearing regarding user fees I was commenting on circumstances at the state government level in Wyoming. In Wyoming, in recent years there has been downward pressure on some non-user fee sources of funds that have been used to support highways. This has resulted in increased interest in user fees to compensate for reduced support from other Wyoming funding sources.

I did not intend in my comments to address Federal user fee issues.

Ranking Member Carper:

2. Is there anything the Federal government and State and local partners are able to do today with existing authority and resources to get better results from our investments?

Reply: In general, we believe that the Federal government should administer current law in a less prescriptive manner, thereby providing increased flexibility to state and local governments. For example, recently promulgated system performance rules to be phased in will require even very rural states and areas to report, for NHS routes, specific traffic counts, at specific times of day, as part of an effort to measure and manage congestion in rural states like Wyoming. We are not persuaded that FHWA/USDOT needs to know how many cars and trucks were approximately 15 miles southeast of Cody, Wyoming, (between Cody and Casper) at approximately 11 AM Mountain Time on a given weekday morning. The time and money that a rural state must spend implementing such requirements means that the state has less available for more important tasks. These requirements were not compelled by statute and, as to low population density states, could be revised to specify that full compliance would be achieved if, once per year, the state sent a one line email to FHWA certifying that it did not consider itself to be experiencing traffic congestion. This is one of many opportunities for the elimination of burdensome requirements that could allow FHWA and state and local

entities to move on to more productive work. Costs saved from compliance with excessive requirements can be redirected to delivery of projects that help the public.

a. What new authorities are needed to enable Federal, State, and local agencies to obtain better investment results? Are there authorities that would help agencies to do more with less direct funding?

Reply: At the outset, I'll note that we are not supportive of a reduction in direct Federal funding for WYDOT programs. However, the less funding available, the more important it is that flexibility be provided, so that scarce funds can be directed to the highest priorities as determined by the state. We want to be clear; we are not suggesting that Congress should not specify that at least a certain portion of funds go to, for example, NHS routes. But flexibility is important when all states have a supply of worthy projects that are beyond the reach of available funds. Moreover, to achieve better investment results within any given level of funding, it is important to reduce overhead and maximize the extent of funds available for deployment in actual projects and programs. Thoughtful reduction of regulatory burdens can help achieve such cost reductions.

We note that, in general, FHWA does not always build into its rules the possibility of a waiver, for good cause shown, whether for short or long term periods. Here we are referring not to waivers from statutory requirements but from requirements developed by rule that are not specifically required by statute. Allowing a chance for such waivers could allow for more streamlined administration and implementation of programs. Further, FHWA should not be denying the regulated states or itself the opportunity to make spot improvements for good cause shown.

3. In your testimony you mentioned the large percent of truck traffic that originates or is destined for markets outside of Wyoming, and also mentioned the benefits that investments in Wyoming and other rural states have for urban areas. Conversely, how do Wyoming and other rural states benefit from investments at the origins and destinations, such as the Port of Portland, or in Chicago where some of the most significant bottlenecks in the nation are located?

Reply: The transportation network absolutely includes much more than the portions that are in rural states. Products that originate in rural states must go to markets, sometimes for processing, sometimes for consumption, or, as to a port, for onward transportation. Clearly, for agricultural or natural resource products to get to Chicago or Portland, as examples, the transportation network must connect all the way to such destinations. Similarly, many of the visitors to the great national parks in Wyoming and other western states begin their journeys to those parks in large metropolitan areas. We support a well-connected national transportation network. Our concern is to highlight to those from more populated areas that the rural states are an important part of it.

4. Wyoming has seen a decline in motor-vehicle fatalities between 2014 and 2016. To what do you attribute this change, and what more needs to be done to protect and expand this progress?

Reply: We are always trying to improve transportation safety -- and not only with safety specific apportionments. In recent years we worked hard and provided financial support to tribes, who, working together with WYDOT and Federal and local partners, achieved the long sought improvement of 17 Mile Road on the Wind River Reservation. Before reconstruction, this route was considered one of the most dangerous roads in Wyoming. We have similarly made targeted investments, not only from safety funds, but from our general apportionments, in projects that included wider shoulders, curve reduction, and other features that improve safety. In addition, using NHTSA funding, we have increased educational outreach on highway safety issues, including to tribes, younger drivers, and other targeted groups.

Senator Ernst:

5. I live on a gravel road in Montgomery County, in Southwest Iowa, which looks much like the rest of rural America. Our network of rural roads and bridges are an integral link in the food supply chain, and are the first step in bringing the bounty from our farms to market.

While two lane bridges on county highways are not as exciting to talk about in big infrastructure packages as massive new runways and airport terminals, they are a critical, and often overlooked piece of our nation's infrastructure. To put it into perspective, Iowa ranks 30th in population, but 5th in number of bridges and 12th in miles of roadway.

I have heard from farmers across our state about the declining state of our rural roads and bridges. We have 4,931 structurally deficient bridges in Iowa. In one instance, a bridge was closed because it was no longer structurally safe for a tractor to cross it, and the farmer now has to ask to drive across his neighbor's property just to reach one of his fields.

In your experience, what is the most effective method for allocating infrastructure funding to ensure rural areas are not overlooked, and is there any specific policy advice you would like to give us?

Reply: The FAST Act achieved a distribution of funds that responds to the needs of rural as well as more heavily populated states. A key part of that urban-rural balance is that under the FAST Act well over 90 percent of Federal highway funds are distributed by formula, using a formula that strikes urban-rural balance. Those are positive features of the FAST Act.

As to what happens to funds that are apportioned to a state, that is significantly a matter of state discretion. The Federal highway program (under the FAST Act and predecessor acts) does allow for some investment of Federal highway funds in so-called "off-system" bridges, bridges that are not on Federal-aid highways (usually small rural bridges). Ensuring continued eligibility for such expenditures would help address the concerns of rural areas within a state.

Senator Whitehouse:

6. Has your state made any efforts to explore or adopt innovative materials like composites and others to further the service life and reduce lifecycle costs of infrastructure? **Reply:** Yes; see detail below.

Do you face any barriers, statutory or institutional, that inhibit the ability to deploy cutting edge solutions? **Reply:** No.

Detail on use of innovative materials

Wyoming DOT regularly makes use of modern and innovative techniques and materials suitable to Wyoming's circumstances as part of its commitment to make long lasting and cost effective investments in the public interest. Below are some examples.

In its bridge program, WYDOT has used:

Two-component epoxy/urethane blend to overlay concrete bridge decks; this epoxy overlay is broadcast with aggregate and provides a durable high friction coating;

Anodes to provide cathodic protection of rebar corrosion in bridge decks;

High Density Polyethylene (HDPE) and polyester geogrids for the construction of mechanically stabilized earth retaining walls; and

Epoxy organic zinc rich primers to provide a powder coat protection for bridge railings and pedestrian railings.

Given the mountainous terrain in many areas of Wyoming, WYDOT is regularly working to deploy the most modern approaches to mitigate landslide risk and facilitate landslide remediation. Accordingly:

Lightweight fill is typically used in place of regular soil embankment to reduce the driving force in a landslide. Lightweight fill can also be used to reduce overall embankment settlement when new embankment is placed over compressible material. Examples of lightweight fill that have been used are expanded polystyrene (EPS), wood chips, shredded tires, and scoria. The recommendation to use these materials depends on the type of application, location of the project, and the cost effectiveness of these materials to the project.

WYDOT has used "launched" soil nails to build temporary soil nail walls to support the roadway in areas where a landslide (embankment failure) is encroaching on the edge of the road.

WYDOT uses "full depth reclamation" (FDR) on numerous projects. FDR is a process that grinds up existing deteriorated pavement and blends with the underlying aggregate base. This yields a composite product of existing materials that preserves our natural aggregate resources. The process also reduces the need to haul new material which saves on fuel use, increases mobility for the traveling public, and shortens construction duration. The service life is not reduced, but the initial cost is lower than if virgin materials were used.

WYDOT also uses high strength geotextiles and geogrids to strengthen the subgrade, aggregate base or asphalt pavement. These products are placed in the pavement structure during construction. The advantages of these products are reduced excavation and importation of soil, aggregate base thickness and thermal cracking in the asphalt pavement layer.

In the coming year, WYDOT plans to begin incorporating aramid fibers into new asphalt pavement. These fibers should increase service life by providing strength/durability, reducing cracking, and rutting potential.

7. Do you believe an infrastructure package limited to tax breaks would be sufficient to bring our nation's infrastructure to a state of good repair? **Reply:** No.

What types of federal assistance would be most useful?

Reply: Most useful would be direct spending, such as obligation authority from the Highway Trust Fund. We also recommend that such funds be distributed pursuant to the FAST Act formula. That way: all states, urban and rural, large and small, are substantially participating in the additional funds that would be provided by an infrastructure initiative; states would be selecting the projects undertaken with the additional funds; and the funds would be used promptly, as all states would be familiar with the process. If new programs and processes are established by the initiative, the projects undertaken with the funds likely would be deployed more slowly, as the new program would require some implementation.

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Senator BARRASSO. Thanks so much, Mr. Panos, for joining us. Mr. McNulty, welcome, and please begin.

STATEMENT OF MICHAEL MCNULTY, GENERAL MANAGER, PUTNAM PUBLIC SERVICE DISTRICT, WEST VIRGINIA

Mr. MCNULTY. Thank you.

Good morning, Chairman Barrasso and members of the Committee. My name is Mike McNulty, and I am the General Manager of the Putnam Public Service District, a State-chartered drinking water and wastewater utility located just outside of Charleston, West Virginia.

On behalf of West Virginia and National Rural Water Associations, we are grateful that you have included a voice for rural America at this hearing.

Before I begin my remarks I would like to say thank you to our State's junior Senator, Shelley Moore Capito, for her assistance in improving West Virginia's rural water infrastructure. In my county, we were able to construct a new $16 million wastewater utility expansion that allowed us to extend service to 400 homes and businesses. This is a very important project for Putnam County, and your assistance, Senator Capito, was essential. Thank you.

When thinking about national water infrastructure proposals, please remember that almost all of our country's community water utilities—both drinking water and sewer—are small. Small and rural communities have more difficulty affording public water service due to the lack of population density and economies of scale.

In many States the great majority of community water systems serve fewer than 10,000 people. For example, in West Virginia, it is 444 of the 468 community water systems; in Wyoming it is 300 of the 319 systems; and in Delaware it is 196 of the 213 community water systems.

While we have fewer resources, we are regulated in the exact same manner as a large community.

In 2017 there are rural communities in America that still do not have access to safe drinking water or sanitation due to the lack of population density or funding, some in my county. If rural and small town America is not specifically targeted in legislation to fund new water infrastructure initiatives, the funding will bypass rural America and be absorbed by large metropolitan systems.

Small community water infrastructure projects are more difficult to fund because they are smaller in scale. Numerous complicated funding applications have to be completed and approved compared to one large project. This is compounded by the reality that some small communities lack the administrative expertise to complete the necessary application process and perhaps lack the political appeal of some large cities.

Second, the lack of customer density in rural America compounded with lower median household incomes means water infrastructure is often a much greater cost per household. This means that a water infrastructure project poses a greater financial risk compared to a metropolitan project, and even more importantly requires some portion of grant funding—not just loan dollars—to make the project feasible.

In the last 10 years my district has borrowed over $50 million from the Federal Government for projects that were essential to our sustainability and expansion. We could not have secured this funding from the commercial markets and kept the rates affordable for our customers.

My water utility provides a good example of what water infrastructure development means to rural America. Since its early development in the 1960s, our water utility infrastructure has expanded rapidly, regionalizing or interconnecting with other smaller communities to provide and extend water and sewer service and become the engine for economic development in our county.

One of our utility partners, the town of Buffalo, was able to finance the sewer expansion that was needed to serve a new Toyota plant with funding from the Clean Water State Revolving Fund and our State's Infrastructure and Jobs Development Council. Without the expansion of our infrastructure, we would not have been able to service the Toyota manufacturing plant.

In southern West Virginia, much of our water infrastructure was built over 100 years ago by coal companies and is now failing and deteriorating. We have areas in my county with failing septic systems that need to be serviced by extending sewer lines. We still have pockets of people with no drinking water at all, and they rely on hauling water to their home's cisterns.

Rural communities are in need of economic stimulus. For example, in West Virginia and Wyoming, the recent declines in the energy sector have resulted in massive losses of jobs, State revenue, and the corresponding decrease in State infrastructure funding. A new infrastructure initiative targeted toward rural communities would be a welcome economic stimulus in rural America.

In closing, Mr. Chairman, every rural and small community in the country thanks you and this Committee for the numerous opportunities this Committee has provided rural America.

[The prepared statement of Mr. McNulty follows:]


TESTIMONY OF

MICHAEL W. MCNULTY

GENERAL MANAGER, PUTNAM PUBLIC SERVICE DISTRICT

SCOTT DEPOT, WEST VIRGINIA

ON BEHALF OF

PUTNAM PUBLIC SERVICE DISTRICT,

THE WEST VIRGINIA RURAL WATER ASSOCIATION, AND

THE NATIONAL RURAL WATER ASSOCIATION

BEFORE THE

THE U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

FEBRUARY 8, 2017

Good Morning Chairman Barrasso and Members of the Committee. My name is Mike McNulty, and I am the general manager of the Putnam Public Service District (PSD) which is a state chartered drinking water and wastewater utility just outside of Charleston, West Virginia.

Before commenting on water infrastructure and rural America, I want to say thank you to our state's junior Senator, Shelley Moore Capito, for her assistance in improving West Virginia's rural water infrastructure. My county recently was able to construct a new $16 million dollar wastewater utility expansion that allowed us to extend service to 400 new homes and businesses. This is a very important project for our county and your assistance, Senator Capito, was essential in making this work and thank you.

I am representing all small and rural community water and wastewater supplies today through my association with both the West Virginia and National Rural Water Associations. Our member communities have the very important public responsibility of complying with all applicable regulations and for supplying the public with safe drinking water and sanitation every second of every day. Most all water supplies in the U.S. are small; 94% of the country's 51,651 drinking water supplies serve communities with fewer than 10,000 persons, and 80% of the country's 16,255 wastewater supplies serve fewer than 10,000 persons.

- In West Virginia, 444 of the total 468 community water systems serve a population of fewer than 10,000 persons.
- In Wyoming, 310 of the total 319 community water systems serve a population of fewer than 10,000 persons.
- In Delaware, 196 of the total 213 community water systems serve a population of fewer than 10,000 persons.
- And in Maryland, 429 of the total 470 community water systems serve a population of fewer than 10,000 persons.

When thinking about national water infrastructure proposals, please remember that most water utilities are small and have more difficulty affording public water service due lack of population density and lack of economies of scale.

The small community paradox in federal water policy is that while we supply water to a minority of the country's population, small and rural communities often have more difficulty providing safe, affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. Also, while we have fewer resources, we are regulated in the exact same manner as a large community; we outnumber large communities by a magnitude of 10-fold, and federal compliance and

water service is often a much higher cost per household. In 2017, there are rural communities in the country that still do not have access to safe drinking water or sanitation due to the lack or population density or lack of funding – some in my county. Each day, we have families driving their pick-up trucks to our central filling station to fill up large plastic storage containers to "haul" the water back to their remote and isolated homes. Included with my written testimony are recent news profiles of communities that lack basic drinking water access (Appendix A). My water utility and our rural water association's mission has been to expand water service to these communities and rural areas – often for the first time. The delivery of drinking water and sanitation to rural America has been one of the great public health accomplishments of the second half of the twenty-first century.

This committee is very important to rural and small town America; every federal dollar that has been granted to the many thousands of small towns to build, expand, and maintain their drinking water and wastewater infrastructure through the state revolving funds was authorized by this committee. Also, every federal regulation under the Safe Drinking Water or the Clean Water Act was likewise authorized by this committee. We are grateful to be able to testify today and grateful for the numerous opportunities this committee has provided rural America to testify and be included in the crafting of federal water and environmental legislation.

Over the last 50 years, through the combined financial assistance of the state revolving funds and the U.S. Department of Agriculture's rural water grant and loan initiative that has exceeded 100 billion dollars, the country has made great advancements in the standard of living in rural America. Millions of rural Americans now have access to safe public or "piped" drinking water that their parents did not have. Thousands of rural communities now have public sewer or wastewater systems that have allowed for elimination of millions of questionable septic tanks, cess-pools, straight pipes, or worse. This rural water infrastructure development has been the engine of economic development and agricultural technology advances in rural communities, and it has provided for dramatic improvements to the environment and public health.

President Trump has made improving the county's infrastructure, including water and wastewater, a priority. We are grateful for that.

My main point here today is to tell you that if rural and small town America is not specifically targeted in the legislation that would authorize and fund a new water infrastructure initiatives, the funding will by-pass rural America and be absorbed by large metropolitan water developments due the following two reasons:

1. Small community water infrastructure projects are more difficult to fund because they are smaller in scale – meaning numerous, very complicated applications have to be completed and approved compared to one large project. This is compounded by the reality that small communities lack the administrative expertise to complete the necessary application process – and perhaps the political appeal of some large cities.
2. Due to lack of economies of scale and lower median household incomes in rural America, water infrastructure is often less affordable (i.e. a much greater cost per household). This means that a water infrastructure project poses a greater financial risk compared to the metropolitan project and, very importantly, requires some portion of a grant, not just a loan, to make the project feasible. The higher the percentage of grants required to make a project work results in less money repaid to the infrastructure funding agency and a correlating diminution of the corpus fund.

To make sure any water infrastructure initiative helps rural and small town America, we urge Congress to consider the following six policy principles - and two observations - based on their merit:

- First, local communities have an obligation to pay for their water infrastructure and the federal government should only subsidize water infrastructure when the local community can't afford it

and there is a compelling federal interest such as public health, compliance or economic development. Some federal programs like the U.S. Department of Agriculture water infrastructure program contain this needs-based criterion. USDA calls this the "credit elsewhere" criterion. The state revolving loans achieve this principled objective by requiring that federal subsidies be targeted to the communities most in need based on their economic challenges combined with the public health necessity of the project. One of our concerns with the new Water Infrastructure Finance and Innovation Act (WIFIA) is that it lacks any needs-based targeting, credit elsewhere means-testing, or focus on improving public health or compliance. In fact, WIFIA subsidies are limited to communities that have good credit (33 USC § 3907), thus precluding WIFIA subsidies from addressing the country's most needy water problems including Flint, border colonias, and other more rural low-income communities with contaminated drinking water (Appendix A).

- Second, all U.S. Environmental Protection Agency (EPA) water funding programs should be primarily dedicated to compliance with EPA's federal mandates or standards. Currently, the Safe Drinking Water Act and Clean Water Act are creating a tremendous financial burden on small and rural communities. The funds provided by Congress, however, are not consistently applied to communities that are experiencing the greatest burden as a result of federal compliance. Much of the current and most acute unfunded mandate burden is a result of the EPA's implementation of their Total Maximum Daily Load (TMDL) program that is causing reductions in wastewater nutrient permit limitations and correlating expensive wastewater treatment plant upgrades. These communities should be a priority in targeting all EPA wastewater funding subsidies. Next year, the City of Casper, Wyoming could be facing a potential $50 million dollar cost to keep the city's wastewater treatment plant in compliance with the TMDL on the North Platte River. Federal compliance cost for the EPA drinking water rules, many for naturally occurring elements in groundwater, can be a million dollars in communities with fewer than a thousand people. I have attached a few recent examples to my testimony (Attachment B). EPA's most recent noncompliance reporting data for drinking water regulations shows 9,949 communities in noncompliance (Attachment C); most all of these communities are struggling to achieve federal compliance and avoid fines.

    - EPA lists 444 communities in violation for the arsenic standard; all have a population of fewer than 25,000 persons; 98% have a population of fewer than 10,000 persons; and 85% have populations under 1,000 persons.
    - EPA lists 1,374 communities in violation for the most recent disinfection byproducts rule; 1,310 have a population of fewer than 25,000 persons; and 94% have a population of fewer than 10,000 persons.
    - EPA lists 76 communities in violation for naturally occurring fluoride in their drinking water; all but 2 of these communities have a population of fewer than 10,000 persons; and 80% of these communities have a population of fewer than 500 persons (Attachment C).

- Third, a small percentage of water funding programs should be set-aside for technical assistance and assistance in complete the applications for water infrastructure funding. Small communities often lack the technical and administrative resources to achieve compliance and complete the necessary applications to access the federal funding programs. Providing these small communities with shared technical resources allows small communities access to technical resources that large common communities have and are needed to operate and maintain water infrastructure, comply with standards in the most economical way, and obtain assistance in applying for state revolving loan funds. Often, this assistance saves thousands of dollars for the community and keeps the systems in long-term compliance with EPA rules. Our recent letter to EPA Administrator designee Scott Pruitt explains this concept in detail. (Attachment D).

- Fourth, regarding privatization of water infrastructure and public-private partnerships, NRWA has not opposed water supply privatization in principle. However, corporate water (profit generating companies or companies paying profits to shareholders/investors) should not be eligible for federal taxpayer subsidies. Private companies argue that they have to comply with the same regulations. However, the distinction in mission between public and private is the core principle that should be considered. Public water utilities were and are created to provide for public welfare (the reason why public water continues to expand to underserved and non-profitable populations). Any federal subsidy that is provided to a corporate water utility can't be separated from subsidizing that company's profits.

- Fifth, allow infrastructure funds some ability to provide grants – not just loans. Commonly, low-income communities do not have the ability to pay back a loan, even with very low interest rates, and require some portion of grant or principal forgiveness funding to make a project affordable to the ratepayers.

- Sixth, a minimum portion of the funds should be set-aside for small and rural communities. This ensures that any infrastructure program must set-up a process for dealing with small and rural communities. Once established, local pressures and priorities will determine the actual portion directed to small systems which we expect will often be greater than the minimum prescribed.

My water utility, the Putnam Public Service District, in Putnam County, West Virginia provides a good example of what water infrastructure development means to rural America. Since its early development in 1960s, our utility has grown rapidly, regionalizing or inter-connecting with dozens of smaller communities to provide and extend water and sewer service, and become the engine for economic development in our county – including collaborating with the Town of Buffalo in securing a Toyota plant in the 1990s that is the main driver of jobs in our region. One of our partner utilities, the Town of Buffalo was able to finance the sewer expansion that was needed to serve the Toyota plant with funding from the clean water state revolving fund and our state's infrastructure and job development fund. This was a key objective of Senator Rockefeller and without the expansion of our wastewater system, we would not have been able to service the proposed Toyota manufacturing plant.

Currently, we provide drinking water to 1,714 customers, sewer to 3,568 customers and both water & sewer to another 7,713 customers – for a total of 12,995 customers. Our average water bill is $33.84 (for 4,000 gallons) and our average sewer bill is $47.52 (for 4,000 gallons). We also provide service to numerous small communities in the county or operate their water utilities for them – including the small town of Eleanor which was established in 1934 when President Franklin Roosevelt and first lady Eleanor Roosevelt visited the county and developed the community as a test site for families.

Our wastewater system first started in the 1970s with financing from the federal government. At that time, the lack of a central sewer system was resulting in a prohibition on any growth in the county. Our drinking water system was initiated in the 1960s with federal funding support. Through the 1980s we relied on federal water infrastructure funding, and we were able to grow various initial smaller water utilities in the county and incorporate all of them into our current county-wide water utility.

This rural water infrastructure evolution has been the reason the county has been able to attract business, build new houses and subdivisions, and absorb the impact of our region's population migration when people wanted to move away from the chemical manufacturing plants to a more favorable and livable area.

Our most recent project is a $16.6 million project that Senator Capito has been instrumental in assisting us with the federal financing. It is fully financed by the federal government. It will allow us to provide water to 400 new homes and business, take out of service two smaller and failing sewer systems, and very importantly, have capacity to serve the location of some very large future commercial development in the area.

In the last ten years, we have borrowed over $50 million from the federal government that was essential to our sustainability and expansion (Attachment E). We could not have secured this funding from the commercial markets and still be able to have water and sewer services remain affordable for our region.

We are constantly maintaining and replacing our existing water infrastructure with new storage, valves, pipes, motors, mechanical treatment works, generators, controls, chemical treatment works, sensors, buildings, electronics, etc. In southern West Virginia, much of our water infrastructure was initially built over 100 years ago by the coal companies and it is now failing and deteriorating. We have portions of the county with failing septic systems that need to be serviced by extending sewer lines. We still have pockets of people with no drinking water at all and they rely on hauling water to their individual home cisterns. While providing service to these underserved rural populations are the most expensive projects, when completed, they result in the most significant improvement in public health and environmental protection. I have included with my testimony a current list of water projects that are ongoing, along with the funding sources for these projects (Attachment F).

Rural communities are currently in need of economic stimulus. For example, in West Virginia and Wyoming, the recent declines in the energy sector have resulted in massive losses of state revenue, jobs, and the corresponding decrease in state infrastructure funding. A new infrastructure initiative targeted toward rural communities would be a welcome economic stimulus in rural America.

West Virginia has recently assessed the water infrastructure needs in the state. The West Virginia Infrastructure and Jobs Development Council is a governmental instrument of the State. Its primary role is to evaluate requests from project sponsors seeking to plan, acquire, design, and construct water, sewer, and economic development projects within the State and to approve funding for those projects. In 2014, the Council completed a comprehensive statewide inventory of water supply systems and sewage treatment systems and an assessment of current and future needs. Projected future need assumes a goal of serving every customer in the State. The cost of providing water service to every remaining unserved household in the State is approximately $2.2 billion. Our state has determined that the cost for providing sewer service to all households, complying with the Chesapeake TMDL, and abating all the combined sewer overflow issues in the state is estimated to be approximately $10.1 billion.

Every four years, EPA works with states and community water systems to estimate the drinking water state revolving fund-eligible needs of community drinking water systems by state. In 2011, EPA published their fifth national assessment of public water system infrastructure needs and it showed a total twenty-year capital improvement need of $384.2 billion. This estimate represents infrastructure projects necessary from January 1, 2011, through December 31, 2030 for water systems to continue to provide safe drinking water to the public.

EPA's Clean Watersheds Needs Survey (CWNS) is an assessment of capital investment needed nationwide for publicly-owned wastewater collection and treatment facilities to meet the water quality goals of the Clean Water Act. These capital investment needs are reported periodically to Congress. EPA's 2012 CWNS Report was the sixteenth survey since the enactment of the CWA in 1972 which requires the Report. The total capital wastewater and stormwater treatment and collection needs for the nation are $271 billion as of January 1, 2012. This includes capital needs for publicly-owned wastewater pipes and treatment facilities ($197.8 billion), combined sewer overflow (CSO) correction ($48.0 billion), stormwater management ($19.2 billion), and recycled water treatment and distribution ($6.1 billion).

The EPA assessments found that water funding needs in West Virginia are $2.8 billion for water and $3 billion for wastewater; in Wyoming, they are $900 million for water and $200 million for wastewater, the same amount for Delaware as Wyoming; and in Maryland, $6.9 billion is needed for

water and $8.5 billion for wastewater. The EPA figures for all states are attached to my testimony (Attachment G). The EPA figures are lower than our state's assessments because EPA was very strict in regards to documentation and would not allow West Virginia to count all of our needs.

Much of the funding for Putnam County water and wastewater development has come from the U.S. Department of Agriculture's (USDA) rural water grant and loan initiative. This initiative has been the historical solution for small and rural water infrastructure needs and is largely responsible for the success of delivering water and sanitation to almost every corner of rural America. This initiative is also unique among the various federal water funding initiatives because applicants have to show they can't obtain funding, the so-called "credit elsewhere" criterion. The USDA currently has a backlog of 805 applications of which 618 are for low interest loans of $1,637,039,163 and 612 are for grants totaling $596,784,575 for a grand total of $2,233,823,738. This is perhaps the most discriminating assessment of need because it only measures rural and small community projects that meet USDA strict criterion for need-based high cost per household and local economic conditions. Much of the need illustrated by other assessments would not able to meet USDA limitations on communities' ability to afford water infrastructure, meaning it would be determined that the community could afford the project without the federal subsidies. Additionally, this assessment is only measuring the communities that have proactively initiated the USDA application process after all USDA funding has expended for this fiscal year. The backlog truly represents rural and small community water infrastructure projects that can't access alternative sources of funding.

There is a current misconception among some stakeholders that the SRFs have a limitation on size or scope of a water project and don't leverage federal dollars. States can currently leverage a smaller amount of water funding to create a much larger available loan portfolio. Similarly, states can use their federal SRF grants to leverage larger loan portfolios. According to the EPA, State SRF programs can increase funds through different types of leveraging such as:

- Using fund assets as collateral to issue tax-exempt revenue bonds;
- Using funds from one SRF program to secure the other SRF program against default through cross-collateralization;
- Using funds from one SRF program to help cure a default in the other SRF program through a short-term cross-investment; and
- Increasing disbursements to incrementally fund multiple projects within a capital improvement plan.

A 2015, Government Accountability Office (GAO) report on the state revolving funds found: *"EPA tracks the amount of additional loans that are made because of leveraged bonds. States' Clean Water SRF programs have issued approximately $31.8 billion in loans with leveraged bonds, and states' Drinking Water SRF programs have made approximately $5.3 billion in additional loans with leveraged bonds..."* [Source: State Revolving Funds, August 2015 GAO- 15-567]

Regarding the misconception some stakeholders are advancing that the SRFs have a limitation on size or scope of a water project, there is no size or scope limitation for water projects under the state revolving funds. According EPA, most SRF funding is allocated to large communities:

- Approximately 72 percent of clean water SRF funding is awarded to large communities (EPA Clean Water State Revolving Fund Annual Review).
- Approximately 62 percent of drinking water SRF funding is awarded to large communities (http://www.epa.gov/ogwdw/dwsrf/nims1/dwcsizeus.pdf).

A simple review of projects funded by the SRFs show numerous projects funded that cost over 50 million dollars (Appendix G). It appears that the SRFs are used in every large water project in the country. This assertion should be verified by the EPA. The state of New York lists multiple projects funded by the drinking water SRF that cost over one billion dollars (Appendix G).

Attachment A

The New York Times *A Toilet, but No Proper Plumbing: A Reality in 500,000 U.S. Homes*

By SABRINA TAVERNISESEPT. 26, 2016

Dorothy Rudolph in front of her home in Tyler, Ala., which does not have a septic tank.CreditBryan Meltz for The New York Times

TYLER, Ala. — The hard clay soil in this rural Southern county has twice cursed Dorothy Rudolph. It is good for growing cotton and cucumbers, the crops she worked as a child and hated. And it is bad for burying things — in particular, septic tanks.

So Ms. Rudolph, 64, did what many people around here do. She ran a plastic pipe from her toilet under her yard and into the woods behind her house. Paying to put in a septic tank would cost around $6,000 — a little more than half of her family's annual income.

"It was a whole lot of money," she said. "It still is."

Here in Lowndes County, part of a strip of mostly poor, majority-black counties that cuts through the rural center of Alabama, less than half of the population is on a municipal sewer line. While that is not a hardship for more affluent communities — about one in five American homes are not on city sewer lines — the legacy of rural poverty has left its imprint here: Many people have failing septic tanks and are too poor to fix them. Others, like Ms. Rudolph, have nothing at all.

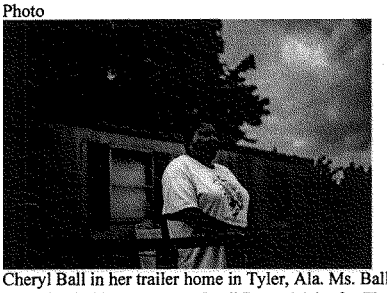
That is not so uncommon. Nearly half a million households in the United States lack the basic dignity of hot and cold running water, a bathtub or shower, or a working flush toilet, according to the Census Bureau. The absence has implications for public health in the very population that is the most vulnerable.

Crumbling infrastructure has been a theme of this country's reinvigorated public conversation about race — for instance, a botched fix for old pipes in Flint, Mich., that contaminated the city's drinking water with lead. But in poor, rural places like Lowndes County, there has never been much infrastructure to begin with.

"We didn't have anything — no running water, no inside bathrooms," said John Jackson, a former mayor of White Hall, a town of about 800 in Lowndes that is more than 90 percent black and did not have running water until the early 1980s. "Those were things we were struggling for."

There is no formal count of residents without proper plumbing in Lowndes, but Kevin White, an environmental engineering professor at the University of South Alabama, said that a survey that he did in a neighboring county years ago found that about 35 percent of homes had septic systems that were failing, with raw sewage on the ground. Another 15 percent had nothing.

Photo



Cheryl Ball in her trailer home in Tyler, Ala. Ms. Ball can't afford a septic tank, so she runs a plastic pipe that empties waste behind her property. CreditBryan Meltz for The New York Times

"The bottom line is, I can't afford a septic system," said Cheryl Ball, a former cook who had a heart attack several years ago and receives disability payments. She lives in a grassy field on which only three of seven homes have septic tanks. Most banks now require proof that a home has proper sewage disposal before lending, but Ms. Ball paid cash for her mobile home — $4,000.

This area, known as the Black Belt (so called more for its soil, than its demographics), is haunted by its history of white violence toward African-Americans and a deep, biting poverty. Lowndes is one of the poorest counties in the country, and its rural population, whose trailers and small houses dot the lush green landscape, often cannot afford the thousands of dollars it costs to put in a tank. Municipalities, with low tax bases, cannot afford extensive sewer lines.

Ms. Rudolph, a retired seamstress, and her husband, a carpenter, live in a tiny, white clapboard house that he built after he, his parents and his siblings fled their home on land owned by a white man who forbade the family to vote. She remembers, as a young girl in the 1950s, not having electricity. They obtained running water in the early 1990s, she said, and used an outhouse until the mid-1990s.

So their white toilet with a fuzzy green cover was a marker of progress. A plastic pipe carries its contents outside and empties into a wooded area not far from the house. There is no visible pooling of sewage, but there are other problems.

"The smell gets so bad," said Ms. Rudolph, sitting on her porch guarding her chicken coop against a marauding fox. When it rains, she wages war with her toilet. One recent downpour brought its contents gurgling up to the rim.

"I was sitting there looking at it and got me a plunger," she said. "It took me some plunging to get it clear. I was scared it was going to come back and go on the floor. Horrible."

She added, "There's nothing we can do."

The problem is prickly for the state. Parrish Pugh, an official with the Alabama Department of Public Health, agrees that money plays a part.

"That's where the rubber hits the road," he said.

But Alabama law forbids the use of "insanitary sewage collection," and the responsibility for that rests squarely with the homeowner," Mr. Pugh said. Resisting is not only illegal, but could have health consequences: Raw sewage can taint drinking water and cause health problems.

"'My parents had a pipe that ran into the woods, and that's good enough for me,'" Mr. Pugh said, explaining a common argument. "But we didn't know as much about disease back then. People are more educated nowadays. They are more concerned."

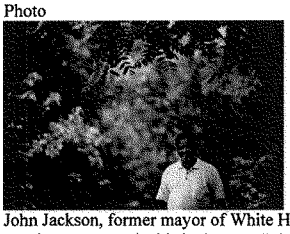
The state health department begs, cajoles, and eventually cites people who have problems and do not fix them. In the early 2000s, the authorities even tried arresting people. That prompted a public outcry and the practice soon stopped, but one person spent a weekend in jail and others were left with criminal records.

The department cited about 700 people in the 12 months that ended in March, often because someone complained.

The clay soil makes the problem worse.

"Rural wastewater is usually managed with a septic tank and a drain field, which slowly infiltrates the wastewater into the ground," Professor White said. "Well, it won't go into the ground here. Period."

