

**AMERICA'S INFRASTRUCTURE NEEDS:
KEEPING PACE WITH A GROWING ECONOMY**

HEARING

BEFORE THE

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

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

FEBRUARY 13, 2019

Printed for the use of the Committee on Commerce, Science, and Transportation



Available online: <http://www.govinfo.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

52-565 PDF

WASHINGTON : 2023

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

ROGER WICKER, Mississippi, *Chairman*

JOHN THUNE, South Dakota	MARIA CANTWELL, Washington, <i>Ranking</i>
ROY BLUNT, Missouri	AMY KLOBUCHAR, Minnesota
TED CRUZ, Texas	RICHARD BLUMENTHAL, Connecticut
DEB FISCHER, Nebraska	BRIAN SCHATZ, Hawaii
JERRY MORAN, Kansas	EDWARD MARKEY, Massachusetts
DAN SULLIVAN, Alaska	TOM UDALL, New Mexico
CORY GARDNER, Colorado	GARY PETERS, Michigan
MARSHA BLACKBURN, Tennessee	TAMMY BALDWIN, Wisconsin
SHELLEY MOORE CAPITO, West Virginia	TAMMY DUCKWORTH, Illinois
MIKE LEE, Utah	JON TESTER, Montana
RON JOHNSON, Wisconsin	KYRSTEN SINEMA, Arizona
TODD YOUNG, Indiana	JACKY ROSEN, Nevada
RICK SCOTT, Florida	

JOHN KEAST, *Staff Director*

CRYSTAL TULLY, *Deputy Staff Director*

STEVEN WALL, *General Counsel*

KIM LIPSKY, *Democratic Staff Director*

CHRIS DAY, *Democratic Deputy Staff Director*

RENAE BLACK, *Senior Counsel*

CONTENTS

	Page
Hearing held on February 13, 2019	1
Statement of Senator Wicker	1
Prepared statement	3
Statement of Senator Cantwell	4
Prepared statement	5
Statement of Senator Gardner	56
Statement of Senator Baldwin	58
Statement of Senator Thune	60
Statement of Senator Tester	61
Statement of Senator Blackburn	64
Statement of Senator Rosen	66
Statement of Senator Blumenthal	68
Statement of Senator Lee	69
Statement of Senator Duckworth	71
Link for <i>Chicago Tribune</i> article	72
Prepared statement from GPS Innovation Alliance (GPSIA) and the CompTIA Space Enterprise Council	73
Statement of Senator Cruz	74
Statement of Senator Udall	76
Statement of Senator Markey	77
Statement of Senator Klobuchar	79

WITNESSES

William Friedman, Chairman, American Association of Port Authorities, President and Chief Executive Officer, Cleveland-Cuyahoga County Port Authority	6
Prepared statement	8
Ian Jefferies, President and Chief Executive Officer, American Cable Associa- tion	16
Prepared statement	17
Matthew M. Polka, President and Chief Executive Officer, American Cable Associations	24
Prepared statement	25
Chris Spear, President and Chief Executive Officer, American Trucking Asso- ciations	33
Prepared statement	34
Larry I. Willis, President, Transportation Trades Department, AFL-CIO	45
Prepared statement	46

APPENDIX

Letter dated January 15, 2019 to Hon. Nancy Pelosi, Hon. Kevin McCarthy, Hon. Mitch McConnell and Hon. Charles E. Schumer from a coalition of energy businesses, trade associations, researchers, energy officials and ad- vocacy organizations	83
Jason Hartke, President, The Alliance to Save Energy, prepared statement	85
Resilient Navigation and Timing Foundation, prepared statement	85
Response to written questions submitted to William Friedman by:	
Hon. John Thune	87
Hon. Shelley Moore Capito	88
Hon. Maria Cantwell	89
Hon. Amy Klobuchar	90
Hon. Tom Udall	91

IV

	Page
Response to written questions submitted to Ian Jefferies by:	
John Thune	91
Hon. Maria Cantwell	92
Hon. Tom Udall	95
Hon. Jon Tester	95
Response to written questions submitted to Matthew M. Polka by:	
Hon. Shelley Moore Capito	96
Hon. Maria Cantwell	97
Hon. Amy Klobuchar	100
Hon. Tom Udall	100
Hon. Jon Tester	100
Response to written questions submitted to Chris Spear by:	
Hon. John Thune	101
Hon. Shelley Moore Capito	102
Hon. Maria Cantwell	103
Hon. Tom Udall	105

AMERICA'S INFRASTRUCTURE NEEDS: KEEPING PACE WITH A GROWING ECONOMY

WEDNESDAY, FEBRUARY 13, 2019

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

The Committee met, pursuant to notice, at 10:15 a.m. in room SD-G50, Dirksen Senate Office Building, Hon. Roger Wicker, Chairman of the Committee, presiding.

Present: Senators Wicker [presiding], Thune, Cruz, Moran, Gardner, Blackburn, Lee, Scott, Cantwell, Klobuchar, Blumenthal, Markey, Udall, Peters, Baldwin, Duckworth, Tester, and Rosen.

OPENING STATEMENT OF HON. ROGER WICKER, U.S. SENATOR FROM MISSISSIPPI

The CHAIRMAN. Good morning. We may break at any moment to conduct some business, but I want to welcome everyone here today on behalf of my colleague, Ranking Member Cantwell, to discuss a pressing issue facing our nation: the state of our country's infrastructure.

As we all know, President Trump continues to call for infrastructure revitalization. Just last week, in his State of the Union Address, he called on Congress to work with the Administration to pass an infrastructure bill.

Infrastructure impacts nearly every corner of our country and economy—the corn and soybeans grown in the Midwest that are shipped through the Port of Seattle, the \$323 billion in goods shipped each year to and from Colorado primarily by truck, the manufactured products moving through the Port of Anchorage, the 150 million tons of freight traveling by rail through West Virginia each year, and the billions of dollars of machinery shipped to and from Mississippi each year.

Unfortunately, what was once the envy of the world, our infrastructure system has fallen behind on what is required to maintain America's competitiveness in a global market.

The American Society of Civil Engineers Report Card gives our infrastructure a grade of D+. Our ports are congested. Millions continue to be without access to high-speed internet. Americans spend eight billion hours stuck in traffic each year.

As an example, Los Angeles drivers spend 102 hours a year in traffic during peak times while London drivers spend only 74 hours per year.

In Mississippi alone, there are thousands of structurally deficient bridges. These statistics mean fewer jobs, less time with family, lower economic growth or worse.

Fortunately, improving our infrastructure is an area where bipartisan agreement and cooperation can be found. This committee already has built upon and will continue to build on this history of bipartisanship as it relates to transportation and infrastructure legislation.

Just last week, we kicked off the 116th Congress with a hearing on 5G Technology and the societal benefits of maintaining American leadership in innovation.

5G has the ability to usher in a new era of connectivity through facilitation of cutting-edge medical services or autonomous and connected transportation technologies that allow vehicles to talk to each other or to communicate with roads, bridges or traffic signals in order to reduce accidents and increase mobility.

Last fall, the Committee led Congress in passage of the Federal Aviation Administration's Reauthorization Act, which authorized the Federal Aviation Transportation Programs for 5 years, promoting airport infrastructure safety and American leadership in aviation.

Additionally, led by our friends over at the Committee on Environment and Public Works, where I serve with many members of this committee, the 115th Congress authorized our Water Resources Infrastructure Programs by passing the America's Water Infrastructure Act.

While it is recent, the Committee played a prominent role in fixing America's surface transportation in 2015. The FAST Act, a 5-year bill to improve our Nation's infrastructure, provided long-term funding certainty for transportation infrastructure investment. It also improves surface transportation safety, enhanced economic growth, increased freight connectivity, and streamlined project delivery. This important legislation expires in 2020.

Working with our colleagues on the other relevant committees, the Commerce Committee will continue to work on the future of our infrastructure system.

Our committee has broad jurisdiction over issues affecting ports, rail, trucking, aviation, and telecommunications. More specifically with respect to transportation, the Commerce Committee has jurisdiction over the Department of Transportation's Office of The Secretary, which includes grant programs, like BUILD, which has never been authorized, and important programs under the BUILD America Bureau.

Additionally, this committee oversees various Highway Trust Fund and General Fund programs under important modal administrations and independent agencies, including the FAA, the Federal Railroad Administration, National Highway Traffic Safety Administration, Federal Motor Carrier Safety Administration, Maritime Administration, Surface Transportation Board, and National Transportation Safety Board.

On telecommunication issues, this committee oversees the FCC, the Corporation for Public Broadcasting, and National Telecommunications and Information Administration of the Department of Commerce.

Given its jurisdiction, this committee is in a unique position to examine how technology, including advances in automation, artificial intelligence, and connectivity, can revolutionize transportation and mobility for the 21st Century.

During today's hearing, I look forward to hearing from our witnesses.

Mr. William Friedman, Chairman of the American Association of Port Authorities and also the President and Chief Executive Officer of the Cleveland-Cuyahoga County Port Authority; Mr. Ian Jefferies, President and Chief Executive Officer of the Association of American Railroads; Matthew Polka, President and Chief Executive Officer of the American Cable Association; Mr. Chris Spear, President and Chief Executive Officer of the American Trucking Association; and Mr. Larry Willis, President of the Transportation Trades Department, AFL-CIO.

Their testimony will address many of the critical issues that this committee will need to discuss.

I look forward to a thoughtful discussion of these important topics so we can work to rebuild our Nation's infrastructure.

I want to welcome all of our witnesses and recognize my friend, the Ranking Member, Senator Cantwell.