Photo



John Jackson, former mayor of White Hall, Ala., said that until the early 1980s, "we didn't have anything — no running water, no inside bathrooms." CreditBryan Meltz for The New York Times

He added: "There are some options that may be available, but it's going to cost thousands of dollars, and most people here can't afford it. The answer, quite frankly, is not out there yet."

Experts and advocates have tried to find one. Grants from the state and federal governments to study the problem have come and gone, as have academics wielding surveys. There was even talk of self-composting toilets.

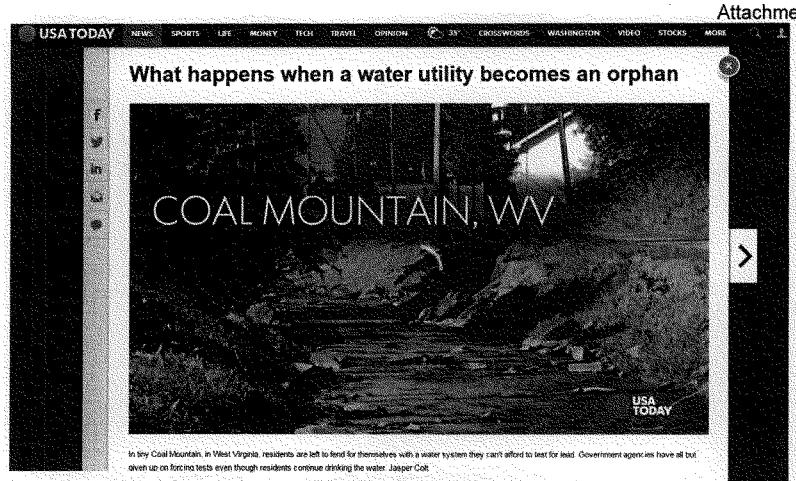
"It's like we're going in circles," said Perman Hardy, a cook in Tyler who even did a urinalysis for a study of health effects. For years, her sewage backed up every time it rained. In December, she spent all the money she had saved for Christmas presents on a new septic tank.

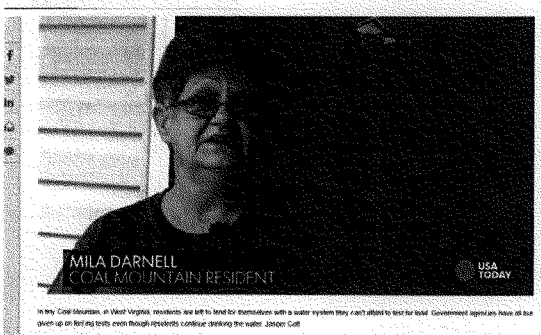
Some change is happening. The town of White Hall recently received funding to connect about 50 homes to sewer lines, the first in its history. Town officials are thrilled: City sewer lines are critical to attract businesses that would bring jobs. But the pace is glacial.

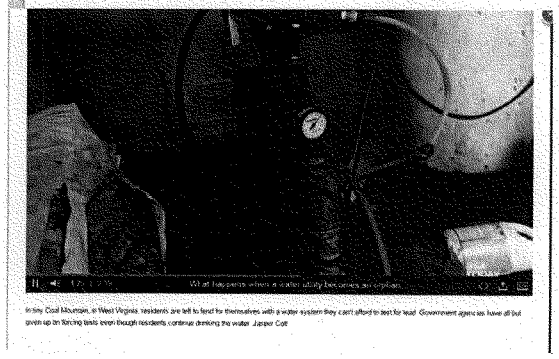
Eli Seaborn, 73, a White Hall councilman, said progress would be slow, like the pace of civil rights gains, where legal discrimination is gone but lingers in other forms. Similar patience is required for sewage, he added.

"Time is going to be the only thing that solves this problem," he said. "It took more than 50 years for it to happen. But hopefully, it won't take more than 50 years to fix it."

Attachment A







Attachment A

The Atlantic
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The American Neighborhoods Without Water, Sewers, or Building Codes

Low-income residents bought cheap land outside of border cities decades ago. But the promised infrastructure never came.

A boy in Los Fresnos colonia in Texas (Jessica Rindaldi / Reuters)

ALANA SEMUELS

MAR 3, 2016

MONTANA VISTA, Tex.—No one objected when developers bought up dusty vacant land here in the 1950s and 1960s and turned it into unincorporated subdivisions—areas outside city limits where no one had authority to enforce building standards.

Neither the state nor the county stepped in when the developers turned around and sold that land—making empty promises to later add running water and sewer systems—to low-income immigrants who wanted, more than anything, to own a home of their own. And no one batted an eyelash when low-income landowners in these unincorporated border subdivisions, called colonias, started building homes from scratch without building plans or codes, or when they started adding additions to those homes as their families grew, molding structures together with nails and extension cords and duct tape.

That's because, in Texas, all of these actions were perfectly legal. Texas prides itself on its low taxes and lack of regulation, but it's possible that decades of turning a blind eye to

unregulated building is starting to catch up with the state. Today, around 500,000 people live in 2,294 colonias, and many still lack access to basic services, such as running water or sewer systems. Lots of residents live in dilapidated homes with shoddy plumbing and electrical wiring that they've cobbled together themselves to save money on contractors. And now, they want the state to pay to extend basic services in their homes. Water, for instance, should be a human right in America, they say.

"You have families that live in third world conditions in the state of Texas with a modern city just miles away," said Veronica Escobar, the County Judge of El Paso, who functions as a county chief executive. "But the state of Texas has essentially put counties in charge of health, safety and welfare, at the same time they give us very limited authority."

Alejandra Fierra lives with her husband in the Hueco Tanks colonia, where they bought land in 1987. They still don't have access to running water or a sewer system. When her children were growing up, she would pour water from a well into a tub and wash them, one, two, three, in the same water. She does the same for her dishes. She gets a delivery of a 2,500 gallon water tank for bathing and washing, and buys bottled water from Walmart for drinking and cooking.

In Montana Vista, a colonia some 22 miles east of El Paso, the septic tanks of the 2,400 families who live there frequently overflow, creating rivers of sewage in their backyards. In the summer, the smell can be horrific. Tina Silva, a resident and activist, lives here in a spacious one-story adobe house surrounded by a stone wall. She raises chickens and a giant pig in her backyard, where a rusted out car sits, half painted, in the sun. She loves her home and her neighborhood, but she doesn't understand why it has taken so long to put in a sewer system. "We're human beings. We pay taxes. Somebody needs to listen to us," she says. Various politicians have promised her they'd help get the money to install services, but it's never actually happened, Silva told me.

Tina Silva feeds the chickens in her backyard at Montana Vista (Alana Semuels / The Atlantic)

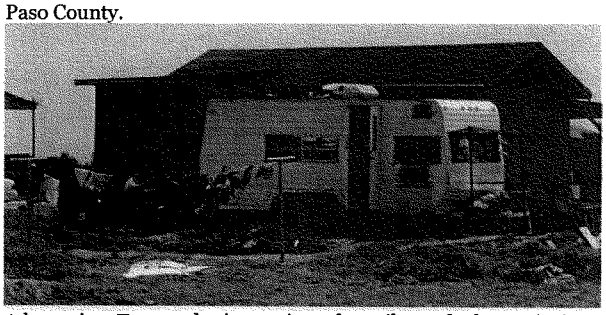
Part of the problem is that no one wants to take responsibility for paying to install these services. The developers who sold the land promising water and sewers are long gone. And for many the thinking—at least according to Escobar—is that if the homeowners wanted to buy land without access to running water, that's their problem.

It may seem obvious that the homeowners who bought cheap land without access to water and sewers should be responsible for installing access to services. But that isn't realistic either. More than 40 percent of colonia residents live below the poverty line, according to a 2015 report from the Federal Reserve Bank of Dallas. The median household income in colonias is less than $30,000 per year. And the conditions in the colonias are troubling. There are water and mosquito-borne illnesses, high rates of asthma, lice, and rashes. One doctor Tribune that rates of tuberculosis in the colonias are two times the state average and that there is a lingering presence of leprosy.

In 2012, the Texas Department of State Health Services issued a nuisance determination in Montana Vista documenting the health problems the septic tanks were causing, which meant the El Paso Water Utility could receive a grant for more than half of the project costs. In December, the Texas Water Development Board agreed to provide a $2.8 million grant to El Paso Water Utilities so that the utility could start designing the sewer system. But it will cost an estimated $33 million to build the system, and that money has not yet been secured. "It's getting there, unfortunately, it's taking a lot of time," said Munzer Alsarraj, the infrastructure program manager for El Paso County.

The state is stepping in to upgrade some of the colonias, too. Between 2006 and 2014, 286 more colonias, were linked to drinking water, drainage, wastewater disposal, paved roads, and legal plats, according to the Federal Reserve report. In 2006, 443 colonias had access to no basic infrastructure, by 2014, that number had dropped to 337. But it's slow going.

It's not easy to install infrastructure in areas that are far from the main water and sewer lines and in places that have grown with no central plan. It was not until 1989 that the Texas legislature even asked state agencies to come up with rules that would ensure new residential developments had access to water and sewer services. Now, cities can regulate development in Texas, but in unincorporated areas, counties have little regulatory power. Zoning regulations that would limit the size of buildings or of lots in cities don't exist for the colonias. In some instances, the county can't install infrastructure to homes because they're not up to code. Because people building on unincorporated land don't have to follow many rules, there are odd constructions in the colonias, including units that combine two RVs, homes with rooms tacked onto the side standing on cinder blocks, homes with extension cords that run outside, wooden planks as sidewalks. This makeshift construction can lead to roof collapses and electrical fires, said Irene Valenzuela, the interim director of community services for El Paso County.



A home in a Texas colonia consists of a trailer and a house (Eric Gay / AP)

The county is giving grants out to people interested in bringing their homes up to code, but people are often hesitant, she said. "I think the majority of them are afraid," she said. "They say, 'This is a takeover. What are you going to ask for next? If you assist me, are you going to take my property away when I pass away?'" Alsarraj, with the county, added.

Then there's the cost. The county is trying to install sewer lines in the Square Dance colonia. That colonia is located just a few blocks from established subdivisions that are part of the county's water and sewer system. But the price of adding those services to the colonia's 264 homes is $8.5 million. Installing water and sewers in another colonia, called Hillcrest, would cost about $120,000 per home, Alsarraj said. But the homes are worth just $20,000 to $30,000 each.

It's ironic, too, that the county is trying to extend water and sewers to far-off subdivisions as it also tries to execute a vision that cuts down on sprawl. "For 30, 40 years, we've continued to sprawl out to the edges of the earth and it was costing us more than we were making as a community," Beto O'Rourke, a U.S. Congressman who led the charge to cut down on new subdivisions, told me.

But El Paso has had little success regulating far flung subdivisions, even when they are incorporated.

Perhaps most worrying to Escobar and others is that new colonias are still being built across the state. This time around, they have basic water and sewer hookups, but don't have paved roads or streetlights, according to the Federal Reserve. Plots cost as little as $25,000, and developers offer 20-year financing at a 12 percent interest rate and just $500 down, according to *Bloomberg News*.

It's proof to Escobar that developers will always be willing to sell substandard plots of land to people desperate to own a home. But she had hoped Texas would step in and regulate. Two sessions ago, the county tried to get permission for zoning authority over 60 square miles near a border crossing south of El Paso. But the state legislature refused to grant it , in part because real-estate agents objected to the bill, said Escobar, the judge. Legislators also didn't believe that government should trump property rights, she said. But perhaps that's because they don't have to deal directly with the after-effects.

"We are having to fix the problems caused by unregulated government," Escobar said. "There are innumerable examples and costs associated with fixing problems that could have been prevented. There's just a fundamental belief in Texas—if you own property, you can do what you want with it."

Attachment A

Like Flint, water in California's Central Valley unsafe, causing health problems

By Rebekah Sager Fox News Latino
Published March 08, 2016

Photo by Justin Sullivan/Getty Images/ ©2015 GETTY IMAGES)

While the water crisis in Flint, Michigan, made headlines around the country when the city's leaders exposed residents to a tainted water supply for almost two years, families living in the Central Valley of California have been struggling without clean drinking water for decades.

The population of the Central Valley, a basin surrounded by mountains that once offered hope to migrants like the fictional Joads in the "The Grapes of Wrath," today is about 80 percent Latino, and 92 percent of the migrant farm workers in the Valley are Latino.

There are vast dairy farms reeking of manure, highways lined with fast-food restaurants, liquor stores, prisons and numerous dialysis centers.

Much of fruits and vegetables consumed in the U.S. are grown here, and the soil has been decimated by agricultural activity – overuse of fertilizers and pesticides, manure from livestock. One result is a toxic soup of nitrates in the area's drinking water.

Residents in towns along the San Joaquin Valley rely predominantly on pumps and ground water – which is not effectively regulated for contamination.

When pumped up into people's homes, the nitrates are so dangerous that people are known to get rashes when they shower. The presence of nitrates in the water supply also has been linked to "blue baby syndrome," which is caused by the decreased ability of blood to carry oxygen – one of the most common causes is nitrate in drinking water.

People turn to buying five gallon jugs to shower with and using 300-gallon tanks of non-potable water for basic needs.

"Generations of people who live here know not to drink the water," Susana De Anda, a clean-water advocate and the co-executive director and co-founder of the Community Water Center NGO, told

"People pay more for this 'toxic water' – sometimes as much as $100 a month for water just to shower with. On top of that they're paying for drinking water," De Anda said.

According to the Environmental Justice Coalition for Clean Water, rural Central Valley communities pay the highest drinking water rates in the state, with some families shelling out as much as 2 to 6 percent of their income for water that they can't drink.

Attachment A

According to a Pacific Institute report, nitrate exposure's health impacts in the Central Valley fall disproportionately on poor Latino communities.

Due to the state's severe drought, new wells have to be dug more deeply, demand is high and the cost is between $1 million and $2 million dollars.

"The drought actually causes the pollutants in the soil to be more concentrated and levels of contaminants such as nitrates to rise. Also, when deeper wells are dug, and that would be by maybe wealthier farmers, they actually end up syphoning water away from poor communities," Genoveva Islas – program director at Cultiva la Salud ("Cultivate Health"), a non-profit health advocacy organization in the Central Valley – told Fox News Latino. "And it creates a real inequity."
Most people in the area live a large distance from the closest big grocery store. Liquor and convenience stores become the default place to buy food and produce, and, all too often, sugary drinks are less expensive than drinking water.

"We're in a food desert. People would buy water in bulk, but big stores are often very far outside of communities, and so families make a tough trade-off. Soda might be more affordable," De Anda said.
In addition to other factors, the consumption of soda vs. water is one of the leading reasons for the severe health problems in the Valley. The region has big problems with obesity and the highest rate of Type 2 diabetes in the state.

An analysis of state's death records by the Fresno Bee and the Center for California Health Care Journalism at the University of Southern California paints a vivid picture of the disproportionate toll diabetes has taken in the Valley.

At least 19 people die from diabetes-related complications in the eight San Joaquin Valley counties every day, the highest rate in the state.

"I've lived here all my life, and not until I was an adult was really aware of dialysis clinics. Now, I have an aunt and a close family friend who are both on dialysis. I'm seeing a number of these [places] pop up. More than ever before," Islas says.

The Central Valley may be the fruit and veggie center of the country, but for poor people healthy food is still significantly more costly than food sold in bulk, such as beans, rice, tortillas, white bread, ground beef and large bottles of soda. Many of the stores in the Valley offer free soda with groceries, and a small bottle of water runs about $1.69 versus a large soda at .99 cents.

In the last three years, the state has paid to retrofit water filters on drinking fountains in some pockets of schools and daycare centers, and provided filtered bottle stations, where people can fill-up containers. But Islas says it's not universal.

"There's still a lot of marketing of sugary drinks to kids, which in addition to diabetes and obesity, dental health problems. In Flint, the Governor has set aside money for the kids impacted by the lead, but in the Central Valley, we have the same issues of long term health problems for impoverished kids. We use education as a pathway out, but if you're thirsty or you have health concerns, it's pretty hard to learn," Islas says.

The drought in California may be shining a light on the region and its water supply, but the issues in the Valley have been left largely unaddressed.

"All these are interim solutions, but we also need to create water awareness. The water may look clean, but that doesn't make it safe. It shouldn't matter who you are or where you live, clean drinking water is a basic human right," De Anda says.

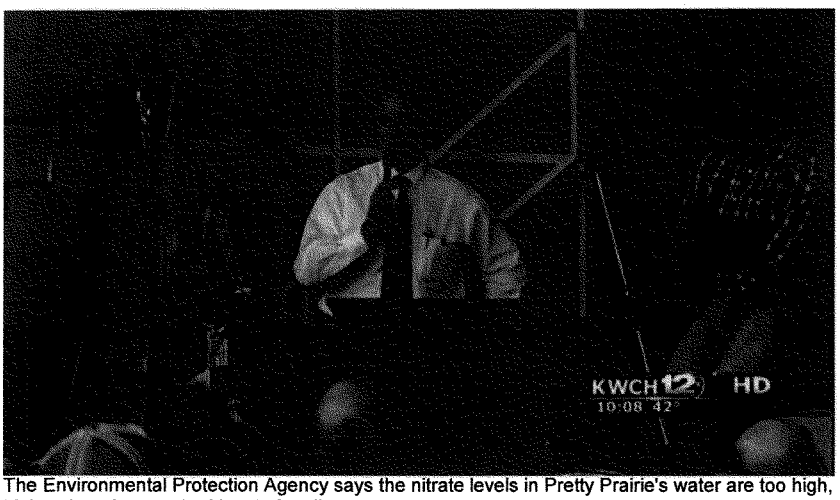
Attachment B

KWCH 12 expect more

Pretty Prairie struggles to fix water system

By Emily Griffin |
Posted: Wed 11:42 PM, Nov 09, 2016 |
Updated: Wed 11:44 PM, Nov 09, 2016

PRETTY PRAIRIE, Kan. A small Kansas town struggles to fix its water system, and now the federal government says it's time to take action.



The Environmental Protection Agency says the nitrate levels in Pretty Prairie's water are too high, higher than the standard it sets for all states.

But most in Pretty Prairie say the financial burden to fix it could hurt the people who live in the town, the schools, and ultimately the community.

Pretty Prairie has struggled with high nitrate levels in its water for years. In 2014, those levels exceeded EPA standards again.

The action the community is looking toward is a $2.4 million water treatment plant and a new water tower. The city is looking for grants and loans to cover some of that cost.

During a town hall meeting Wednesday night about the water project, most who weighed in were critical, but city leaders say, for now, there's no good second option.

Still, they're worried the choice they might have to make could hurt their community.

Attachment B

VALLEY PUBLIC RADIO

NPR For Central California

Kettleman City Water Treatment Plant Gets Green Light

By KERRY KLEIN • DEC 6, 2016
Valley Public Radio News

VALLEY PUBLIC RADIO

The rural Kings County community of Kettleman City, long plagued by unsafe drinking water, now has a clear path toward a clean water supply.

Listen
Listening...
0:59
Listen to the report here

The State Water Resources Control Board today approved the construction of a water treatment plant to serve Kettleman City. The unincorporated community's water supply contains unsafe levels of arsenic. Maricela Mares-Alatorre is a Kettleman City resident and activist, and she says residents are ready.

"Whenever you ask people what Kettleman City needs, the first thing out of their mouths is, we need better water," says Mares Alatorre.

Today's decision was the final step in approving the facility. Construction had been set to begin earlier this year but was delayed due to an additional environmental assessment. Construction is likely to begin in early 2017 and is estimated to take about 18 months. The project will receive close to $10 million from state and federal governments.

Attachment B

Village of Marcellus Phosphorus Removal Update – November 2016

Background – the Village of Marcellus (New York) maintains a wastewater treatment plant, constructed in 1959 under design standards that are no longer valid. Because the effluent from its plant enters Nine Mile Creek, which eventually enters Onondaga Lake several miles away, the Village, in March 2012, came under directives (mandates) from the NYSDEC, which are EPA-driven, to comply with new phosphorus limit regulations. The result is that the Village's Water Pollution Control Plant (WPCP) is required to remove phosphorus down to 1.0 mg/L. The removal of phosphorus is of major concern to the Village because of the high cost to implement the mandate, including a total upgrade of the plant that will total over $5,000,000. The DEC, in its mandate, mistakenly thought that the mere addition of chemicals, at a cost of about $100,000, would reduce the amount of phosphorus down to the accepted level. However, our engineers have told us that major upgrades would be required because our clarifiers are not deep enough – only 8 feet. In order to get to the required depth – 12 feet – new clarifiers would have to be installed and since those at the plant were built on bedrock, decades ago, blasting would be necessary. MRB engineers have estimated the cost will total well over $5,000,000. The Village applied for and received a $30,000 engineering grant from NYS EFC to plan for the mandate. That engineering grant helped to determine the need for major upgrades to the plant. 2016 became the drop-dead date.

While the Village applauded the positive direction and vital impact that this new mandate would have on the environment, it also found it hard to understand why, if the requirement was so vital, that a Village of 3,000 sewer users would be forced to comply without major financial assistance. It would be virtually impossible for the Village to survive, should this mandate be enforced. The Village also questioned why the Village of Marcellus was notified of this mandate (March, 2012) **AFTER** all of the federal funding ($111,000,000) allocated for phosphorus removal from Onondaga Lake, was awarded to and spent by METRO (Syracuse Metropolitan Treatment Plant).

MRB Engineering prepared the Facility Plan for the Village's wastewater treatment plant and came to the conclusion that merely adding chemicals to treat the phosphorus would not be sufficient to meet the mandate, without risking violation of the SPDES permitted effluent limits. MRB maintained that a major upgrade to the plant would be necessary. The DEC, by contrast, argued that the proposed plant upgrade was a "Cadillac" project and the removal of phosphorus could be completed for substantially less money. After several years of discussion, the MRB report was given a final review and the DEC came to recognize that the phosphorus removal project at the treatment plant was significantly larger in scope than the Department anticipated when the TMDL and the Village's SPDES permit were written. The MRB report had recommended a plant upgrade in excess of $5.5 million, and the DEC now recognized and approved it (December 24, 2015) as valid. The DEC discussed with the Village the importance of the project, reasonable time frames, and project funding opportunities. The Village applied and was approved for an $80,000 Water Quality Improvement Program (WQIP) grant (Round 11) for phosphorus removal. This, however, could only be used for construction purposes, not for engineering or other studies. The Village had hoped that this grant might, upon request to the WQIP funding source, be used for design purposes. This, however, was denied.

Attachment B

TESTIMONY OF KATETRA "K.T." NEWMAN ON BEHALF OF THE MISSISSIPPI RURAL WATER ASSOCIATION AND NATIONAL RURAL WATER ASSOCIATION AND TOWN OF COMO, CITY OF SARDIS, TOWN OF SLEDGE, CITY OF MARKS, TOWN OF TUTWILER, TOWN OF SHAW, TOWN OF CRUGER, TOWN OF TCHULA, HARLAND CREEK COMMUNITY WATER ASSOCIATION, CITY OF DURANT, TOWN OF VAIDEN, WEST MADISON UTILITY DISTRICT, MT OLIVE WATER ASSOCIATION, ST. THOMAS WATER ASSOCIATION, TOWN OF BOLTON, TOWN OF EDWARDS, TOWN OF UTICA, VICKSBURG/WARREN CENTRAL SCHOOL DISTRICT AND WEST TALLAHATCHIE UTILITY DISTRICT (MISSISSIPPI)

BEFORE THE SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY COMMITTEE ON ENERGY AND COMMERCE U.S. HOUSE OF REPRESENTATIVES (FEBRUARY 27, 2015)

Subject: Safe Drinking Water Act issues related to small and rural drinking water utilities

[Excerpt]

I am honored to be accompanied here today by the mayor of one of these small communities, Mayor Everette Hill from Como, Mississippi. The Town of Como has a population of approximately 1,200 persons. Mayor Hill has been mayor for two years and his community is facing overwhelming water challenges. Como is typical of the types of challenges many of the approximately 45,000 small and rural communities across the country are facing today regarding their water infrastructure. The mayor's challenges are compounded by the fact he is a small town mayor, meaning he has a full-time job (as a truck driver), has to handle much of the city's issues on his free-time, his community has little professional staff because they simply can't afford it. In Como, the wastewater system is failing because of its age and inability to meet its current EPA permit. The cost to update Como's sewer system to be compliant is approximately 2 million dollars. The Como drinking water system needs an additional 1.0 million dollars in upgrades. The town was recently fined by the department of environmental quality for failure to comply with their wastewater discharge permit; currently the Como wastewater treatment facility is actually discharging only partially treated wastewater due to failure of the current treatment works. Within the past few months, Como finished paying the approximately 1 million dollar loan to construct their currently failing activated sludge treatment system. The loan placed considerable hardship on the residents. Como is just like thousands of other small communities in the Delta and the other states, they need a grant-rich infrastructure funding program like the USDA's rural development program, and they need access to someone they can trust for technical advice, on-site assistance, and help with managing the funding application process.

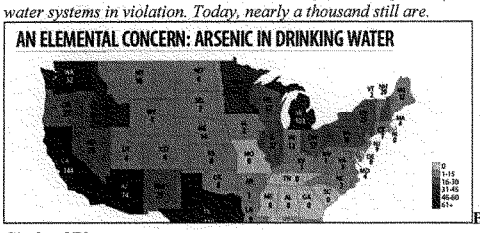
In the Town of Utica with a population of 850 persons, we are facing a nearly 1 million dollar compliance upgrade to meet our new and more stringent wastewater discharge permit. The town will likely have to accept hundreds of thousands of low-interest loan. – I can personally see the repayment of this loan placing significant hardship on the rate-payers. The Town is accepting this tremendous burden to pay for a new treatment technology called bio-domes that will be designed to enhance their current facultative lagoon cells and reduce the nutrient levels in the wastewater effluent. Small towns all across Mississippi and in fact the Country are faced with this dilemma. I believe small towns should be given more flexibility in their approaches to addressing these dilemmas. In addition, more training needs to be provided to small Town Mayors like Mayor Hill so that multi-million dollar upgrades that will most certainly tax the rate payers of these communities can be more readily understood and communicated to these residents who will ultimately be responsible for bearing the financial burden.

Attachment B

circle of blue

American Arsenic: After a Decade, Small Communities Still Struggle to Meet Federal Drinking Water Standards
July 11, 2011/in North America, Pollution, Sanitation/Health, Water Law, Water News, Water Policy & Politics /by Brett Walton

When the EPA lowered the arsenic standard for drinking water from 50 parts per billion to 10 in 2001, there were 3,000 water systems in violation. Today, nearly a thousand still are.



By Brett Walton
Circle of Blue

A decade after the U.S. Environmental Protection Agency took aggressive action to limit arsenic in American drinking water, the agency, in its latest assessment published in January, reports that nearly 1,000 water systems serving 1.1 million people are still not in compliance. Worst affected are the 914 small systems that can not find the funds to meet the arsenic standard. But there are a handful of lobby groups, along with legislation proposed in the Senate, seeking to expand federal funding and low-income assistance programs to insulate America's poorest residents from the rate shocks that would ensue if small utilities had to fully finance their own upgrades.

What Is It? Why Is It Dangerous?

Arsenic is an element that forms naturally in rocks and soil. It affects groundwater sources more often than surface water. The primary industrial use of arsenic is as a wood preservative in 'pressure-treated' lumber. Mining and smelting are other sources of manmade arsenic contamination. Epidemiological and laboratory studies have linked chronic exposure to arsenic with cancers of the skin, bladder, and lungs, as well as skin lesions. Recent studies have suggested that arsenic also alters the hormonal functions of the endocrine system.

Bottled water is regulated by the FDA, which has adopted the same standard as the EPA. Bottlers are required to test their finished water every year. They are also required to test source water every year, unless they meet exemptions under 'good manufacturing practices' regulations.

The inability of a third of the water systems identified a decade ago as a public health concern to come into compliance illustrates the competition between 21st century science, U.S. environmental regulation, and the nation's economic outlook. Monitoring equipment can identify a problem, and the government can set a standard, but the nation lacks the foresight and funding to solve the problem so that those who have the most need do not carry the heaviest burden.

Federal money for improvements to drinking water treatment wasn't available until 1997, with the establishment of the Drinking Water State Revolving Fund. Federal funding has typically been directed at sewage treatment. The Water Pollution Control Act of 1956 set federal cost share at 55 percent, providing $US 50 million a year in construction grants for wastewater treatment. In 1972, the Clean Water Act bumped the cost share up to 75 percent, providing $US 18 billion in grants for states to build wastewater facilities.

The cost share, however, fell to 55 percent again in 1981. Then, starting in 1987, grants began to be phased out in favor of state-administered, federally-financed subsidized loans—which, unlike the grants, had to be repaid.

Emblematic of the small system struggle is Andrews, an oil town in West Texas. If residents of Andrews want drinking water that meets the federal standard for arsenic, they cannot get it at home from the public utility. Like much of the Texas Panhandle, the city of 11,000 pumps from wells in the tainted Ogallala Aquifer, where groundwater is laced with naturally occurring arsenic, a known carcinogen, at a concentration of 30 parts per billion, or three times the national legal limit.

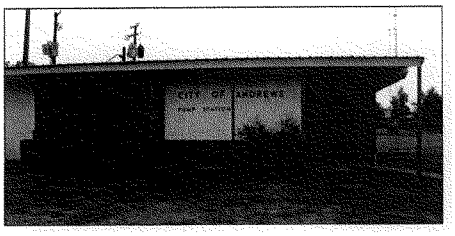


Photo courtesy of Bert Lopez, City of Andrews Water Department

To comply with regulations in a way that does not triple or quadruple residential water bills, Andrews officials are beginning a pilot project to install purification devices under the sink in every city home. Forty units are currently being tested in the trial, which runs through April 2012. If it proves successful, the state drinking water regulator will consider authorizing a full deployment. It would be one of the first "point-of-use" technologies approved in Texas as a means for complying with federal drinking water standards.

Until then, however, City Hall is the only place in the city to get water that meets arsenic standards set by the U.S. Environmental Protection Agency (EPA). Three taps jut from the north side of the building, where they can be monitored by the water department offices. One tap is for cleaning containers; the other two are fitted with the purification devices that remove arsenic and fluoride, another contaminant in the Ogallala water source that exceeds federal limits.

Bert Lopez, assistant director of water and wastewater in Andrews, told Circle of Blue that the city supplies 4,500 to 5,500 liters (1,200 to 1,500 gallons) of water per day from these taps to residents who arrive with their own containers. Some come with water bottles, others with 19-liter (five-gallon) jugs. The city, Lopez said, does not track how many people use the arsenic-free source. But, assuming the average person drinks about two liters (half a gallon) or less per day, it is possible that a third to a half of the city's residents are opting for the public tap, instead of sipping the piped water the city has always used.

Definitions

Affordability Variance: EPA permission to use alternate, cheaper technology to meet a federal drinking water standard. No variances were granted for the arsenic rule.
Arsenic Rule: The EPA's decision in 2001 to lower the national limit for arsenic in public drinking water from 50 parts per billion to 10.
Bilateral Compliance Agreement: Agreements used by the Texas Commission on Environmental Quality to give small communities more time and more technological options for complying with arsenic regulations.

"We can go back to well measurements from the 1980s," said Lopez, who has worked for the city for more than 20 years, "and the arsenic levels have been the same. The standard just got lower. Arsenic has been in the water forever."

The arsenic ruling, says Ben Grumbles, has raised philosophical questions about regulating drinking water that have yet to be satisfactorily answered. Grumbles, an EPA assistant administrator for water from 2003 to 2008, told Circle of Blue that the ideological battlefield is bounded by two concerns: How clean is clean? And how costly is costly?

A Decade Later: Systems Not In Compliance
When the EPA issued its arsenic rule in 2001 at the midnight hour of the Clinton Administration, it forced thousands of public water systems to change how they supplied water. The EPA estimated that 3,000 systems serving 11 million people

would be out of compliance. In addition, the rule affected 1,100 non-community water systems—places like churches, nursing homes, and factories.

Christie Todd Whitman, the head of the EPA at the beginning of the Bush Administration, said she would review the new arsenic standard, which was being lowered from 50 parts per billion (ppb) to 10. Following a September 2001 report from the National Research Council which concluded that the EPA had underestimated the health risk at 10 ppb, Whitman upheld the previous administration's decision in October 2001, and the rule went into effect the next year.

Public water systems were given until 2006 to meet the new limit, but they could apply for nine years worth of "compliance extensions" that would give them until 2015 to incorporate new technology into their treatment programs.

The ruling had the greatest effect in the upper Midwest, Southwest, and Northeast, regions where naturally contaminated groundwater is a main supply source. For large systems, this meant installing filtration technology in their treatment plants. Many opted for a process called ion exchange, which swaps benign molecules for arsenic ions as they pass through resin-coated filters. For some small systems, though, that solution would be like adding an airbag to a car without a chassis or wheels—they didn't have the basic treatment plant to begin with.

Our country does not want a two-tier system, where the water standards are different for those who have money and can pay and for those who don't." — Ben Grumbles, EPA Assistant Administrator for Water 2003-2008

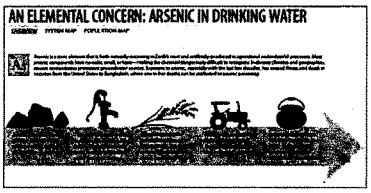
"This was perhaps the first time many of these systems had to build infrastructure to come into compliance with federal regulations," said Jim Taft, executive director of the Association of State Drinking Water Administrators, a professional group for water bureaucrats. "Many are groundwater systems, which typically don't need as much treatment."

In 2010, there were 934 documented violators, most of which were small, rural systems serving fewer than 10,000 people—many serving only a couple hundred. Thus, lacking a large customer base, the smaller systems have found it financially difficult to meet standards while keeping water affordable.

The city of Andrews, Texas, is one of those systems.

In Andrews, the water department adds chlorine as a disinfectant, but otherwise the water is distributed straight from the well field. Because of the high cost of a treatment plant—$US11 million to build and up to $US 5 million per year to operate and maintain, according to city water official Lopez—it has been ruled out as a compliance option.

The city is now operating under something called a bilateral compliance agreement, a deal negotiated with the Texas Commission on Environmental Quality (TCEQ), the state drinking water regulator. For the Safe Drinking Water Act, all U.S. states except for Wyoming have 'primacy,' which means they are in charge of monitoring and enforcement. These results are then reported to the EPA, which is the overseeing body. TCEQ appealed to the EPA for less stringent enforcement standards, and the EPA approved the approach in 2006.



Graphic © Kelly Shea/Circle of Blue

Interactive Infographic: Arsenic in drinking water is an elemental concern in the U.S. Click through the graphic for an introduction to what arsenic is and how each state is effected. Click here for the HTML version of American Arsenic.

Texas is one of the few states to relax its enforcement of the arsenic rule in order to give small communities more leeway until cheaper treatment options are available. The TCEQ has signed compliance agreements for arsenic with 114 public water systems in the state. These agreements allow towns to use bottled water or community taps—like the ones at City Hall in Andrews—to provide arsenic-free water.

But these solutions are not meant to be permanent. Pending the results of its pilot project, Andrews officials have decided in favor of in-home treatment, a program that will cost $US 3 million in capital expenditures and $US 500,000 per year for operations, said Lopez.

Defining 'Affordable'

The financial burdens of the arsenic rule have been controversial from the beginning. Under the 1996 amendments to the Safe Drinking Water Act, the EPA has the authority to grant affordability variances to small systems. Variances allow a utility to use cheaper treatment technology that improves water quality, but not to the point where it meets the federal standard. This determination comes with a caveat: a variance can be granted only if it does not pose an "unreasonable risk to health."