[The prepared statement of Senator Wicker follows:]

PREPARED STATEMENT OF HON. ROGER WICKER, U.S. SENATOR FROM MISSISSIPPI

Good morning. I am here today with my colleague, Ranking Member Cantwell, to discuss a pressing issue facing our nation—the state of our country's infrastructure.

As we all know, President Trump continues to call for infrastructure revitalization. Just last week in his State of the Union address he called on Congress to work with the Administration to pass an infrastructure bill.

Infrastructure impacts nearly every corner of our country and economy—the corn and soybeans grown in the Midwest that are shipped through the Port of Seattle, the \$323 billion in goods shipped each year to and from Colorado primarily by truck, the manufactured products moving through the port of Anchorage, the 150 million tons of freight traveling by rail through West Virginia each year, and the billions of dollars of machinery shipped to and from Mississippi each year.

Unfortunately, what was once the envy of the world, our infrastructure system has fallen behind on what is required to maintain America's competitiveness in a global market.

The American Society of Civil Engineers report card gives our infrastructure a grade of D+. Our ports are congested. Millions continue to be without access to high-speed internet. Americans spend eight billion hours stuck in traffic each year. As an example, Los Angeles drivers spend 102 hours a year in traffic during peak times, while London drivers spend only 74 hours a year. In Mississippi alone, there are thousands of structurally deficient bridges. These statistics mean fewer jobs, less time with family, lower economic growth, or worse.

Fortunately, improving our infrastructure is an area where bipartisan agreement and cooperation can be found. This Committee already has built upon and will continue to build on this history of bipartisanship as it relates to transportation and infrastructure legislation.

Just last week, we kicked off the 116th Congress with a hearing on 5G technology and the societal benefits of maintaining American leadership in innovation. 5G has the ability to usher in a new era of connectivity through facilitation of cutting edge medical services or autonomous and connected transportation technologies—that allow vehicles to talk to each other or to communicate with roads, bridges, or traffic signals in order to reduce accidents and increase mobility.

Last fall, the Committee led Congress in passage of the Federal Aviation Administration Reauthorization Act, which authorized the Federal aviation transportation programs for five years, promoting airport infrastructure, safety, and American leadership in aviation.

Additionally, led by our friends over at the Committee on Environment and Public Works, where I serve with many members of this committee, the 115th Congress authorized our water resources infrastructure programs by passing the America's Water Infrastructure Act.

While less recent, the Committee played a prominent role in the Fixing America's Surface Transportation in 2015. The FAST Act—a five-year bill to improve our Nation's infrastructure—provided long-term funding certainty for transportation infrastructure investment. It also improved surface transportation safety, enhanced economic growth, increased freight connectivity, and streamlined project delivery. This important legislation expires in 2020.

Working with our colleagues on the other relevant committees, the Commerce Committee will continue to work on the future of our infrastructure system. Our committee has broad jurisdiction over issues affecting ports, rail, trucking, aviation, and telecommunications.

More specifically, with respect to transportation, the Commerce Committee has jurisdiction over the Department of Transportation's Office of the Secretary, which includes grant programs like BUILD, which has never been authorized, and important programs under the Build America Bureau.

Additionally, this Committee oversees various Highway Trust Fund and General Fund programs under important modal administrations and independent agencies, including the FAA, the Federal Railroad Administration, National Highway Traffic Safety Administration, Federal Motor Carrier Safety Administration, Maritime Administration, Surface Transportation Board, and National Transportation Safety Board.

On telecommunications issues, this Committee oversees the FCC, the Corporation for Public Broadcasting, and National Telecommunications and Information Administration of the Department of Commerce.

Given its jurisdiction, this committee is in a unique position to examine how technology, including advances in automation, artificial intelligence, and connectivity, can revolutionize transportation and mobility for the 21st Century.

During today's hearing, I look forward to hearing from our witnesses:

- Mr. William Friedman, Chairman of the American Association of Port Authorities, and also the President and Chief Executive Officer of the Cleveland-Cuyahoga County Port Authority;
- Mr. Ian Jefferies, President and Chief Executive Officer of the Association of American Railroads;
- Matthew Polka, President and Chief Executive Officer of the American Cable Association;
- Mr. Chris Spear, President and Chief Executive Officer of the American Trucking Association;
- Mr. Larry Willis, President of the Transportation Trades Department, AFL-CIO

Their testimony will address many of the critical issues that this committee will need to discuss.

I look forward to a thoughtful discussion on these important topics so we can work to rebuild our Nation's infrastructure.

STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

Senator CANTWELL. Thank you, Chairman Wicker, and I, too, welcome all the witnesses here today.

Sometimes a good message is worth repeating. So let me add my infrastructure investment rejoinder to your comments.

We know the importance of infrastructure and we also know what happens when we don't invest. Just this week, the *Seattle Times* ran an article about how Seattle had the sixth worst congestion in our country and that drivers lost a whopping 138 hours to traffic last year. That's almost 6 days. So that is about productivity and about cost.

To add insult to injury, yesterday the 2019 top truck bottlenecks reports came out and found out Washington State has six of the top 100 bottlenecks in the country. So to my colleague's comments

about “how freight can’t wait” and how the competitiveness of moving our products is critical to not just my state’s products but to our entire nation’s, I thank him for mentioning those.

In Washington State, we know we have to invest in infrastructure and we’re not alone. Traffic isn’t the only problem. We know that whether that is bad roads or packed buses or not implementing PTC that they can have tragic consequences.

So what we need to do is move forward. The bottlenecks that were mentioned by my colleague on rail lines and our inability to move product can lessen our Nation’s competitiveness if we don’t get infrastructure right.

It’s not just that people or consumers lose their products, have to wait or that the cost is more. We lose our competitiveness to other nations who might be able to move those products faster.

And my colleague also mentioned the underserved, rural and tribal communities that lack appropriate broadband access, which is critical to competing in the 21st Century global economy.

So we all agree that we need a heavy investment in infrastructure. I know the President originally called for a \$1 trillion investment in infrastructure, but the plan that was put forth at \$200 billion in Federal investment, relies heavily on public-private partnerships and more tolls. I think this has been received with a great deal of skepticism across the country.

What I think we need to do, my colleagues on this side of the aisle put forth an infrastructure proposal and really tried to focus on the return on investment that we get from infrastructure investment, whether that is aviation, maritime, broadband, or things as basic as grid modernization, are about transforming our community and using the resources of our cherished infrastructure investment in the appropriate ways.

I hope our Committee will take a look at that proposal.

This past month, with the shutdown, I think we got a very clear look at what happens when transportation doesn’t work. We know that transportation employees, like air traffic controllers and transportation security workers, met their challenges but faced many of them, and we don’t want to see that happen again.

The shutdown is a wake-up call for us that says that we have to invest in these critical aspects of infrastructure to move our economy forward.

So I look forward to working with the Chairman and the members of this committee on our economic competitiveness as a nation. It requires real investment in infrastructure and I hope that we’ll get a chance to talk about that.

Thank you, Mr. Chairman.

[The prepared statement of Senator Cantwell follows:]

PREPARED STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

Thank you Chairman Wicker, and I too welcome all the witnesses here today. Sometimes a good message is worth repeating, so let me add my infrastructure investment rejoinder to your comments.

We know the importance of infrastructure and we also know what happens when we don’t invest. Just this week *The Seattle Times* ran an article about how Seattle had the 6th worst congestion in our country and that drivers lost a whopping 138 hours to traffic last year. That’s almost 6 days. So that is about productivity and about cost. To add insult to injury, yesterday 2019 Top Truck Bottlenecks reports

came out and found that Washington state has six of the top 100 bottlenecks in the country. So to my colleagues comments about how freight can't wait, and how the competitiveness of moving our products is critical to not just my state's products, but to our entire nation's, I thank him for mentioning those.

In Washington state we know we have to invest in infrastructure, and we're not alone. And traffic isn't the only problem. We know that whether that is bad roads or packed busses or not implementing PTC, that they can have tragic consequences. So what we need to do is move forward. The bottlenecks that were mentioned by my colleague, on our rail lines, and also our inability to move product, can lessen our Nation's competitiveness if we don't get infrastructure right. It's not that people who just are consumers lose their products or have to wait or that the cost is more—we lose our competitiveness to other nations who might be able to move those products faster.

And my colleague also mentioned the underserved and rural communities and Tribal communities that lack appropriate broadband access, which is critical to competing in the 21st century global economy. So we all agree that we need a heavy investment in infrastructure. I know the president initially called for a one trillion dollar investment in infrastructure, but the plan that puts forth the 200 billion dollars of Federal investment relies heavily on a public-private partnership and more tolls. I think this has been received with a great deal of skepticism across the country.

What I think we need to do—my colleagues on this side of the aisle put forth an infrastructure proposal and really try to focus on the ROI that we get from infrastructure investment. Whether that is aviation, maritime, broadband, or things as basic as grid modernization, are about transforming our community and using the resources of our cherished infrastructure investment in the appropriate ways. I hope our committee will take a look at that proposal.

This past month with the shutdown, I think we got a very clear look at what happens when transportation doesn't work. We know that transportation employees, like air traffic controllers and transportation security workers, met their challenges but faced many of them. And we don't want to see that happen again. The shutdown is a wakeup call for us that says we have to invest in these critical aspects of infrastructure to move our economy forward. So I look forward to working with the Chairman and the members of this committee on our economic competitiveness as a nation. It requires real investment in infrastructure, and I hope that we'll get a chance to talk about that.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cantwell, for an excellent opening statement.

We'll begin now with the statements of our witnesses, limited to 5 minutes or less, and it may be that upon reaching a quorum, we'll take care of a few items of business.

But, Mr. Friedman, we are delighted to have you here and you're welcome to proceed.

**STATEMENT OF WILLIAM FRIEDMAN, CHAIRMAN,
AMERICAN ASSOCIATION OF PORT AUTHORITIES,
PRESIDENT AND CHIEF EXECUTIVE OFFICER,
CLEVEAND-CUYAHOGA COUNTY PORT AUTHORITY**

Mr. FRIEDMAN. Chairman Wicker, Ranking Member Cantwell, and members of the Committee, thank you for holding this important hearing and for inviting me on behalf of the American Association of Port Authorities.

Our nation is at a critical time for making needed Federal investments in our port-related infrastructure. Rising freight volumes on all three coasts and the Great Lakes means we must upgrade our water-side and land-side infrastructure to accommodate larger ships, more ships, and the accompanying rising freight volumes and passenger surges.

It has been more than 60 years since President Eisenhower proposed and began building out the interstate highway system in

1956, but until the FAST Act, freight hadn't been fully considered or recognized as a national policy priority.

During this time, there have been eight evolutions of the container ship evolving to ships today with capacities of 18,000 20-foot equivalent units and beyond while our country has relied upon essentially the same connecting infrastructure to accommodate and facilitate this phenomenal growth in freight volumes.

Overall maritime cargo volumes have also seen marked increases over the past six decades which continuously impacts our freight infrastructure. Total U.S. waterborne tonnage roughly doubled between 1956 and 2017. Since 2000, container volumes increased 71 percent, cruise passengers through our port terminals went up 98 percent, and total foreign trade in short tons rose by 37 percent.

At my port, we went from zero container service in 2014 to an annual increase of 50 percent. Our cruise business has increased by 27 percent since 2017, and 13.5 million tons of cargo, foreign and domestic, moved through Cleveland Harbor last year.

The FAST Act created two funding programs totaling 11 billion in dedicated freight funding over 5 years. However, of that total, only 1.13 billion is multimodal-eligible, which is to say not limited to road or highway work. This is far below what's needed to build out a 21st Century multimodal freight network.

Only 200 million of multimodal eligibility remain of the roughly two billion that remains in the INFRA Program.

AAPA members, our ports, have identified more than 20 billion in multimodal funding needs for public port authorities alone over the next decade. In my region of the country, a new lock for cargo ships on the Great Lakes authorized in the 2018 WIA Bill is projected to cost \$922 million.

At my port in Cleveland, we have capital needs exceeding 60 million, including a new main gate, a U.S. Customs facility to process cruise ship passengers, several wharf structure rehabilitations and capacity expansion at our bulk terminal.

Clearly, multimodal project funding levels and project eligibility need to be improved. Therefore, AAPA recommends the following. All freight program funding should be 100 percent multimodal and the cap on INFRA grants and the Formula Program should be lifted.

I want to thank Ranking Member Cantwell for your leadership on multimodal freight programs that we have in place today and we look forward to working with you to expand those programs in the near future.

We also recommend including a maritime supply chain title in the next reauthorization bill that recognizes the evolving supply chain needs of the multimodal freight network.

AAPA strongly supports Chairman Wicker's Port Act which improves MARAD's Port Infrastructure Development Program and would provide resources to port terminals and access projects.

AAPA supports a gas tax increase, a VMT program, and has endorsed the concept of a one-percent freight weigh bill fee to support freight infrastructure improvements.

AAPA strongly supports the current multimodal U.S. DOT grant program, such as BUILD, CRISI, and INFRA, and recommends that any new funding be multimodal eligible.

The Rail Rehabilitation Innovation Financing Program has been in existence since 2002 but only last year did a port, the Port of Everett in Washington State, receive a RRIF loan. More ports could take advantage of the program if the financing fee were removed.

We appreciate the Committee's emphasis on infrastructure security and you should know that our member ports recently identified about four billion in port security funding needs for U.S. port authorities alone over the next 10 years. We need to invest in port infrastructure and we need to secure it.

Thank you for allowing me to testify on behalf of our Nation's ports. AAPA looks forward to working with you throughout the 116th Congress.

[The prepared statement of Mr. Friedman follows:]

PREPARED STATEMENT OF WILLIAM FRIEDMAN, CHAIRMAN, AMERICAN ASSOCIATION OF PORT AUTHORITIES; PRESIDENT AND CHIEF EXECUTIVE OFFICER, CLEVELAND-CUYAHOGA COUNTY PORT AUTHORITY

Chairman Wicker, Ranking Member Cantwell and Members of the Committee, thank you for holding this important hearing.

It is a critical time for making needed Federal investments in the Nation's port-related infrastructure. Rising freight volumes on all three coasts and the Great Lakes means we must upgrade our waterside and landside infrastructure to accommodate larger ships and the accompanying freight volume and passenger surges. Nowhere is there such a stark example of our country's infrastructure needs and the failure to keep pace with our growing economy than with freight-and port-related infrastructure investments.

To put our national state of freight into perspective, it's been more than 60 years since President Eisenhower proposed and began building out the Interstate Highway System in 1956. But until the FAST Act, freight had not been fully considered or realized as a national policy priority.

However, during the same 60-year period, there have been eight evolutions of the containership, starting with vessel capacities of 500 twenty-foot equivalent units (TEUs), evolving to ships with capacities of 18,000 TEUs and beyond, which are as high as a New York skyscraper and as wide as a 10-lane freeway. This means that that shipping industry has reinvested in their ships eight times while our country has relied upon essentially the same infrastructure to accommodate and facilitate an astronomical growth in freight volumes.

Maritime cargo volumes have also seen marked increases over the past six decades and have continuously impacted our freight infrastructure. Total U.S. waterborne tonnage roughly doubled between 1956 and 2017, but this is due almost entirely to U.S. foreign trade growth which has seen nearly a 500 percent increase during that time frame, based on U.S. Army Corps of Engineers data.

In the last 17 years alone, container volumes have increased by 71 percent, passengers through our cruise port terminals increased by 98 percent, and total foreign trade in short tons increased by 37 percent.

At my port, the Port of Cleveland, our sustained growth is a microcosm of our entire industry. We went from zero container service in 2014 to an annual increase of 50 percent. Our cruise business has increased by 27 percent since 2017 and 13.5 million tons of cargo moved through the Cleveland harbor last year.

Ports are national resources and we must invest in them as a nation. Communities adjacent to ports and inland states rely on us for jobs and to connect them to the global economy, as well as to the occasional vacation aboard a cruise ship.

The infrastructure investments we make at ports, be it highway connectors or rail access projects, directly impact our partners in the rail and trucking industry who are with us here today. Just as important, targeted investments at maritime facilities provided a level of certainty and efficiency to a growing and interconnected supply chain.

Ports are the initiators and facilitators of the supply chain. Mega shipping alliances, operating mega-large vessels, have a cascading effect when their ships arrive at U.S. ports. This includes the need for larger cranes to load-and off-load containers, additional port-related labor, more chasses on which to move the containers in, out and around the terminals, and adjusting truck gate times to address the changing work load.

Another supply chain challenge is proper maintenance of Federal navigation channels. AAPA has a legislative proposal to make full use of Harbor Maintenance Tax revenues, based on a fair and equitable funding framework that was agreed to last year by the Nation's public ports.

In 2015, America's seaports took a big step forward after passage of the FAST Act. With the creation of two funding programs; Projects of Highway and Freight Significance (discretionary) and National Highway Freight Program (formula), the FAST Act provided a total of \$11 billion in dedicated freight funding over five years. However, of that total, only \$1.13 billion is multimodal eligible, far below what is needed to build out a 21st century multimodal freight network. Only \$200 million of multimodal eligibility remain for the INFRA program, for the roughly \$2 billion dollars that remain in the INFRA program.

Last year, in *The State of Freight III* report, AAPA members identified more than \$20 billion in multimodal funding needs for public port authorities *alone* over the next decade. A top priority for the port industry continues to be multimodal funding.

The immediate challenges confronting the freight programs are funding levels and project eligibility. The current freight programs are funded out of the Highway Trust Fund, which means that eligible projects are primarily highway focused. Highways are important to our freight network, but ports are multimodal facilitators, meaning trains, trucks, ships and barges all need access to them.

To build off the work in the FAST Act, AAPA recommends that all freight program funding should be 100 percent multimodal. A first step in accomplishing this would be to lift the multimodal cap on the INFRA grants and the formula program.

As Congress begins the process of reauthorizing the FAST Act, MARAD has several freight infrastructure programs that are important tools to be included and leveraged within the national freight portfolio. Specifically, the America's Marine Highway and the Port Infrastructure Development programs are currently authorized initiatives that will need to be revised, updated and refocused to meet the evolving supply chain needs of the multimodal freight network.

AAPA strongly supports Chairman Wicker's PORT Act, which improves MARAD's Port Infrastructure Development program and would provide resources to ports for first-and last-mile multimodal projects that connect ports to the surface transportation network. We would also like to work with the committee in updating the America's Marine Highway so that it can meet the needs of ports and shippers and continue to be a viable supply chain tool. AAPA recommends that Congress include these programs as a maritime supply chain title in the next reauthorization bill.

Having additional maritime freight supply chain resources and updating the existing authorizations will leverage existing resources and programs, providing a more comprehensive approach to building out a 21st century freight network.

An example of refreshing prior authorizations from the last reauthorization bill would be the inclusion and consolidation of Federal Railroad Administration (FRA) grant programs into the CRISI program in the FAST Act. In this program, Multimodal and port rail access projects are eligible projects. In AAPA's *The State of Freight III—Rail Access and Port Multimodal Funding Needs Report*, a third of ports identified pressing rail project needs that will cost more than \$50 million over the next decade. In fact, rail access is so important to the port and supply chain industry that within this same time frame, 77 percent of ports said they are planning on-dock, near-dock or rail access projects.