This was perhaps the first time many of these systems had to build infrastructure to come into compliance with federal regulations."– Jim Taft, Executive Director
Association of State Drinking Water Administrators

The criteria for affordability are the national median household income (MHI) and the national median cost of an annual water bill. The EPA has set a theoretical maximum based on the assumption that 2.5 percent of the MHI can go to paying the water bill. In other words, according to the EPA, the average American household can afford to pay about $US 1,200 per year for water, or $US 100 per month.

The difference between this maximum affordable water bill and the current national median cost is known as the "expenditure margin." If a technological fix, which has been approved by the EPA for health concerns, is expected to cost less than the difference, it is deemed "affordable," and the utility is expected to make the fix, inevitably by charging the consumer more.

But here's where the affordability rule rubs many the wrong way: "affordable" does not mean "affordable for every system."

This is because the designation is a national claim based on estimated costs when the ruling was made—in 1996. Individual systems may find that compliance costs in 2011 go well beyond what their customers are willing, or able, to pay. But, as far as Jim Taft of the Association of State Drinking Water Administrators is aware, the EPA has not reexamined the actual costs associated with compliance actions that have occurred over the last decade.

As it happened for the arsenic rule, the EPA determined that all technologies were affordable and issued no variances. In effect, every public water system, regardless of size, would have to meet the 10 ppb standard by 2015, at the latest.

Avoiding 'Two Americas' for Water Quality

The EPA's decision was criticized on several fronts. The National Rural Water Association (NWRA), a lobby for small water systems, argued that the ruling was unfair to its constituents.

"At the community level, they do not see the need to utilize scarce [financial] resources for arsenic," Mike Keegan, a NRWA policy analyst, told Circle of Blue in an interview last month. "It requires expensive treatment that is taking away funds from something that would bring a more tangible benefit." Because the EPA has not yet determined what level of arsenic is an unreasonable health risk, Keegan said communities should have more flexibility in their financial decisions, or they should have more federal support.

Attachment B

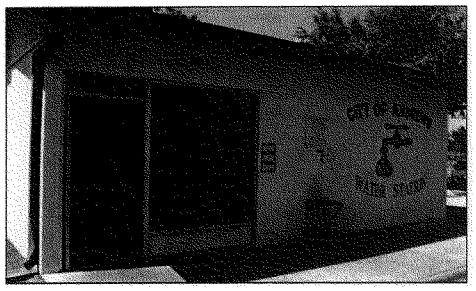


Photo courtesy of Bert Lopez, City of Andrews Water Department

Andrews is starting a pilot project–which will run until next April–to install in-home treatment systems in 40 houses that would remove arsenic at the tap.

"It's the money for small communities," said Lopez, the Andrews water official. "The federal government doesn't offer any compensation. It's not cheap."

A bill sponsored in the Senate by James Inhofe, an Oklahoma Republican, would do just that. Inhofe's bill—which he has introduced every session since 2003 and which has the backing of the NRWA—would:

- Require more federal financial assistance to small communities
- Guarantee that the per-capita cost of compliance would be equal for both small systems and large systems
- Delay enforcement if sufficient funds have not been allocated

A difference regulatory approach was also recommended by the National Drinking Water Advisory Council (NDWAC), a body of water professionals that reviews drinking water regulations for the EPA. In a 2003 evaluation of the arsenic rule, the NDWAC suggested that the EPA revise its affordability criteria to consider incremental costs, which would take into account the cumulative financial effects of multiple regulatory decisions; for instance, the regulation of other pollutants.

Other recommendations from NDWAC included expanded federal funding for upgrades to small systems and a low-income assistance program, established by Congress, to insulate the poorest residents from rate shocks, while still protecting public health. The council cautioned against using variances, saying they should be a last resort because of "pragmatic and ethical concerns" and "the associated connotation of a two-tier approach to protecting public health."

The EPA briefly considered creating dual regulations, but an agency proposal in 2006 to raise the arsenic standard for small systems to 30 ppb was never enacted. Also never enacted were any of the affordability revisions that had been suggested by the NDWAC, a topic that Grumbles, the former EPA assistant administrator, called "controversial."

During the interview with Circle of Blue, Grumbles echoed the NDWAC's concerns that finances should not guide regulations. "Our country does not want a two-tier system, where the water standards are different for those who have money and can pay and for those who don't. There is a need for innovative procedures to make it cost effective for communities to get into compliance."

The EPA does have a research program that field tests arsenic-removal technology, and some money is available from the Department of Agriculture's rural grant program and the Drinking Water State Revolving Fund, a federal loan program for drinking water infrastructure improvements—though that fund can lend only a billion or so dollars annually, and it targets all sorts of capital investments, not just arsenic removal.

Attachment B

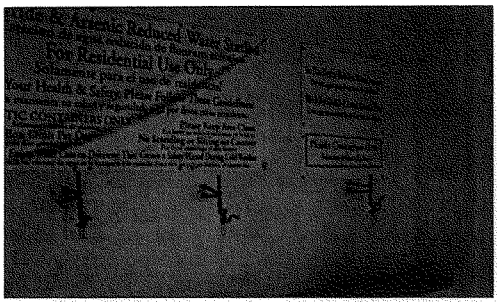


Photo courtesy of Bert Lopez, City of Andrews Water Department

Public taps outside the water department offices offer residents of Andrews, a Texas oil town, water treated to the federal standard for arsenic.

What is clear is that the demand for water investment is significantly larger than the federal pot of grants and subsidized loans. The EPA's latest assessment in 2007 pegged national capital needs for water at $US 334 billion over 20 years, or $US 17 billion annually. Most of that will have to come from revenue and bonds, the biggest sources of utility funds.

Grumbles, now the president of the non-profit Clean Water America Alliance, is spreading the message through his organization that the public needs to reconsider the value of water. Through its outreach programs, the alliance is trying to educate people about their water supplies and the long-term costs of cheap water.

For communities struggling with the arsenic standard, though, the benefits of stewardship are cold comfort in the face of a water bill that has tripled.

And yet, arsenic, the most expensive regulated drinking water contaminant to date, may be just an opening salvo: traces of pharmaceuticals and personal care products have been detected in water supplies and are a growing concern, surely to become candidates for future regulation. Removing these, it is widely suspected, will could be even more costly than arsenic.

Attachment C

Violation Category	MCL			MON			NR			NRDL			Other			RPT			TT			Violations	Systems in Violation	Population in Violation
Rule Code	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation	Violations	Systems in Violation	Population in Violation			
Arsenic	1,225	444	383,947				629	464	1,657,306													1,854	848	2,008,615
Consumer Confidence Rule													9,602	5,792	15,185,491							9,602	5,792	15,185,491
Filter Backwash Rule							1	1	14,728													1	1	14,728
Ground Water Rule							6,663	4,519	7,266,172				336	314	4,371,613				1,715	921	4,591,154	8,714	5,533	12,028,896
Inorganic Chemicals	334	99	86,999				2,430	316	1,974,996													2,764	406	2,060,601
Lead and Copper Rule							14,015	8,729	21,967,627										748	538	640,062	14,763	8,984	22,343,418
Long Term 1 Enhanced Surface Water Treatment Rule							824	331	1,934,723				111	30	307,509				354	164	1,903,542	1,289	472	4,079,590
Long Term 2 Enhanced Surface Water Treatment Rule							112	33	2,603,446				2	2	1,511				117	49	220,239	231	84	2,825,196
Miscellaneous													9	6	3,022							9	6	3,022
Nitrates	1,029	513	1,417,468				4,830	3,813	2,869,292				1	1	60							5,860	4,260	4,274,657
Public Notice Rule													33,656	10,354	11,580,684							33,656	10,354	11,580,684
Radionuclides	966	265	398,118				1,456	330	1,393,529													2,422	561	1,791,643
Revised Total Coliform Rule	86	84	33,656	4,196	3,323	1,494,072							2,616	2,614	892,629	637	564	699,581	445	441	82,692	7,980	6,049	2,871,302
Stage 1 Disinfectants and Disinfection Byproducts Rule	16	13	265,075				3,922	2,534	6,541,403	17	5	18,525							452	294	2,227,978	4,407	2,777	8,698,948
Stage 2 Disinfectants and Disinfection Byproducts Rule	4,203	1,374	11,169,405				4,531	2,006	9,660,343													8,734	3,654	19,576,333
Surface Water Treatment Rule							1,420	479	3,845,841										902	419	2,293,630	2,322	898	6,042,491
Synthetic Organic Chemicals	20	11	50,675				13,160	569	2,525,347													13,180	578	2,575,833
Total Coliform Rule	6,061	4,684	7,024,382				17,861	11,721	9,897,666				77	77	11,936							24,019	15,457	16,961,501
Volatile Organic Chemicals	35	18	38,087				16,688	684	3,336,151													16,723	701	3,374,193
Grand Total	13,975	7,264	35,174,721	4,196	3,323	1,494,072	88,562	27,169	55,166,198	17	5	18,525	46,410	17,578	30,401,555	637	564	699,581	4,733	3,685	18,706,313	156,530	43,494	88,663,772

Attachment D

National Rural Water Association

2915 South 13th Street, Duncan, Oklahoma 73533
580-252-0629 ♦ Fax 580-255-4476
www.nrwa.org

January 9, 2017

Mr. Scott Pruitt
EPA Administrator Nominee
Presidential Transition Headquarters
C/O Mr. William F. Hagerty
Director of Appointments
1800 F Street, NW, Room G117
Washington, DC 20270-0117

Dear Mr. Pruitt:

On behalf of the National Rural Water Association (NRWA), we wish to congratulate you on your nomination to be Administrator of the United States Environmental Protection Agency.

NRWA is the largest community based water organization in the country. We are headquartered in Duncan, Oklahoma and have over 31,000 small and rural community members (various forms of local governments) through our state affiliates like the Oklahoma Rural Water Association.

The great majority of communities regulated by the EPA under the Safe Drinking Water Act (SDWA) and Clean Water Act are small. Over 91% of the approximately 50,000 community water systems serve fewer than 10,000 persons and 81% serve fewer than 3,300 persons.

Our member communities have the very important public responsibility of complying with all applicable regulations and for supplying the public with safe drinking water and sanitation every second of every day and do an excellent job with limited economies of scale and resources.

The main purposes of this introductory letter are:

- To offer our assistance in partnering with you to implement your agenda and to be a "rural resource" on drinking water safety, environmental protection, and quality wastewater service in rural and small town American;

- To urge you to recognize the benefit and meritorious purpose of rural and small communities and refocus EPA initiatives to result in improved public health protection, environmental protection, and EPA regulatory policy in (and for) rural America.

Most small community non-compliance with the Safe Drinking Water Act and Clean Water Act can be quickly remedied by on-site technical assistance and education. The current EPA regulatory structure is often misapplied to small and rural communities because every community wants to provide safe water and meet all drinking water standards. After all, local water supplies are operated and governed by people whose families drink the water

Quality On Tap!
Our Commitment Our Profession

Attachment D

every day and people who are locally elected by their community. Enhancing drinking water and wastewater quality in small communities is more of a resource issue than a regulatory problem.

For example, the City of Easthampton, Massachusetts was recently in danger of violating its Clean Water Act wastewater discharge permit which would have opened the city up to civil penalties. The city did not need to know that it "must" comply, it needed to know "how to" comply in a manner that would be practicable. After a brief on-site technical assistance visit and assessment from an experienced "NRWA Circuit Rider," the Circuit Rider educated the community that its aeration tanks were not getting enough bacteria returned in their treatment process to create good effluent because the electrical controls were not operating correctly. After manually calibrating the pumps and improving the environment in the aeration basin, the treatment had improved and the suspended solids were no longer exiting the plant. The on-site technical assistance helped the city avoid possible fines of $5,000 per day. **There are many thousands of similar examples of immediate problem-solving from on-site technical assistance.** Rural Water Circuit Riders are continually traveling throughout the states, educating local governing officials and providing on-site technical assistance to any community in need. This type of assistance is far more effective in addressing non-compliance and enhancing water quality than an enforcement-focused policy.

Currently, the Agency is directing many dollars on new federal programs, tools, webinars, workgroups, conferences, etc. intended to assist small and rural communities. This type of assistance is far less effective in enhancing water quality and preventing and correcting non-compliance in rural communities. We urge you to reverse this trend and focus on the types of assistance supported by the majority of small and rural communities.

Regarding our second request, we urge the EPA to recognize that small and rural communities are a solution, not a problem, to improving public health and protecting the environment. We urge the agency to recognize (including in EPA policy) that small, local governmental water utilities are all governed directly by local citizens to benefit local citizens. They only exist to improve drinking water and sanitation in rural American communities.

In closing, we look forward to collaborating with you, as the rural resource, on efforts that improve drinking water safety and environmental protection in rural and small communities. We wish you the very best, and look forward to working with you in the future.

Sincerely,

Sam Wade
CEO, National Rural Water Association
Email: sam@nrwa.org
Cell: 580-917-1425

Sincerely,

James Gammill
Executive Director, Oklahoma Rural Water Assn
Email: jgammill.orwa@gmail.com
Cell: 405-249-8404

Attachment E

WATER BONDS

Bond Name	Original Amount	Bond Name	Original Amount
WDA Series 1999 A Bond	6,440,000.00	USDA/RDA 2006 Bond	8,190,000.00
WDA Series 1999 B Bond	5,425,000.00	USDA Series 2010 A Bond	3,557,500.00
WDA Series 2008 Bond	1,436,000.00	USDA Series 2010 B Bond	2,931,200.00
WDA Series 2009 A Bond	627,000.00	USDA Series 2013 A Bond	3,785,000.00
WDS Series 2009 B Bond	100,000.00	USDA Series 2013 B Bond	600,000.00
		USDA Series 2013 C Bond	1,074,000.00
Total	**$14,028,000.00**	**Total**	**$20,137,700.00**

SEWER BONDS

Bond Name	Original Amount	Bond Name	Original Amount
WDA Series 2002 B Bond	1,422,000.00	USDA/FHA Series 1975 Bond	605,000.00
WDA Series 2007 Bond	2,330,000.00	USDA/FHA Serie 1979 Bond	2,200,000.00
WDA Series 2008 Bond	3,680,000.00	USDA Series 2006 A Bond	4,946,000.00
WDA Series 2009 C Bond	1,050,500.00	USDA Series 2006 B Bond	2,104,000.00
WDA Series 2013 A Bond	7,700,000.00	USDA/FHA Series 2009 A Bond	4,520,000.00
		USDA Series 2013 B Bond	6,000,000.00
		USDA Series 2013 C Bond	6,930,000.00
		USDA Series 2013 D Bond	564,800.00
Total	**16,182,500.00**	USDA Series 2013 E Bond	1,241,000.00
		USDA Series 2013 F Bond	1,500,000.00
WVIF Series 2008 Bond	509,000.00	**Total**	**30,610,800.00**
Total	**16,691,500.00**		

WDA Total Water & Sewer	**$30,210,500.00**	**USDA Total Water & Sewer**	**$50,748,500.00**
	does not include WVIF		
	30,719,500.00		

Date: 013017

Attachment F

PUTNAM PUBLIC SERVICE DISTRICT
WATER & SEWR PROJECTS

January 2015

Sewer Collector Rehabilitation Project:
Line existing 30", 24" & 18" AC sewer mains; replace the existing Great Teays sewer pumping station also with new standby generator and controls.

New Customers:	0
Engineer:	Bell Engineering, Ron McMaine, P.E.
Financing:	$2.0 Million grant, Putnam County Tax Increment Financing
Project Status:	Completed 2006

Contingency Money Purchases: Mini excavator and trailer.

Water System Improvements Project:
Three newly constructed water storage tanks and water booster stations; new raw water line from Poplar Fork reservoir to Larck reservoir; repair and painting of three existing tanks; new raw water pumps and new high service pumps for the water treatment plant; additional water line work replacing antiquated asbestos cement pipe.

New Customers:	50
Engineer:	Bell Engineering, Ron McMaine, P.E.
Funding:	USDA Rural Utility Service: $8.190 Million loan at 4.125%, 38 yrs
Project Status:	Completed 2007

Contingency Money Purchases: Goodwin 4" water pump, materials for the construction of the 12" main from Teays Pointe to WVDOH Garage, RFID water meters and other water pipe and supplies.

Kanawha Valley / Midway Phase II Sewer Projects:
(Cannery Road, Shawnee Estates, Dockside Estates, Riverside Glen M.H.C, Hapi-Day M.H.C, Rolling Acres, Stewart Acres, River Chase MHC, Teays Point B.P., Scary Creek I.D., and Midway)
Installation of 12, 10, 8 and 6" gravity sewer pipe; 4" service lateral, 10, 8, 6, 4, 2, 1 ½" and 1 ¼" force main, manholes; duplex pump stations; grinder pump stations; 10" DIP ball & socket forcemain river crossing; 2 emergency generators for proposed pump stations; 3 emergency generators and automatic transfer switches for exiting pump stations.

New Customers:	550
Engineer:	S&S Engineers, Ashok Sanghavi, P.E.
Funding:	USDA Rural Utility Service: $7.05 Million loan at 4.375%, 40 yrs
Project Status:	Completed 2007

Contingency Money Purchases: Sewer camera and trailer, mini excavator, self-priming diesel powered pump, replaced manhole lining, control panel,
Red House Sewer Collectors Project:

Attachment F

PUTNAM PUBLIC SERVICE DISTRICT
WATER & SEWR PROJECTS

January 2015

Construction of 6 inch and 8 inch gravity sewer lines; manholes; various size force mains; new duplex pumping stations; new simplex grinder pumping stations; portable generator; along with all appurtenances and incidental construction, as shown on the drawings or required by the specifications to provide for a complete and operable sewage collection system.

New Customers: 80
Engineer: Dunn Engineers, Fred Hypes, P.E.
Funding: WV Infrastructure and Jobs Development Council $2.33 Million loan at 3%, 20 yr, and US Army Corps of Engineers Grant $300,000.
Project Status: Completed 2008

Contingency Money Purchases: Installation of effluent line from the WWTP to the Kanawha River

Vintroux Hollow Water & Sewer Project:
SEWER-Approximately 10,000 L.F. of 6-inch and 8-inch gravity sewer lines, 210 manholes, 12,000 L.F.of 1 1/2-inch through 10-inch force mains, 2 new duplex pumping stations, 9 new simplex grinder units, 3 new duplex grinder units, along with all appurtenances and incidental construction, as shown on the drawings or required by the specifications to provide for a complete and operable sewage collection system, and;

Water– Approximately 9,200 L.F. of 2-inch through 6-inch water lines, 8 Each of 2-inch through 6-inch gate valves, 54 meter settings, 3 fire hydrants, along with all appurtenances and incidental construction, as shown on the drawings or required by the specifications to provide for a complete and operable water distribution system.

Construction of the new Great Teays Maintenance facility

New Customers: 95
Engineer: QK4, Mike Newton P.E. (sewer & water)
E. L. Robinson Engineering (building)
Funding: Water: WV Infrastructure and Jobs Development Council $1. 55 Million loan at 3% for 20 to 30 yr.
Sewer: WV Infrastructure and Jobs Development Council $3.45 Million loan at 3% for 20 to 30 yr.
Project Status: Completed 2009

Note: With the completion of this project public sewer is now available from Cannery Lane / Shawnee Estates to the Coca Cola warehouse facility at the Kanawha County Line.

Contingency Money Purchases: Generators, transfer switches, 25' x 100' metal building, extended service from Putnam Aging to Coca Cola.

Hometown Waste Water Treatment Plant Renovation Project Phase I:

SRF Projects Funded Costing Over $50 Million

Attachment G

Clean Water Financing Proposed Priority System (FY2016)
New Jersey Department of Environmental Protection
http://www.nj.gov/dep/dwq/pdf/cwf_2016P_cwpl.pdf

CAMDEN CITY	$58,648,000
CAMDEN COUNTY	$50,664,000
MIDDLESEX COUNTY	$363,247,000
JERSEY CITY MUA	$47,046,000
BAYSHORE RSA	$5,894,000
PASSAIC VALLEY SC	$134,646,000
PASSAIC VALLEY SC	$58,205,000
PASSAIC VALLEY SC	$60,117,000
BERGEN COUNTY UA	$54,172,000
PASSAIC VALLEY SC	$63,223,000
MIDDLESEX COUNTY	$111,313,000
PASSAIC VALLEY SC	$132,505,000
PASSAIC VALLEY	$63,223,000
BELLMAWR BOROUGH	$66,350,000
EDISON TOWNSHIP	$55,475,000
CAMDEN RED AGENCY	$172,309,000
KEARNY TOWN	$107,557,000
PENNSAUKEN TWNP	$55,431,000
SAYREVILLE ERA	$50,664,000

State Revolving Fund for Water Pollution Control Federal Fiscal Year 2016
New York State Department of Environmental Conservation
http://www.efc.ny.gov/Default.aspx?tabid=112

GREENWOOD LAKE, VILLAGE OF	$62,021,000
SOUTHAMPTON, VILLAGE OF COLL	$30,552,000
CHEEKTOWAGA, TOWN OF	$50,000,000
NASSAU COUNTY BAY PARK SEWER	$50,951,925
NASSAU COUNTY BAY PARK SEWER	$524,750,000
ONEIDA COUNTY PHASE 2B	$59,500,000
ONEIDA COUNTY PHASE 5B	$117,000,000
ONEIDA COUNTY PHASE 6A STP UP	$110,600,000
SUFFOLK COUNTY SW SD #3	$88,572,000
SUFFOLK COUNTY RT 25	$76,230,000
UTICA, CITY OF	$105,304,000

Projects for New York City

NYCMWFA WARDS ISLAND BRONX	$64,091,406
NYCMWFA WARDS ISLAND STP REHAB	$102,655,400
NYCMWFA BOWERY BAY STP MOD	$50,412,000
NYCMWFA BOWERY BAY STP UP	$204,301,784
NYCMWFA TALLMAN ISLAND STP UP	$280,322,476
NYCMWFA JAMAICA STP IMP JA-179	$57,267,070

Attachment G

NYCMWFA 26TH WARD, BB, TI, WI,	$93,802,596
NYCMWFA 26TH WARD STP IMP	$51,101,400
NYCMWFA 26TH WARD STP IMP	$100,595,678
NYCMWFA NEWTOWN CREEK STP UP	$45,933,272
NYCMWFA NEWTOWN CREEK STP UP	$112,331,279
NYCMWFA NEWTOWN CREEK STP UP	$169,975,528
NYCMWFA NEWTOWN CREEK STP UP	$140,983,576
NYCMWFA NEWTOWN CREEK STP UP	$42,212,389
NYCMWFA NEWTOWN CREEK STP UP	$361,199,252
NYCMWFA NEWTOWN CREEK STP UP	$589,360,645
NYCMWFA PUMP STATIONS CSO [CSO	$183,867,577
NYCMWFA CONEY ISLAND CREEK CSO	$69,107,016
NYCMWFA CONEY ISLAND CREEK CSO	$48,351,415
NYCMWFA NYC-WATERSHED NPS 319	$116,225,648

Final Intended Use Plan Drinking Water State Revolving Fund
October 1, 2015- September 30, 2016
http://www.efc.ny.gov/Default.aspx?tabid=108

NEW YORK CITY

Croton Filtration Plant (Phase 11 of 16479),	$1,200,000,000
3rd City tunnel and shafts, crit redund, dist press,	$470,000,000
Catskill& Delaware UV Disinfection, Treatment Plant	$1,400,000,000

STATE OF CALIFORNIA, FISCAL YEAR 2015-2016
Clean Water State Revolving Fund Intended Use Plan
www.waterboards.ca.gov/board_info/agendas/2015/jun/060215_8_draft_sfy1516_cwsrf_iup.pdf

Sacramento Regional County Sanitation District Echo Water Project	$174,380,875
Sacramento Regional County Sanitation District Echo Water Project	$65,426,778
South Coast Water District Tunnel Stabilization & Sewer Rehabilitation	$102,560,000
Hi-Desert Water District Wastewater Treatment and Water Reclamation	$142,349,314
City of Malibu Civic Center Wastewater Treatment & Recycling Facility	$41,900,000
Santa Margarita Water District Trampas Canyon Recycled Water	$47,450,000
City of North Valley Regional Recycled Water Program	$96,617,856
Monterey Regional Water Pollution Control Agency Groundwater	$82,000,000
Eastern Municipal Water District Recycled Water Supply Optimization	$114,031,280
Los Angeles, Advanced Water Purification Facility	$451,000,000
Sacramento Regional County Sanitation District Echo Water Project	$59,408,652
Sacramento Regional County Sanitation District Echo Water Project	$711,032,393
City of San Luis Obispo Water Resource Recovery Facility Expansion	$68,000,000
Ventura County Waterworks District No. 1	$50,000,000
San Jose, City of Digester and Thickener Facilities	$86,350,000
Water Replenishment District of Southern California Groundwater	$80,000,000
Upper San Gabriel Valley Municipal Water District Indirect Reuse	$65,000,000
Los Angeles, City of Hyperion Treatment Plant Membrane	$460,000,000
Palmdale Water District Palmdale Regional Groundwater Recharge	$130,000,000
Sacramento Regional County Sanitation District Echo Water Project	$484,585,422

Senate Environment and Public Works Committee
Hearing entitled, "Oversight: Modernizing Our Nation's Infrastructure"
February 8, 2017
Questions for the Record for Mr. Mike McNulty

Ranking Member Carper:

1. Is there anything the Federal government and State and local partners are able to do today with existing authority and resources to get better results from our investments?

> Oversight and attention focused on the drinking water state revolving funds' statutory provision that funding be prioritized to projects representing the most need based on environmental and economic factors. If projects can demonstrate that they have the most need based on merit, they should receive prioritization within the state revolving funds weighing of applications' process.
>
> Consider a "Mandatory funding of a Renewal & Replacement" account. Perhaps a percent of Operation & Maintenance Expenses to be set-aside in an interest bearing account. Too many utilities have failed to establish a "rainy day fund" and they find themselves in trouble when they run into unexpected problems like pump repairs/replacement, water tank maintenance, water meter replacements, etc. Also, the Public Service Commission of WV is an obstacle. They will not allow us to build reserves.
>
> What about expanding the terms on SRF funding to 40 years just like USDA.

a. What new authorities are needed to enable Federal, State, and local agencies to obtain better investment results? Are there authorities that would help agencies to do more with less direct funding?

> Any new authorities that would enable "better investment results," would require additional federal expenditures in the form of outlays (appropriations) or offsets (reduced revenue to the Treasury as in case of new tax incentives/breaks).
>
> Authorities that "could" allow agencies to do more with less could be streamline application process with federal cross-cutting regulations which could be controversial. Perhaps, smaller or more discrete funding applications could be granted some additional streamlining authorities.

2. How difficult is it for a very small community to work through the funding application process? You mention small and rural communities often depend on technical assistance; can you describe an example of on-site technical assistance funded with federal dollars?

> See example from City of Shaw, Mississippi

3. One of the many challenges small communities face across the country is a lack of personnel resources to spread around on any given project. In some cases, there may only be one or two city employees doing everything for a drinking water or waste water utility.

Because these communities are resource challenged, they tend to rely on outside assistance to help get across the goal line when it comes to the red tape of many of these federal programs.

a. Has the access to technical assistance and training to small and rural communities been adequate?

No, Most U.S. water utilities are small; 94% of the country's 51,651 drinking water supplies serve communities with fewer than 10,000 persons. Small and rural communities often have difficulty complying with complicated federal mandates and providing safe-affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. Small and rural communities rely on local/onsite grassroots technical assistance and training for compliance with the myriad of federal EPA regulations, avoiding EPA fines, and operating drinking water and wastewater supplies. Small communities want to ensure quality water and stay in compliance—on-site technical (circuit riders) provide them the shared technical resources to do it. In 2011 – Congress gave EPA discretion over allocation of technical assistance funding. Over the last five years, EPA has used its discretion to reduce effective on-site technical assistance to small and rural communities by 72% and eliminated all full-time infield-technicians (circuit riders).

b. Are there additional changes we should consider making at the federal level that could be of assistance?

A new law (PL114-98) mandates that EPA target Congressional funding to the most beneficial assistance for small and rural communities. It needs to be funded in EPA's appropriations bill.

Senator Ernst :

4. I live on a gravel road in Montgomery County, in Southwest Iowa, which looks much like the rest of rural America. Our network of rural roads and bridges are an integral link in the food supply chain, and are the first step in bringing the bounty from our farms to market. While two lane bridges on county highways aren't as exciting to talk about in big infrastructure packages as massive new runways and airport terminals, they are a critical and often overlooked piece of our nation's infrastructure. To put it into perspective, Iowa ranks 30th in population, but 5th in number of bridges and 12th in miles of roadway. I have heard from farmers across our state about the declining state of our rural roads and bridges. We have 4,931 structurally deficient bridges in Iowa. In one instance, a bridge was closed because it was no longer structurally safe for a tractor to cross it, and the farmer now has to ask to drive across his neighbor's property just to reach one of his fields. In your experience, what is the most effective method for allocating infrastructure funding to ensure rural areas are not overlooked, and is there any specific policy advice you would like to give us?

Yes, some federal programs like the U.S. Department of Agriculture water infrastructure program contain needs-based criterion. USDA calls this the "credit elsewhere" criterion. The state revolving loans achieve this principled objective by requiring that federal subsidies be targeted to the communities most in need based on their economic challenges combined with the public health necessity of the project.

One of our concerns with the new Water Infrastructure Finance and Innovation Act (WIFIA) is that it lacks any needs based targeting, credit elsewhere means-testing, or focus on improving public health or compliance. In fact, WIFIA subsidies are limited to communities that have good credit (33 USC § 3907), thus precluding WIFIA subsidies from addressing the country's most needy water problems including Flint, border colonias, and other more rural low-income communities with contaminated drinking water. Allow infrastructure funds some ability to provide grants – not just loans. Commonly, low income communities do not have the ability to pay back a loan, even with very low interest rates, and require some portion of grant or principal forgiveness funding to make a project affordable to the ratepayers. A minimum portion of the funds should be set-aside for small and rural communities. This ensures that any infrastructure program must set-up a process for dealing with small and rural communities. Once established, local pressures and priorities will determine the actual portion directed to small systems which we expect will often be greater than the minimum prescribed.

5. We have a water system project in our region that is a wholesale provider of water that services three states: Iowa, South Dakota and Minnesota. It is 68 percent complete today and is quite a few years behind schedule because it requires some federal assistance. Iowa's state and local government has provided $154 million so far for the project, but there is a remaining federal government component. The Lewis & Clark Regional Water System was incorporated in 1990 and authorized by Congress in 2000 and will serve over 300,000 people once fully completed. But it is six-years behind schedule and customers of the system remain unconnected. The concern is without the Lewis and Clark water, the next draught could have significant negative consequences for the economy of our three-state region. A few years back draught conditions proved that this region has challenges to water access and with the increased livestock production and manufacturing in the region there is an increased need for this water. I'm told by our state officials that without the federal cost share, this water system will remain uncompleted, and states and communities that have already provided their share of funding will remain unserved.

How can we make sure that whatever future infrastructure plan that comes forward puts an emphasis on completing projects that are already on the Government's plate?

Oversight and attention focused on the drinking water state revolving funds' statutory provision that funding be prioritized to projects representing the most needs based on environmental and economic factors. If this project described above is can demonstrate that has the most need based on merit it should receive prioritization within the state revolving fund weighing of applications' process.

Senator Duckworth:

6. As a state official working to provide high quality water services to your residents, while balancing fiscal challenges, do you agree that states both need, and would put to good use, direct Federal investments in critical infrastructure, such as fully replacing lead service lines to guarantee safe drinking water?

Yes, state preference for prioritizing projects should be respected. We caution policymakers on funding the new Water Infrastructure Finance and Innovation Act

(WIFIA). We believe that the State of Illinois and West Virginia would prefer any water funding be dedicated to the SRFs and USDA versus WIFIA. WIFIA lacks any binding respect of state priorities, needs based targeting, credit elsewhere means-testing, or focus on improving public health or compliance. WIFIA is not required to address state identified water needs like the SRFs and USDA. Additionally, WIFIA subsidies are limited to communities that have good credit, thus precluding WIFIA subsidies from addressing the country's most needy water problems including in more remote low-income communities with contaminated drinking water.

We support the inclusion of the following six essential policy principles for small and rural community water infrastructure in any new federal infrastructure initiative.

1. The federal government should only subsidize water infrastructure when the local community can't afford it and there is a compelling federal interest such as public health, compliance or economic development (i.e. the U.S. Department of Agriculture water infrastructure program contain this needs-based criterion). The state revolving loans achieve this principled objective by requiring that federal subsidies be targeted to the communities most in need based on their economic challenges combined with the public health necessity of the project.
2. A federal U.S. Environmental Protection Agency (EPA) water funding programs should be primarily dedicated to compliance with EPA's federal mandates or standards. Currently, the Safe Drinking Water Act and Clean Water Act are creating a tremendous financial burden on small and rural communities.
3. A small percentage of water funding programs should be set-aside for technical assistance and assistance in complete the applications for water infrastructure funding.
4. Corporate water (profit generating companies or companies paying profits to shareholders/investors) should not be eligible for federal taxpayer subsidies.
5. Allow infrastructure funds some ability to provide grants – not just loans. Commonly, low income communities do not have the ability to pay back a loan, even with very low interest rates, and require some portion of grant or principal forgiveness funding to make a project affordable to the ratepayers.
6. A minimum portion of the funds should be set-aside for small and rural communities. This ensures that any infrastructure program must set-up a process for dealing with small and rural communities.

Attachment, City of Shaw, Mississippi

Shaw Technical Assistance Update (9/12/14)

Shaw Public Water System Update: Approx 600 users but only about half are paying their bill Tom Abernathy with MS Rural Water Assoc., has been working with the city of Shaw for several years but because of the lack of cooperation and support from the city, progress was basically non-existent. In approx. July 2014 Congressman Thompson allowed Timla G. Washington, the Community, Economic, and Workforce Developer for his office to work very closely with the town, which is beyond the traditional role of a congressional office. She also happens to be a citizen of Shaw. Together, Tom Abernathy (MS Rural Water), KT Newman (Utility Contractors), and Timla Washington

(Congressman Thompson Office) were able to assemble together as a team and influence some progress. It is important to note the contribution of all the partners.

Congressman Thompson office was a most helpful in convening meetings, finding and helping to secure funding, mending relationships for the city with agencies and getting the agencies to provide support (financial and expertise), and helping to overcome obstacles and issues. The city is financially crippled (e.g., poor payment history, delinquent debt, very low revenue. etc) Timla convened a meeting July 29, 2014 with the public officials of Shaw, MS Rural Water, DEQ, and the MS State Department of Health. Out of that meeting emergency funding secured from MS State Dept. of Health through their Emergency Loan program for $50K. The city basically qualified under the circumstances for the emergency loan to address the water system issues. The city has just submitted the completed application as of the week of September 8th (thanks of Utility Contractors). DEQ offered assistance but the city decided to focus attention on the water system issues first. And DEQ has offered to be ready and willing to offer any assistance (e.g., financial and expertise) they possibly can when the city is ready. Timla was also successful in having a meeting with DRA about SEDAP funding (State Economic Development Assistance Program) and encouraging the city to apply for $150K with the assistance of South Delta Planning PDD, Alyson Denson. That grant is still pending. The Public Service Commission has also agreed to conduct a viability study for the city. Since, sometimes it is requested by grantors that this is done.

MS Rural Water was excellent on the ground with helping to come up with the best plan of action (ex. Spot repairs), giving the city expert advice, conducting the rate study, identifying leaks and fixing them as well as other issues in the system and this includes loss of revenue (ex. Promised Land Apts.) and how to plug up holes in the bucket called loss revenue, saving the city money with offering free services like locating cut-off valves, etc. MS Rural Water was the one to identify how the city was losing approximately $1200.00 per month in revenue by not having the Promised Land Apts on a meter. For about 25 -30 years the apts were not paying a water bill for individual use only on the laundry room according to the elected officials. Thanks to Rural Water we were able to identify this loss of revenue and now there is meter there and it is generating about $2800.00 a month for the city. There are three apts and the school district in which this same issue has been addressed. Also the BBI billing system has not been updated in terms of the accounts (ex. Commercial-Business Accounts vs. Residential Accounts). This expertise was great in helping up make realistic projections by recapturing money. Getting off that boil water notice would not have been possible without MS Rural Water.

Utility Contractors was also excellent on the ground with helping to decide on the best plan of action (ex. Spot repairs), giving expert advice, identifying leaks and fixing them, conducting cost estimates, training of public works employees, managing the projects on the ground, willing to be the certified water operator, monitoring and managing the system, getting water samples, familiarity with state requirements associated with public water systems, and above all having the equipment necessary to make repairs (the city had no equipment and this saved them money). Getting off that boil water notice would not have been possible without UC.

The MS State Department of Health was instrumental and stepped to the plate to grant the loan and help the city get off the BWN before school started in August (even though the lift was not issued until about a week after school started). You see last year the school said they spent about $16k on water (I think).

The town has had significant deficiencies including bad water samples dating back to the later part of 2013. But we know the deficiencies were already present before the citations or notices and samplings took place. Some of these deficiencies included:

- Chlorinator(s) resulting in no chlorine in the system

- No monitoring and poor management
- Negative pressure throughout the entire water system which could result in contamination. The system was under a blanket boil water notice
- Lack of redundant mechanical components where treatment is required.
- A significant deficiency in water system management and operation
- inadequate application of treatment chemicals
- Outdated policies
- No rate increase in about 12 years.
- No collection, no cut-offs, extremely high delinquent bills, etc.
- The rate study was conducted by MS Rural Water Association in, 2014. Citizens are now paying for water and sewer at the increased rate totaling about $35.00. An estimate was done on how much of an increase the city could see from this rate increase and it was about $6,000 a month (provided everyone pays their bill). Afterwards the city adopted an ordinance to modify the water and sewage rates on June 3, 2014:

Water Rate
First 2,000 gallons = $20 minimum charge
All usage above 2,000 gallons = $1.61 per thousand

Sewage Rate
First 2,000 gallons = $10 minimum charge
All usage above 2,000 gallons = .89 cents per thousand

Garbage Rate
$11.00

As of August 14, 2014 the MS State Dept. of Health lifted the boil water notice.

In the end some progress has been made but there could be even more significant progress made if the city and citizens were more accountable to each other and understand they have to be proactive to say the least. (Ex. Collections, cut-offs, everyone pays, etc.). Public Works personnel need training. And the good thing is that MsRWA has offering the City of Shaw, assistance at no charge to continue assistance to Shaw to conduct training and offers hand on assistance.

Senator BARRASSO. Thank you, Mr. McNulty. Thanks for joining us. Thanks for your testimony.

Ms. Bobbitt.

STATEMENT OF CINDY R. BOBBITT, COMMISSIONER, GRANT COUNTY, OKLAHOMA

Ms. BOBBITT. Thank you, Senator Inhofe, for the very warm welcome.

Chairman Barrasso, Ranking Member Carper, and distinguished members of the Committee, thank you for holding today's Committee hearing on modernizing our Nation's infrastructure, inviting me to testify on behalf of the National Association of Counties.

Infrastructure is important to our Nation's 3,069 counties because we build and maintain 45 percent of the public roads, 40 percent of the bridges, and a third of the Nation's transit and airports.

My name is Cindy Bobbitt, and I serve as Chair of the Grant County, Oklahoma, Board of Commissioners.

Grant County is rural and serves a population of approximately 4,500, and our local economy is largely based on agriculture and natural resources. We are responsible for 92 percent of over 1,900 public road miles in the county. We also have the most bridges or bridge-like structures, over 3,500. Think about that. That is almost one bridge for every resident.

While this infrastructure was ideal for transporting livestock and crops 70 years ago, it is inadequate to support today's heavier trucks, increased traffic, and higher operating speeds. And Grant County is not alone. Roughly two-thirds of the Nation's counties are considered rural and face similar infrastructure challenges.

Today I will highlight some of these challenges and provide recommendations for ways Congress can help us tackle these issues.

First, rural counties are facing numerous challenges that strain our local funding options. Forty-two States limit the ability for counties to raise or change property taxes, and only 12 States authorize us to collect our own local gas taxes. We often have to choose between investing in infrastructure or in funding our emergency services, courthouses, and health departments, just to name a few.

Second, rural counties are experiencing increasing demands on our transportation infrastructure, which can no longer accommodate our agriculture and our energy needs. While local governments can do all we can—and we are trying to—according to the Federal Highway Administration 40 percent of county roads are inadequate for current needs, and nearly half of our rural bridges are structurally deficient.

Third, counties are facing high costs of infrastructure projects. Based on the American Road and Transportation Builders Association, the cost of construction materials and labor for highway and bridge projects increased 44 percent between 2000 and 2013. Just a few years ago, in Grant County, we could budget for a road reconstruction project at less than half a million dollars. Today that same project would cost about $1 million per mile.

With these challenges in mind, we have some recommendations to strengthen our Nation's infrastructure.

First, Congress should make more Federal highway dollars available for locally owned infrastructure. County roads, bridges, and highways serve as a lifeline for our citizens and are critical to the movement of freight and other goods and services to market. While more financing options are available in urban areas, rural areas do not often attract that same interest from the private sector. Now more than ever we need a strong Federal-State-local partnership to remain competitive.

Second, increased Federal funding to bridges, particularly off-system bridges, is vital. We must build for the future, not the present. Twenty years ago we were building our bridges 18 to 20 feet wide. Today we are building our bridges 24 to 26 feet wide. But that is not going to be wide enough to accommodate our larger and heavier equipment. According to USDOT, to eliminate the Nation's bridge deficient backlog by 2028, we would need to invest $20 billion annually, well above the $12.8 billion invested today.

Third, an increased focus on safety and high risk rural roads will help our communities and help reduce the number of fatalities we see each year.

And finally, we urge Congress to increase the role of counties in statewide planning and project selection processes. We recognize that there are more infrastructure needs than there are funds available. However, counties have the ability to provide input on potential projects and can help maximize the effectiveness of Federal infrastructure dollars.

In closing, as Congress considers ways to modernize our Nation's infrastructures counties stand ready to work with our Federal partners to achieve our shared goals of strengthening transportation networks, improving public safety, and advancing our economic competitiveness.

Thank you, Mr. Chairman and members of the Committee, for the opportunity to testify today.

[The prepared statement of Ms. Bobbitt follows:]

Written Statement for the Record

The Honorable Cindy Bobbitt
Commissioner
Grant County, Oklahoma
on behalf of the National Association of Counties

For the Hearing
"Oversight: Modernizing our Nation's Infrastructure"

Before the
U.S. Senate Committee on Environment and Public Works

February 8, 2017
Washington, D.C.

Chairman Barrasso, Ranking Member Carper and distinguished members of the Committee, thank you for holding today's hearing on modernizing our nation's infrastructure, and for inviting me to testify on behalf of the National Association of Counties (NACo).

The nation's counties play an essential role in America's transportation and infrastructure networks. Investing more than $100 billion each year in roads, bridges, transit, water systems and other public facilities, counties facilitate everything from Americans' daily commutes to the shipping of goods around the globe.

We are responsible for building and maintaining 45 percent of public roads and nearly 40 percent of bridges, and are involved in the operations of a third of the nation's transit systems and airports that connect residents, communities and businesses. The decisions that county leaders make every day about transportation, land use and economic development influence local and national prosperity, shape how communities grow and contribute to Americans' quality of life.

My name is Cindy Bobbitt and I was elected to the Grant County, Oklahoma Board of Commissioners in 2004 and now serve as Chair of the Board. Additionally, I am on the NACo Board of Directors and also serve as the association's Central Region Representative, Vice-Chair of the Transportation Steering Committee and member of the Rural Action Caucus. I've also served on the Technical Oversight Working Group (TOWG) with the U.S. Department of Transportation's Federal Highway Administration Office of Safety.

In addition to my work as a county commissioner, my husband and I operate our family farm, that my husband's great grandfather Bobbitt staked in the Land Run of 1893. We raise wheat, feed grains, alfalfa and have a cow/calf operation. At the age of nine, I started driving a tractor for my dad on the family farm and I learned first-hand about work and moral ethics.

I am not your "typical" Oklahoma County Commissioner; I am only one of five women that serve as a county commissioner in Oklahoma out of the 231 county commissioners in the state—and I am strongly passionate about my county's infrastructure needs.

Grant County is a very rural county located approximately 120 miles north of Oklahoma City and serves a population of approximately 4,500. Our local economy has largely been based on agriculture and our principal crops include wheat, corn, soybeans, feed grains and alfalfa. We also have natural resources like oil and gas and produce livestock such as cattle, hogs and horses.

We are well known for our agricultural innovations, including our two wind farms and our new 120-unit car train loading facility, just opened in 2016, to transport grain across the country for export. Our trains stopped loading on side tracks in Grant County over 25 years ago, which forced us to ship all of our grains on the highways to terminals—taking a huge toll on our infrastructure. And although the unit trains have helped to address some of our shipping needs, our local roads are taxed more now than ever.

While we may not have the day-to-day congestion experienced by urban counties, our prolonged harvest season, which begins with planting as early as March and lasts through November with the final

harvests, creates great stress on our infrastructure network. Scores of trucks travel down our county roads every hour for days on end. While these roads were ideal for transporting livestock and crops to market 70 years ago, they are less than adequate to support today's heavier trucks, increased traffic demands and higher operating speeds.

Our county is responsible for a substantial amount of infrastructure. There are 1,920 public road miles that run through Grant County, 92 percent of which are owned and maintained by the county. Grant County alone has over 3,000 bridge or bridge-like structures, including 535 bridges captured by the National Bridge Inventory. This is a tremendous amount for only 4,500 residents to maintain.

Although we have the most bridges and fifth highest road miles in the entire State of Oklahoma, our county funding for infrastructure is ranked 63rd out of all 77 counties in the state. Funding for county roads and bridges continues to fall behind inflation costs. Every month, Grant County roads districts require more money in an effort to repair and maintain our county roads and bridges. Because of inflating costs for maintenance, there is less money available for improvements, such as rocking new roads or building new bridges.

Through my involvement in NACo and my experience serving in the leadership of the association's Transportation and Infrastructure Steering Committee, I can tell you that the experience of Grant County is not unique. Roughly two-thirds of the nation's 3,069 counties are considered rural with a combined population of 60 million. These rural counties face a number of challenges in providing adequate transportation infrastructure to meet the needs of our communities, regions and national economy.

A crucial component to any infrastructure plan for counties are municipal bonds with their tax-exempt status preserved. Municipal bonds finance a range of locally selected infrastructure projects and have a long history of low default rates. Between 2003 and 2012, counties, states and other localities invested $3.2 trillion in infrastructure through long-term tax-exempt municipal bonds, 2.5 times more than the federal investment. In counties, the legislature of the county government has to approve a bond issuance, and often voters also approve the bond financing. Municipal bonds maintain a track record of low default rates, better than comparable corporate bonds. Any tax imposed on currently tax-exempt municipal bond interest will affect all Americans, as investors in municipal bonds and as taxpayers securing the payments of municipal bonds. Simply stated, the tax-exemption of municipal bond interest from federal income tax represents one of the best examples of the federal-state-local partnership.

The federal government is an important partner in addressing our nation's critical infrastructure challenges. At the local level, counties see the direct impact of federal investment—which helps us to not only move goods and people, but to drive our local economies.

Today, I would like to highlight some of the primary challenges facing transportation and infrastructure in rural counties and provide recommendations for ways Congress help us tackle these important issues.

Challenges facing rural counties and rural transportation infrastructure

First, rural counties are facing numerous challenges that strain local funding options.

Many of America's rural counties are experiencing declining populations due both to aging and younger residents seeking job opportunities in suburban and urban areas. Ongoing population losses reduce our tax base, which has a direct effect on our ability to fund infrastructure projects. At the same time, many rural areas still have thriving agricultural production, as well as strong manufacturing and value-added agricultural and natural resource industries.

Counties are further challenged because states are limiting our ability to raise revenue for capital projects. The main general revenue source for many counties are property and sales taxes. However, while counties in 45 states collect property taxes, under state law those counties can only keep about a quarter (23.7 percent) of the taxes collected.

Additionally, 42 states limit the authority of counties to raise or change property taxes. Only 12 states authorize counties to collect their own local gas taxes, which are limited to a maximum rate in most cases and often require additional citizen and/or state approvals for implementation.

For example, the State of Oklahoma limits a sales tax option for counties to two percent. Grant County, through the vote of the people, has approved a 1.25 percent sales tax, with 1 percent being divided between 12 entities for rural fire departments, ambulance services, sheriff department and emergency service with the other quarter percent for the Grant County fairgrounds improvement. None of these funds go to rural roads and bridges.

Furthermore, ad valorem taxes—also known as property taxes—in Oklahoma legally cannot go to fund any road and bridge infrastructure. Instead they go to support schools, jails, courthouses and health departments, just to name a few.

Limitations like these significantly impact counties' ability to effectively raise additional revenue to pay for services and infrastructure. Due to these state and local funding constraints, rural counties depend on a strong state and federal partnership to deliver transportation investments that are critical to our communities and national economy.

Second, rural counties are experiencing increasing and shifting demands on our transportation infrastructure.

Rural counties' economies are often built on a foundation provided by agriculture, manufacturing and natural resources. In Grant County, like in many rural counties, agriculture is the largest industry, generating $96.8 million in economic output according to most recent U.S. Census data. Nationally, the three million road miles and 450,000 bridges in rural America play a critical role in the movement of agricultural products, manufacturing goods and energy resources from our communities to domestic and global markets.

Changes to the agricultural sector have increased the distance products have to travel in order to get from our farms to markets, which impacts our local economies and infrastructure. According to the U.S. Department of Agriculture's National Agricultural Statistics Service, between 2007 and 2012 the number

of farms in America decreased by over 95,000, accounting for a loss of over seven million farmable acres. In that same amount of time, the average size of the American farm increased by almost four percent. This shift means our country has fewer farms to help meet the increasing demand for agricultural goods - which now take longer to reach the consumer – directly impacting the cost of food while increasing the burden on rural infrastructure.

Unfortunately, rural infrastructure has become increasingly insufficient to accommodate the demands of these modernizing industries and higher yields of production. According to the Federal Highway Administration, 40 percent of county roads are inadequate for current travel and nearly half of the 450,000 rural bridges in America are structurally deficient.

In addition to agriculture, fast-growing energy industries like oil and gas put a lot of pressure on county transportation systems due to the rise in heavy traffic. For example, the energy boom in North Dakota caused traffic – especially heavy truck traffic – to rise by 40 percent. A 2012 assessment of North Dakota counties and other local road needs projected that the average number of daily truck trips on county roads in the four highest oil producing counties would increase 98 percent between 2012 and 2025. The roads used to access oil drilling areas were not built for heavy truck traffic, which damages existing infrastructure and reduces safety.

Almost all of our food, fiber and natural resources begin in rural America and are vital to support our communities and global economy. The development and maintenance of our rural infrastructure is critical to the security, health and well-being of our country.

Third, rural counties are combating rising costs of transportation projects.

In addition to facing growing demands for transportation investment and numerous limitations on local revenue sources, rural counties are encountering rising costs for transportation and infrastructure projects. Based on the American Road and Transportation Builders Association's highway construction price index, the cost of construction, materials and labor for highway and bridge projects increased 44 percent between 2000 and 2013, outpacing the 35 percent increase in general inflation.

In my county, we have seen a drastic increase in the cost of projects. Just a few years ago, Grant County could budget for a road reconstruction project at less than $500,000 per mile. Today, that same project is estimated at $1 million per mile. Less costing materials for roads, such as rock and shale, cost from $40,000 to $100,000 per mile but have to be replaced more often, all 100 percent financed by Grant County.

Our greatest challenge is ensuring that we can build and maintain a safe, efficient infrastructure system that allows Oklahoma and Grant County to remain competitive in an increasingly global marketplace. In reality, we need to be investing well above the current insufficient levels. A state or county just trying to stay afloat isn't going to be in a position to compete in the global economy against other entities or other countries that are rapidly increasing their infrastructure investment.

<u>Recommendations to improve and strengthen our nation's rural infrastructure</u>

Rural counties need a strong federal partner and an infrastructure program that supports the needs of rural America. Unfortunately, in addition to facing greater demands on our transportation infrastructure, the rising costs of projects further complicate these goals. Rural counties have experienced funding reductions at the federal level that further diminish our ability to deliver critical transportation and infrastructure projects.

In addition to developing a permanent funding fix for the Highway Trust Fund, we have some additional recommendations for ways that Congress and the administration can better support the infrastructure needs of rural America.

Congress should make federal highway dollars available for locally owned infrastructure.

Local governments own 78 percent of the nation's road miles, including 43 percent of federal-aid highways and 50 percent of the National Bridge Inventory. Many of these highway miles and bridges can be found in rural America. Not only do county roads, bridges and highways connect our counties and states, they serve as a lifeline for rural counties and our citizens, playing a critical role in the movement of freight and other goods and services to market.

It is important to note that this is not a rural versus urban issue. Investing in rural infrastructure creates a ripple effect that also benefits urban areas. Farmers and ranchers often have to avoid crossing rural bridges because of weight limits. These detours add miles and cost to trips, as producers move their grain and livestock to markets. In the end it adds cost to companies in urban areas and is passed on to you, the consumer.

Freight transport supports rural industries and provides a foundation for America's economy. Failure to adequately invest in the road and bridge infrastructure that supports freight transport puts rural economies and the national economy at a competitive disadvantage. The efficiency of the American freight system directly impacts our industries' ability to compete in export markets, with transportation costs being one of the most significant factors impacting our farmers' bottom lines. Inefficient and inadequate transportation infrastructure increases the prices that American consumers pay for goods, negatively impacts local economies, particularly in rural areas, and reduces U.S. competitiveness when exporting these products abroad.

While larger, urban areas are able to utilize more innovative funding and financing options including public-private partnerships, rural areas do not often attract that same interest from the private sector. Direct federal funding is a must for rural areas if they are to keep pace with the nation's food, fiber and natural resource demands. In the few instances where such a project would be explored, it is most important to note that even to take advantage and leverage low-interest financing through private markets, federal and state programs, federal funding is a necessity.

With federal funding become less and less, most rural counties are concentrating on maintenance and improvements to collector roads that service and ensure safe passage of school busses, rural mail carriers, police, ambulances, fire trucks, and other emergency services, just to name a few.

Increased federal funding to bridges off the National Highway System is critical to rural America.

The nation's more than 610,000 bridges are vital components of our transportation network that are in critical need of repair. According to the American Society of Civil Engineers Annual Infrastructure Report Card, one in nine of the nation's bridges are rated as structurally deficient, while the average age of the nation's bridges is currently 42 years.

The Federal Highway Administration (FHWA) estimates that to eliminate the nation's bridge deficient backlog by 2028, we would need to invest $20.5 billion annually, while only $12.8 billion is being spent currently. That almost $8 billion shortfall has resulted in temporary fixes, project delays and a greater public safety risk.

Many of our bridges in rural America have already or are rapidly approaching their intended lifespan. We have larger vehicles travelling on them and at speeds faster than originally planned. Yet these bridges, especially in rural communities, are some of the most critical bridges for the movement of freight and providing vital connections for our citizens.

Nationwide, more than half of our National Bridge Inventory is considered "on-system" and more than half of those bridges are not on the National Highway System. Unfortunately, the amount of funding available for more than 75 percent of the nation's bridge inventory – specifically bridges that are not a part of the designated "National Highway System" (NHS) – has significantly declined over the last several years.

Prior to the passage of MAP-21, nearly $6 billion was authorized annually for the Highway Bridge Program to support bridges on and off the Federal-aid Highway System (or "on-system" and "off-system" bridges), with no less than 15 percent of each state's apportionment being set aside for off-system bridges. MAP-21 eliminated the Highway Bridge Program, shifting the program's funding (with the exception of the off-system bridge set aside) to the National Highway system. This only supported projects on the NHS, which excludes 467,584 on and off-system bridges. Rural America struggled to make up the funding gap.

In 2015, the FAST Act made more federal-aid highway dollars available to locally owned highways and bridges. The bill also made strides to restore the overall funding for the Surface Transportation Program (STP) – now rebranded the Surface Transportation Block Grant Program (STBGP) and opened up the National Highway Performance Program (NHPP) to support all on-system bridges, essentially making an additional $116.4 billion available to locally owned infrastructure. Counties appreciate these efforts in this regard to aid local governments address their bridge funding needs.

The FAST Act maintains the current off-system bridge set- aside, providing $776.5 million annually out of the states' share of the STP program. The bill also allows for all on-system bridges to be funded through the NHPP program, which receives a total of $116.4 billion from FY 2016 – FY 2020. In addition, the FAST Act expands and grows the STP program, providing additional funding for a wide variety of projects, including bridge repair, replacement and rehabilitation projects. Again, counties like mine are pleased Congress recognized the need to assist with these funding struggles.

In future bills, we urge Congress to make additional investments to leverage our state and local investments.

My county has extensive challenges with our bridges. Grant County alone has over 3,000 bridge or bridge-like structures, including 535 bridges captured by the National Bridge Inventory. It's hard to imagine, but we have almost as many bridges as we have people in our county.

In Grant County, of the 168 on-system bridges, 101 are the sole responsibility of the county. We are also solely responsible for an additional 367 off-system bridges. This does not even take into account over 3,000 other bridge-like structures in Grant County that we are also responsible for. Only 535 of our bridges are captured by the National Bridge Inventory.

Our roads and several of our bridges were built before the Model T, and although most of them are still working, large portions are structurally deficient. "Structurally deficient" means one component of a bridge—the deck, superstructure, substructure, or culvert—is rated in "poor" condition by the U.S. Department of Transportation's (DOT) National Bridge Index rating scale. A bridge can also be classified as structurally deficient if its load carrying capacity is significantly below current design standards or if a waterway frequently floods over.

In my 12 years in office I've overseen the construction of more than 30 bridges and rehabilitated over 20 bridges. And if we would have had the needed funding, those 20 rehabbed bridges would have been new bridges. We are doing all we can with the limited resources we have.

Our challenge moving forward is that we must build for the future, not the present. Twenty years ago counties were building 18 to 20-foot wide bridges; today we're building bridges 24 to 26-feet and some wider. New agricultural combines are 19 feet wide, tire-to-tire with 36 to 40 foot headers. We're seeing farm equipment get larger and heavier and the agricultural output is getting much higher. Legal weight limits on highways in 1923 was 28,000 pounds and in 1975 it was increased to 80,000 pounds, the same for today's standards. The same trucks and traffic that travels across the state highways also travels county roads.

Because the state of our bridges have had a detrimental impact on our commerce, our county commissions have worked to accelerate bridge replacement efforts through focused and concerted efforts with our state. In 2011, the Oklahoma Department of Transportation (ODOT) transferred 2,067 used beams from the deconstruction of the Cross Town I-40 bridge in Oklahoma City for repurposing on county bridges. The counties can see a savings of $15,000 to $40,000 per project with these beams. As of this date, 39 counties have requested 744 beams and have built 69 bridges.

Grant County received over 100 of the 2000 plus re-purposed bridge beams from the deconstruction—more than any other county in Oklahoma—and have built ten new bridges to-date using county funds. While we have the beams to complete more bridges, we lack the funds to move forward with the actual construction. The bridge beams account for approximately eight (8) percent of the total cost of a county built bridge; therefore, Grant County still needs funding for the remaining 92 percent to complete each bridge project. Similar examples can be found across the country.

Even with this progress and our best efforts to gain control of the bridge infrastructure deterioration curve, the conditional problems caused by inadequate transportation funding continue—and so many other rural counties find themselves in the same situation.

Increased focus on safety and high risk rural roads will help our communities

Safety is one of the greatest concerns for rural counties, with the fatality rate on rural roads being about 2.5 times higher than on urban roads, according to the Federal Highway Administration's Office of Safety.

According to the 2013 American Community Survey from the U.S. Census Bureau, 19 percent of the U.S. population lived in rural areas but rural road fatalities accounted for 54 percent of all road-related fatalities. This is due to a number of factors like the physical characteristics of our roadways, including capacity and condition; behavioral issues such as higher speeds, reduced seat-belt use, and higher rates of impaired driving; and longer emergency medical response times due to the distance between incidents, emergency responders and medical facilities.

In 2014, more than 16,000 people were killed on local roads across the U.S. — a fatality rate greater than 1.5 per 100 million vehicle-miles of travel, according to the National Highway Traffic Safety Administration. This is almost three times the fatality rate of the Interstate Highway System. Also in 2014, the overall cost of crashes on local roads was well over $100 billion, accounting for fatalities, decreased quality of life due to injuries and economic costs (medical, insurance and property loss).

Recognizing this important issue, on July 13, 2015, U.S. Transportation Secretary Anthony Foxx signed a resolution reflecting the need to improve safety on county-owned roads and affirming that the U.S. Department of Transportation will work with the National Association of Counties (NACo) to improve road safety in America's communities. This resolution underscores the important role that local elected officials play in improving road safety in their communities and we hope to continue this work with the new administration.

An increased focus on high risk rural roads will help the health and safety of so many of our rural communities and decrease the number of fatalities on our roads

Federal support is needed for programs that allow counties to address mobility and infrastructure needs.

The aging populations and geography in rural counties create unique mobility challenges. In rural communities in particular, aging and disabled citizens can become extremely isolated and unable to access healthcare and other critical goods and services. One of the ways counties address the needs of our aging and disabled populations is through rural public transportation options. Rural public transportation systems provide both traditional fixed-route and demand response services in every state.

While my county does not have the resources for public transportation, one of my fellow counties has a great example of how they are addressing the needs of their community.

The Renville County (Minnesota) Heartland Express was established in 1996 due to the demand for transportation in their very rural community. With businesses closing, it has become harder for people to get groceries or go to a doctor without traveling a great distance. Renville County's fleet of seven buses takes children to and from school and daycare, connects workers with jobs and provides a means for elderly citizens to get groceries, access doctors and maintain social connections that are so critical to their overall welfare. Because of the vast geographic distance our public transportation systems have to cover and the growing population of transit dependent citizens, it is important to rural counties that Congress devote appropriate attention and resources for transit programs for rural public transportation.

Although my county does not qualify, there is another program that rural counties can benefit from—the Federal Lands Access Program (FLAP). FLAP supplements state and local resources for public roads, transit systems and other transportation facilities projects that provide access to, are adjacent to, or are located within federal lands, with an emphasis on high-use recreation sites and economic generators.

With 62 percent of the nation's counties having federal land within their boundaries, FLAP is meeting a critical need in rural counties. In general, very few federal programs support truly local roads but FLAP is an exception. Many of the counties that benefit from the program simply do not have the local resources to complete projects that are supported with FLAP funding.

Federal lands, such as national parks, often drive tourism and recreational activities that support rural economies. Quality infrastructure and mobility options are critical for supporting these industries and rural communities.

<u>We urge Congress to increase the role of counties in statewide planning and project selection processes</u>

With recognition that there are greater transportation needs than available funds, project selection and planning processes should prioritize investments that maximize the long-term benefits for communities and regions.

To help achieve greater performance and efficiency of our transportation system, local elected officials should have an elevated degree of involvement in decision-making processes. Local elected officials are well positioned to provide input on potential projects and their ability to support economic and community development.

For example, rural county officials can help identify efficient routes within rural regions that connect multi-modal freight facilities, agriculture and natural resource production and distribution centers. Thinking beyond the explicit benefits of transportation projects and better understanding their broader context and value through the lens of local leaders can maximize the effectiveness of federal transportation dollars.

In closing, any new infrastructure investments must recognize that transportation and infrastructure needs of rural counties are important to the nation's economy, public health and safety.

Improving the quality of transportation and infrastructure in rural America will not only result in benefits for rural counties like mine, but perhaps more importantly will improve the nation's overall infrastructure network, which serves as the foundation for our country's economy.

The federal government is an important partner in delivering locally-developed transportation and infrastructure projects. At the local level, counties need a reliable federal partner and long-term funding certainty to build, maintain and strengthen our infrastructure system.

Thank you again, Mr. Chairman and members of the Committee for the opportunity to testify today. I would be pleased to answer any questions.

Hearing Follow-Up Question Responses

The Honorable Cindy Bobbitt
Commissioner
Grant County, Oklahoma
on behalf of the National Association of Counties

for the hearing
"Oversight: Modernizing our Nation's Infrastructure"

Before the
Senate Energy and Public Works Committee

February 8, 2017
Washington, D.C.

The Honorable Tom Carper, Ranking Member:

1. Is there anything the Federal government and State and local partners are able to do today with existing authority and resources to get better results from our investments?

Response:

Ranking Member Carper, thank you for the opportunity to provide written answers to your questions for the record. I am pleased for this opportunity to respond.

As stated in my testimony, counties are the closest level of government to the people and as such, we know our local road and bridge infrastructure best. As county commissioners, we have the know-how to use our authority and our resources to build and maintain our infrastructure using local forces to reduce overall project costs. In most cases, we have projects we consider to be "shovel-ready" in terms of design and cost. However, we experience delays and incur further costs due to certain federal regulations. The best example of a regulatory impediment is the National Environmental Protection Act, or NEPA, requirements. Complying with NEPA requirements oftentimes requires environmental studies that are duplicative in nature, as the State of Oklahoma also has environmental impact requirements that originate from the Oklahoma Department of Transportation's (ODOT) Environmental Programs Division. ODOT has proven to be adept in working with local governments, as they too know the landscape of our state. With the federal government, we sometimes see project delays because of expiring NEPA reviews, which cause us to backtrack.

A possible solution to this is to consider having a small scale NEPA review within a one-year period prior to the expiration of the study. Then, if the project is still within the same scope and guidelines of this original NEPA review, that an additional 3-year extension be granted to the project. This will cut down on federal, state and local bureaucratic red tape and allow our projects to continue without lengthy delays.

1a. What new authorities are needed to enable Federal, State, and local agencies to obtain better investment results? Are there authorities that would help agencies to do more with less direct funding?

Response:

There are many actions the federal government can take to assist counties in their infrastructure efforts. This includes the easing of burdensome and duplicative regulations. Rolling back impediments originating from regulations such as the Waters of the U.S. (WOTUS) is a positive move for counties, especially concerning the 404 Permit process. The Federal government should make a distinction between projects that are statewide and local in character, with requirements for local projects being much less complex, as counties can process and build projects for a significantly lower cost. Additionally, the user-pay approach should continue to be the cornerstone of federal transportation funding and federal policy should provide counties the flexibility to use additional financing tools, such as tax-exempt bonds as well as public-private financing (where appropriate). However, please remember that there is a difference between "funding" and "financing" and counties need both tools. Funding is a one-time option, while financing, though such options as tax-exempt municipal bonds, is a longer-term commitment and is vital to continue to build rural infrastructure.

2. You testified that Grant County and other rural counties are facing population loss and agricultural decline and consolidation. Given this context, what is the appropriate balance between investments in new roadways versus maintenance of existing assets? What role should counties play in planning the development, zoning, and conservation plans for their communities?

   Response:

   Counties should be at the forefront of the development, zoning and conservation planning process. As mentioned previously, we are in an ideal position to be attuned to the needs of our local communities. As far as an apportionment balance between existing and new roadways, this answer illustrates my overall point perfectly. There is no "one size fits all" answer, each community should be in the position to make this decision themselves.

   By far the biggest portion of road funds (after wages and benefits) in Grant County is spent on maintenance of existing infrastructure. However, a county or state just trying to stay afloat isn't going to be in a position to compete in a global economy against other entities or countries that are rapidly increasing their infrastructure investment. While counties must maintain our present infrastructure, we must also look to the future.

   You mention agriculture decline as a facet of our population loss. One of the reasons behind this is technologies allowing our farmers to produce without the need for as many workers. However, some of this technology is heavier and bigger than our roads were built for. While some equipment is able to navigate our small roads, others cannot. With the appropriate new infrastructure in place, Grant County could experience even greater economic output.

3. Another challenge in rural counties is a growing health disparity and above-average obesity rates, which may result in part from the auto-reliance in rural areas. What investment decisions can you make to try to address these health challenges and provide safe paths for biking and walking?

   Response:

   Excellent question! In December 2016, the "Small Town and Rural Multimodal Networks" guide was released. This guide was developed through the cooperation of Alta Planning + Design, Small Urban and Rural Livability Center – Western Transportation Institute, Federal Highway Administration and the National Association of Counties (NACo). I was an active contributing member of the Technical Advisory Committee on behalf of NACo. Hence, the investment process has already begun and this guide shows great potential for creating viable networks that serve residents and visitors while also addressing the growing health disparity in rural areas.

   This is a great example of a public-private partnership as well as a federal-state-local partnership. Many times rural counties are faced with the daunting decision of where to dedicate our limited transportation infrastructure resources. In most cases, the need for road renovation is prioritized ahead of transportation alternatives such as biking or walking. Having a strong federal-state-local partnership in addressing this need would do wonders to ensure healthier rural communities.

4. In your testimony you mention there may be trade-offs between material costs and durability, as lower-cost materials may have to be replaced more often. How does Grant County weigh life-cycle costs and do you typically choose to invest in materials that have higher upfront costs but may cost less over the long-term? Why or why not?

Response:

This is a question Grant County, as well as rural counties around the country are faced with every day. How do you pick and choose, and how do you decide the appropriate allocation of resources? There are several factors that go into the decision making on road maintenance, repairs and/or construction. Of course, safety is number one followed by road designation, such as major collector, minor collector, bus route, mail route, emergency route and so on and so forth. Additionally, the average daily traffic (ADT) count is taken into consideration. A higher traveled road generally receives a greater priority including a better quality of road materials (such as shale and/or rock).

Another factor we consider is the availability of the different types of road materials as well as the distance of hauling such materials to the project. So, the end result to be calculated is the overall out-of-pocket costs verse the longevity of the materials. Many times we are forced to make do with the limited funding resources available. While we would like to be able to utilize the newest technological surface materials, we must stay within our means. So yes, investments in higher quality materials that have higher up-front costs are used on priority projects that meet certain specifications and costs benefits. Other projects, however, are attended to in more cost-effective ways, which in the end may not be the best long-term answer.

The Honorable Joni Ernst:

5. I live on a gravel road in Montgomery County, in Southwest Iowa, which looks much like the rest of rural America. Our network of rural roads and bridges are an integral link in the food supply chain, and are the first step in bringing the bounty from our farms to market. While two lane bridges on county highways aren't as exciting to talk about in big infrastructure packages as massive new runways and airport terminals, they are a critical, and often overlooked piece of our nation's infrastructure. To put it into perspective, Iowa ranks 30th in population, but 5th in number of bridges and 12th in miles of roadway. I have heard from farmers across our state about the declining state of our rural roads and bridges. We have 4,931 structurally deficient bridges in Iowa. In one instance, a bridge was Page closed because it was no longer structurally safe for a tractor to cross it, and the farmer now has to ask to drive across his neighbor's property just to reach one of his fields.