Additionally, AAPA strongly supports the multimodal USDOT grant programs such as BUILD, CRISI and INFRA programs. But the BUILD program, and its TIGER predecessor, has been more than just a discretionary program to the port industry. It was the first program that ports were eligible and is multimodal. It also brought ports into the surface transportation fold, which meant that whether ports received a TIGER/BUILD grant or not, they were encouraged to coordinate a project with their state and local MPO before submitting it. That meant ports were becoming part of the planning process and freight was beginning to get a seat at the table.

Further, International trade through seaports accounts for over a quarter of the U.S. GDP. At the center of trade and transportation are America's seaports, which handle approximately \$6 billion worth of import and export goods daily, generate over 23 million jobs, and provide more than \$320 billion annually in federal, state and local tax revenues. Seaports also are projected to handle nearly 12 million cruise passengers from around the country and around the world. *AAPA is concerned that port states are penalized by the 10 percent maximum per state called for in previous appropriation bills, as well as the set sides for metropolitan and rural areas.* Because seaports have such a national and international reach, ports are national infrastructure resources that support metropolitan and rural supply chains and that any port project awarded should not count against a state, rural or metropolitan cap.

Long-term, sustainable multimodal funding is critical, and we encourage you to start looking at solutions. AAPA has endorsed the concept of a 1 percent waybill fee as an equitable approach to provide immediate and long-term funding for multimodal freight infrastructure challenges. Additionally, AAPA supports a gas tax increase as well as a VMT program. With all increased funding, AAPA recommends that any new funding be multimodal-eligible.

Also, the Build America Transportation Investment Center, or BATIC, which was codified in the FAST Act, can be a tool for ports to explore ways to access private capital in publicprivate partnership. The Rail Rehabilitation Innovation Financing (RRIF) program has been in existence since 2002 and only late last year did a port receive a RRIF loan. And as Ranking Member Cantwell knows, it was the Port of Everett. One recommendation to make RRIF more accessible to ports was to provide 100 percent financing. AAPA members responded that there were potentially 75 BUILD/TIGER projects that would become RRIF-financed projects if the financing fee was removed.

On the operational front, the Federal Government has a vital role to play with freight flow performance. For our ports to perform efficiently, CBP must be adequately funded and staffed. In 2015, the last time CBP was funded to hire additional staff only 20 of 2000 staff were assigned to seaports. As an industry, with growing volumes in freight and passengers, we would like to see, at a minimum, annual hiring of CBP staff to 500 annually, over and above attrition. This may sound like an appropriations or Homeland Security issue, but it is a supply chain problem.

Finally, we appreciate the emphasis this committee has put on infrastructure security in this Congress. AAPA strongly supports the approach that, as a nation, we should protect the infrastructure and supply chain we are investing in. AAPA members recently identified upwards of \$4 billion in port security funding needs for U.S. port authorities *alone* over the next 10 years, which comes to \$400 million annually. Seaports are essential economic engines whose cargo activities support over 23 million American jobs and account for over a quarter of the U.S. economy.

We need to invest in port infrastructure and we need to secure it.

I look forward to answering any questions the committee members have and AAPA looks forward to working with you throughout the 116th Congress.

AAPA FAST ACT REAUTHORIZATION PLATFORM

As Congress prepares to engage on reauthorization of the Fixing America's Surface Transportation (FAST) Act, the following platform of recommendations was developed by the American Association of Port Authorities (AAPA) as a blueprint for that legislation.

U.S. seaports represent a vital economic engine of our national economy. In its 2014 report on the National Economic Impact of the U.S. Coastal Port System, Martin Associates of Lancaster, PA, cited America's seaports as influencing more than 23 million U.S. jobs and generating \$321 billion in federal, state and local tax revenue. Cargo activities through these deepwater ports were also cited as being responsible for \$4.6 trillion in total economic activity, representing a quarter of the Nation's economy. Martin Associates will unveil an updated U.S. coastal port system economic impacts report on March 20, 2019, at the annual AAPA Spring Conference in Washington, DC.

Nations around the world have recognized the need to make significant investments in their multimodal freight networks to accommodate increasing trade volumes, larger vessels and dynamic shifts in trade to be globally competitive. For example, Canada's national gateway initiative includes a strategy to serve America's heartland. It is imperative for the United States to develop and fund a strong national freight strategy to remain competitive in the global economy. To do this, the United States must make a sustained investment in its multimodal freight network.

The following recommendations for the AAPA FAST Act Reauthorization Platform have been collected and presented by an AAPA FAST Act working group, the AAPA Freight Task Force and approved by AAPA's Legislative Policy Council (LPC). Many of these proposed recommendations are broad. AAPA looks forward to working with Congress and the Administration in providing port and supply chain expertise and guidance as these recommendations evolve to policy and legislative text.

Key Recommendations

- Create a freight trust fund with a sustainable funding source that can address the growing demand for multimodal projects. The next reauthorization bill must identify sustainable multimodal funding that can directly fund the freight pro-

grams created by the FAST Act. AAPA is supportive of direct funding for freight through a waybill fee concept or vehicle miles traveled (VMT) freight pilot program.

- Include a Maritime Freight Supply Chain title in the reauthorization of the FAST Act.
- Remove multimodal caps from the Infrastructure for Rebuilding America (INFRA) grants and FAST Act formula program within the U.S. Department of Transportation (USDOT).
- Continue to fund USDOT's Better Utilizing Investments to Leverage Development (BUILD) or a similar discretionary transportation infrastructure grants program at \$1.5 billion annually, with a minimum of 25 percent dedicated to port-related infrastructure, and exempt port projects from the state cap maximum.
- Establish a high-level multimodal freight office within USDOT that coordinates policy, the national and the state freight plans, multiagency freight grant programs and complements the Build America Bureau within USDOT.
- Provide a sustainable and dedicated funding source for the freight network programs. AAPA endorses the concept of a waybill fee (based on the domestic transportation cost of goods) as an equitable approach to provide long-term multimodal funding for freight.
- Provide robust authorization levels for the Maritime Administration's (MARAD) America's Marine Highway Program and the proposed Protecting Orderly and Responsible Transit of Shipments (PORTS) Act for first-and last-mile capacity enhancements.
- Encourage truck parking and staging plans be included in every state freight plan.
- Require each state to include supply chain cargo flows by all modes of transportation and benefits within each state freight plan and include the impacts of e-commerce on freight infrastructure.
- Require states to include their state freight plans as a component of the state transportation plan.
- Continue to fully fund the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program, with an emphasis on port rail access projects.
- Ensure that all commercial ports be included in the national multimodal freight map/network.
- Integrate greater port eligibility and freight network program integration with the Intelligent Transportation Systems (ITS) programs.
- Strongly encourage maritime and supply chain expertise in each state DOT.
- Continue to advocate for a national multimodal freight strategic plan that would be administered out of a high-level multimodal freight office within the USDOT

I. BUILDING OFF THE FAST ACT

Freight, with an emphasis on goods that move through America's seaports, took a big step forward after passage of the FAST Act. With the creation of two funding programs; Projects of Highway and Freight Significance (discretionary) and National Highway Freight Program (formula), the FAST Act provided a total of \$11 billion in dedicated freight funding over five years. However, of that total, only \$1.13 billion is multimodal eligible, far below what is needed to build out a 21st century multimodal freight network.

The immediate challenges confronting the freight programs are funding levels and project eligibility. The current freight programs are funded out of the Highway Trust Fund, which means that eligible projects are primarily highway focused. Highways are important to our freight network, but ports are multimodal facilitators, meaning trains, trucks and ships all need access to them. One could argue that as our supply chain becomes more sophisticated and there are more inland distribution centers with the advent of e-commerce, demand for multimodal funding will increase. In 2018, AAPA identified more than \$20 billion in multimodal funding needs for public port authorities *alone* over the next decade. A top priority for the port industry continues to be multimodal funding.

To build off the work in the FAST Act, AAPA believes that all freight program funding should be 100 percent multimodal. A first step in accomplishing this would be to lift the multimodal cap on the INFRA grants and the formula program.

Equally important from a supply chain perspective, the FAST Act requires that states complete state freight plans to continue receiving their freight formula funding. The results have been telling. By the end of 2018, 95 percent of the states had submitted multimodal state freight plans to USDOT. This is important because it signals that states recognize the value and have the demand for multimodal projects. States and ports will need a multimodal funding source, or an eligibility fix, to build out their state freight plans. State freight plans are the blueprint for multimodal state and Federal investments. These plans are set to be revised every five years, which put them roughly on the same track as the FAST Act. Ports and their stakeholders must continue to engage with their Freight Advisory Committees and with their state DOTs. Additionally, the requirements of the state freight plans should be revisited to reflect the changing demands of the supply chain.

The FAST Act has provided the programmatic framework for a 21st century multimodal freight network. However, to fully leverage the success of the legislation's freight provisions, the next reauthorization bill will need to address increasing funding levels while identifying a multimodal funding source.

Include a Maritime Freight Supply Chain Title in the Reauthorization of the FAST Act

Ports are access points. Road and rail first-and last-mile projects within the supply chain efficiently connect ports to the surface transportation network. Ports need to be further integrated with the surface transportation network *and* maritime policy needs to be integrated within USDOT by including a maritime freight supply chain title in the FAST Act reauthorization bill.

MARAD has several freight infrastructure programs that are important tools to be included and leveraged within the national freight portfolio. Specifically, the America's Marine Highway and the Port Infrastructure Investment Programs are currently authorized initiatives that will need to be revised, updated and refocused to meet the evolving supply chain needs of the freight network.

An example of refreshing old authorizations from the last reauthorization bill would be the inclusion of Federal Railroad Administration (FRA) grant programs in the FAST Act. The FAST Act folded FRA rail programs into the CRISI Program. Multimodal and port rail access projects are eligible projects. In AAPA's *State of Freight III—Rail Access and Port Multimodal Funding Needs Report*, a third of ports identified pressing rail project needs that will cost more than \$50 million over the next decade. In fact, rail access is so important to the port industry and supply chain that within this same time frame, 77 percent of ports are planning on-dock, near-dock or rail access projects.

AAPA believes having additional maritime freight supply chain resources and updating the existing authorizations will leverage existing resources and programs, providing a more comprehensive approach to building out a 21st century freight network.

Recommendations

- Include a Maritime Freight Supply Chain title in the reauthorization of the FAST Act.
- Include the proposed PORTS Act, a multimodal first-and last-mile connection program administered by MARAD that updates the Port Infrastructure Development Program, (46USC 50302), and include authorized funding levels and identify a multimodal funding source or general funds.
- Update the America's Marine Highway Program authorization and include it in the Maritime Freight Supply Chain title.

Multimodal Freight Office Within USDOT

In building off the FAST Act, establishing a multimodal freight office within the DOT would best leverage across all modes planning tools and resources made available in the FAST Act and the proposed maritime freight supply chain title.

A multimodal freight office is an ideal spot to administer the soon-to-be-released multimodal freight network and the multimodal freight plan. Both these documents are templates to work from and would be best implemented in a mode-neutral office. Additionally, the multimodal freight office would have oversight over the FAST Act compliant state freight plans, which are all multimodal.

Furthermore, with multimodal funding programs in USDOT's Federal Highway Administration, MARAD and FRA, a multimodal freight office will coordinate and direct investment and policy.

Finally, AAPA believes that a multimodal freight office would complement the Build America Bureau within USDOT. In the original FAST Act, consolidating the Build America Bureau's lending and financing programs into one allowed for better

leveraging of those programs to meet the Administration’s goals. A freight office would be better positioned to work with these new, multimodal focused programs, and to lead the development of a multimodal network necessary to meet 21st century supply chain and transportation needs.

Recommendation

- Authorize, fund and staff a high-level multimodal freight office within USDOT. The office will oversee the multimodal freight network plan, as well as the multimodal FAST Act compliant state freight plans. Multimodal discretionary grant programs should also be coordinated out of that office.
- Continue to advocate for a national multimodal freight strategic plan that would be administered out of a high-level multimodal freight office.

Coordinate Maritime Infrastructure Needs with Private Sector Investment and Other Federal Resources

For the first time, the 2015 FAST Act brought ports into the surface transportation network. Ports are now in the planning process and ports are eligible for the formula and discretionary funding programs, but port-related infrastructure has some catching up to do.

To put our national *state of freight* into perspective, it’s been more than 60 years since President Eisenhower proposed and began building out the Interstate Highway System in 1956. Meanwhile, freight has always been a significant component of our national infrastructure needs. But until the FAST Act, freight had not been fully considered or realized as a national policy priority.

However, during the same 60-year period, starting in 1956, there have been eight evolutions of the containership, starting with vessel capacities of 500 twenty-foot equivalent units (TEUs), and evolving to ships with capacities of 18,000 TEUs and beyond, which are as high as a skyscraper and as wide as a 10-lane freeway.

Ports are facilitators of the supply chain. Mega shipping alliances, operating mega-large vessels, have a cascading effect when their ships arrive at U.S. ports. This includes the need for larger cranes to load and off-load containers, additional labor, more chassis to move the containers in, out and around the terminals, and adjusting gate times to address the changing work load.

Volumes of other cargoes, such as automobiles, have also seen marked increases over the past six decades and have continuously impacted our freight infrastructure. For example, total U.S. waterborne tonnage roughly doubled between 1956 and 2017, but this is due almost entirely to U.S. foreign trade growth which has seen nearly a 500 percent increase during that time frame, based on U.S. Army Corps of Engineers data.

Today, our multimodal freight system and national supply chain are in a constant state of flux, constantly reacting to the changes of a global marketplace. If we are going to have a sustained, coordinated and planned freight network, the shipping industry will need to be a part of the process and the solution.

Now that freight transportation is recognized as a national priority, the Federal Government can play a greater role investing and coordinating the freight network to efficiently and safely handle surging freight volumes by coordinating with states on their state freight plans and with freight advisory committees.

The USDOT should utilize the Commerce Department and other Federal resources for anticipating trade that feeds our supply chain to assist in “rightsizing” Federal infrastructure investments in line with pending trade agreements and trade projections.

Additionally, for U.S. ports to operate efficiently, U.S. Customs and Border Protection (CBP) must be adequately funded and staffed. In 2015, the last time CBP was funded to hire additional staff, only 20 out of 2,000 staff were assigned to seaports. In recent testimony, CBP stated that it needs 500 more offices in the seaport environment. This number may even be higher, as CBP relies heavily on existing staff working overtime. This may seem like an appropriations or homeland security issue, but it is a supply chain problem.

Recommendations

- Align Federal transportation and trade policy to properly plan for increase cargo flows that result from U.S. trade agreements and trade policy.
- Ensure that CBP coordinates with USDOT and ports on staffing models and needs so that freight flows and maritime business development opportunities are not disrupted.

Taxes and Public/Private Partnerships

In many ways the modern port authority is the embodiment of a public/private partnership. Ports and their stakeholders are often in a unique position to leverage private sector resources to build needed infrastructure projects.

Using the Railroad Rehabilitation & Improvement Financing (RRIF) Program as an example, in AAPA's *State of Freight III—Rail Access and Port Multimodal Funding Needs Report*, U.S. ports identified 75 potential BUILD projects that could be financed by RRIF if access to the program and 100 percent financing were available.

Broadly, AAPA continues to be supportive of the FAST Act-mandated Build America Transportation Investment Center (BATIC) in the USDOT. U.S. ports have seen some increased success with the Transportation Infrastructure Finance Innovation Act (TIFIA) and RRIF programs but believe these programs can provide greater resources to port infrastructure investments.

Recommendations

- Provide 100 percent financing RRIF loans.
- Increase consideration of port projects within the TIFIA program.
- Make the Short Line Tax Credit (45G) permanent.
- Continue the tax exemption for private activity bonds.
- Increase the gas tax and index it to meet the infrastructure funding level needs of the United States and dedicate any increase in the diesel tax to freight programs.
- Conduct an audit to ensure all maritime and freight fees/taxes are being collected and fully utilized for their intended purposes. This includes CBP fees for freight supported services and facilities.

Technology and Workforce Development

Placeholder for Professional Development Board recommendations that related to the FAST Act.

II. BROADER MARITIME INFRASTRUCTURE INVESTMENT

Energy and Air Quality

At the end of 2015, Congress lifted the Nation's 40-year-old ban on petroleum exports. The action has prompted a surge in natural gas and crude oil export shipments, which will help the United States achieve the status of "net energy exporter" for the first time since 1953, according to the U.S. Department of Energy (DOE).

While the increase in energy cargoes moving through our Nation's ports is notable, it is only half the energy story confronting ports.

Energy continues to be a key port operational issue. Increasingly, U.S. ports are moving toward the electrification of their terminal equipment, harbor vessel and truck fleets, and staging stations transitioning from a petroleum-based network to electric-based. Better coordination with DOE on infrastructure would be an asset for ports, their communities and the Nation. In many ways, ports have the capacity to be incubators for energy policy.

In addition, smarter, more efficient energy policies and resources can have a positive impact on regional air quality by reducing emissions. From a USDOT jurisdiction standpoint, the Congestion Mitigation and Air Quality Improvement (CMAQ) program has been a useful tool for port and regional air quality management.

The U.S. Environmental Protection Agency's (EPA) Diesel Emissions Reduction Act (DERA) grants have been a tool for ports to address air quality and emissions issues, in many cases in cooperation with their communities.

Recommendations

- Direct and codify more CMAQ funding toward port rail and other port projects.
- Encourage Federal programs to allow grants to be used for energy sustainability at ports.
- Increase annual DERA funding.
- Increase DOE funding for port-related projects. Encourage greater Federal focus on the ability of ports to play a role in the Nation's energy efficiency program.
- Begin preparations for integrating freight transportation into an intelligent transportation network, powered by electricity through two studies:
 - Preparing to power electrical freight infrastructure
 - Safely integrating freight into a smart vehicle world

Resiliency

Resiliency is a key objective of the National Multimodal Freight Policy (49 USC 70101) and the draft National Freight Strategic Plan. In addition to adequate funding for a modern, wellmaintained 21st century freight infrastructure system, it is in the Federal interest to ensure this system can continue to function to the benefit of our national and regional economies in the face of extreme weather events, earthquakes, major accidents, and equipment or infrastructure failures.

Resiliency issues are impacting all regions of our Nation and all transportation sectors. Ports are typically at the forefront of extreme weather. Some regions, such as the Gulf Coast, anticipate extreme weather events and coordinate resiliency plans prior to the hurricane season. However, the more unpredictable the weather, the more difficult it is to plan effectively. It is becoming increasingly important to build infrastructure to withstand extreme weather events. Considering the number of recent recovery packages that Congress has had to pass in response to natural disasters, it is fast becoming a Federal imperative. Given the traditional local, state and Federal transportation partnerships, resiliency needs to become a key part of the planning and building lexicon.