   In your experience, what is the most effective method for allocating infrastructure funding to ensure rural areas are not overlooked, and is there any specific policy advice you would like to give us?

   Response:

   Thank you, Senator Ernst, for the opportunity to answer this question.

   Oklahoma and Iowa have much in common. Grant County, Oklahoma has just under 1,800 road miles with less than 140 paved road miles, the rest are natural dirt, shale and/or rock. Like you, I live on a gravel road with my nearest neighbor several miles away.

   As you are aware, Grant County has the most bridges and fifth highest number of road miles in the entire state of Oklahoma. Farmers all across the nation have a huge challenge in getting their equipment from field to field. A lot of our roads and bridges were built over 100 years ago for Model T's and then later in the 1950's for the 200 bushel trucks. Today's equipment is much larger with modernizing industries, higher yields of production and new methods of energy extraction, which creates immense stress and traffic on rural roads.

You are so correct in stating, "Our network of rural roads and bridges are an integral link in the food supply chain, and are the first step in bringing the bounty from our farms to market."

To ensure rural areas are not overlooked, I would advocate for education of our urban partners. With a clearer understanding of the importance of how goods and services get to market, and more importantly, where they originate from, a new focus on these arterials could be gained. An appropriate forum for input on the importance of rural arterials would effectively explain that without strength and capacity for rural roads and bridges, our food, fiber and natural resources, which include energy, cannot be delivered efficiently.

Additionally, counties want a strong federal-state-local partnership. Creating a way for better communication and participation from local government will provide a more comprehensive picture into the needs of small communities, and their importance to the state and country as a whole. Counties have the desire to have a strong voice with a seat at the table in helping to craft federal policy because county infrastructure plays a critical role many aspects of the overall national economy.

Senator BARRASSO. Thank you, Ms. Bobbitt. Thank you for your testimony.

Welcome, Mr. Pratt. We look forward to hearing from you.

STATEMENT OF ANTHONY P. PRATT, ADMINISTRATOR, DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL; PRESIDENT, AMERICAN SHORE AND BEACH PRESERVATION ASSOCIATION

Mr. PRATT. Thank you. I appreciate the time to address the Committee today, and I want to thank Ranking Member Carper for recognizing something a little bit out of the box. We are not talking about roads in this testimony, we are talking about green infrastructure, particularly coastal infrastructure.

I am Tony Pratt. I am the Administrator of Shoreline and Waterway Management for the State of Delaware, and also the President of ASBPA, which is a national nonprofit organization advocating for beaches through science and good public policy.

Infrastructure—obviously, from our panel members—is something which we talk about in terms of roads and bridges and manbuilt infrastructure, but the green infrastructure that I am talking about—particularly beaches, dunes, and wetlands—are incredibly important in a number of factors or a number of facets: the safety that they provide during storms, the recreational opportunities, and the great number of jobs that come with those components.

I want to talk a little bit about the kind of jobs, first of all, that come from beaches. Of course, construction of beach nourishment projects is something that provides opportunity for engineers and planners and economists to do a lot of planning work. It is an opportunity for dredge companies with a tremendous amount of employment to come and do work. We think about beaches, and Delaware is a good example; Rehoboth Beach, that many of you may have attended and had some good times in Rehoboth Beach. We think about the primary jobs that come from beaches: restaurant help, cooks, chefs, wait staff. We think about hotels and motels and the employment there. We talk about people who are lifeguards and retail sales and real estate sales.

But there is another facet of jobs that we don't talk about very much, and that is plumbers, electricians, roofers, builders, any number of trade jobs; hotel and motel management folks up and down the seaboard; but also these construction jobs and travel corridor jobs that we have not considered much of, which is if you drive from Washington to Rehoboth Beach or Ocean City, Maryland, you are going to go past a number of stores that are there primarily because of the recreational attraction of the coastline.

Dr. James Houston, who is from ERDC, the research laboratory from Vicksburg, Mississippi, indicated in work that he has done in the past that beaches get more recreational use in the U.S. than all of our national parks combined, which is a pretty stunning thought. This adds up to a major economic impact. Beaches help generate $2.25 billion annually to the national economy.

In 2012, according to Dr. Houston, for every $1 invested by the Federal Government, the Federal Government returned $570 in annual tax revenues from beach tourism. One dollar spent and $570 returned. It is a very good investment, we believe.

Estuarine research over by the eastern seaboard in the Gulf has indicated that for every $1 million invested, approximately, in estuary recovery, that there are 30 jobs created.

Coastal infrastructure is a wise investment. You either pay now, or you pay later. We have found in numerous storms, Katrina and Ike and Sandy, many storms that have hit the Gulf and Atlantic Coast, and now the West Coast is suffering some severe winter weather, that the impacts are tremendous.

Sixty-five billion dollars was allocated for the States primarily from Massachusetts to North Carolina and concentrated on about Maryland to Massachusetts. Sixty-five billion dollars was allocated to restore from that and recover from that. If we took a third of that, about $20 billion, and had invested in that over the Nation over the last 20 years, it would have been about a $1 billion investment. We have found that in Sandy, where there were good beaches and dunes in place, $1.9 billion was saved because of that investment.

We believe that if we had done that $20 billion over 20 years for the entire Nation, about $1 billion a year, that number would have been far higher and that $65 billion need would have been much greater reduced.

Beaches and dunes provide many benefits. We talk a little bit about jobs; we talk about the protection they afford. But they are also the dividing line between open water, gulf coast, ocean coast, and estuarine waters, which are highly productive, producing jobs for fishermen, for recreational tourism.

In Delaware we had an example of the Department of Interior investing $38 million in recovery of a national wildlife refuge. Had we spent about $2 million to $3 million in restoring the beach prior to the damage being occurred and all the damage of the wetlands happening and loss of forest, we would have probably avoided that $38 million investment. It is wise for a lot of factors, for jobs and for protection and for estuarine waters.

In my summary statement, we believe, from my organization and from my State of Delaware, that a higher investment in our coastal infrastructure that protects man-built infrastructure, that provides jobs, that provides protection for our Nation's productive habitats, is a wise investment. We are advocating for something in the order of $5 billion over the next 10 years. I know that there is probably justification for a higher number than that, but I think that is a modest request when the current funding is about $75 million to $100 million a year. We think that that number should be much higher.

And I thank you for your time today.

[The prepared statement of Mr. Pratt follows:]

Testimony

Anthony Pratt, President, American Shore and Beach Preservation Association (ASBPA); Administrator, Shoreline and Waterway Management, Delaware Department of Natural Resources and Environmental Control (DNREC).

Intro to ASBPA and DNREC

Founded in 1926, the American Shore and Beach Preservation Association (ASBPA) is a 501(c)3 nonprofit that advocates for healthy coastlines by promoting the integration of science, policies and actions that maintain, protect and enhance the coasts of America. From its formation, ASBPA has worked with Congress to pass significant legislation to define and refine a strong and necessary role for the federal government in the management and preservation or our nation's shorelines.

It is the mission of the Delaware Department of Natural Resources and Environmental Control to protect and manage the state's vital natural resources and protect public health and safety, provide quality outdoor recreation and to serve and educate the citizens of the First State about the wise use, conservation and enhancement of Delaware's environment

Coastal Infrastructure carries many benefits to our country.

When the word "infrastructure" comes up, most people think of steel and concrete, bridges and ports. But I'm here to talk about water and coastal infrastructure that is just as critical to the American economy and creates (and protects) just as many jobs, but does so with sand and sediment, roots and grass.

This is not an environmental request. I'm speaking as representative of a coastal state government, and as president of an organization whose members include dredging companies such as Great Lakes Dredge and Dock and Weeks Marine, engineering firms such as HDR and CB&I, academic institutions and researchers from California to Texas to New Jersey, and tourism boards in Florida and around the country.

Infrastructure refers to the structures, systems, and facilities serving the economy of an industry, country, or area, including the services and facilities necessary for its economy to function. Water and coastal infrastructure, just like man-made infrastructure, is about assets that society depends on – and, most particularly, it is about U.S. jobs. Creating jobs and protecting jobs, blue collar jobs and white collar jobs, American jobs that cannot be outsourced.

Just as importantly, this coastal infrastructure is used by visitors from every state in the USA as well as countless foreign countries. If we don't maintain our shorelines, many of those visitors will travel elsewhere for their coastal experience, taking with them their money and our coastal jobs.

Let's look at a shore protection project. Typically these projects include a federal investment and a state/local cost share. Such projects are authorized by Congress because a wide beach and high vegetated dunes protect inland property and infrastructure. In fact, flood and storm damage risk reduction is the only benefit the U.S. Army Corps of Engineers (USACE) is allowed to calculate when determining the benefit-cost ratio of a beach project. Delaware, like many other coastal states, has very good examples of how the investment in coastal infrastructure results in dividends that are not well known and are certainly not accounted for. Two examples illustrate this point.

Prime Hook National Wildlife Refuge, owned and managed by the U.S. Department of the Interior, is not only important for its environmental value, but it is critical for maintaining America's hunting and fishing industries and all the jobs associated with it. The refuge was damaged badly when the beach and dunes that separated fresh water wetlands from the tidal salt water of Delaware Bay were destroyed by Superstorm Sandy. These wetlands are very valuable for migratory waterfowl, which is the key management goal of the refuge

The Dept. of the Interior received Sandy recovery funding of $38 million to restore the beach and dune system through a beach nourishment project, and also to create a network of channels for a new tidal wetland that would replace the old impounded area. Based on our knowledge of Delaware Bay beach nourishment contract prices, had DOI addressed the breaches as the erosion problem first presented itself an investment in the range of $2-3 million would have avoided the wholesale wetland damage and the subsequent need for $38 million to repair it. A preventive investment would have saved 90% of the final cost, because it's always cheaper to prevent and preserve than to repair and restore.

The other example is Rehoboth Beach. The Corps of Engineers determined a favorable cost/benefit analysis during the feasibility study for that project. The benefits analysis, as is the case for all Corps shore protection projects, determined the amount of storm damages avoided if a wider beach and design dune was constructed between the open-ocean and upland buildings, utility infrastructure, and roads. The resulting project constructed in 2005 has, indeed, provided the expected storm damage protection --but it has also protected the economic engine that is a coastal community beach and strengthened its ability to recover quickly after numerous storms.

With the rise in importance of the service industry to our national economy we must pay attention on how to bolster that sector via government investment. According to The Business Insider website, "In 1939 the services to manufacturing employment ratio was 2.1:1. Today it is 9.9-to-1." This is from a 2014 report and that rise is continuing. The importance of the service industry as a national employer cannot and should not be ignored. Nor should the fact that service jobs such as these are local jobs; they cannot be outsourced and the money mostly stays in the local economy.

The beach in Rehoboth (as in most communities nationwide) supports obvious jobs like restaurant wait staff, life guards, retail sales people and real estate sales and rental personnel. What is not often counted is how many carpenters, plumbers, roofers, doctors, lawyers, teachers, electricians, inland retail mangers and clerks, and travel corridor jobs (to name but a few) are directly linked to healthy, thriving coastal communities. Many of these jobs exist because so many coastal resort properties are second homes or rental properties, which serve Americans from every state and visitors from every land. People directly employed at the beach community often live in adjacent communities, which then benefit from their local shopping and need for schools and professional services.

These two shore infrastructure projects are examples of the economic benefits as well as the ecosystem protection that directly flow from federal investment in beach protection. The benefits are clear, but they are not always valued or monetized. When we as a nation are making our investment choices for the public's money, we must know the full suite of values that stem from that investment and those costs incurred due to a lack of investment.

Coastal infrastructure investment creates jobs

Beach project construction is a job bonanza in itself. Restoring a beach starts with engineers, geologists, and biologists working in tandem to design a project by taking into account shore geomorphology, local coastal dynamics and site-specific ecology. The project is carried out with dredges or trucks, heavy equipment, bulldozers, and, when a vegetated dune is included, planters. This means construction crews, foremen and support staff, like cooks and administrators.

That is just the start. The beach, as mentioned in the Delaware examples above, is job magnet itself– according to economist James R. Houston, Ph.D., beaches get more recreational use in the U.S. than all our national parks combined[1]. Therefore beaches support tourism jobs throughout coastal communities. This adds up to a major economic impact – beaches help generate $225 billion annually to the national economy[2]. Dr. Houston goes on to state that "for every $1 the federal government spent on beach nourishment in 2012 ($44 million), it collected about $570 ($25 billion) annually in tax revenues from beach tourism."

Furthermore, beaches protect communities from coastal flooding, reducing the likelihood that hurricanes and coastal storms will significantly disrupt the local economy and result in job losses. These wide beaches and high dunes also protect upland property and infrastructure from waves and flooding, which can speed a community's recovery and reduce insurance and repair costs. Strong coastal infrastructure means local businesses are still in business after a storm, and coastal residents will be able to get back into their homes quickly and with fewer repairs.

This job and property protection is true with coastal wetlands, which also reduce storm and flood risk for property and infrastructure, and provide recreation benefit. Wetlands also support fisheries and, in areas like the Gulf Coast and Chesapeake, a major fishing industry. A detailed study of Gulf Coast restoration, which is primarily wetland restoration with some beach and mangrove restoration, determined that 88,000 new jobs would be created in the Gulf Coast with an investment of $25 billion in coastal infrastructure over 50 years[3]. Studies of estuarine restoration – from the Gulf of Maine to the Chesapeake to North Carolina – consistently show that for every $1 million invested, approximately 30 jobs are created or protected[4].

Investment in coastal flood risk management saves money

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[1] (Houston, J. 2013. "The economic value of beaches – a 2013 update" Shore & Beach 81(1), 3-11)
[2] (Houston, J. 2013. "The economic value of beaches – a 2013 update" Shore & Beach 81(1), 3-11)
[3] https://www.mathereconomics.com/wp-content/uploads/2015/07/Knowledge_Center_Walton_Foundation_White_Paper.pdf
[4] http://www.habitat.noaa.gov/pdf/RAE_Restoration_Jobs.pdf

Of course coastal infrastructure such as beaches, dunes and wetlands, as well as inland water infrastructure like stream- and riverbank restoration, are essential to the U.S. economy for more than just their job creation potential. They are, simply put, wise fiscal investments.

Investing in coastal infrastructure will save the federal government money by reducing post-disaster recovery payments. Federal investment in shore protection was estimated to have saved $1.9 billion in damages during Hurricane Sandy[5]. With a $65 billion recovery price tag, imagine how much we could have saved if we'd invested a fraction of that money to update our coastal infrastructure before the storm rather than after.

To illustrate this point, assume that a third of the $65 billion in losses from Sandy were from direct wave and tidal forces. This roughly $20 billion in losses were primarily from Massachusetts to Maryland, maybe a quarter of the lower 48 states' ocean and Gulf coasts. Now, if that same amount of post-disaster response and recovery funding had been invested over the entire nation's coastline over the past 20 years, the pre-disaster mitigation investment would have been $1 billion per year. Arguably this is a far better investment on its face, without factoring in the human suffering and loss of life from Sandy. The current coastal storm damage reduction for the entire nation by the federal government is the neighborhood of $100 million -- a far cry from the justifiable investment needed.

More recently we've seen areas of Florida that had maintained their beaches and dunes suffer far less damage from Hurricane Matthew last year than those areas without a good coastal infrastructure program.

Portions of Florida State Road A1A, a critical evacuation route in Flagler County, Florida, were completely destroyed by waves and flooding during Hurricane Matthew. Fixing, maintaining, and protecting the road could cost hundreds of millions of dollars[6] (, which will be borne by the federal government. Had the Flagler County Beach project – authorized in the WIIN Act in 2016 -- been authorized, funded and implemented earlier, this damage may have been avoided. These scenarios play out time and again: Wide beaches and high dunes protect other infrastructure and jobs.

With water and coastal infrastructure, we will either pay now to build and maintain it, or pay a lot more later in repair and recovery.

Additional benefits and needs

Another advantage of beaches, dunes and wetland is their environmental value. From sea turtles to shorebirds to commercial and non-commercial fisheries, wildlife of all sorts live, breed and feed on what we consider our coastal and water infrastructure.

Barrier beach systems are shock absorbers for the high energy waves and tides generated by coastal storms. The nation's most biologically beneficial wetlands and estuaries are often protected from open Pacific, Atlantic, Gulf of Mexico and Great Lakes waves by a barrier beach. Erosion over time, stabilization of inlets for ships and boats and high waves and tides during a storm can change the placid

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[5] http://www.nad.usace.army.mil/Portals/40/docs/ComprehensiveStudy/Estimate%20of%20Sandy%20damages%20avoided.pdf

[6] https://flaglerlive.com/102824/a1a-options/

and protected waters of a back bay into a very energized water body, resulting in a greatly diminished fishery.

This directly impacts those who work our coastal fisheries as their sole profession, and who feed America and the world. Practically all of our commercial fish stock depend on these quiet coastal areas; back bays, wetlands and estuaries for their very existence. Investment in maintaining the sandy shores and wetlands is a clear and undeniable investment in the valuable fishing industry of this nation.

The Environment and Public Works Committee is in a unique position to see the full picture of the nation's infrastructure needs, and to act in a very effective fashion. For example, the interstate highway system has become the most heavily relied upon transportation mode for the movement of goods and services around the nation. The heavy truck traffic on a road system that was originally designed for private automobile use creates higher danger to those cars and congestion that is reaching a tipping point in many regions of our country.

This is an issue that EPW is tasked with considering as part of the infrastructure needs analysis. We believe that renewed use and dependency on both rail and waterway transportation systems is inevitable. Restoring and maintaining shipping channels and ports will require removal of sediment, sediment that can and should be utilized to rebuild the vital green infrastructure of beaches, dunes, wetlands and islands that are ideal for wildlife habitat.

Financing and public-private-partnerships are important, but federal funding is critical to ensure projects are actually done.

So what can Congress do to protect our country's invaluable coastal resources? First and foremost, fund coastal infrastructure.

ASBPA is recommending at least $5 billion over ten years to rebuild and restore our nation's beach, dunes, wetlands and other coastal flood risk reduction infrastructure. This should include building already authorized, but unfunded, coastal projects around the country. These projects all have a positive benefit cost ratio (meaning they have been determined to have a positive return on investment), but unlike those in the Northeast that were funded by the Hurricane Sandy Supplemental, they have to compete for annual appropriations and new start limitations.

This $5 billion investment should also include funding directly to states that have coastal projects they would like to see implemented but don't have the funding to start. While federal involvement from the Corps of Engineers is critical to every water project, allowing states the opportunity to lead on some projects has shown in some places to be more cost effective and to get projects built quicker. We're seeing this in Louisiana on a number of their coastal restoration projects where they are using money from the RESTORE Act, Natural Resources Damage Assessment (NRDA) and National Fish and Wildlife Foundation (NFWF) funding following the BP Deepwater Horizon Oil Spill.

Innovative financing that allows for public-private partnerships may prove helpful on some smaller scale projects. For example, we have begun to see environmental mitigation banking generate funds for important coastal projects. Finance schemes that allow companies or communities to reduce their flood insurance by building dunes have created helpful incentives for coastal infrastructure.

However large scale projects that will drive job creation and protect communities need federal investment. Industry will not build a beach simply for tax credits, they need to be paid. And since the public and our national economy benefit from sound and substantial coastal infrastructure, it must be the federal government that provides the funding. This federal funding is most effectively harnessed when working in cooperation with the state that manages its coast, and other necessary partners.

Furthermore, federal investment in water and coastal infrastructure will ensure projects are coordinated regionally and provide benefits across coastal communities. We don't want to see "random acts of restoration" which often prove ineffective and economically inefficient. We also don't want so see only the wealthiest communities receiving coastal protection.

Robust involvement by federal agencies, particularly funding projects, will ensure projects are effective and the benefits are distributed evenly around the coast. The Coastal States Organization which represents the 35 coastal states encourages Congress to take a close look at the Coastal Zone Management Act as one way to deliver more of the needed science, technical knowledge and funding to states and localities on many infrastructure projects - The CZMA creates a federal – state partnership that acknowledges that states and localities manage their own coastlines – and provides a mechanism to provide help without usurping state authorities and control.

Finally, Congress has an important role to play in oversight of our federal agencies with water and coastal infrastructure in their jurisdictions. One of the most important things ASBPA advocates for is Regional Sediment Management (RSM) and Beneficial Use of Dredged Material (BUDM). The placement of dredged sand and other sediment on beaches, dunes, and coastal wetlands can serve multiple benefits, including flood and storm risk reduction, ecological restoration, and adaptation to sea level rise. As sediment sources become increasingly scarce, the USACE and other agencies must manage sediment as the valuable and limited resource it is.

I'm not telling you anything you don't already know. In the past two Water Resources Development Acts, Congress has continued to push the USACE to proactively do RSM. Thank you.

In the recently passed WIIN Act, Sec. 1122 "Beneficial Use of Dredged Material" established pilot projects to allow the USACE to fund beneficial placement beyond the federal standard of "least cost disposal." Sec. 1204 authorized a "South Atlantic Coastal Study," which directs the Corps to conduct a study of coastal areas located within the geographic boundaries of the South Atlantic Division to identify the risks and vulnerabilities of those areas to increased hurricane and storm damage as a result of sea level rise. This study will also include a focus on sediment resources and coastal erosion issues.

Like the North Atlantic Coast Comprehensive Study authorized after Hurricane Sandy, this study will ensure coastal projects are coordinated regionally and are achieving multiple benefits, and help the Corps and other agencies find new and better ways to guide he management and preservation of America's coasts. Thank you for these efforts. They are smart uses of federal funds. We urge Congress to ensure that both of these sections get implemented, which will require both oversight of the USACE and funding.

Summary

Water and coastal infrastructure, such as beaches, dunes, wetlands and the like, may not fit the traditional vision of steel and concrete stretching as high or as far as they eye can see. But they are just as critical to our nation's economy and well-being, and they provide just as many, if not more, jobs and other economic benefits. Natural water and coastal infrastructure provide jobs via construction and restoration; via recreation (including hunting and fishing) and tourism; via support for the coastal community's local economy; and via protection of property and local business from flood and storm damage. Investing in coastal infrastructure is also a wise investment, since if we don't invest now we'll pay more in recovery from damages later.

We urge Congress to invest $5 billion over 10 years in coastal infrastructure. Financing options and incentivizing private investment is helpful for smaller localized projects, but to really create jobs and make a sound investment the federal government needs to fund coastal projects.

Congress should also continue to support Regional Sediment Management, and provide oversight of federal coastal agencies to ensure coastal infrastructure programs in the WIIN Act get implemented, but these will also take funding. A sound and long-term investment in coastal infrastructure will help put Americans back to work, create a strong economic return on investment and save money in the long run.

Thank you for your consideration, and for your efforts to protect and preserve America's coast.

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Senate Environment and Public Works Committee
Hearing entitled, "Oversight: Modernizing Our Nation's Infrastructure" February 8, 2017
Questions for the Record for Mr. Tony Pratt

Ranking Member Carper:

1. Is there anything the Federal government and State and local partners are able to do today with existing authority and resources to get better results from our investments?

Answer: I think a key area for improvement is to obtain a clearer picture of the benefits that accrue from the investment in coastal lands protection and enhancement. As stated in my testimony there are many returns to society and to government tax revenues that are not included when considering the investment.

There are also efficiencies that can be achieved in restoring beaches, dune and wetlands that can be achieved by better coordinating projects and assuring that that the standard for disposal of any toxic-free sediment dredged from a channel or other federal water resource project is disposed of onshore or nearshore in a beneficial way. Neither coordination of projects nor the increased beneficial use of dredged material is easy to achieve, but they are critical objectives that can be attained within the next decade. Significantly, they can be accomplished without additional funding.

Coordination of beach renourishment projects is also an objective that we should move toward. If that was achieved the savings per project is estimated to be 10 to 20 percent. Two dredge mobilizations that are set to occur for two beach projects in close proximity and are done within a close time frame may cost, hypothetically, $5 million each. Coordinating them so that the needs of both projects are met in the same year can result in a savings of $1 million to $2 million. In Delaware we have seen a dredge company move from southern New Jersey to Delaware and then directly back to southern New Jersey, for example. If these projects could have been bundled as a portfolio of projects, the bid and contracted as a group there would have been significant savings to the government. The Corps has the science and engineering knowledge to get this done right now. The only new authority requires is the blanket authority from Congress to reach agreement with the non-federal sponsors to adjust the renourishment cycle of projects that have been separately authorized by Congress and to allow a portfolio approach to the work that is needed. This is adaptive management that, at the very least, can be tested in one or more regions of the country.

Assuring that dredged sediment is not placed offshore requires no new authority beyond that which Congress has provided in WRDA 2016 and earlier statutes. While increased operations and maintenance funding might make some interests happier, the problem lies in the silos that have been built into the Corps' process. One "type" of money dredges sand, and another places it on or near the shore. One business line of the Corps dredges, and another places it on or near shore. Eliminate these artificial distinctions, at least on a test basis for one or more regions of the country, and you will allow the Corps to develop a program to maintain a package of projects. Take that one step further and let this test cover a period of 10 years, and you will see a significant improvement in the efficient use of money and the effectiveness of the projects.

South Atlantic Division conducted this exercise over the past few years and has shown tremendous savings through that initiative. To be clear, this is more than an authority, this is a better way of managing coasts that will require a fiscal commitment from Congress and its non-federal partners.

a. What new authorities are needed to enable Federal, State, and local agencies to obtain better investment results? Are there authorities that would help agencies to do more with less direct funding?
Answer: See answer immediately above.

2. What is the intersection between investment in shoreline protection and dune protection and major infrastructure investments?

Answer: Beaches, dunes and wetlands separate tidal water, and their high state of energy and tide levels during storms, from infrastructure that includes roads, utilities and buildings. The roads and utilities that support the tremendous population, jobs, and economic vitality of coastal communities all depend on dunes and healthy beaches for resistance to coastal storms and nuisance flooding. Preventing damages to this infrastructure is far less expensive that allowing a coastal storm to wipe them out, putting whole communities in the dark and without water and roads for weeks on end, closing down businesses and then having to rebuild the roads and utilities after human suffering has occurred.

We now have, as a nation, far better analysis of expected storm impacts on coastal communities. Following the destruction of coastal communities from storm tides, waves and winds, we often then put in place the mitigation projects that could have been in place before the storm struck. Our national model, sadly, is to wait until the storm damage has occurred and then address future vulnerability. That paradigm needs to change. We truly need to utilize the very good risk assessment information that already exists and make the investment in protecting against future storms, not waiting until the loss has happened and then add the expense of response and recovery to the mitigation expense. Let's spend the mitigation dollars only and save a tremendous amount of suffering and expense.

3. What are the lessons we've learned from Hurricane Sandy about the type of investments we need to make in coastal areas after Hurricane Sandy?

Answer: In addition to the answer to #2 above about investing in mitigation before loss occurs, another significant lesson from Sandy is that the current way of authorizing, studying, funding, and managing Corps coastal projects is badly outdated. Unless a Mayor or a Governor requests a shore protection project, there will be no Federal investment in coastal resilience. If one Mayor requests a project and it is studied, authorized, funded and constructed, that can leave a gaping hole in protection for the adjacent community.

The line between Federal interest and no Federal interest is shortsighted. Again, the lack of a systematic plan for flood risk reduction that will greatly reduce the need for federal level response and recovery involving many federal agencies is hurting the nation and costing us far more than it should and does no play into the B/C ratio analysis. Hurricane Sandy response and recovery efforts included spending from HUD, FEMA, Dept. of Interior, and USACE. Their interests and cost avoidance needs to be factored into the decision making

process to protect against future coastal storms. We need a comprehensive, regional approach to coastal resilience and sea level rise in collaboration with federal, states and private sector interests.

Another significant but unnoticed lesson from Sandy is that the benefit-cost ratio is not a friend of the taxpayer. More accurately, what is allowed to be put into the BCR calculation is missing key economic benefits like jobs and Federal tax revenues. Furthermore, the White House Office of Management and Budget has turned the BCR on its head by arbitrarily determining that it will only consider including in the President's budget those projects with a BCR of 2.5 to 1 or higher. It may come as a surprise to many but Corps projects are not designed to maximize their BCR. They are designed to maximize their National Economic Development benefits (as required by the 1983 Principles & Guidelines) and produce a BCR that it at least 1.1 to 1. If the BCR is going to be used as an axe, then let's sharpen it so that it is cutting tool with a meaning and not an arbitrary tool that benefits those communities where coastal development is denser, higher, and closer to the ocean.

a. Do we need traditional flood control projects, or more protection of our coastlines that provide natural protection against with storm surge?

Answer: I assume from the question the reference to traditional flood control projects refers to construction of structures such as seawalls, breakwaters, groins, jetties, bulkheads, dikes and levees. Nature's traditional flood controls are the natural features of wetlands, beaches and dunes which serve dissipating above normal wave and tide forces during a storm. We have found over time that the variety of benefits provided by natural and nature-based land features function very well in the capacity of storm damage reduction to landward infrastructure while also providing tremendous recreation and habitat benefits. The challenge ahead is refining where and when these approaches work best and that process includes considering the full suite of benefits that stem from those approaches so the investment is informed best in the benefits vs costs consideration. 'Traditional' approaches generally provide no benefits other than storm damage reduction.

4. How can states (particularly ones with smaller coastlines like Delaware) coordinate and/or pool resources to do bigger more efficient projects?

Answer: The portfolio of projects approach that was mentioned in the answer to question #1 one above is, I believe, the best approach. I suggest that the EPW Committee contact the South Atlantic Division of the USACE for a great example of efficiencies gained through looking at the full lineup of projects coming up and finding ways to approach them more efficiently and at lower costs. I can provide a USACE contact person if desired.

5. How do communities or states currently fund their local cost-share requirements?

Answer: There are a variety of ways. In Delaware funding for cost-sharing come from two sources, Bond Bill appropriations and a tax on hotel and motel rental. In New Jersey a portion of the state realty transfer tax is used. If the Committee desires I can gather a more comprehensive list.

a. Do they have trouble finding that money when they have aging or lower

income populations?

Answer: In general, government budgets at all levels and in all communities have been stressed severely over the past decade. Without specific knowledge of many other state's and community's ability to meet their cost share obligations I will answer from one state's perspective. Our ability to continue to fund or cost-share construction through bond bill appropriations is harder each year. The debt service each year on bonds sold many years ago raises the awareness of budget writers that we cannot continue to push out to years from now the bill for work done in the coming year. There is, I believe, a growing intent that capital projects be paid for with funds available now rather than paying debt on a bond years from now. The final word is that, yes, it is safe to assume that all communities are having more difficulty in finding money due to willingness to raise the needed funds, and, in particular, communities with aging or lower income populations are having that problem not due to unwillingness but due to inability. One cannot squeeze water from a rock.

6. You testified that a $5 billion dollar investment in costal infrastructure is needed. How would a $5 billion investment in coastal infrastructure help states with few federally authorized coastal projects and aside from additional funding, what can Congress do to help make current investment in coastal infrastructure more effective?

Answer: The Corps is currently very hindered in its ability to get 'new starts', new flood risk management projects in flood imperiled communities. This is largely driven by the lack of funding for such projects. Limited funds available do not even cover maintenance costs of projects already authorized and constructed and that are now on a maintenance cycle. Additional funding will open the door for reducing flood and coastal storm risk to many more communities BEFORE the damage-response-recover cycle is experienced.

Furthermore, the $5 billion investment was not intended to be exclusive to Corps storm risk reduction projects. Nearly every coastal state in the nation has engineered beaches that have been nourished through mined sand or beneficial placement of dredged material. Many of these projects (particularly on the Gulf and West Coasts) are being funded entirely by states or municipalities. We believe states should have the access to a portion of the $5 billion to fund these local projects, if they can demonstrate that their project has a strong economic, social and/or environmental return on investment.

7. Your testimony alluded to the many direct and indirect jobs associated with strong natural coastal infrastructure. Aside from this focus, can you please tell us of the other reasons why investment in coastal infrastructure is important?

Answer: Probably most important is the 'shock absorber' capacity of natural coastal infrastructure. The ability of wide beaches and high dunes to kill storm wave energy before waves roll into roads, power line poles, water lines, sewer lines, and buildings saves these infrastructure elements from destruction. The absence of waves rolling through a community during a severe storm because the beach and dune were able to provide a frictional interface sufficient enough to have wave energy die is a benefit that is of extreme value to coastal towns. Similarly, natural estuaries that are of high value for their biological functions and values are very vulnerable to wave impacts. Maintaining a wide beach and

dune as well as a wide wetland fringe maintains these values. A significant portion Hurricane Katrina's dire impact on the New Orleans' area was due to the diminishment over time of the Mississippi River delta wetlands and the Chandeleur Islands. These areas served to diminish wave impacts from Gulf hurricanes through their providing a frictional interface that protected New Orleans. After Katrina, after human suffering and loss of life, after huge economic impacts to the Gulf Coast, after response and recovery, we are now re-investing in the restoration of these features. It would have been far better to have embraced the knowledge we had 20 or more years ago and made the investment then.

Additionally, as sea levels rise coastal communities are increasingly seeing nuisance flooding from "king tides". Some research indicates that economic damages from frequent nuisance flooding will outpace that of major disasters. Wide beaches and high dunes can act like a levee and healthy wetlands can absorb rising waters, helping to protecting communities from flooding. In some cases structural coastal infrastructure, such as seawalls, will be needed to supplement natural coastal infrastructure and non-structural alternatives to help keep coastal communities safe.

8. What are the key differences between the needs of rural communities and those of urban ones as it relates to water infrastructure?

Answer: I am not too well versed to answer this question as it opens up the broader topic of water infrastructure that includes water supply, wastewater management and inland flooding issues. Clearly, as a nation with such a strong fiscal position, we are lagging behind where we should be in the delivery of clean, potable water for all communities, rural and urban. Same can be said for how we handle wastewater and how we approach diminishment of flood hazards. During the February 8 hearing several committee members asked about, were concerned about, these very issues. The question of what the key differences are between rural and urban communities prompts the dilemma. Urban communities, due to their larger population, would logically have more individuals at risk from under-performance in the delivery of water infrastructure services, and, conversely, rural communities would have a lower number of individuals at risk. Urban communities have a larger tax base to cover costs and rural less, but the dilemma, as I see it, is there is equal unwillingness on the part of individuals to pay more for the upgrades needed. I will make a personal observation here. I have worked for state government for a few months shy of 37 years and held elected office in a small coastal town for 6 years. In all of those years of service I have never seen a higher level of expectation from the public for government services and as low a willingness to pay more for their services. In fact the cry heard most is for government to reduce taxes. In my mind both rural and urban communities suffer equally from the same water infrastructure need problem, that of insufficient funding to do what we know has to be done. The answer to this, I believe, is direct user fees that are protected against being used for other budget needs and that will be plowed right back into the infrastructure need it was raised to address. The Harbor Maintenance Trust Fund comes to mind as an example of what we should be doing, assuming we do turn it around to be used for its intended purpose. If used in its entirety it would go a long way in addressing the backlog of channel dredging needs in the country. The fund has been used, however, for other budget needs therefore hindering its use for the intended purpose. Those paying into the fund would be far happier if the funds were used to benefit their livelihood and ability to operate. As the EPW Committee considers surface transportation infrastructure needs the inclusion of tri-modal; road, rail and waterway system

will be a key discussion issue. The Harbor Maintenance Trust Fund can be an example of how to pay for the improvements needed, if the funds remain dedicated.

Senator Whitehouse:

9. Composites have many benefits, documented in studies by GAO and others, including particular durability under corrosive and environmentally challenging conditions. How can we better integrate the use of such innovative materials into infrastructure that we rebuild or improve, especially along the coast, which is anticipated to experience sea level rise, increased flooding and storm surge, and other concerning consequences of climate change?

Answer: Composites do hold the promise of far better performance particularly in corrosive environments. The way to ensure their use is to stipulate in government contracts that either there is a long life expectancy (say, 75 years) and that pipe material must be tested and certified to meet design specifications. Steel pipe testing and reporting in the past has not, I am informed by civil engineers in my office, told a realistic story on pipe life. Testing standards must be rigorous and truly represent life expectancy. In rigorous and honest tests, composites will likely come out a clear winner. I am not a civil engineer but I did speak with two Professional Engineers in my office who are in the drainage and storm water management services and work with pipe all the time.

Senator BARRASSO. Thank you very much for your testimony, Mr. Pratt. We appreciate hearing from you.

Now I would like to go to Mr. Bhatt.

Thank you very much for being with us. Please begin.

STATEMENT OF SHAILEN P. BHATT, EXECUTIVE DIRECTOR, COLORADO DEPARTMENT OF TRANSPORTATION

Mr. BHATT. Thank you, sir.

I want to thank you, Chairman Barrasso, and Ranking Member Carper and members of the Committee. I also want to recognize another neighbor in Senator Inhofe and thank him for his efforts to pass the reauthorization for transportation.

In the interest of time, I will summarize my testimony. In addition to serving as the Secretary of Transportation in Delaware and as the Executive Director of Colorado Department of Transportation, I also served as the Deputy Executive Director for the Kentucky Transportation Cabinet and at the Federal Highway Administration, so I am keenly aware of the balance of urban and rural needs in the country and how it is not a one size fits all solution.

Colorado is a large, diverse State with rapidly growing metropolitan areas experiencing increasingly constrained mobility and vast rural areas that rely on an effective and well-maintained transportation system to move agricultural and energy products to market.

I am going to tell a quick story that I used a couple years ago in testimony before the Senate Finance Committee prior to passage of the FAST Act. And I tell this story because I think it is indicative of the challenges that we face.

When I first began as the Executive Director of the Colorado DOT, I took an 1,100-mile trip around Colorado. The first traffic jam I got into was in a pretty rural part of the State, up near Fort Collins, on I–25. I–25 is the major north-south artery not just for passenger traffic, but also an important freight corridor that connects Canada and Mexico. Freight is an incredibly important part of our job in the transportation world.

When we got outside of Denver, where I anticipated the traffic, we headed north. We got to a four-lane section, two lanes in each direction, which is similar to a lot of the interstate that is present in many rural areas. It was a Thursday morning, well after rush hour, so I assumed that there was an incident ahead because the traffic reminded me of the Beltway during rush hour. My regional engineer informed me that there was no incident, that that was just how traffic flowed on I–25 on a regular basis.

So when I asked what the plan was to add capacity, I was told that the plans on the books were for that section of I–25, a 45-mile section, to be widened in 2070 based on current funding level. So a 16-year-old who got their driver's license could have anticipated that road being widened when they turned 70 years old, and that is just unacceptable. And that is not an urban problem; that is not a rural problem. That is a problem for the State of Colorado and for commerce.

Like the rest of the Nation, funding for transportation in Colorado is at a crossroads. Our primary sources of funding, both the State and the Federal gas tax, have not increased in nearly 25 years.

Now, in order to advance these important improvements to the I–25 corridor, we have cobbled together State, local, and private funds with toll-back bonds and a $15 million TIGER grant to construct just a 14-mile first phase from Loveland to Fort Collins. But there remains over $1 billion, just in this corridor alone, in unfunded needs.

Now, we have an annual budget of $1.4 billion, the vast majority of which goes to asset management, which we don't even fund fully. We are short $1 billion a year to meet the currently identified transportation needs throughout the State. In fact, in the next decade we have $10 billion in unmet funding needs for highway and transit projects across Colorado.

We are working to address the severely deficient section of I–25 south of Denver, between Colorado Springs and Denver. These are the two largest cities in the State. The interstate is still in its original configuration. We are working toward having that project ready to go in 18 months, but we lack $400 million to $500 million to make the initial improvements.

In another example, we are poised to move forward in 2018 with improvements to central 70 corridor in Denver, but we are short about another billion dollars on that project. Every year we delay that project goes up.

We take advantage of financing tools such as TIFIA and public-private partnerships and toll-back bonds, but financing alone does not solve our funding challenge in transportation. We have been challenged to do more with less. We are trying to do that. We have implemented cash management to flush out any cash reserves. Where it makes sense, we are using tolling and public-private partnerships. And finally, we are embracing technology. I believe that connected vehicles, autonomous vehicles, vehicle-to-vehicle infrastructure, and vehicle-to-vehicle technologies will help us operate the system much more efficiently, but that does not change the need that we have a significant need for investment in the system.

To conclude, I would respectfully thank this Committee for their attention and care and say that the timing is right for additional revenues to States through the existing funding formulas for us to invest in our infrastructure. The economy continues to recover, and significant new investment will be necessary to sustain and expand on that economic growth. We stand ready to partner with the Federal Government to make significant investments in our transportation system for the benefit of all Americans.

I am happy to answer any of your questions. Thank you very much.

[The prepared statement of Mr. Bhatt follows:]

COLORADO
Department of Transportation
Office of the Executive Director

CDOT Executive Director Shailen Bhatt
Testimony before the Senate Environment and Public Works Committee
February 8, 2017

First of all I would like to thank Chairman Barrasso and Ranking Member Carper for the invitation to testify before the Committee today. For those of you who do not know, before coming to Colorado I served as the Cabinet Secretary for the Delaware Department of Transportation, served in the Administration at the Federal Highways Administration (FHWA) and also served as Deputy Director of the Kentucky DOT. My testimony today will be focused on much needed transportation infrastructure investment projects in Colorado.

I want to begin with a story that I used a couple of years ago in testimony before the Senate Finance Committee prior to passage of the FAST Act. I would like to retell this story because it really highlights for those not familiar with Colorado the misperceptions of how and where our aging transportation system no longer works and needs attention.

During my first three days as CDOT's Executive Director, I took a 1,100 mile tour around the state. As those of you who are familiar with Colorado know, Interstate 25 (I-25) is the major north/south artery, tying urban communities together along the Front Range of the Rocky Mountains. It is also an important freight corridor for the United States, running all the way from Canada to Mexico. The first leg of the journey was on I-25 heading north out of metro Denver. Outside Denver we drove through a pretty rural area on the 4-lane interstate (2 lanes in each direction). This section of interstate is not unlike some of my fellow panel member's interstate corridors in their States.

It was a Thursday morning, after rush hour, and we were stuck in traffic. I assumed there was an incident ahead but my Region Engineer informed me that was how the corridor travelled. It reminded me of the Washington D.C.'s beltway traffic, and was a striking demonstration of the need to add capacity. When I asked what the plan was for widening, the response I received was that based on current funding availability, we expect to be able to add one managed toll lane in each direction from Denver to Fort Collins (45 miles) by 2070. Think about that- sixteen year

olds getting their driver's licenses this year would be seventy years old before they would benefit from a capacity increase- and many of them may never get to enjoy the benefit.

Like the rest of the nation, funding for transportation in Colorado is at a crossroads. Our primary sources of funding, the State and Federal gas tax, haven't increased in nearly 25 years, and the recession eliminated General Fund transportation investment by the Colorado Legislature in 2009. So to advance these important improvements to the I-25 corridor, we have cobbled together State, local and private funds along with toll-backed bonds and a $15 million TIGER grant to construct a 14 mile first phase from Loveland to Ft. Collins. There remains over $1 billion in unfunded needs in the corridor.

CDOT has an annual budget of approximately $1.4 billion for highways, bridges, statewide transit and aviation. However, to maintain our infrastructure, keep pace with population growth, improve safety, and promote multimodal options, Colorado should be investing $1 billion more a year to avoid a steady decline in the condition and performance of our transportation system. To put it in simple terms, we need to nearly double our current amount of funding to meet the transportation needs of the State.

About 70% of CDOT's capital budget (money CDOT uses for maintenance and capacity improvements) comes from the federal government. We rely on those funds. Colorado is a rapidly growing state. Our population is 5.3 million people and is expected to increase by almost 50% by 2040. As mandated by federal regulations, CDOT just adopted our 2040 Statewide Transportation Plan and the results are stunning- CDOT expects to have over that time $21 billion in revenue and a need of $46 billion. That leaves an unfunded gap of $25 billion over the next 25 years. These are numbers that reflect real, quantified need. If we can't fill the gap, CDOT will not have the money to maintain the system in its current condition, and will experience increasing travel times and decreasing traveler convenience with ripple effects on the economic vitality of the state. **Mr. Chairman and Members of this Committee, in Colorado we have an infrastructure investment funding problem and we need your help- not to solve our problem for us, but to partner with Colorado to address these critical needs.**

As part of my testimony before the Committee today, I have included a copy of our 10 Year Development Plan. This list includes over $10 billion of priority projects CDOT could invest in across the State if funding becomes available.

Our priority in Colorado has been to build a strong asset management program. The analogy I often use when traveling around the State to talk to taxpayers is while I would love to build a new garage onto my house, the roof is leaking and we must take care of what we have first. We use our asset management program to make the very best use of our limited resources in an effort to keep that roof from leaking even more. At CDOT, we have become highly selective where we are able to add additional capacity out a necessity because we struggle just to maintain the current system.

Mr. Chairman, these challenges have by necessity led CDOT to enter into an innovative era of how we meet the transportation needs of our state. In the past, we primarily built more highway lanes to meet capacity needs. Now, we increase choice in travel, promote walking and biking, work to increase mobility through the use of operational improvements, and use pricing on new express lanes to manage travel reliability and growth. We are laser focused on squeezing the most out of the dollars we have. The department has many successful "LEAN" process improvements that have allowed us to stretch our dollars and become a better, more efficient, customer-focused agency.

Our use of partnerships has changed as well. In the past we delivered a project through the federal and state gas tax and we would design, bid and then build the project. Today our toolbox also includes working with the private sector on a wider variety of project delivery options, such as Design Build or Construction Manager General Contractor (CMGC). Of course, these and other project delivery options are only available if you have the funds to deliver the project.

Another example is Colorado's major east/west corridor, Interstate 70. In Denver, I-70 includes a viaduct that is over one mile long and is in critical need of replacement. It was constructed in 1964 as a four-lane bridge and today carries more than 115,000 vehicles per day. Several tension rods that were installed about 15 years ago to stop additional cracking in the viaduct have broken. The bridge remains safe for travel, but we are increasing our inspection frequency and developing repair

plans should further components deteriorate. I am happy to announce that after many years of planning, FHWA just signed the Record of Decision (ROD) for this project. This decision allows CDOT to move forward with permanent improvements for this corridor, including replacing the viaduct with a lowered freeway segment and widening a total of 8 miles with a tolled express lane in each direction to add desperately needed capacity. We will be delivering this project through a Design-Finance-Build-Operate-Maintain public-private partnership. However, like the I-25 North project highlighted above, CDOT does not have all the funding necessary to make all the necessary improvements to the corridor. We were forced to break the project into multiple phases, the first of which is over $1 billion. Had CDOT had the necessary funding, we would build the entire corridor, which has a price tag of over $2 billion.

On a different section of I-70 west of Denver we converted the shoulder for 13 miles eastbound, which carries traffic into Denver from the mountains and links two large economic centers of Colorado. While we could not afford new permanent lanes, travelers now have the option to use the shoulder lane for a toll. CDOT is financing the project in part with the expected toll revenue from the corridor, but without any private sector or federal financing assistance. While these improvements in the I-70 mountain corridor are making a difference, they are temporary improvements until we identify additional revenues to construct the improvements identified in the NEPA corridor document that cost several billion dollars in just highway improvements alone.

Colorado Highway 470 (C-470) is another managed lane example where we will be building an express toll lane in each direction in a rapidly growing part of the Denver metropolitan area. We have determined that a P3 would not be the best option for the state on that $200 million project, but we will secure a federal TIFIA loan and utilize toll revenue to cover about half the construction costs of the project. We have been forced to finance this project because funding was not available to pay for the needed improvements up front.

Mr. Chairman and Members of the Committee, in conclusion it is important that we communicate very clearly. CDOT has many financing tools available to build projects. What we no longer have is the funding necessary to finance infrastructure projects where tolls aren't viable without sacrificing the maintenance conditions of our existing infrastructure. Our funding crisis only increases the importance of

engaging the public, stakeholders, local governments and Congress more into a broader conversation regarding the needs of the transportation system. Colorado certainly needs to step up and do our part, and we are, but our transportation system has significant federal interests, including interstate commerce and quality of life of all citizens, and we need to continue to have a strong federal partner in transportation.

The bottom line and the most important thing I want to leave you with today is that similar to Colorado's proposed bonding bills, Congress can't fix a funding problem through financing. I cannot emphasize enough that critical point: financing mechanisms cannot correct what is essentially a funding problem due to insufficient investment. We in Colorado would love to bond and accelerate our most important projects, but we need a revenue stream to pay for it, so I want to emphasize to each of you that while the FAST Act provided a stable, longer-term federal funding stream, it did not significantly increase funding to allow Colorado and many other States to meet our critical funding needs. I believe it is crucial we address these infrastructure improvements not only in Colorado but nationally. As Colorado's Senator Bennet has repeatedly said back in Colorado while touring CDOT infrastructure projects- we should have the courtesy to maintain the infrastructure our parents and grandparents provided for us so that our children and grandchildren can enjoy the same quality of life that was given to us. In that spirit, I implore you to find a way to secure a significant infrastructure investment bill that will allow us to invest in long-term infrastructure projects across Colorado that will help connect economic centers and markets.

I appreciate the Committee's time and attention to the important topic of transportation funding and financing, and I am happy to answer any questions you may have.

Senate Environment and Public Works Committee Hearing entitled,
"Oversight: Modernizing or Nation's Infrastructure"
February 8, 2017
Responses to Questions for the Record for Mr. Shailen Bhatt

Ranking Member Carper:

1. Is there anything the Federal government and State and local partners are able to do today with existing authority and resources to get better results from our investments?

   CDOT is constantly examining ways in which we can speed up project delivery to provide a more reliable transportation system to our citizens. There are a few limited areas of efficiency that could be pursued either in existing authority or available with minor modifications to existing authority.

   One area of concern remains the entirety of the NEPA process. CDOT believes strongly in minimizing impacts to the human and natural environment while providing a robust transportation system. However, Congress should examine additional NEPA streamlining provisions that allow for faster project delivery while ensuring the appropriate environmental reviews and protections.

   b. What new authorities are needed to enable Federal, State, and local agencies to obtain better investment results? Are there authorities that would help agencies to do more with less direct funding?

   First, while FHWA is a great partner with CDOT, we would recommend minor adjustments to the TIFIA loan process. We believe the credit review and approval process could be streamlined while still ensuring an adequately thorough review by FHWA. One suggestion might be for fixed timelines for review approval with limited extensions.

   Second, we would suggest an evaluation of opportunities to accelerate review processes through additional resources dedicated to the TIFIA program.

2. As you may know, the number of highway projects completed through public private partnerships in the last thirty years is less than 30. In you experience, why is this number so low and what may act as a constraint on agencies to prevent them from entering P3 arrangements?

   One reason P3s are limited in there implementation is that private industry needs some return on investment to justify the risk associated with the investment dollars. There are limited geographic areas in Colorado (and the nation) that can provide enough risk avoidance and projected revenue for private industry to want to invest.

In addition, States must negotiate complex investment agreements that require an enormous amount of financial expertise and project delivery capabilities. This combination is a difficult and costly obstacle to overcome. States must make a significant investment in resources to gain experience and expertise in negotiating these agreements.

Finally, while P3s offer advantages for the delivery of certain projects, there are risks associated with these partnerships that some States are not willing to assume.

3. Like many states, Colorado has seen an unfortunate rise in highway fatalities. Do you feel this reflects unmet needs for infrastructure modernization or are there other types of investments and policies that Congress and USDOT could support to help reduce fatalities and injuries, particularly for pedestrians and bicyclists, the deaths of whom are rising the fastest?

Colorado has indeed seen a rise in highway fatalities. Some of that is due to extraordinary traffic growth in the urban areas of the State during the economic recovery. We know that increased congestion leads to higher crash rates and riskier driving. That alone does not explain all of the increase, however, since we have also seen increases in traffic fatalities in rural parts of Colorado.

Certainly our constrained resources have not allowed us to invest enough in projects such as shoulder widening, wildlife mitigation and passing lanes that would likely have a positive impact on highway safety, particularly in rural areas.

One area that could greatly improve our fatality rate would be to pursue legislation and enact a primary seat belt law. It has been proven in many other states across the country to have an immediate impact of between 8-10 percent in reducing roadway fatalities. Motorcycle fatalities have also gone up dramatically in just the last couple of years. Although unpopular with some, a motorcycle helmet law would also help turn around this trend in motorcycle fatalities.

Colorado is pursuing a number of strategies targeting bicycle and pedestrian safety. Our RoadX Program, which is leading the charge toward innovative technologies in the transportation sector recently issued a Bike and Ped Technology Challenge. In addition, about 10% of our Federal Highway Safety Improvement Program funds and Colorado FASTER Safety funds are used on bicycle and pedestrian-related projects. Finally, CDOT is working with local agencies to conduct more road diets – a more bike, pedestrian, and community friendly highway configuration through downtown business districts. Additional Federal resources to leverage these initiatives would be helpful to our efforts.

Senator Ernst:

4. I live on a gravel road in Montgomery County, in Southwest Iowa, which looks much like the rest of rural America.

   Our network of rural roads and bridges are an integral link in the food supply chain, and are the first step in bringing the bounty from our farms to market.

   While two lane bridges on county highways aren't as exciting to talk about in big infrastructure packages as massive new runways and airport terminals, they are a critical, and often overlooked piece of our nation's infrastructure. To put it into perspective, Iowa ranks 30th in population, but 5th in number of bridges and 12th in miles of roadway.

   I have heard from farmers across our state about the declining state of our rural roads and bridges. We have 4,931 structurally deficient bridges in Iowa. In one instance, a bridge was closed because it was no longer structurally safe for a tractor to cross it, and the farmer now has to ask to drive across his neighbor's property just to reach one of his fields.

   In your experience, what is the most effective method for allocating infrastructure funding to ensure rural areas are not overlooked, and is there any specific policy advice you would like to give us?

   The Colorado Department of Transportation coordinates with 10 Transportation Planning Regions (TPRs) and 5 Metropolitan Planning Organizations (MPOs) to make investment decisions. Allocations are made within CDOT's financial constraints, but every area, urban and rural, large and small, is represented.

   In addition, there are some categories of State funding that are allocated based on need, regardless of location. For instance, the Colorado General Assembly passed the FASTER legislation (SB 09-108) in 2009 that raised vehicle registration fees to generate dedicated revenue for bridge repair, highway safety improvements, and transit services. FASTER Safety funds are initially allocated geographically by region to promote better geographic distribution. Each CDOT region then works with its local planning areas to choose safety projects.

   The bridge repair and highway safety improvement funds from FASTER are allocated based on technical criteria rather than geographic location. One result has been that the Colorado Bridge Enterprise program is working to address 130 poor bridges statewide with its annual revenue of approximately $100 million.

Senator Whitehouse:

5. Has your state made any efforts to explore or adopt innovative materials like composites and others to further the service life and reduce lifecycle costs of infrastructure? Do you face any barriers, statutory or institutional, that inhibit the ability to deploy cutting edge solutions?

CDOT is constantly examining new and innovative materials in order to find better products and applications for the public. CDOT has an extensive materials lab in which we are constantly examining both traditional and new products for applications into the transportation system. For example:

CDOT updated its pavement marking specifications in 2016 with new material requirements to reflect the latest improvements in the materials industry for water-based and epoxy striping materials. We expect better life-cycle and wearing from these new materials, which will cover 95% of the state.

CDOT is considering a proposal from Colorado School of Mines through its Research Program to test a newly developed "inorganic" pavement striping material that would potentially wear much longer than current industry materials.

Fiber reinforced polymer bar was evaluated as an alternative to steel reinforcing bar.

Polyester concrete bridge deck toppings and expansion joint concrete are now routinely used in combination with conventional concrete structures statewide. Performance data shows performance life up to three times longer than past methods.

Bridge components exposed to roadway splash and spray are now constructed using fiber reinforced concrete to increase long term durability.

CDOT routinely uses Warm Mix Asphalt technologies to ensure quality asphalt pavement construction in demanding cold conditions common during Colorado's construction season.

New fleet of construction specifications have been developed to further improve and increase use of thin pavement surface treatments to promote the preservation of our highway network. These include single and double chip seals, slurry seals, micro surfacing, cape seals and thin asphalt overlays.

CDOT is a recognized leader in the specification and use of in-place asphalt recycling treatments like hot-in-place, cold-in-place and full depth reclamation methods. These treatments completely utilize all of the existing distressed pavement materials in-place to generate a revitalized low cost pavement layer for surfacing and well documented long term use.

CDOT is a recognized leader in the application of Pavement Mechanistic-Empirical Design to apply the nationally recognized state of the art engineering design. We rely on this expertise to design the most cost effective pavements that ensure long term performance on the road.

CDOT is conducting internal research on the latest asphalt mixture cracking tests to support a planned move toward "balanced mixture design". This concept leads to cost efficient mixtures designed to resist our most challenging type of pavement distresses.

CDOT collects statewide pavement condition data to track performance and direct optimal project delivery under our limited surface treatment budget.

6. Do you believe an infrastructure package limited to tax breaks would be sufficient to bring our nation's infrastructure to a state of good repair? What types of federal assistance would be most useful?

This is really an issue best addressed through the legislative process in order to evaluate the trade-offs associated with ADDITIONAL revenue to transportation. However, as the Director of the Colorado Department of Transportation, I do not have enough FUNDING to meet the needs of the State's transportation system. This is not a challenge unique to Colorado.

As a nation, we have under-invested in our transportation network for decades and now have more congested highways, more deteriorated bridges, and more failing pavement that we did forty years ago. Those issues are manifesting themselves in many areas. Whether it is the number of bridges that have weight restrictions, or the amount of time commuters and commercial vehicles sit stuck in traffic jams because we cannot provide the necessary system to accommodate their needs is a failure on all of us.

In simple terms, States need additional REVENUE to help meet the transportation needs of our businesses, economy, and people. Without additional REVENUE, Colorado and the rest of the nation will continue to see a decline in both the physical condition and efficiency of the current transportation network. That said, I am completely agnostic as to the source of that revenue.

As Senator Bennet from Colorado often states: 'We should at least have the decency to adequately maintain the transportation system our parents and grandparents provided to us."

Senator BARRASSO. Well, thank you very much for your testimony, Mr. Bhatt. We appreciate you being here.

We are going to turn to questions, and I will start with Director Panos.

In your testimony, you discuss Build America Bonds program that was part of the 2009 stimulus package. You note that it doesn't work for rural States who want to build roads and bridges. I looked at that list of projects funded by Build America Bonds on the Treasury Department Web site. When you look at it, our State of Wyoming had six projects; the State of Delaware had six projects; the State of Vermont, Senator Sanders, a member of this Committee, had four projects; West Virginia had two projects; Rhode Island had only one project. In contrast, New York had 59; California, 158; Illinois, 245.

Could you explain to the Committee why these sorts of bond programs don't really work for some of the smaller States?

Mr. PANOS. It is a great question, Mr. Chairman. You know, my response really is limited to surface transportation, and the explanation really relies on the characteristics, the fundamental characteristics of rural States.

As I said in my written testimony, we have low population densities, and we have very extensive road networks, so paying back the principal and interest involves a high cost per capita, and it discourages borrowing for transportation in rural States. In fact, after talking with a State treasurer this last week, Wyoming has never borrowed for a road project, a surface transportation project in the State of Wyoming.

So that is how I would at least briefly respond to the question.

Senator BARRASSO. OK. And never borrowed in 120-some years. So never borrowed.

Mr. PANOS. That is correct.

Senator BARRASSO. Am I correct in assuming that all things being equal, that if additional resources are provided, that you would rather have these resources go to your departments, because you provided testimony for a number of different States, for five different States, it would go to your departments so that the States could decide where to apply the funds rather than to receive specific directives from Washington on how the money is spent?

Mr. PANOS. Absolutely, Mr. Chairman.

Senator BARRASSO. And as I say, you are here representing the interests of the transportation departments in five different States. What would you say is the principal concern of the rural States in developing the surface transportation programs within the framework as prescribed by the FAST Act?

Mr. PANOS. So, first it is important to note that the FAST Act struck a very good balance with respect to rural and urban interests, and I want to thank Congress for that. They did a great job of moving the FAST Act through and balancing urban and rural interests.

There is also a concern, and I think it is not just in rural States, but I think it is in a number of different States, about the stop-and-go of the Federal actions, and the FAST Act, as you know, runs through 2020, which provides, and commendably provides, more stability than other recent authorizations. Yet as to the ap-

propriations, I think we are operating under a continuing resolution, which restricts our ability, actually, to plan for future projects. In our State, we are working with our State legislature now and needed to ask for twice the amount of borrowing authority that we would have otherwise to be able to cover some of those costs, cash-flow needs for the projects as it relates to the continuing resolution.

So that is our State, but other States as well have advanced construction and borrowing against State funds, if available, to keep highway projects on schedule until the Congress completes its appropriation process. So, that is one thing, the continuing resolutions.

The second really is flexibility, program flexibility; and delivering programs and projects is fairly complex, and planning and programming requirements sort of keep multiplying, and the performance management rules recently put forward also add to that.

So, developing some ideas, like we are doing here today, in areas to improve program flexibility and improve project delivery I think will help a great deal. So those were just a couple of observations, the continuing resolution, stop-and-go, and then program delivery improvements which would help our State and others.

Senator BARRASSO. Thank you.

Mr. McNulty, if I just could visit with you a little bit about the testimony where you mentioned that almost all the water systems in West Virginia, as well as Wyoming, serve populations I think you said fewer than 10,000 people. Like larger water systems these small systems still need to comply with complex Federal regulations, with less administrative and technical expertise than the larger counterparts do.

So could you talk a little bit about what steps—because we all want to make sure we don't want to sacrifice safety—what steps Congress could take to simplify compliance?

Mr. MCNULTY. I believe Congress could allocate more funds for technical assistance in training to help the smaller communities and the operators and administrators to ensure that they are able to be up on all the regulations that come out of the EPA and so forth, and I believe that would really be the biggest benefit, to have more dollars to go to technical assistance.

Senator BARRASSO. Thank you.

Senator Carper.

Senator CARPER. Thanks so much.

Mr. Panos, when was the last time Wyoming raised their gas tax?

Mr. PANOS. Not very long ago.

Senator CARPER. In 2013, right? Three or 4 years ago?

Mr. PANOS. Yes.

Senator CARPER. They raised it by what, 10 cents?

Mr. PANOS. We did.

Senator CARPER. Did everybody who voted for that get thrown out of office?

Mr. PANOS. No.

Senator CARPER. Why not?

Mr. PANOS. The State and the citizens there saw a need for it.

Senator CARPER. Is there a lesson there for us in the Congress?

Mr. PANOS. I am sorry?

Senator CARPER. Is there a lesson for us in the Congress?

Mr. PANOS. Certainly in our State, in our particular State, it was necessary because of the changing economy in our State. Our State went through, and continues to go through, an economic shift that is not repeated in many States, but my friend to the left here, in West Virginia, has had that as well with the energy economy and other things. The State legislature saw that coming, and they were able to support certain transportation projects by moving that forward. It was very difficult in the State legislature to move that forward, but Wyoming was very aware of its impending future and was proactive at being able to support that.

Senator CARPER. We are scheduled to run out of money in the Federal Transportation Trust Fund in 2020, and I just remind my colleagues it is 3 years from now, but it is just around the corner. Thank you.

West Virginia, Mr. McNulty, former Congressman from New York State with whom I served. Actually, it is another Michael McNulty, but we are glad you are here. Abraham Lincoln used to say the role of government is to do for the people what they cannot do for themselves. The role of the government is to do for the people what they cannot do for themselves. What is the role of the Federal Government with respect to addressing the drinking water needs and the wastewater needs of States like my native West Virginia?

Mr. MCNULTY. Thank you, Senator. The Federal Government, I see it as the obligation to ensure that the funds are available for any mandate that comes down the pipeline, for additional testing and water quality standards. I believe it is certainly the Federal Government's obligation to make sure that communities receive the funds in order to comply. No unfunded mandates.

Senator CARPER. Good.

Mr. Bhatt, I am going to ask you to answer for the record, not here because I don't have enough time. But the request I am going to ask you to answer for the record. In fact, I will ask all of you to do this. Better results for less money. What are some things that we need to do? I think we tried to do that in the FAST Act, to provide the opportunity to get better results for less money. What are some other things that we can do, should do between now and, say, 2020 to enable you and us to get better results for less money? So I will ask all of you. You don't have to answer that now, but you know that if I had the time I would ask you to answer that on the record.

I would just ask for Tony and for Shailen, it is great to see you guys. Thank you so much for your service to our State and to, really, the United States. We have a road in Delaware that is called State Route 1, and you can pick it up, you come to it on I–95. You come between Wilmington and Newark, Delaware, the northern part of the State, and you pick up State Route 1, which takes you to Dover, Dover Air Force Base, and on down to our beaches. We are proud that we have more five-star beaches than any State in America. If you stay on State Route 1, it goes on into Delmarva, to Ocean City, Maryland, and on down into Virginia.

There is a bridge that goes over an inlet. There is an inlet that comes, it is called Indian River Inlet, and it is just north of Bethany Beach, and it flows east-west with the tides. And there is a big bridge built over it, several bridges were built there over time, and we had to eventually replace the bridge because of scouring that was going on in the inlet. When Hurricane Sandy came to town it had a very adverse effect on the bridge there, and I just wanted to ask Tony and Shailen, just take a minute, talk to us about the intersection of shoreline protection, dune protection, and an infrastructure, major infrastructure investment of over $100 million. How do they intersect there?

Mr. BHATT. I will start, since I was responsible for that bridge during Hurricane Sandy, and I was actually driving toward Route 1, and I got a call from the Governor saying that on CNN he had seen that our new $250 million bridge had washed away. So instead of turning left, I turned right, got down there.

It turns out that the new bridge had not washed away; the old bridge had washed away, which I think was a pretty good justification for us for replacing the old bridge. You know, those hurricanes, I remember when I first became the secretary in Delaware. Three weeks after that Hurricane Irene showed up, and everybody told me that hurricanes don't come here; you know, they often veer off or they go somewhere else. And in my 4 years there we had two hurricanes, so something changed around that. The infrastructure is so critically important. What I was so struck by was once that land link was lost, how incredibly impacted those communities were, and people trying to get out, get back in, get their kids to school.

So I would just say that it just draws home the importance of investment in infrastructure, and it is so incredibly important that we do make intelligent investments.

Senator CARPER. My time has expired. Thank you for that.

I would just say to my colleagues we spent a fortune on that bridge, new bridge, and the next hurricane that comes along, it could further undermine that bridge if we don't invest in the dune protection and in the beach protection. So one hand sort of washes the other. That is an important point I wanted to make. Thank you.

Senator BARRASSO. Thank you, Senator Carper.

Senator Inhofe.

Senator INHOFE. I have to tell you, Mr. Bhatt, when the tornadoes veer off, they come to Oklahoma.

[Laughter.]

Senator INHOFE. First of all, I have something to submit for the record, Mr. Chairman. This is the largest coalition I have seen. This is a letter to President Trump from over 500 organizations through almost everything in America. So there is the level of popularity, and I want to ask that that be made a part of the record.

Senator BARRASSO. Without objection.

[The referenced information follows:]

February 1, 2017

The Honorable Donald Trump
President of the United States of America
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear President Trump:

Congratulations on your inauguration as the 45th President of the United States of America, and thank you for your commitment to rebuilding our nation's infrastructure. As a broad coalition representing a vast cross section of our economy, we all agree that our nation's infrastructure systems are insufficient to support American competitiveness. New investment is required to improve upon the stopgap efforts of the last decade. We believe your leadership is necessary to pass a balanced infrastructure investment plan that will lift our nation's economy and improve our transportation network.

We can no longer afford to underinvest in the infrastructure that Americans rely on in our daily lives. Any responsible proposal must provide improvements to all types of infrastructure throughout the country and address large important projects that make our businesses more competitive by reducing shipping, commuting, water and energy costs. At the same time, your administration and Congress must restore solvency to the Highway Trust Fund to ensure that the federal government can maintain a state of the art infrastructure system. This will require a commitment to a long-term, reliable, dedicated, user-based revenue source for the Highway Trust Fund and the effective surface transportation programs it supports.

While recent laws authorizing federal highway and surface transportation programs have greatly improved the effectiveness and efficiency of these programs, the long-run solvency of the Highway Trust Fund has been left unresolved. Failure to resolve the issues facing the trust fund prior to the expiration of the current law in 2020 will require you to make a decision to either pass additional short-term stopgap measures or find a $110 billion off-set to pass a long-term bill that will at best maintain current funding levels that do not meet our transportation infrastructure needs. Absent long-term stability for the Highway Trust Fund, many projects critical to the efficient movement of people and goods have the real potential to be backlogged or never built. Further, mounting deferred maintenance could cause current infrastructure to fall into an even greater state of disrepair.

An infrastructure initiative led by your administration is a generational opportunity to end the cycle of uncertainty that has plagued America's infrastructure network and usher in a new era of stability and improvements we so desperately need. However, this will take leadership and bold, innovative solutions. It is critical that your infrastructure plan not only encourages greater participation from the private sector in infrastructure projects and reduces needless red tape, but also provides real revenue for the Highway Trust Fund that will help the users and beneficiaries of America's transportation and freight network. Private financing, while important and needed, cannot replace the role of public funding and federal leadership.

Again, thank you for your commitment to strengthening our nation's economy and improving America's competitiveness through significant investment in our nation's infrastructure. We look forward to working with you to achieve our shared goals.