Examples of natural and man-made disruptions impacting the supply chain are numerous:

- Hurricanes Michael, Florence, Maria, Irma, Harvey, and Sandy highlight the increasing force, frequency and unpredictability with which severe weather can impact whole regions and the functioning of the national maritime system. In addition, other challenges such as sea-level rise can threaten maritime infrastructure.
- A *Cascadia Rising* scenario in the Pacific Northwest would be the worst natural disaster in the history of the United States. Cascadia Rising is the region's largest disasters scenario exercise testing how local, state and Federal agencies would respond if a 9.0 magnitude earthquake hit along the Washington and Oregon coast. The Puget Sound area, and other West Coast gateways, must ensure resiliency that will enable them to operate as they would serve as the lifelines for the region, as well as strategic capability of the military.
- Critical infrastructure failures, such as a failure of the electrical grid or compromised information technology systems (such as recent cyber-attacks on major shipping lines), or a terrorist attack involving a dirty bomb can shut down an entire port complex and disrupt the flow of cargo to the entire nation.

AAPA sees value in the establishment of a Federal critical transportation infrastructure resiliency program. Such a program should take an all-hazards approach, so that it can apply to both manmade events, such as criminal or terrorist events, or an economic crisis, as well as natural events such as severe weather, fires, earthquakes, tsunamis, pandemics, etc. The resiliency program would complement, not replace, the Port Security Grant Program (PSGP) and would be funded and administered separately from the PSGP.

The nation should build on existing resiliency policy and planning efforts. Resiliency is both prevention and recovery. This means modernizing our aging infrastructure and designing the system to withstand and endure disruptions. It also means ensuring affected system components are prepared to respond and rapidly restore operations and access following an event. Freight resiliency needs to become part of the policy and planning discussion between the private and public sectors (including federal, state, local governments).

Recommendations

- Call for and create a national freight resilience strategy.
- Establish a dedicated program, with funding, for freight system resiliency. The program should take an all-hazards approach so that it can apply to both man-made and natural events.
- Ensure the national freight planning effort, including state freight plans, reflects a national freight resilience strategy.
- Prioritize and encourage projects that support the national freight resilience strategy, including projects that enhance reliability, redundancy and incorporate the ability to rapidly restore access and reliability.

The CHAIRMAN. Thank you very much, and thank you for finishing precisely within 5 minutes.

If members of the Committee could only do that during our questioning that would be great.

Mr. Jefferies, glad to have you with us.

**STATEMENT OF IAN JEFFERIES,
PRESIDENT AND CHIEF EXECUTIVE OFFICER,
ASSOCIATION OF AMERICAN RAILROADS**

Mr. JEFFERIES. Thank you. Chairman Wicker, Ranking Member Cantwell, and members of this Committee, thank you for the opportunity to discuss infrastructure policy and investment with you today.

As a former staffer on this committee, I truly appreciate your focus on the systems that are the backbone of this Nation's economy.

The rail industry is ready to work with you and the rest of Congress to help ensure that our Nation has the freight capabilities to meet not only today's needs but tomorrow's.

For privately owned freight railroads, which have spent \$25 billion in private capital in recent years, our path is relatively straightforward. Continue to invest the substantial private capital to maintain and upgrade our 140,000-mile network.

Our industry firmly believes that the best way to equitably and sustainably tackle infrastructure challenges of today and tomorrow is to embrace the user-pay principle. Consider that Class 1 railroads spent approximately \$480 million per week on their network over the last 3 years. Indeed, every week is infrastructure week in the rail industry.

Robust investment is made possible by a balanced economic regulatory system that relies on market-based competition while providing a backstop for rail customers. The positive impact of our investment is demonstrated in a number of ways.

First, railroads operate safely. While the industry continues its dogged pursuit of zero incidents and zero injuries, the train accident rate in 2017 was 40 percent lower than from the year 2000 while the railroad employee injury rate was down 43 percent.

Railroads today have lower employee injury rates than industries such as construction, agriculture, and even grocery stores. Railroads also alleviate highway congestion and deterioration. Because a single train can carry the freight of several hundred trucks, railroads cut gridlock and lower the cost of road construction and upkeep, and we operate efficiently.

On average, railroads move a ton of freight 479 miles per gallon. That's equal to moving a ton of freight from Jackson, Mississippi, to Springfield, Missouri, on one gallon of fuel or Seattle, Washington, to Helena, Montana, on one gallon of fuel. It's truly a fact we're proud of.

As evidenced by today's hearing, policymakers are wisely focused on maintaining and enacting policies that drive funding and investment across transportation modes.

For freight railroads, this again is rather simple. Lawmakers and regulators should maintain a balanced structure of economic regulation. After all, since established in the 1980s, this regulatory structure has allowed nearly \$700 billion in private investment back into our networks with rail customer rates 46 percent lower on average than they were in the 1980s.

Congress can do its part to streamline the permitting process, as well, to put dollars to work more quickly, not just for rail projects but port projects and projects across all modes.

More broadly, policymakers can support public-private partnerships, such as Chicago's CREATE Program, which is truly a joint project between the railroads, state, local authorities, and commuter railroads and Amtrak, as well, known as the CREATE Program.

Lawmakers can support the Section 130 Grade Crossing Program which provides Federal funds to improve and even separate highway grade crossings.

We recognize that the future of the Highway Trust Fund is front of mind to lawmakers today. However, consider the hundreds of billions in general funds required to keep the Trust Fund solvent in recent years and it's not hard to see that our highway funding system is broken.

Congress can take three steps to reestablish the user-pay funding paradigm and ensure the viability of the Highway Trust Fund.

First, Congress must reject overtures by select shippers to allow for longer and heavier trucks. Allowing such measures would only exacerbate any funding shortfalls and the wear and tear on our Nation's infrastructure.

Second, lawmakers can implement a Federal gas tax increase that covers the funding shortfall and, to their credit, our colleagues in the truck industry support such an increase.

For a long-term solution, we join a growing chorus and urge Congress to devise and implement a user-based system that fully accounts for all highway users' impact on infrastructure. This could be achieved through a vehicle miles traveled fee or a weight distance fee.

Such bold action would go a long way in meeting the needs of tomorrow and ensuring equality between freight transportation modes.

In closing, privately owned railroads will continue to invest the substantial resources necessary to meet market demand and maintain our core role in the Nation's integrated transportation network.

We look forward to working with members of this committee and others in Congress to enact policies that promote infrastructure investment.

Thank you for your time.

[The prepared statement of Mr. Jefferies follows:]

PREPARED STATEMENT OF IAN JEFFERIES, PRESIDENT AND CHIEF EXECUTIVE
OFFICER, ASSOCIATION OF AMERICAN RAILROADS

Introduction

On behalf of the members of the Association of American Railroads (AAR), thank you for the opportunity to appear before you. AAR members account for the vast majority of U.S. freight rail volume, employment, mileage, and revenue. I'd like to extend a special greeting to the new members of this committee, and offer my congratulations to Chairman Wicker and Ranking Member Cantwell. Please know that the rail industry stands ready to work cooperatively with you, other members of this committee, and other policymakers to help ensure our Nation has the freight transportation capability it needs to prosper in the future. On a personal level, most of you probably know that not too many years ago I was on the Commerce Committee staff. I have fond memories of that time and I look forward to continuing to work

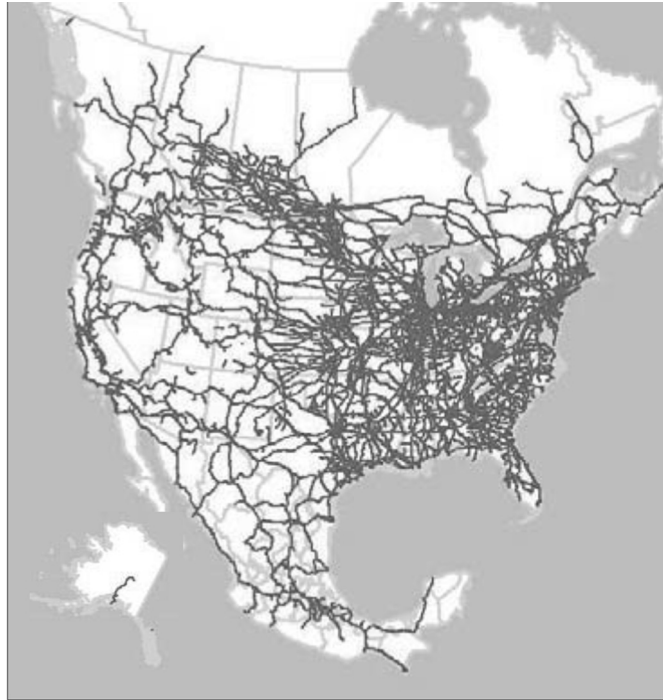
with you to enhance the safety, productivity, and cost-effectiveness of our Nation's railroads in my new role as President of the AAR.

As all of you know, when it comes to transportation, we're all in this together. It's true that the various modes of transportation compete fiercely against each other in virtually every market they serve. This competition is healthy and appropriate. At the same time, though, railroads, trucks, and barges also cooperate extensively in countless markets. Moreover, all of us involved in freight transportation know that no country can be a first-rate economic power without having first-rate logistics and transportation capabilities across modes.

Today, there is a tremendous amount of strength and flexibility in America's freight transportation systems. It's also clear, however, that our Nation faces significant challenges in maintaining our existing freight-moving capability and in improving it to meet the needs of tomorrow. One of the key challenges is financial. I'm proud to represent an industry that is overwhelmingly privately funded. That said, railroads agree—indeed, they have a strong vested interest—that adequate investments should be made in public infrastructure like ports and highways, which combine with rail to make up the Nation's integrated freight supply chain. As explained below, railroads believe that for reasons of economic efficiency and modal equity, public infrastructure funding should adhere as closely as possible to the principle of “user pays.”

A Transportation Backbone

The more than 600 freight railroads that operate in the United States together form the best freight rail network in the world. Their global superiority is a direct result of a balanced regulatory system that relies on market-based competition to establish rate and service standards, with a regulatory safety net available to rail customers when there is an absence of effective railroad competition.



Railroads move vast amounts of just about everything, connecting businesses with each other across the continent and with markets overseas over a rail network spanning nearly 140,000 miles. Railroads carry enormous amounts of corn, wheat, soybeans, and other farm products; fertilizers, plastic resins, and a vast array of other chemicals; coal to generate electricity; cement, sand, and crushed stone to build our highways; lumber and drywall to build our homes; animal feed, canned goods, corn syrup, frozen chickens, beer, and countless other food products; steel and other

metal products; newsprint, recycled paper and other paper products; autos and auto parts; iron ore for steelmaking; wind turbines, airplane fuselages, machinery and other industrial equipment; and much more.

Rail intermodal—the transport of shipping containers and truck trailers on railroad flatcars—has grown tremendously over the past 25 years, setting a record in 2018. Today, just about everything you find on a retailer's shelves may have traveled on an intermodal train. Increasing amounts of industrial goods are transported by intermodal trains as well.

Given the volume of rail freight (close to two billion tons and 30 million carloads and intermodal units in a typical year) and the long distances that freight moves by rail (nearly 1,000 miles, on average), freight railroads' direct role in our economy is immense, but freight railroads contribute to our Nation in many other ways too:

- America's freight railroads are overwhelmingly privately owned and operate almost exclusively on infrastructure that they own, build, maintain, and pay for themselves. Since 1980, freight railroads have plowed more than \$685 billion—of their own funds, not taxpayer funds—on capital expenditures and maintenance expenses related to locomotives, freight cars, tracks, bridges, tunnels and other infrastructure and equipment. That's more than 40 cents out of every revenue dollar, invested back into a rail network that keeps our economy moving.
- An October 2018 study from Towson University's Regional Economic Studies Institute found that, in 2017 alone, the operations and capital investment of America's major freight railroads supported approximately 1.1 million jobs (nearly eight jobs for every railroad job), \$219 billion in economic output, and \$71 billion in wages. Railroads also generated nearly \$26 billion in tax revenues.
- Thanks to competitive rail rates—46 percent lower, on average, in 2017 than in 1981 adjusted for inflation—freight railroads save consumers billions of dollars every year. Millions of Americans work in industries that are more competitive in the tough global economy thanks to the affordability and productivity of America's freight railroads.
- In 2017, railroads moved a ton of freight an average of 479 miles per gallon of diesel fuel. That's roughly equivalent to moving a ton from Jackson, MS to Springfield, MO, or Tacoma, WA to Helena, MT, on a single gallon. On average, railroads are four times more fuel efficient than trucks. That means moving freight by rail helps our environment by reducing energy consumption, pollution, and greenhouse gases.
- Because a single train can carry the freight of several hundred trucks, railroads cut highway gridlock and reduce the high costs of highway construction and maintenance.
- The approximately 167,000 freight railroad professionals are among America's most highly compensated workers. In 2017, the average U.S. Class I freight railroad employee earned total compensation of \$125,400. By contrast, the average wage per full-time equivalent U.S. employee in domestic industries was \$76,500, just 61 percent of the rail figure. Around 80 percent of the U.S. freight rail workforce is unionized, compared with only around 6 percent of all private sector workers.
- Railroads are safe and constantly working to get even safer. The train accident rate in 2017 was down 40 percent from 2000; the employee injury rate in 2017 was down 43 percent from 2000; and the grade crossing collision rate in 2017 was down 38 percent from 2000. By all these measures, recent years have been the safest in history. Railroads today have lower employee injury rates than most other major industries, including trucking, airlines, agriculture, mining, manufacturing, and construction—even lower than food stores.
- Freight railroads are committed to safely implementing positive train control (PTC) as quickly as feasible so that further safety gains can be achieved. The seven Class I freight railroads all met statutory requirements by having 100 percent of their required PTC-related hardware installed, 100 percent of their PTC-related spectrum in place, and 100 percent of their required employee training completed by the end of 2018. In aggregate, Class I railroads had 83 percent of required PTC route-miles in operation at the end of 2018, well above the 50 percent required by statute. Each Class I railroad expects to be operating trains in PTC mode on all their PTC routes no later than 2020, as required by statute. In the meantime, railroads are continuing to test and validate their PTC systems thoroughly to ensure they work as they should.

Transportation Capacity is Key

The long-term demand for freight transportation in this country will grow. The Federal Highway Administration forecasts that U.S. freight tonnage will rise 37 percent by 2040. For railroads, meeting this demand is all about having adequate capacity and using it well, and that is what they focus on.

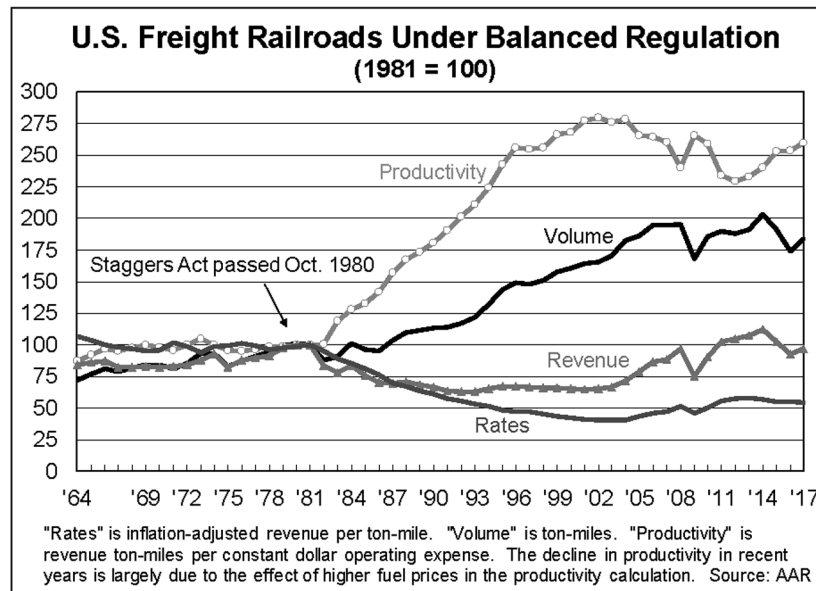
The capital intensity of freight railroading is at or near the top among all U.S. industries. In recent years, the average U.S. manufacturer spent approximately three percent of revenue on capital expenditures. The comparable figure for freight railroads is nearly 19 percent, or more than six times higher.

Thanks to their massive investments, freight railroad infrastructure today is in its best overall condition ever. The challenge for railroads, and for policymakers, is to ensure that the current high quality of rail infrastructure is maintained, and that adequate freight rail capacity exists to meet our Nation's current and future freight transportation needs. Policymakers can help by enacting policies that promote safety and efficiency and by avoiding policies that discourage private rail investment.

Keep Railroad Rate and Service Regulation Balanced

The current structure of rail regulation relies on competition and market forces to determine rail rates and service standards in most cases, with maximum rate and other protections available to rail customers when there is an absence of effective competition. This deregulatory structure has benefited railroads *and* their customers.

However, despite the severe harm caused by excessive railroad regulation in years past and the substantial public benefits that have accrued since the current less regulatory regime was put in place, some want to again give government regulators control over crucial areas of rail operations. That would be a profound mistake. It would prevent America's railroads from making the massive investments a best-in-the-world freight rail system requires. Policymakers should be taking actions that enhance, rather than impair, railroads' ability and willingness to make those investments.



Engage in Public-Private Partnerships Through Projects and Programs

Public-private partnerships—arrangements under which private freight railroads and government entities both contribute resources to a project—offer a mutually beneficial way to solve critical transportation problems.

Without a partnership, many projects that promise substantial public benefits (such as reduced highway congestion by taking trucks off highways, or increased rail capacity for use by passenger trains) in addition to private benefits (such as en-

abling more efficient freight train operations) are likely to be delayed or never started at all because neither side can justify the full investment needed to complete them. Cooperation makes these projects feasible.

With public-private partnerships, the public entity devotes public dollars to a project equivalent to the public benefits that will accrue. Private railroads contribute resources commensurate with the private gains expected to accrue. Thus, the universe of projects that can be undertaken to the benefit of all parties is significantly expanded.

The most well-known public-private partnership involving railroads is the Chicago Region Environmental and Transportation Efficiency Program (CREATE), which has been underway for a number of years. CREATE is a multi-billion-dollar program of capital improvements aimed at increasing the efficiency of the region's rail and roadway infrastructure. A partnership among various railroads, the City of Chicago, the state of Illinois, the Federal Government, and Cook County, CREATE comprises 70 projects, including 25 new roadway overpasses or underpasses; six new rail overpasses or underpasses to separate passenger and freight train tracks; 35 freight rail projects including extensive upgrades of tracks, switches and signal systems; viaduct improvement projects; grade crossing safety enhancements; and the integration of information from the dispatch systems of all major railroads in the region into a single display. To date, 29 projects have been completed, six are under construction, and 16 are in various stages of design.