Sincerely,

AAA
AFL-CIO
Alabama Asphalt Pavement Association
Alabama Road Builders Association
Alaska Chamber
Alaska Trucking Association
Alexandria Transit Company (DASH)
Alliance for Alabama's Infrastructure
American Association of Port Authorities
American Association of State Highway and Transportation Officials
American Coatings Association
American Composites Manufacturers Association (ACMA)
American Concrete Pavement Association
American Concrete Pipe Association
American Concrete Pressure Pipe Association
American Contractors Insurance Group
American Council of Engineering Companies (ACEC)
American Council of Engineering Companies (ACEC) - Alabama
American Council of Engineering Companies (ACEC) - Alaska
American Council of Engineering Companies (ACEC) - Arizona
American Council of Engineering Companies (ACEC) - Arkansas
American Council of Engineering Companies (ACEC) - New Mexico
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American Council of Engineering Companies (ACEC) - Vermont
American Council of Engineering Companies (ACEC) - Virginia
American Council of Engineering Companies (ACEC) - Wisconsin
American Council of Engineering Companies (ACEC) - Wyoming
American Forest & Paper Association
American Highway Users Alliance
American Iron and Steel Institute
American Public Transportation Association
American Public Works Association
American Rental Association
American Road & Transportation Builders Association
American Society of Civil Engineers
American Sportfishing Association
American Supply Association
American Traffic Safety Services Association
American Trucking Associations
American Wood Council
Anaheim Resort Transportation
Antelope Valley Transit Authority
Arkansas Society of Professional Engineers (ASPE)
Arkansas State Chamber of Commerce/AIA
Arkansas Trucking Association
Asphalt Pavement Association of Indiana
Associated Construction Contractors of New Jersey
Associated Contractors of New Mexico
Associated Contractors, Inc.
Associated Equipment Distributors
Associated General Contractors (AGC)

Associated General Contractors (AGC) - Alabama
Associated General Contractors (AGC) – Alaska
Associated General Contractors (AGC) – Arizona
Associated General Contractors (AGC) – Arkansas
Associated General Contractors (AGC) - Austin
Associated General Contractors (AGC) – California
Associated General Contractors (AGC) - Carolinas
Associated General Contractors (AGC) - Central Illinois
Associated General Contractors (AGC) – Colorado
Associated General Contractors (AGC) - East Tennessee
Associated General Contractors (AGC) - Florida East Coast
Associated General Contractors (AGC) - Fox Valley
Associated General Contractors (AGC) – Georgia
Associated General Contractors (AGC) - Greater Milwaukee
Associated General Contractors (AGC) – Houston
Associated General Contractors (AGC) – Illinois
Associated General Contractors (AGC) - Inland Northwest
Associated General Contractors (AGC) – Iowa
Associated General Contractors (AGC) – Kansas
Associated General Contractors (AGC) - Kansas City
Associated General Contractors (AGC) – Kentucky
Associated General Contractors (AGC) - Louisiana
Associated General Contractors (AGC) – Maine
Associated General Contractors (AGC) - Maryland
Associated General Contractors (AGC) - Metropolitan Washington DC
Associated General Contractors (AGC) - Michigan
Associated General Contractors (AGC) - Minnesota
Associated General Contractors (AGC) - Mississippi
Associated General Contractors (AGC) - Missouri
Associated General Contractors (AGC) - Nebraska
Associated General Contractors (AGC) – Nevada
Associated General Contractors (AGC) - New Hampshire
Associated General Contractors (AGC) - New Mexico
Associated General Contractors (AGC) - New York State
Associated General Contractors (AGC) - North Dakota
Associated General Contractors (AGC) - Ohio
Associated General Contractors (AGC) - Oklahoma
Associated General Contractor (AGC) – Puerto Rico
Associated General Contractor (AGC) – Rio Grande Valley
Associated General Contractors (AGC) - San Diego
Associated General Contractors (AGC) - South Texas
Associated General Contractors (AGC) - Southeast Texas
Associated General Contractors (AGC) - Tennessee
Associated General Contractors (AGC) - Utah
Associated General Contractors (AGC) - Virginia

Associated General Contractors (AGC) - Washington
Associated General Contractor (AGC) – West Texas
Associated General Contractors (AGC) - Western Kentucky
Associated Industries of Missouri
Associated Pennsylvania Constructors
Associated Wall and Ceiling Contractors of Oregon and SW Washington
The Association For Manufacturing Technology (AMT)
Association for the Improvement of American Infrastructure (AIAI)
Association of Equipment Manufacturers
The Association of Union Constructors
Association of Washington Business
Bipartisan Policy Center
Birmingham-Jefferson County Transit Authority
Bloomington Public Transportation Corp
Brown-McKee, Inc.
Builders Association (Associated General Contractors - Chicago)
Building America's Future
The Bus Coalition
Business Council of Alabama
California Transit Association
Capital Area Transportation Authority
Capital District Transportation Authority
CentexAGC
Central Florida Regional Transportation Authority/LYNX
Champaign-Urbana Mass Transit District
Charleston Metro Chamber of Commerce
Chatham Area Transit Authority
Citibus
Clark County Public Transportation Benefit Area (dba C-TRAN)
Coalition for America's Gateways & Trade Corridors
Colorado Contractors Association
Common Good
Composite Panel Association
Concrete Reinforcing Steel Institute
Connect Transit
Connecticut Business & Industry Association, Inc.
Construction Employers Association
Construction Industries of Massachusetts
Construction Industry Council of Westchester and Hudson Valley, Inc.
Constructors Association of Western Pennsylvania
Consumer Specialty Products Association
Contractors Association of West Virginia
Cookware Manufacturers Association
Copper & Brass Fabricators Council, Inc.
The Corps Network

Council of Industry of Southeastern New York
CropLife America
CTtransit
Delaware Contractors Association
Delaware Transit Corporation
Delta Community Action Foundation Inc
Eastern Contractors Association, Inc.
Electronic Components Industry Association
Flexible Pavements of Ohio
Florida Institute of Consulting Engineers/ACEC of Florida
Florida Transportation Builders' Association
Florida Trucking Association
Fluid Power Distributors Association (FPDA)
Fort Worth Transportation Authority
Fresno Area Express
General Contractors Association of Hawaii
General Contractors Association of New York
Georgia Association of Manufacturers
Georgia Asphalt Pavement Association
Georgia Concrete Contractors Association
Georgia Highway Contractors Association
Global Cold Chain Alliance
Gold Coast Transit District
Great Lakes Fabricators & Erectors Association
Greater Hartford Transit District
Greater New Haven Transit District
Gwinnett Village Community Improvement District
Hawaii Transportation Association
Idaho Association of Commerce and Industry
Idaho Associated General Contractors
Illinois Asphalt Pavement Association
Illinois Association of Aggregate Producers
Illinois Association of County Engineers
Illinois Chamber of Commerce
Illinois Road and Transportation Builders Association
Illinois Trucking Association
INDA, Association of the Nonwoven Fabrics Industry
Independent Lubricant Manufacturers Association
The Independent Packaging Association (AICC)
Indiana Chamber of Commerce
Indiana Constructors Inc.
Indiana, Illinois and Iowa Foundation for Fair Contracting, Inc.
Industrial Minerals Association - North America
Information Technology and Innovation Foundation
Institute of Makers of Explosives

Interior Finish Contractors Association
Interlocking Concrete Pavement Institute
International Bridge, Tunnel & Turnpike Association
International Housewares Association
International Right of Way Association
International Safety Equipment Association
International Union of Operating Engineers
International Warehouse Logistics Association
Iron Workers Local 392
Iron Workers Local 518
Iron Workers Local 577
Kansas Asphalt Pavement Association
Kansas Chamber of Commerce & Industry
Kansas Contractors Association
Kansas Motor Carriers Association
Kentuckians for Better Transportation
Kentucky Association of Highway Contractors, Inc (KAHC)
Kentucky Chamber of Commerce
Kentucky Crushed Stone Association
Kentucky Trucking Association
KI BOIS Area Transit System
Kitsap Transit
Laborers International Union of North America
Leading Builders of America
Los Angeles Painting & Finishing Contractors Association, Inc.
Madison Area Finishing Contractors Association
Maine Motor Transport Association
Maryland Motor Truck Association
Maryland Transportation Builders and Materials Association (MTBMA)
Mass Transportation Authority
Massachusetts Aggregate and Asphalt Producers Association
Mechanical Contractors Association of Eastern Pennsylvania Inc
Mechanical Contractors Association of North West Ohio
Memphis Area Transit Authority
Metal Building Manufacturers Association
Metal Powder Industries Federation
Metal Treating Institute
Metals Service Center Institute
Metrolink
Michigan Infrastructure & Transportation Association (MITA)
Michigan Manufacturers Association
Mid-America Lumbermens Association
Mid-West Truckers Association
Mileage-Based User Fee Alliance
Minnesota Transportation Alliance

Mississippi Road Builders Association
Missoula Urban Transportation District
Missouri Transportation and Development Council
Modoc County Transportation Commission
Montana Chamber of Commerce
Montana Contractors' Association
Montana Manufacturing Association
Monterey-Salinas Transit District
Motor & Equipment Manufacturers Association
Muncie Indiana Transit System
Nashville Metropolitan Transit Authority
National Asphalt Pavement Association
National Association of Manufacturers (NAM)
National Association of Printing Ink Manufacturers (NAPIM)
National Association of Regional Councils
National Concrete Masonry Association
National Electrical Contractors Association
National Electrical Manufacturers Association (NEMA)
National Fastener Distributors Association
National Lime Association
National Lumber and Building Material Dealers Association
National Marine Manufacturers Association
National Oilseed Processors Association
National Precast Concrete Association
National Railroad Construction & Maintenance Association (NRC)
National Ready Mixed Concrete Association
National Retail Federation
National Stone Sand and Gravel Association
National Tank Truck Carriers, Inc.
The National Utility Contractors Association
Nebraska Chamber of Commerce & Industry
Nevada Contractors Association
Nevada Manufacturers Association
The Nevada Trucking Association
New Mexico ATSSA Chapter
New Mexico Business Coalition
New Mexico Trucking association Inc
North American Millers' Association
North Carolina Chamber
Northeastern Retail Lumber Association
Northern Illinois Building Contractors Association
Ohio Contractors Association
The Ohio Manufacturers' Association
Oklahoma Municipal Contractors Association
Oklahoma Transit Association

Outdoor Power Equipment Institute
Owner-Operator Independent Drivers Association
Painting and Decorating Contractors Association of Hawaii
PCI of Illinois and Wisconsin
Pennsylvania Chamber of Business and Industry
PeopleForBikes - Business Network
Perimeter Community Improvement Districts
Plastic Pipe and Fittings Association
The Plastics Industry Association
Plastics Pipe Institute
Polyisocyanurate Insulation Manufacturers Association
Port Arthur Transit
Portage Area Regional Transportation Authority
Portland Cement Association
Potomac and Rappahannock Transportation Commission
Precast/Prestressed Concrete Institute
The Real Estate Roundtable
Regional Transportation Program, Inc.
Retail Industry Leaders Association
Rhode Island Trucking Association, Inc.
Riverside Transit Agency
Rochester-Genesee Regional Transportation Authority
Rock Region Metropolitan Transportation Authority
Salem-Keizer Transit
San Antonio Manufacturers Association (SAMA)
San Francisco Municipal Transportation Agency
San Joaquin Regional Transit District (RTD)
Santa Cruz Metropolitan Transit District
Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
Slag Cement Association
SMART-Transportation Division, Illinois Legislative Board
Society of Chemical Manufacturers & Affiliates (SOCMA)
South Carolina Chamber of Commerce
South Carolina Trucking Association
South Central Transit Authority
South Portland Bus Service
Southeastern Pennsylvania Transportation Authority
Southern California Contractors Association
Southern Illinois Builders Association
Southern/Central Illinois Laborers' - Employers Cooperation and Education Trust
Stark Area Regional Transit Authority
Steel Tank Institute/Steel Plate Fabricators Association
Tennessee Road Builders Association
Tennessee Trucking Association
Textile Rental Services Association of America (TRSA)

Toledo Area Regional Transit Authority
The TMA Group | Franklin Transit Authority
Transit Authority of Lexington, Kentucky (Lextran)
Transit Authority of Northern Kentucky
Transit for Connecticut
Transportation Advocacy Group - Houston region
Transportation for Illinois Coalition
Transportation Intermediaries Association (TIA)
Transportation Trades Department, AFL-CIO
TranSystems Corporation
Treated Wood Council
Truck Trailer Manufacturers Association
U.S. Chamber of Commerce
U.S. Travel Association
United Brotherhood of Carpenters
United Contractors
Utah Trucking Association
Victor Valley Transit Authority
The Vinyl Institute
Virginia Manufacturers Association
Vision Long Island
Washington Asphalt Pavement Association
Washington Metropolitan Area Transit Authority
Washington Trucking Associations
Water & Sewer Distributors of America
Waterways Council, Inc.
West Coast Lumber & Building Materials Association
West Virginia Chamber of Commerce
Wire Reinforcement Institute
Wisconsin Transportation Builders Association
Wood Machinery Manufacturers of America
Wyoming Contractors Association

CC: The U.S. House of Representatives and the U.S. Senate

Senator INHOFE. Ms. Bobbitt, you have had a little bit of an advantage because you have had a lot of advice and counsel with Gary Ridley. And I am sure, Mr. Bhatt, you and Mr. Panos both are friends of Gary Ridley. He has actually served as a witness before this Committee more than anyone else in the history of this Committee because he knows the subject. We have been able to pass a lot of good things, and I think we have done some pretty creative things.

Now, Commissioner Bobbitt, it is unique the challenges that you face in a very rural, rural Oklahoma, and you have had to be creative from time to time. Could you expand on the funding challenges and give an example or two of how you have gotten projects over the finish line with the limited funds in your county?

Ms. BOBBITT. Thank you for that question.

Yes, Grant County is very rural, 4,500 people. While we have the most bridges and the fifth highest number of road miles in the entire State of Oklahoma. Yet our funding is 63rd out of 77 counties. So we definitely have a challenge.

But one unique thing that we have done in the past—as counties, we worked as a partnership with the Oklahoma Department of Transportation, Gary Ridley, and we came across—when they were going to deconstruct the I–40 cross-town bridge there were a lot of used beams there. Now, beams that we could have our engineers inspect and look at, and we recycled them. So we took ownership, counties took ownership of all those 2,000 beams, and we brought them back to our counties.

Grant County received over 100 of those beams, more beams than any other county. We have more bridges than any other county. Successfully, we have already built 10 new bridges, and we have more beams to put in place as soon as we get the funding. And that talks about how important a partnership is. That was a State and local partnership. We also would like to have that same partnership with the Federal Government to help us bring home projects.

Senator INHOFE. As you know, the President has talked about the public-private partnerships. Is there any comment you can make about how you have been successful in doing that in your area?

Ms. BOBBITT. The partnerships, the private partnerships will probably work really good for Oklahoma and Tulsa County, but the partnerships might not work so well for our very rural county. But what we can do is we have municipal bonds that are tax exempt that we really need to protect because we do use those types of financing to help us move our projects forward.

Senator INHOFE. Well, during the FAST Act, and I have had the advantage of dealing with these issues for 22 years in the Senate and then 8 years before that in the House on the Committee, so I have been here for all of those reauthorizations that we have had. One of the problems we had, and people forget about this, up until the middle 1990s the biggest problem we had with the Highway Trust Fund is we had too much surplus. And we know what happened to that, and we know now that we are in a crisis.

But one of the things we have done has been more—and you addressed this, Mr. Bhatt—a little more creative on things that we

could do in the bill in giving more power to the States and giving them options, for example, on the enhancement percentages, say from State to State. In California they may have different ideas than we have in Oklahoma and how to use those, so we gave different States that option.

What do you think about giving States more of those types of options and how you can stretch your dollars a little bit more?

Mr. Panos.

Mr. PANOS. Senator, I think anything that we can do to reflect the conditions in rural States through those kinds of adjustments are very, very helpful to rural States.

Senator INHOFE. Mr. Pratt, do you agree with that?

[No audible response.]

Senator INHOFE. This is a trend that we have started, and we want to continue with this, giving more of the options to the States. Do you all pretty much agree that that is moving in the right direction?

Mr. BHATT. Thank you, Senator. Yes, I would say that one of the best parts of the FAST Act, in addition to the certainty, was the flexibility, and I think it is incumbent upon States to work with locals and others to make really good decisions. We pass on and we interact very closely with our local partners to make sure that it is a Colorado or a Delaware or an Oklahoma solution.

Senator INHOFE. Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Inhofe.

Senator Duckworth.

Senator DUCKWORTH. Thank you, Mr. Chairman.

This question is for Mr. Pratt. The Flint water crisis tragically taught our country a new lesson of the dangers of old infrastructure. In allowing our water infrastructure to crumble, millions of families find themselves in real danger of drinking lead-contaminated water. Not every community is satisfied with this dangerous status quo.

In Madison, Wisconsin, local officials demonstrated leadership in throwing away Band-Aid fixes. They actually, at the local level, committed to a decade-long infrastructure project that culminated in fully replacing every service line, every lead service line in Madison.

Now, when my constituents learn about the infrastructure initiative completed in Wisconsin, they don't understand why the children of Wisconsin deserve greater protection than the children of Illinois or of Delaware. There is no good answer, and I think that is why this Congress needs to act swiftly and decisively to provide States and local governments with direct funding support, far greater than our efforts to date, to jumpstart vital water infrastructure projects.

As a State official, Mr. Pratt, who must struggle daily in balancing the needs to address fiscal challenges and meet the needs of your residents, would you concur that States such as Delaware both need and would put to good use direct Federal investments in critical infrastructure such as safe drinking water?

Mr. PRATT. I will answer that from the perspective of somebody who handles beach management and wetlands management, not water supply management. But certainly the overarching theme is

that we have not invested as we should have as a Nation in that infrastructure. I would welcome any other comments from the panel, but it is not my world of expertise on water supply, but certainly the stories we hear from around the Nation are compelling stories about how I think that the overarching issue is that we have an appetite for construction of new and not much of an appetite as a Nation for maintenance of what we have built in the past, or improvement of what we have built in the past, and that is a philosophical point I think that needs to be changed. But I am not an expert on water supply issues, but thank you for the question anyway.

Senator DUCKWORTH. Well, not necessarily just water supply. You know, the people of Illinois sent me to the Senate with a clear message. Americans are ready, willing, and eager to start rebuilding our Nation at all levels, all infrastructure. When I travel across Illinois, from rural communities to suburban neighborhoods to urban centers, there is a unifying call on Congress: please work to modernize our Nation's infrastructure. Make it a priority. Whether it is roads, rail.

Simply put, Illinoisans want Congress to place a big bet on America, and they want their tax dollars invested in American workers and in American companies to rebuild and modernize American infrastructure, and we must go beyond road, rail, and bridges. We should be wise in making sure our investments prepare us to succeed in the 21st century. This includes investments in broadband to empower every family to access high speed Internet. In fact, you know, I have parts of Illinois where our kids can't do their homework because they don't have access to broadband. We can't track businesses to rural communities because there is no broadband. So it is not just about the water or the bridge or the road; it is all of it.

And I do think that there is a role here to play for the Federal Government to come in and provide those resources in partnership with local and States. I just don't want us to fall into the trap that we think, oh, Madison replaced all of their own lead water supply, so that is what every State should do. To each their own. And anyone on the witness panel can certainly talk to this, but how important is the role of Federal Government coming in with Federal dollars to help you be able to do this?

Mr. PRATT. I will answer that from my perspective, too. In the world I work in, it is very imperative that the Federal Government take an involved position. Home rule indicates that local communities will develop their own land use plan and will develop as they see is best for their community. That is across the board of residential and industrial and recreational areas and commercial areas.

And when that fabric of community is built, if there is anything that is imperiled, it is usually the Federal Government that has to come and bail out the aftermath. If there is a complete breakdown of waters of life, if there is a tornado, if there is a forest fire, if there is an earthquake, or if there is a coastal storm, it is the Federal Government that responds and has to respond after the suffering has occurred, whether it is pollution of water and no water supply for a community or it is a community that has no roads left after a storm or a tornado has wiped out a community in Okla-

homa. It is the Federal Government that will have to come out and put the dollars up there.

Investment ahead of time, before the disaster, before the crisis has occurred, is an important turning point we need to make, and I believe absolutely the Federal Government has a tremendous amount to save by that investment.

Senator DUCKWORTH. I thank you for those comments.

Anybody else from the panel?

On the end.

Mr. BHATT. I would just say that 70 percent of our construction dollars for transportation in Colorado comes from the Federal Government, so it is incredibly important that there is a strong Federal role in transportation investment. And on the broadband comment, Governor Hickenlooper has directed us to work with the economic development folks to provide broadband. I believe that broadband are the new highways of the 21st century, and it is incredibly important for us in Colorado as well.

Senator DUCKWORTH. I am out of time. Mr. Panos, you will have to respond on the record. Thank you.

I yield back, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Duckworth.

Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman.

And thank all of you.

A couple of things. I would like to start with Mr. McNulty. First of all, I would like, for the record, to thank you, as a resident of Charleston, West Virginia, who was affected by the chemical spill into our primary water source. Putnam County Water District really came to the rescue for a lot of folks who were without water. So I don't know if you want to just take a couple seconds and say some of the things that you did as a regional resource to try to help people who were without water in a crisis.

Mr. MCNULTY. Thank you, Senator. Our water utility, we immediately were in contact with the Governor's office, Governor Tomblin, and we worked with his staff to make sure that they could start bringing in tankers. We do have a fuel station located at our water treatment facility. And we also helped local folks that came in with their own containers and filled those containers and so forth. So we did play an active role, and so did many other rural utilities surrounding Kanawha County and so forth. A lot of folks helped out.

Senator CAPITO. Well, your help was very much appreciated and everybody's help. I think West Virginia and rural communities around the country are known for neighbors helping neighbors, and certainly in that instance you all definitely helped us.

I would like to kind of pivot off of something that Mr. Pratt mentioned. In your experience at Putnam, in Putnam County, are you looking more at extending new or replacing old? Where is the push-pull there in terms of water infrastructure?

Mr. MCNULTY. Both, actually. We are expanding. As I mentioned earlier in my testimony, we just finished up a large sewer expansion to existing homes and businesses. But we are also very well aware of the maintenance that has to be done and upkeep of our system. So we have expanded our water treatment plant, as you

know and have been there to see it. So we are still in that balance of doing both.

Senator CAPITO. Is it easier to get funding for one or the other?

Mr. MCNULTY. I haven't had a difficult time obtaining funding for either one.

Senator CAPITO. OK. OK.

The other thing, in your testimony you mentioned the WIFIA. We passed the bill, the WRDA bill, last year as we were leaving, and in that is WIFIA, which is a water infrastructure financing method similar to TIFIA for the waterways and for water projects. Now, in my view, this holds great promise, I feel as though, for another funding mechanism for rural America and rural American water systems. You have expressed some skepticism for that. Would you like to speak about that?

Mr. MCNULTY. Yes, ma'am. The WIFIA will not really benefit the smaller rural communities because you have to have larger projects to qualify. And of course, our greatest concern is that we do not want to see any of the funds from the Drinking Water SRF or the Clean Water SRF go to fund WIFIA; we want to make sure those funds stay intact.

Senator CAPITO. I think the intention of WIFIA is to use those as a jumping point; not intending to decrease their value or decrease their amounts but to use them as a leverage point. I am wondering if it would be possible for local, smaller projects to band together for a WIFIA project. I don't know if that is within the boundaries of the law. Do you know that?

Mr. MCNULTY. I really don't know. We would have to do some research and get back to you, Senator.

Senator CAPITO. OK.

I would like to ask you, Mr. Panos, on the transportation issue. You mentioned in your statement that the PPPs don't work for rural areas. We have had a couple in actually Mike's backyard, Route 35, that has been a PPP project that I honestly don't think, we are on the verge of getting it completed now, could have gone on if we hadn't had the ability for our State DOT to use the PPP projects. Why is that not working in rural America; is it the scale or what?

Mr. PANOS. Thank you for the question. Generally, in the rural States we just don't have the revenue generation or the volumes that would support a public-private partnership concept. Certainly other systems, as well, other financing systems we could look at, but direct funding works best for us through the formulaic system; it has been worked out over a number of years, and at least for rural States it works very, very well for us. Again, it is based on the volumes that we have and then the expansive nature of our surface transportation system.

Senator CAPITO. Can your State sell bonds to begin paying on a payback so you can get the project done earlier? They are called GARVEE bonds we have in West Virginia, but don't ask me what GARVEE is the acronym for, I couldn't tell you.

Mr. PANOS. Senator, the State of Wyoming has used bonds on a very limited basis. Again, our primary source of transportation funding is from the Federal Government through the formulaic system. The comment earlier I think was made about the 10 cent fuel

tax that was passed in Wyoming some 4 to 5 years ago. That only pays about less than 20 percent of the cost of surface transportation; the vast majority of capital highway funding in Wyoming comes from the Federal Government through the formulaic system.

Senator CAPITO. Thank you very much.

Mr. PANOS. Thank you.

Senator BARRASSO. Senator Fischer.

Senator FISCHER. Thank you, Mr. Chairman.

Like many of my colleagues I believe in the importance of funding our surface transportation infrastructure, and reliable infrastructure does represent a critical investment in advancing our safety and commerce. The Highway Trust Fund has served to equitably distribute funds to all States, rural and urban, and is the linchpin of our transportation system.

As many here are aware, the Congressional Budget Office projects that the Highway Trust Fund will face a deficit of well over $100 billion in the 5 years following the FAST Act expiration. So that is why I have introduced the Build USA Infrastructure Act, which would address the near-term solvency of the Highway Trust Fund without raising taxes on hardworking Americans.

I would like to ask our State DOT directors, Mr. Panos and Mr. Bhatt, how important is certainty in the formula funding to your States' transportation systems? And when it comes to maintaining our roads and bridges, is there really any substitute for this critical apportion funding?

Mr. Bhatt, would you like to start, please?

Mr. BHATT. Thank you so much, Senator. Funding certainty is everything. You know, I do conservative talk radio once a month; I just go on the show. And it is not always a love fest, but I think it is important for government to go out and talk to all of our constituents. And somebody said why did you stop this project at point X? Any fool could see that all you had to do was continue it on down another 20 miles. But unfortunately we have to have logical termini that are based on the transportation need and the financial need.

So one of the best parts about the FAST Act was getting us out of that cycle of continuing resolutions around funding. If we have certainty around funding, then we can make better plans, and it costs States and all taxpayers less money when we have certainty.

Senator FISCHER. And Mr. Panos.

Mr. PANOS. For Wyoming and surface transportation, I think that certainly the idea of certainty in funding, Federal funding is very, very important to us. We are very conservative in terms of how we look at financing our system. Our system is not being expanded as we speak; it is being preserved. So, we are just getting in enough money to preserve the system that we have now, our 2,000 bridges and 7,000 miles of roads. So, for us, we take a very conservative role.

So the proposal that you are referring to I think identifies a couple of things. One, it identifies that the Highway Trust Fund is not going to be a consistent source of funding after 2020, and that is critically important to us because we are not expanding, we are just preserving what we have there; the investment has already been made by the Federal Government. And the second is that it

really looks at the process, the regulatory review of the projects and looks at how time consuming that is and the need to improve that. So we support addressing both of those things. Those are things that I think not only Wyoming, but other rural States would agree with. So, it is good that you stepped up and put some of those ideas front and center for us to look at. How we go about that, obviously, we will work with Congress over the next few months to develop, but I think they are solid ideas. But we, like Colorado, are looking for consistency.

Senator FISCHER. Thank you for your compliment of the proposal. I think it is really important to identify a consistent revenue source without raising taxes at the Federal level to be able to fund beyond maintenance, because we all need to make sure we have that capacity in the future as well.

And you mentioned a second part of my proposal that really addresses the critical delays that projects are faced with when they have to wait for that Federal Government approval, and I can tell you that my State has spent time and money on those burdensome Federal Highway Administration processes that really don't change any outcomes moving forward.

For example, we are looking at upgrading a substandard Dodge Street S-Curve project in Omaha, and that has seen costs grow by $3 million because of these burdens that are out there.

Again, this idea that is in the Build USA Infrastructure Act is based on a proposal that I was able to get advanced in the State of Nebraska that has proved successful, and hopefully we will be able to have a conversation on that here.

But I would ask you both—Mr. Panos, you address part of it, but I believe a greater State authority over this approval process is going to—because we have shown that it is going to move that approval process forward without really taking shortcuts. We are still going to meet the requirements that are there, but I think it is a better system to put in place and a better use of taxpayer dollars.

Would either of you like to address that, just on the delays you have faced with going through the Federal Highway Administration?

Mr. BHATT. Thank you, Senator. I am quite torn on the answer that I give you, and I say this with all respect. I, as a director of DOTs, have fought with the Federal Highway Administration to try and expedite projects over the years when we were ready to go on something, so on the one hand expediting projects is very good. We have a big project, a $1.2 billion viaduct replacement in Denver right now that is about over a decade in the planning process, and some people would say, well, that took 13 years to get to construction, how ridiculous. There is a school that is right beside that project. If my children went to that school, I wouldn't want a State DOT to come in and just say, hey, we are moving the road right beside you. We are taking 63 homes in the process of that, and one of the Federal requirements that we have to follow is there are certain rules and regulations; when we take property, we have to show a burden and we need the property, and we have to follow rules around relocating people.

So, as the State DOT person, I would love for there to be fewer regulations. As someone who is impacted by the project, I think that some of those Federal regulations do serve a purpose.

Senator FISCHER. And I wouldn't disagree with you on that, but I think if we can expedite, that would always be a saving.

I apologize, I am over my time.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you very much, Senator Fischer.

Senator Rounds.

Senator ROUNDS. Thank you, Mr. Chairman.

It isn't very often that we have the opportunity in a Committee like this to talk about what we want to see in the future. You have heard the President suggest that infrastructure is critical. You are hearing members on both sides of the aisle saying that the time is now to actually start discussing how we do infrastructure development in the United States coming up.

I want to take this at a different level than simply asking about rules and regulations and so forth. My friend, the Ranking Member here, as a former Governor in his home State recognized that they could make good decisions there about what their needs were. They see major issues that we don't see in South Dakota. They are concerned about rising water levels in their neck of the woods.

In South Dakota we are concerned about things like our rural development of the basic infrastructure of simply delivering rural water. In fact we have rural water programs in South Dakota that the States fully funded their share of it, and yet the Federal Government hasn't got enough money in it to actually pick up their share, and the cost is going up, and we have people that don't have that water available. We have other rural water systems in the State that basically they don't have enough money to even do some of the maintenance on some areas, and they haven't quite filled them out yet.

Just for a minute, what I would like to do is—as individuals that have a clear understanding from the State and local level, the opportunities and the capabilities that you have—I want to reach out a little bit here. Let's make a couple of assumptions that perhaps a lot of people in this country would say will never come true. Some people would say we are talking about la-la land or fairy land, but let's assume, No. 1, that Republicans and Democrats actually agreed on a need for an infrastructure bill.

No. 2, let's agree, just take the assumption, and keep the snickers down, OK, but let's agree that Congress actually agreed on a funding bill and that Congress actually agreed differently than in the past, they actually agreed on how they were going to pay for the funding bill. And then let's agree that we actually agreed on how we would distribute a significant part of those funds back to States and local units of government.

And let's say that we actually had the foresight to talk not just about roads and bridges, but about water development and about broadband, which is clearly important, and perhaps give some opportunity for States and local units of government to have some flexibility in what they saw as needed economic development. And let's just say they actually had the foresight to make a deal with

the States where the States actually had some skin in the game and had a match, similar to what we have in the Highway Fund.

Now, I know I am making some major stretches here, but let's say that we also said that we expected that a number of different projects could be made available, whether you talk about ports of entry along the borders, whether you are talking about ports along our coasts, airports, road bridges, water development, and so forth.

This is your opportunity to just expand in terms of what your capabilities are and what the limitations are that the Feds currently put in place, what we do to hamstring you, but also the things that you think you are capable of doing. Can I just each of you—and I don't care in which order—can I ask you to just share a few seconds about what you see as your capabilities and what you could do with the resources if you had that shot? What could you do to make it better for the people that live in your area?

Yes.

Mr. PANOS. Senator, if I could start, for us in Wyoming, certainly, with surface transportation, which I am speaking about today, we would implement more safety projects. Safety is our No. 1 issue. And if we can develop additional safety projects and put them on the ground, whether that be construction of additional lanes or other kinds of safety systems, we would. We are maintaining what we have, and that is what we have dollars for right now.

We have a great relationship with the Federal Highway Administration, a great relationship with our Federal partners.

Senator ROUNDS. Could you start it fairly quickly?

Mr. PANOS. We could. And we have plans to put in place because of our great relationship with the Federal Highway Administration and others. So, as to surface transportation, we would focus on safety. That is our No. 1 issue, and we are a safety agency. Probably more than we are a transportation agency, we are a safety agency. So we would focus on that.

Thank you, Senator.

Mr. MCNULTY. We would expand water distribution systems and wastewater collection systems and build facilities for treatment, as well. For instance, we have a project in our home county, Putnam County, West Virginia, we have 56 homes without potable water. These folks have to haul their water back to their home cisterns. Our county commissioners have applied for a small cities block grant for the last 5 years for $1.5 million, and for the last 5 years they have been turned down. And that project is designed. It would be ready to go the day after the funding got in place.

Senator ROUNDS. Thank you.

Ms. BOBBITT. Thank you, Senator. We would probably look at our off-system bridge systems, because we want to make sure that we have safe bridges for our school buses, our emergency services, ambulances, fire departments. We would want to make sure that those routes were brought up to standards. And yes, we could do that pretty quick. We have engineering on several bridges; we just don't have the funding. So we have shovel-ready projects ready to go. Thank you.

Senator ROUNDS. Sir.

Mr. PRATT. My perspective, of course, is very different. I am not a highway transportation planner, but looking at it out of the box

because of the scenario you present is very dizzying, so I will be dizzy——

Senator ROUNDS. I know. It is what I call a fairy tale; quick, get it done.

Mr. PRATT [continuing]. Any of those things would happen, but if we did, I think, first of all, the very first thing we need as a Nation is a better informed discussion as to how we invest in a decadal sense. We are doing investments, I think, in short-term very much. I hate to say it. I was an elected official in Delaware, in a small town, and we tend to make decision on a 2- and 4- and 6-year kind of time frame so we can bring something home to our constituents. We really want the decadal planning, understanding where the population trends are, where the vulnerabilities are, and the value of the return on the investment. If we did a better job of that, we would know how to utilize the funds that were available if they were untethered. So I think we need much better information in the decisionmaking process informed by those factors.

Mr. BHATT. We lost 35,092 Americans on roadways last year. Safety is our No. 1 issue. We are going toward zero debts, and we are going the other way, 10 percent increase the last couple of years. So I would say safety would be our No. 1 priority. We have literally dozens of projects that are ready to go but for funding, so funding, if there was a way to find bipartisan agreement, would go a long way to saving American lives.

Senator ROUNDS. Thank you.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator.

Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Chairman.

I appreciate very much our guests here from Wyoming and West Virginia and Oklahoma and Colorado, but you all fail to share one of Rhode Island's attributes, which is a coastline. You are all landlocked. So I would like to address our guest from Delaware, who, like Rhode Island, shares a coastline.

In Rhode Island we have sewage treatment plants that have, as we face rising seas along our shores, moved first into the flood zone and now into velocity zones for storms. After a major storm, I, far too often, have to go and talk to a family who is looking at the remnants of their home that has been torn into the sea by the storm activity.

We have coastal roads that are at risk of either destruction or flooding, and in many cases the coastal road is the access to a community, which creates very significant emergency services risks. And as we are mapping more effectively where storm and sea level will be intruding, we are finding more and more that the emergency services are on the wrong side of the flooding area. I think people remember the scenario in Senator Booker's State of New Jersey, where they couldn't bring the fire equipment in during Sandy because of the flooding, and neighborhoods burned with nobody to fight the fire. So, you know, we have those concerns.

I have seaside restaurants, places like Tara's and the Ocean Mist, two wonderful bars right side by side on the sea, that not long ago had 100 feet of beach, and people would play volleyball and sun on the beach; and now they are up on pilings and the

ocean washes under their buildings. State beach facilities are similarly compromised and having to be moved backward as we yield more and more of our coastline to the shore.

And of course, in a really major storm, something equivalent to the hurricane of 1938, which gave Delaware a pretty good hit, but really nailed Rhode Island, the 10 inches of sea level rise we have already seen, the 9 feet of sea level that our State and Federal experts tell us to expect by the end of the century, plus we get about 2 feet, if the wind conditions are right, in added tide, plus we get about 2 feet in added tide when the moon and the stars all line up, so you get an astronomical King Tide, we are really planning for some very serious disruptions.

So I hope that my colleagues, as we consider what our next infrastructure investments should be, will understand that in our coasts we not only get all the other effects of climate change, but we get this rising sea level and then the worsening storm surge that compromises our coastlines.

Let me turn it over to you to comment, because I know Delaware has actually, I think you have even lower elevation than we do, and a lot of these similar coastal problems. I visited there with Senator Coons to hear from your experts, and I know he is aware of Rhode Island's, because his dad, who, sadly, just passed away, was the head of the Rhode Island Fisheries Association for a while.

So, with that, I leave it to you to talk about coastal infrastructure.

Mr. PRATT. No, your points are well made, and I appreciate the opportunity to address it. I am from the Boston area originally; I know the New England coastline. You have a lot better topography in Rhode Island than we have in Delaware. We are very flat. We are very much a remnant of a higher sea millions of years ago.

That said, 1 foot of rise in sea level can be exponentially hundreds of feet of intrusion in a landward direction. So what do we do? No. 1, I think you hit on it. The NFIP is producing much better maps that inform us as to where the risks are going to be, where the risks are today, and where they are going to be, and we can begin to utilize those in the local communities to begin to plan how we can remove critical infrastructure to better places.

I think the best indication of what sea level will be in the future is when we have a high tide in its form, when the tide is 2 to 3 or 4 feet above the predicted, we see where the water goes, and we certainly map where those intrusion areas are. We have to do a better job, and that is part of the discussion I think we are doing here today, which is looking at how we manage the coastlines so that they provide the protection they have provided for a long time; optimize what we learned in Sandy. There is a comprehensive plan that has been developed by the Corps of Engineers for the northeastern States. I think if we expand that out to the southeast, the Gulf Coast, and eventually the west coast, that kind of systems thinking.

And one of the things that I think ties into my colleagues here is we have—particularly in the eastern seaboard, in the more urbanized area—we have a tremendous stress on our highways for congestion and also a tremendous number of 18-wheel tractor trailers that are on roadways. New Jersey has just taken a lot of money

to separate, on the Jersey Turnpike, truck traffic from pedestrian or automobiles for other use, and I think that is a way that is coming to the future. I think we are going to have to look at how the waterways of this Nation have to be returned as a means by which we get better transportation of goods and services around the coastal area, and that means port management, which would produce sediment if dredging has to occur to accommodate larger ships and more ships and more boats, and sediment should be utilized in all cases for benefit of restoring beaches, restoring wetlands as much as we possibly can. And we have some institutional blockades to that which we have to take on, but I am kind of running out of time here.

Senator WHITEHOUSE. I appreciate it.

With the Chairman's leave, if I could make one more point to the Committee.

Senator BARRASSO. Yes.

Senator WHITEHOUSE. This isn't a question that requires an answer.

One of the things that we have discovered in Rhode Island, as we have tried to develop the tools to be able to anticipate what storm surge and rising seas present by way of risks to us, is that the FEMA mapping of this has been, frankly, outright defective, and that as we look at it we find that FEMA is unable to replicate—when it has to go back and do it again—the results that it claims are solid. If you can't go back and replicate a result, it is probably not very solid. We see them making premise decisions in their mapping that don't make any sense. We see them operating off of facts that are proveably not accurate.

And the result is that very often we find people put into flood zones that aren't really going to be flood zones, in which case they have to buy insurance that may not be necessary. But far worse, you find people who are not being told that they are in a flood zone. And the discrepancies between what our university and our coastal resources center are doing and what the FEMA maps show are really considerable, and I hope that at some point some of our more coastal folks might join together in taking a hard look at that because a lot of people are going to be really disappointed by being let down by defective and erroneous flood mapping.

Senator BARRASSO. Thank you, Senator Whitehouse.

Senator Ernst.

Senator ERNST. Thank you, Mr. Chairman, and thanks for our panelists for being here today. This really has been a helpful discussion. We have a number of members that come from those coastal areas, and it is a great discussion.

What I want to point out in my question, and I will start with you, Mr. McNulty, is that a Federal Government one size fits all approach simply doesn't work. I come from Iowa. I am landlocked. I don't have oceanfront property. And let me dig into why I think there needs to be a little bit of difference in the Federal Government.

One of Iowa's top infrastructure priorities is flood mitigation. We have heard a little bit about flood mitigation here. Our second biggest city in Iowa went through two major flood events, 2008 and 2016, and to date they have not received any construction funds de-

spite being authorized in the 2014 WRDA bill and again mentioned as a priority in the 2016 WRDA bill.

A few months ago I had a meeting with the head of the Corps, and we had a conversation about the process. The Corps and the Office of Management and Budget used to budget for flood mitigation projects. I expressed to him that communities like Cedar Rapids, Iowa, and States like Iowa will likely never see Federal assistance from the Corps because they lose out every time to larger States that have higher property values and thus higher economic benefit.

I am really interested in improving these metrics so our rural communities have a fighting chance at tapping into Corps expertise, because if the only metric the Corps uses to determine the economic benefit of a project is property value, then it is hard for me not to conclude that the Corps considers building beaches in front of multi-million oceanfront homes to be a higher priority than protecting the people that live in Iowa.

It was also suggested to me in my meeting with the Corps that because Iowans have a pick yourself up by the bootstraps attitude and we work very well together in our communities to properly mitigate, we move farther down the list of priority, and we are basically being penalized for being proactive.

So my question for you, Mr. McNulty, is how can we work together to improve or broaden the metrics the Corps uses to give our rural communities a fighting chance at Federal funds?

Mr. MCNULTY. Perhaps my colleague, Mr. Pratt, might be able to answer that just a little better than I can when it comes to flood mitigation.

Senator ERNST. OK. I am willing to listen. Thank you.

Mr. PRATT. Well, certainly, I am coming from one of those States that has rich valuable oceanfront properties, and I certainly understand the position you are coming from. I will say this. In my dealings with the Corps, even from the State of Delaware with oceanfront, there is a lack of funding to do even a lot of the work we have to do. I mean, it sounds like we do get a lot of money, and as my testimony indicated there is a tremendous return on that investment. And I don't think that the Corps' metrics right now take into account the full range of benefits in any front of flooding, whether it is ocean or Gulf Coast or whether it is riverine or it is snow pack melting in the Sierras this coming spring.

I don't think the metrics are there. I don't think the Corps has the ability to give an informed discussion to anybody as to the full range of benefits. There could be recreational benefits. My understanding of the Corps process and what they have been doing in Delaware is that they look at not the personal property value, but they look at the infrastructure at risk, the density of infrastructure, the utilities, the roads, the waterways, the electrical delivery system, and what the overall effect is if that fails during a storm.

And we have—as the Senator indicated—we have not only still water flooding, we also have velocity water, and that was certainly the case in Sandy. Had we only had still water rising issues, that would have been one thing in New Jersey and New York; it is a totally different thing when you have waves 3 foot, 5 feet, 6 feet

washing through structures, and one structure falls into the next to the next to the next.

So I think the Corps certainly needs a liberalization of its analytics on how the benefits accrue and inform the discussion. I don't know your State's needs, but I certainly think that that is something that nationwide the Corps' process of deliberation and how they develop the benefit-cost ratio, because that is what they predicate their spending on, is the higher the benefit-cost ratio. And if you are at the high tipping end of that, then you are going to get some funding; and if you are at the lower tipping rate of that, then you are not going to get any funding. And that is what we have to uncover, is what goes into that benefit side.

I have often stated all costs, up to the penny, of all Corps projects are calculated right down to the penny. The benefits we probably leave 50 to 80 percent of them on the table. I think we need better information.

Senator ERNST. I think so. I think the one size fits all approach isn't working because every community is different. If we see all the Federal funding going to areas on the coasts, it is really hard for me to go back home and justify why the safety of the people in Cedar Rapids is not as important as the safety of people and livelihood of people that live on the coasts. So thank you very much.

Thank you, Mr. Chair.

Senator BARRASSO. Thank you very much, Senator Ernst.

Senator Booker.

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

I want to thank this panel, too. I concur with my colleague and friend from Iowa; this is a very valuable discussion, and I really, really do appreciate it.

I have really big concerns about our Nation's water infrastructure, especially as it affects rural areas in America, as well as some of the poor areas. It is the kind of thing that a lot of the natural private sector incentives don't often provide for us being built out, and as a result of that you see real challenges for families around this country about getting access to clean, safe water.

So maybe I will start with Michael McNulty. You talked in your testimony that we have families in many parts of this country, and I believe in West Virginia as well as New Jersey, that lack the proper facilities. And according to the Census Bureau, when it comes to these water facilities, they say that 500,000 homes around the country lack access. Five hundred thousand in America, the richest country on Planet Earth, lack access to hot and cold running water or a bathtub or a shower or a working, flushing toilet.

Now, that, to me, is astonishing data. It includes about 11,000 homes in New Jersey and portions of rural Alabama that are home to low income, predominantly black communities. Less than half of the population is connected to a municipal water system.

Many of these families' septic systems fail, and they are forced to dump sewage behind their homes, which brings up a lot of very serious health problems.

In addition to tainting the water supply in general and harming the local environment, this is a leading spread of intestinal parasites such as hookworm. A lot of these parasites are really not

thought to even exist in the United States of America, but still exist in a lot of these communities in rural areas.

So I was a former mayor, and these were issues that I was dealing with all the time, and it can be difficult, very difficult for cash-strapped cities, municipalities, rural and urban, to fund projects based off of only loans, which are essentially just low interest debt, especially in a lot of these lower income rural areas and urban areas that don't have the kind of high revenue streams or tax base that can support the kind of work.

I believe the answer has to be more grants and grant programs. As you know, currently a State can use no more than 30 percent of the total amount that it receives from the Clean Water State Revolving Fund on direct grants, and I am wondering would you support removing that 30 percent cap and letting States provide more clean water grants to communities with demonstrated financial need?

Mr. MCNULTY. Absolutely. Let's remove those restrictions.

Senator BOOKER. And if we were able to remove that restriction, can you just give an idea of what impact that would have for these struggling rural and urban cash-strapped communities?

Mr. MCNULTY. You know, in West Virginia, as many folks know, we have a $500 million deficit in our budget coming up, and with the decline in the economy, especially with their coal severance tax, so communities no longer have the funds to contribute toward projects like they once did. By removing that restriction and possibly even lengthening the time that the loan could be paid back, communities could do so much more. We wouldn't have to rely on local partners much, where they are cash-strapped. So it just would add tremendous benefit across the country.

Senator BOOKER. So maybe on that point, because I do know that for me, when I was mayor and trying to manage things, even lowering the cost of loans really helped us to do a lot of projects.

But perhaps for you in my last question, Bill Panos, there is a lot of talk about a $1 trillion infrastructure package right now. My worry is if that is much more about low interest loans and not about direct grants. And the thing that I know, for those of us who are concerned about debt and deficits, that we have to understand that investments in infrastructure actually create a multiplier effect in economic growth.

So I just want to know, maybe for the last 20 or so seconds that I have, would you just comment on the power of having an infrastructure package that did include direct Federal investments, not just loan programs? Is that something that you would say is important to have, a balance in that infrastructure of direct Federal investments, especially in areas that can't afford even the low interest loans that would need some Federal resources invested in their communities?

Mr. PANOS. Speaking for surface transportation in rural States, yes, direct investment does help, especially with States that have, rural States like Wyoming, that have low volumes and don't have the kind of revenue generation that other States do. So, yes.

Senator BOOKER. Thank you very much.

Mr. Chairman, thank you.

Senator BARRASSO. Thank you, Senator Booker.

Senator BOOZMAN. Thank you, Mr. Chairman, and thank you and the Ranking Member Senator from Delaware for having this very, very important meeting.

We appreciate you all being here.

Ms. Bobbitt, as one of Arkansas's largest industries, agriculture is crucial to the State's economy. Arkansas is home to 44,000 farms, generating an economic benefit of $20 billion a year and employing one out of every six Arkansans. I believe investing in infrastructure will help create jobs, keep commodity prices low, and help us remain competitive on the global stage.

Can you explain how a reliable and efficient infrastructure system helps industries such as the agricultural industry remain competitive?

Ms. BOBBITT. Thank you for that question. Excellent question.

Senator BOOZMAN. We like you unless we are playing you at something.

Ms. BOBBITT. Yes, I agree.

Senator BOOZMAN. As your neighbor.

Ms. BOBBITT. You are right.

Yes. If you think of the United States map and consider it a puzzle, and each piece of the puzzle is a county, and that is 3,069 pieces in that puzzle, and it connects, and if you take a piece out of that puzzle, it is not complete. Well, it is the same thing with our roads and our bridges, and we all have to connect because while we grow the agriculture products in our States or in our rural counties, it has to be delivered to the urban areas. So it is very important that we all work as a partnership and make sure that we can deliver our foods and our fiber to the urban area. It is not rural versus urban; we are in this together. We are one piece of the puzzle.

Senator BOOZMAN. Right.

Ms. BOBBITT. Thank you.

Senator BOOZMAN. And the second part was going to be what are the repercussions of the fix as it fails strategy that we are using now. And as you point out, you can have great roads in Oklahoma or great inland waterways or whatever, but if you can't get there or get out of there, it really does all go together.

Ms. BOBBITT. Again, that is correct. We don't have blue roads, and we don't have red roads; we have roads and bridges. So it is a partnership, and it does need to be. The same trucks that come down the interstates and the highways get off on our county roads, and we have to get our food and fiber off the rural area and into the counties or into the urban areas.

Senator BOOZMAN. Right, especially as you look to what the futurists tell us that America is going to have to do as far as feeding the world 20, 25 years as we go forward.

Mr. McNulty, according to a recent Michigan State report, water prices across the country have risen by about 41 percent since 2010, which really is an amazing statistic. If this particular trend continues, it is estimated that 35.6 percent of American households will not be able to afford water services within the next 5 years. In your professional opinion, what kind of effect will rising water prices have on a rural State such as Arkansas?

Mr. MCNULTY. It will be hard. It will be hard for the citizens because they will begin to cut back their use of potable water. But that will not change the debt service requirements that are on those systems. So you are in a Catch–22; folks are thinking, well, I will reduce it and save money, and then the water system is like, well, I can't make my debt payment, so we are going to have to continue to raise rates. So I think it will be a very challenging time for rural water systems.

Senator BOOZMAN. So tell me about—in the next infrastructure bill that we do, do you feel like it is important, then, to address affordability?

Mr. MCNULTY. Absolutely. Affordability has to be one of the primary factors when considering when you are funding a project in this country. What can people afford? You know, we talk about folks that already have potable water and sanitation, then the folks that do not have any at all, no access. So those folks are typically going to be in rural America, much lower income.

Senator BOOZMAN. So we are really kind of in a Catch–22 situation, as you mentioned. Again, the EPA, sometimes rightfully so, sometimes very, very aggressively trying to get the last little bit out that is so expensive as far as our point sources and things. That raises rates, as you make it such that you remedy that. But then, as you point out, you are in a situation where people actually don't use as much water, so then that raises rates further.

Mr. MCNULTY. It certainly can.

Senator BOOZMAN. Very much.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Boozman.

Senator Cardin.

Senator CARDIN. Thank you, Mr. Chairman.

I want to thank all of our witnesses. To me, this is one of the most important subjects we have to deal with as an area where we can get Democrats and Republicans working with this Administration to get things done.

As Senator Carper pointed out in his opening comments, we are not proud of the fact that we get a D on infrastructure. When you go to any other country, just about, certainly in the industrial world, and see the way that they deal with transportation versus the way we do, we need to invest more. I think the number is $1.6 billion the American Society of Civil Engineers said we need in regards to our surface transportation.

Mr. Chairman, I just really want to underscore the point that you made in your opening statement about rural areas versus urban areas. In Maryland, I can tell you the Appalachia Highway System program now, which has been rolled into the overall surface transportation programs, is absolutely vital for job creation in western Maryland. The north-south highway, which is important for the people of West Virginia, Pennsylvania, and Maryland, is critical to their economic future, and it doesn't come without a cost. There is an initial cost, but you get it back by economic growth.

So, yes, I–81, which is very important for the Washington County part of western Maryland, is a vital link which we are trying to get some fast lane grants for, but we need more money. And with Senator Carper on the eastern shore of Maryland, I think he would

agree with me that a lot of people want to get to our beaches, and there is a real issue of safety in getting through the eastern shore of Maryland and Virginia and Delaware, and they are expensive to do these highway projects, and we need to do it.

In the urban areas we have our challenges. I live in one of the most congested corridors in the country, one of the most congested corridors literally in the world, the northeast corridor, and we need to invest in ways to deal with this. I want to get Senator Carper down here easier than his Amtrak ride every day. We could make that a little faster for him if we had modern high speed rail.

It was interesting. I had my staff go back, and it was Senator Moynihan who advocated as a member of this Committee back in the 1990s for inclusion of MAGLEV in the highway bill. MAGLEV has been here for a long time. Japan has a system that carries many thousands of passengers at world record speeds of 361 miles per hour, and Japan is now planning another 300 miles of MAGLEV route between Tokyo and Osaka to carry 100,000 passengers.

I mention that because that is what other countries are doing, and we are still stuck in technology that is really kind of old. So we do need the capacity to modernize our infrastructure system.

I know that Prime Minister Abe will be here this weekend, and he is going to talk to President Trump about partnerships that could be done with Japan to advance MAGLEV technology that could help our northeast corridor in dealing with some of these issues, so there are real opportunities here.

But let me just take my remaining time with Mr. Pratt to go over the water issues. I agree with Senator Boozman, affordability is the key issue on our water. Our water infrastructure needs, the number I have is about $655 billion over the next 20 years in order to modernize our wastewater and clean water supplies. We have 240,000 water main breaks a year, costing literally billions of dollars in waste. So a more efficient system would help everybody.

But if you are talking about affordability, then you need support, public support to deal with the water infrastructure. If you put it all in the rates or you look for public-private partnerships, which I am for, but there is going to be a cost to the consumer in the public-private partnership if you can make money off the project. So we really need a stronger commitment for the basic programs, the revolving funds, et cetera, so that we can modernize our water infrastructure, make it more efficient without an excessive burden on the ratepayers who are middle income families who can't afford it.

I would like to get your experiences that you have seen.

Mr. PRATT. Of course, I am coming at this from a perspective of a natural resource manager, but certainly it is within the realm of what my sphere of exposure is involved in. I think it is an overarching issue that the public is not aware, sometimes, of the risks of ignorance that we have put ourselves in, and that is at the Federal and State level. We have ignored problems we have known about for a long time, whether it is a coastal hazard, as Senator Booker was talking about earlier and others. We have exposure to a number of risks, certainly water supply, water distribution, transportation systems, the infrastructure that protects those.

I don't think we have informed the public well enough. The imperative is not out there to the degree that it should be to get a public movement behind that investment, and I think we have to tell the story better. My reaction is basically we need to be very gut-honest about how impoverished we have been in maintaining our infrastructure systems and how much more work we have to do in an ever increasing population with demands on limited resources.

Senator CARDIN. I thank you for that answer. I will point out that this Committee will hear a great deal from me on the Chesapeake Bay and what we need to do, and I appreciate Delaware's leadership on that. How we deal with wastewater is very much a critical factor in how we deal with the Chesapeake Bay, and dealing with shorelines and the way erosion takes place is very much a part of this overall strategy. So I thank you for your answer.

Senator BARRASSO. Thank you, Senator Cardin.

Senator Sanders.

Senator SANDERS. Mr. Chairman, thank you very much, and thank you for holding this really important meeting in an increasingly contentious political environment in the Senate and around this country. I would hope very much that on this issue there could be a coming together to address what almost everybody understands is a national crisis. So thank you very much for holding the hearing, and I look forward to working with you.

Let me just talk about Vermont for a second. Vermont's roads need an additional investment of $700 million a year to get into a state of good repair. Vermont, small State. The only reason Vermont is now in 28th place in the Nation for road condition is because we had to rebuild after Hurricane Irene, which knocked out a lot of our bridges and our roads. So we invested a lot. But I would hope we can go forward in rebuilding our crumbling infrastructure not as a result of disasters, but being proactive in it.

We are the richest country in the history of the world. We used to, Mr. Chairman, lead the world in cutting edge infrastructure. We were No. 1. That is no longer the case; we are now behind many, many other countries. And the result of that is loss of productivity, the result of that is the loss of safety. Too many accidents occur because of a crumbling infrastructure. And the result of that is the loss of economic potential in jobs.

So when we talk about rebuilding our crumbling roads and bridges and water systems and wastewater plants, I had the opportunity to be in Flint, Michigan, a year or so ago, and what I saw there made me disbelieve that I was living in the United States of America. But it is not only the water in Flint, Michigan; we have failing water systems all over this country.

We used to lead the world in terms of our rail. Today we are behind Japan, behind China, behind many, many other countries.

So, Mr. Chairman, I think that there is bipartisan agreement that we have not invested in our infrastructure, and I think there is bipartisan understanding that when we invest we create jobs.

Now, a couple of years ago I brought forth legislation called the Rebuild America Act, and I proposed a $1 trillion investment, and at that point that was thought, by Republicans and Democrats, to be a wild and crazy idea. But I am glad—I think there is an under-

standing that given the depth of the problem, given what the American Society of Civil Engineers tells us in terms of a need to invest $1.6 trillion above current spending levels, that $1 trillion is in fact a reasonable amount of money.

And when we do this not only do we create a Nation that is more productive and safer; we also create up to 15 million jobs, and jobs in areas where we need them, and one of the areas certainly in rural America has to do with broadband.

So, Mr. Chairman, I want to put in a plug for broadband as part of our infrastructure, with the understanding that any small town in Wyoming or a small town in Vermont, you are not going to attract businesses. Kids are not going to be able to do well in school unless we have access to high quality broadband. So this is a proposal that makes sense on many levels, and I think there is bipartisan support.

Where the difference of opinion is going to come, I think, which is outside of the jurisdiction of this Committee, is how we fund the trillion dollars. I am not sympathetic to giving huge tax breaks to Wall Street or the large multinational corporations who invest in our infrastructure. That is not the way we should be going, in my view. I think interest rates are very low now. I think it is appropriate that in a Nation which is spending $650 billion on the military, yes, that over a 10-year period we can invest $1 trillion in rebuilding our infrastructure, which will pay for itself by job creation and increased tax revenue.

So I would just like to ask, and I apologize for not hearing any of your comments, but somebody, maybe the gentleman from Wyoming, about the needs of rural America. Wyoming is different from Vermont, but we are both very rural States.

Where would you like to see infrastructure investment going?

Mr. PANOS. I can speak for surface transportation in Wyoming and say that any proposal that brings forward something that we can take advantage of as a rural State is a positive thing. P-3s and other kinds of borrowing doesn't work in Wyoming, doesn't work in rural States, because we simply do not have the revenue generation to be able to support that kind of thing. So any proposals that move forward are helpful.

The second thing I would say is the existing formula system, the formulaic system for delivering those dollars, those Federal dollars to rural States works; and yes, there could be improvements in project delivery, yes, there could be improvements in having flexibility for States, but those systems do work. So enhancing moneys to those existing delivery systems would be very positive for rural States like Wyoming.

Senator SANDERS. Thank you, Mr. Panos. Let me ask you this. In Vermont, with a few exceptions, and we are expanding it a little bit, if you live in a more rural area, and you want to get to work in a more urban area—I use those in quotes because our largest city is 40,000—the only way to do it is by an automobile. And I think we need to build up our rural bus system as well. Do you have problems with that in Wyoming? Can people get to work in other ways than through an automobile?

Mr. PANOS. Through our Federal funding programs, we do have a transit program through the Department of Transportation that

connects us, the State government, with our local governments, counties and cities, to provide senior transportation, to provide——

Senator SANDERS. Just senior. But if I am a worker in an area, and I want to get to work other than by automobile, in Vermont it is pretty hard to do. Is that the case in Wyoming as well?

Mr. PANOS. It is hard, but not impossible. We also have private sector agreements with some of our largest energy producers that also have transportation for their workers to come from cities. So we have some of that in Wyoming as well. But it is different than needs in some of the other States that are not like Vermont and Wyoming. It is different than the needs in New York or some other places.

Senator SANDERS. Absolutely. Thank you.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Sanders.

We are going to go to a second round, just a couple of quick questions that we have.

From a Colorado and Wyoming standpoint, the testimony mentions the need for direct Federal investment in highways. I agree. I was chairman of the Transportation Committee in the Wyoming State Senate before getting elected to this position.

Before Congress increases funding, I think it is critical that we show the American people we are actually being efficient with the current levels of funding, so are you aware, from a Colorado-Wyoming standpoint, of any actions that Congress could take to make the projects less costly to ensure that the current spending is efficient as possible? Are there unnecessary burdens and expenses that you have to deal with that we could just get more bang for the buck?

I don't know; Mr. Bhatt, if you would like to start, and then Mr. Panos.

Mr. BHATT. Thank you, Senator, and thank you for your career work in this transportation field. I think that I hear this a lot from folks, you know, what can the Federal Government do, what can State governments do, what can locals do, what can we do better. Maybe it would be useful to have a cost-benefit analysis done by Congress to come in, and from a non-partisan viewpoint just say what are the costs that are imposed by some of these regulations or by some of these processes, and what are the benefits, because I think that some people view costs and benefits very differently, and I think it would be useful to understand where there are necessarily benefits and where there are actual costs that are slowing down the system. And then, at the end of that, everybody just says, OK, it was bipartisan, so in a bipartisan way we will implement it. I think that might be a useful exercise.

Senator BARRASSO. Mr. Panos.

Mr. PANOS. Mr. Chairman, I would say that reducing program delivery burdens would be helpful for us. I will give you an example. We have a project in the northern part of our city of Sheridan, called the North Sheridan Project; it is an interchange project. Fourteen years for us to develop the planning, permitting, and program delivery, about 2 years to complete. And this is a safety project for our commercial traffic that is moving through that part

of our State. So anything that we can do to deliver projects quicker, that is a good thing.

Improving States' flexibility and also improving our flexibility in the use of some of our infrastructure. Let me give an example. The Senator had talked about broadband, and one of the things that we do in Wyoming is we are engaged in a broadband infrastructure project, as the Chairman knows, and we use our rights-of-way along the sides of our highways to run our broadband lines. That single decision has created an accelerated broadband infrastructure throughout the State of Wyoming. So that single decision, that single flexibility allowed us to do more things with the existing infrastructure that the Federal Government is funding in our State.

Senator BARRASSO. And then a final question that follows up with what Senator Sanders was talking about about rural States, could you talk about how Federal investment in transportation projects in rural States also can benefit urban States?

Mr. PANOS. Yes. There are a couple of things. One is the national connectivity benefit. Truck traffic through Wyoming starts in the West Coast and goes to Chicago or goes to East Coast cities. This is a national benefit. The idea that we invest in those interstate highways will help commerce at both ends of the trip.

The other is, again, as I think we stated in my written testimony, these highways in rural States bring product to market; they bring agricultural products, they bring forest products, they bring energy products to markets that they need to go to. So there is a strong benefit there to urban areas by investing in rural States.

Finally, in both my opening statement and in my written testimony I mentioned tourism. These roads bring millions of visitors to Yellowstone National Park and Mount Rushmore every year. These are dollars that are spent in America, tourism dollars that are spent in America, and not in Europe or Canada or some other place; and the reason is they can get there, and they can home safely. And the only way that they can get there, as the Senator from Vermont had pointed out, is a highway, is by car. So investing in rural States helps urban areas and the Nation in those respects.

Senator BARRASSO. Thank you, Mr. Panos.

Senator Carper.

Senator CARPER. Thank you very much.

I had a special interest in that question and your answer. I thank you. I will just scratch that one off my list.

We have a history in this country of a user pay approach; those who use roads, highways, bridges pay for them, directly or indirectly. Is that an approach that we should generally stick with or move to something else, Mr. Panos?

Mr. PANOS. In Wyoming, with our surface transportation——

Senator CARPER. Very brief. Very brief.

Mr. PANOS [continuing]. We have a mix of user fees, registration driver's license fees, and what you had referred to earlier, the tax. All of that adds up to only about 30 percent; 50 percent comes from the Federal Government, and then the other 20 percent or so comes from a variety of different sources.

Senator CARPER. I didn't ask you for the mix. I asked is the idea of user fee approaches, something we have done forever, is that something we should move away from? We can borrow money to

do all this; we repatriate money from overseas for multinational corporations. Should we stick with the user fee?

Mr. PANOS. I apologize for answering with a mix. Yes, moving toward user fees is helpful.

Senator CARPER. Thank you.

I know you are water, but any thoughts on user fees, user pays? I realize in some places it is a hardship, especially in very poor communities.

Mr. MCNULTY. Well, Senator, we are certainly doing that now through rates, so that is the approach we have across the country. You know, it is not just 100 percent grant funded in many cases; and even if it is you still have to have user rates to pay for O&M.

Senator CARPER. OK, thanks.

Same to you.

Ms. BOBBITT. Thank you, Senator. Yes, we definitely support user fees. In Oklahoma we had gas taxes, as we do on the Federal, and in our wisdom in the dirty thirties, they robbed our transportation funds and used it for other things, and now we can't support it. But user fees, people are always willing to support user fees. Thank you.

Senator CARPER. Thank you.

Tony, I know this is not really up in your alley, but any comments before I go to Shailen?

Mr. PRATT. Well, I do have one thing, if I could.

Senator CARPER. Very briefly.

Mr. PRATT. The Highway Maintenance Trust Fund is a good example of a user fee that is not being applied to what it would be used for, and that would be something else to keep in mind in this discussion.

Senator CARPER. Thank you.

Shailen.

Mr. BHATT. Yes on user fees, and I would say that users are already paying higher taxes in an unintelligent fashion because they are sitting in congestion, they are paying more for goods, and so the user is——

Senator CARPER. Paying for repairs of their personal vehicles.

Mr. BHATT. Yes.

Senator CARPER. Another follow up, if I could, for you, Mr. Secretary, Secretary Bhatt. Colorado, one of the fastest growing States in the country in terms of population. I am told your population is expected to increase by nearly half in the next 25 years. And much of the population growth is anticipated to be in the greater Denver area, but also the urban centers. What challenges do growing urban areas face in Colorado and other places? How are you planning to ensure mobility for a larger population there?

Mr. BHATT. Thank you, Senator Carper. We have an infrastructure that was designed in the 1950s, built in the 1960s, for a population of 3 million people in Colorado. We are at million people now. We are going to 8 million people in the next 20 years, and I can't build my way out of congestion in Denver.

Senator CARPER. What do you think, contraception?

[Laughter.]

Mr. BHATT. Possibly.

Senator CARPER. That would be a unique use of the Transportation Trust Fund.

Mr. BHATT. Yes, planned transportation is where we need to go. But you used the word mobility. I think that whether it is in a car, in ride sharing, in transit, in multi-modal, I think that in the urban areas. I can't widen I–25 to the 15 lanes that it needs because we will just never do it. If we don't have the money, we won't have the environmental clearance. So it is not just about widening roadways in our urban areas, but in our rural areas. It is just not a one size fits all, as Senator Ernst talked about.

Senator CARPER. All right, time has expired.

Mr. Chairman, great hearing. Great panel. Thank you all so much.

Senator BARRASSO. Thank you very much, Senator Carper.

Senator Sanders.

Senator SANDERS. Thank you, Mr. Chairman.

There are some people who think that we are looking at a looming water crisis in this country in terms of being able to deliver clean water to the people of America. Are they right in their concerns? Can somebody comment on the situation of making sure we get clean water to people in this country?

Mr. PRATT. I am the closest person for that. It is not my bailiwick, but I will say that we look at water resources across the Nation. There were some questions earlier today using problems we have had around the Nation already, in Madison and other locations, and I think we have an aging infrastructure in the water delivery system, as well. Water pollution from septic systems is polluting our bays. Senator Cardin mentioned about the Chesapeake Bay problems.

And the simple answer, Senator, is yes, we do have a looming problem. I think it is something we need to look into and inform the public as to what the risks are. I have heard it referred to as patching holes with gum and tape as best we can, but we need to do a lot better, and it should very much be a part of this discussion.

Senator SANDERS. Further discussion on water? Anyone want to comment on it?

Sir.

Mr. BHATT. I would just say in Colorado water is everything, you know, where it comes from, how it gets disbursed. So while I do transportation for a living, I think that a lot of our growth that we talked about, if there is not clean water and water supply in Colorado and the rest of the country, then why are we doing any of this?

Senator SANDERS. Right.

All right, next question is rail. When we look at infrastructure, is it appropriate to look at rebuilding an aging rail system, which now, in many ways, lags behind other major countries around the world? Am I right on that or wrong on that?

Yes.

Mr. BHATT. Sir, prior to serving in my current role, I was the Secretary of Transportation in Delaware, served on the Northeast Corridor Commission. Senator Carper, a long advocate for rail. I think it is ridiculous that in the U.S. we don't have the rail as an

option in urban areas where we have the density that is similar to that in Japan or other urban networks in Europe.

The efficiency is there; there is transit-oriented development that comes out of it. We have a lot of sprawl caused by a car culture that needs to be addressed. Some urban centers are doing it, but there are certainly corridors in this country that could benefit, whether it is through new technologies like MAGLEV or Hyperloop, but rail investment is certainly something that is lagging in this country.

Senator SANDERS. And in terms of climate change, keeping trucks off the road and investing in cargo moving through rail would also be of help, would it not?

Mr. BHATT. I think one of the best commercials I have ever seen was one of the freight commercials that said we move a ton of freight with a gallon of diesel. I forget. I am butchering that completely.

Senator CARPER. It is a ton of freight from D.C. to Boston, one gallon of diesel fuel.

Mr. BHATT. I set that up nicely for you, sir.

[Laughter.]

Mr. BHATT. So, yes, from a climate impact statement, it just makes a lot of sense. We talk a lot about passenger, both cars and moving people around, but freight is an incredibly important part of that, and passenger rail can help solve a lot of that problem as well.

Mr. PRATT. If I could just add one thought to that. I worked on the Regional Sediment Management Plan for the Delaware Bay and Estuary, and in that capacity worked with a colleague from the State of New Jersey, a transportation planner, and he and I had a lot of private conversations, and he talked about New Jersey being a particularly congested State that the highway system is already obsolete. As best as they can try to stay ahead of it in the very urbanized corridor of the Route 95 corridor, and we have to go back to relying upon a tri-modal transportation surface system, which includes obviously rail, waterway, and roads.

So if we don't embrace that, if we don't embrace all three options—and I know a previous secretary of transportation, Anne Canby, who was there before Secretary Bhatt, talked about we have a lot of chicken going out of Delmarva and empty cars coming back, and we have coal comes down and we have chicken cars going back, how we can utilize these cars a lot better on rail tracks.

Senator SANDERS. All right. As somebody who believes we should move aggressively to wind and solar and sustainable energies, do we have an electric grid capable of supporting the movement to sustainable energy? Anyone want to comment on the State of our electric grid? Any thoughts on that? No? OK.

All right, Mr. Chairman, thank you very much.

Senator BARRASSO. Thank you very much, Senator Sanders.

I would mention that Bill Gates, this past year, has his reading list, and one of the books that he recommends reading is The Grid. He has met in the past with members of some of——

Senator SANDERS. I thought you were going to say he was going to read my book.

[Laughter.]

Senator BARRASSO. I didn't see your book on his list of the best. There was one called String Theory, but I don't think that was your book. No, thank you. Would you like to plug the book shamelessly right now?

[Laughter.]

Senator BARRASSO. Well, if there are no further questions, members may submit follow up questions for the record. The hearing record will be open for 2 weeks.

I want to thank all the witnesses today for being here, for your time, your testimony. I think it was very helpful.

The hearing is adjourned.

[Whereupon, at 12:18 p.m. the Committee was adjourned.]

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