The intersection of rail tracks and roadways is an important element of rail infrastructure that often involves a public-private cooperative approach. Under the Federal "Section 130" program, approximately \$230 million in Federal funds are allocated each year to states for installing new active warning devices, upgrading existing devices, and improving grade crossing surfaces. The program also allows for funding to go towards highway-rail grade separation projects. Without a budgetary set-aside like the Section 130 program, grade crossing needs would fare poorly in competition with more traditional highway needs such as highway construction and maintenance. The 2015 FAST Act included continued dedicated funding for this important program for five more years. Railroads urge Congress to continue to support the Section 130 program. It is another example of cooperation between private railroads and public entities to help ensure that rail infrastructure benefits the general public.

Railroads also urge Congress to support a permanent extension of the "Section 45G" short line tax credit program. Section 45G creates a strong incentive for short line railroads to invest private sector dollars on freight railroad track rehabilitation. Short line freight rail connections are critical to preserving the first and last mile of connectivity to factories, grain elevators, power plants, refineries, and mines in rural America and elsewhere.

Address Modal Inequities

As mentioned earlier, America's freight railroads operate overwhelmingly on infrastructure that they own, build, maintain, and pay for themselves. By contrast, trucks, airlines, and barges operate on highways, airways, and waterways that are largely taxpayer funded.

No one, and certainly not railroads, disputes that other transportation modes are crucial to our nation, and the infrastructure they use should be world-class—just like U.S. freight railroad infrastructure is world class. That said, public policies relating to the funding of other modes have become misaligned.

With respect to federally funded capacity investments in public road and bridge infrastructure, the United States has historically relied upon a "user pays" system. Until relatively recently, that system worked well. Unfortunately, the user-pays model has been eroded as Highway Trust Fund (HTF) revenues have not kept up with HTF investment needs and so have had to be supplemented with general taxpayer dollars. Including general fund transfers scheduled to be made in the next few years through provisions of the FAST Act, general fund transfers to the HTF since 2008 have totaled almost \$144 billion, according to the Congressional Budget Office (CBO). The CBO recently estimated that between 2020 and 2029, the HTF will require \$191 billion in additional payments to keep the fund solvent.

Moving away from a user-pays system distorts the competitive environment by making it appear that trucks are less expensive than they really are and puts other modes, especially rail, at a disadvantage. This is especially problematic for railroads precisely because they own, build, maintain, and pay for their infrastructure themselves (including paying well over a billion dollars in property taxes each year on that infrastructure).

Congress could help ameliorate this modal inequity by reaffirming the "user pays" requirement. Through application of current technology, the current fundamental

imbalance could be rectified by ensuring that commercial users of taxpayer-financed infrastructure pay for their use.

This could be done through several different mechanisms. To its credit, the American Trucking Associations (ATA), through its Build America Fund proposal, is calling for a 20 cent per-gallon increase in the fuel tax phased in over four years, a recognition by the ATA that the current situation regarding the HTF is not tenable. Railroads believe that an increase in the fuel tax could be helpful as a short-term bridge to a longer-term future that, we think, should include a vehicle miles traveled fee or a weight-distance fee.

A handful of states already impose weight-distance taxes on heavier trucks, and others are engaged in pilot programs to assess the feasibility of transitioning their state highway taxes from a per gallon-based system to a mileage-based fee. In Oregon, for example, heavy trucks are charged a weight-mile tax that is intended to capture the full costs incurred by trucks relating to the state highway system.

First-Mile and Last-Mile Connections

One of the main reasons why the United States has the world's most efficient total freight transportation system is the willingness and ability of firms associated with various modes to work together in ways that benefit their customers and the economy. Policymakers can help this process by implementing programs that improve "first mile" and "last mile" connections where freight is handed off from one mode to another—for example, at ports from ships to railroads or from ships to trucks, or from railroads to trucks at intermodal terminals. These connections are highly vulnerable to disruptions, and improving them would lead to especially large increases in efficiency and fluidity and forge a stronger, more effective total transportation package.

Some multimodal connection infrastructure projects that are of national and regional significance in terms of freight movement could be too costly for a local government or state to fund. Consequently, Federal funding awarded through a competitive discretionary grant process is an appropriate approach for these needs.

The Transportation Investment Generating Economic Recovery (TIGER) Federal grant program; its replacement, the Better Utilizing Investments to Leverage Development (BUILD) Transportation grant program; and the Infrastructure for Rebuilding America (INFRA) grant program are examples of approaches to help fund crucial multimodal projects of national and regional significance.

Together, these programs have directed billions of dollars to critical infrastructure projects all over the country. Examples include a 2016 TIGER award to help modernize the Port of Everett (Washington) South Terminal. The project includes strengthening more than 500 feet of dock, creating a modern berth capable of handling roll-on/roll-off and intermodal cargo, and upgrading high voltage power systems. The project will also construct rail sidings to increase on-site rail car storage. Back in 2013, TIGER funds were also directed to improve multi-modal connections at Mississippi's Port of Pascagoula Bayou Harbor, run by the Jackson County Port Authority. The funding was aimed at making the transportation of goods in and out of the Port more efficient and to develop a modern facility for receipt, storage, and export of renewable energy resources.

Attention to first-and last-mile connections is a critical element of both local and state freight planning and policy as well. At the local level, land use planning has been largely inadequate in accommodating the needs of freight. Freight movement—whether in rail yards, intermodal facilities, ports, or regional distribution—must be sufficiently considered when planning land uses such as residential developments, schools, and recreational areas.

Flexibility Through Regulatory and Permitting Reform

There is bipartisan agreement that America's regulatory processes require reform and could more accurately reflect rapid technological advancements. Improved regulations and regulatory processes can also help improve U.S. infrastructure.

Federal regulations provide a critical safety net to the American public, but rules borne from faulty processes only deter economic growth without any corresponding public benefits. Dictating the means to an end via overly prescriptive policy increases compliance costs, can chill innovation and investment in new technologies, and can slow, or defeat entirely, an outcome both industry and government would view as a success.

There is currently a unique opportunity to not only address specific, harmful policies, but also to improve the system that creates rules by incorporating common sense principles. Regulations should be based on a demonstrated need, as reflected in current and complete data and sound science. Regulations should provide benefits outweighing their costs and should take into consideration the big picture view for

industries and sectors—including market forces, future offerings, and current regulations in place.

The freight rail industry believes policymakers should embrace performance-based regulations, where appropriate, to foster and facilitate technological advancement and achieve welldefined policy goals. Defining the end goal, rather than narrow steps, will boost citizen confidence in government, motivate U.S. industry to research and innovate, and create new solutions. Outcome-based measures can better avoid “locking in” existing technologies and processes so that new innovations, including new technologies, that could improve safety and improve efficiency, can flourish.

That’s also why railroads respectfully urge policymakers to avoid one-size-fits-all policies that hinder modernization of safety practices and improvements to efficiency, such as policies that mandate a specific crew size for rail operations. We all want railroad safety and efficiency to continue to improve. Technological solutions are key to making this happen, but that requires regulatory oversight not prescriptive mandates.

As mentioned earlier, railroads are safe and getting safer, but more can be done by railroads, their employees, the FRA, and others working together to achieve the long-term goal of zero accidents. Regulatory reform can be a key part of that effort. Railroads respectfully urge this committee and others in Congress to encourage the FRA to become more forward-looking in how it proposes and promulgates new rules.

We also urge policymakers to streamline the permitting process to spur infrastructure investment. Railroads have faced significant permitting delays from Federal agencies, which means that the amount of time and energy it takes to get many rail infrastructure projects from the drawing board to construction and completion has been growing longer every day.

In the face of local opposition, railroads try to work with the local community to find a mutually satisfactory arrangement, and these efforts are usually successful. When agreement is not reached, however, projects can face lawsuits, seemingly interminable delays, and sharply higher costs. Rail capacity, and railroads’ ability to provide the transportation service upon which our Nation depends, suffer accordingly. Recent efforts by Congress and the Administration are noteworthy and appreciated, but more must be done.

Support Commuter and Passenger Rail

Freight railroads agree that passenger railroads play a key role in alleviating highway and airport congestion; decreasing dependence on foreign oil; reducing pollution; and enhancing mobility, safety, and economic development opportunities. In the United States, freight railroads provide a crucial foundation for passenger rail: more than 70 percent of the miles traveled by Amtrak trains are on tracks owned by other railroads—mainly freight railroads—and many commuter railroads operate at least partially on freight-owned corridors.

Policymakers can help here too by recognizing that Amtrak should be adequately funded so that its infrastructure can be improved to a state of good repair. Commuter railroads too deserve this Committee’s support.

Conclusion

Of the many different factors that affect how well a rail network functions, the basic amount and quality of infrastructure is among the most significant. That’s why U.S. freight railroads have been expending, and will continue to expend, enormous resources to continuously improve safety and improve their asset base. Policymakers too have a key role to play. Freight railroads look forward to working with this Committee, others in Congress, and other appropriate parties to develop and implement policies that best meet this country’s transportation needs.

The CHAIRMAN. Thank you very much, Mr. Jefferies.

And before recognizing the other three witnesses, we now have a quorum and without further delay, I will call the Executive Session into order.

[Recess to proceed to Executive Session.]

The CHAIRMAN. Mr. Polka, you are now recognized for 5 minutes. Thank you.

**STATEMENT OF MATTHEW M. POLKA, PRESIDENT AND CHIEF
EXECUTIVE OFFICER, AMERICAN CABLE ASSOCIATION**

Mr. POLKA. Thank you. Chairman Wicker, Ranking Member Cantwell, and members of the Committee, I appreciate the opportunity to testify today on behalf of the more than 750 members of the ACA who typically serve just 1,000 customers in small and rural communities.

I am very proud of the work that our members do to serve their communities with essential broadband video and voice service. The fact that they succeed as small entities that compete in an industry of corporate giants is remarkable.

Today, I highlight for you what our members tell me are their challenges and priorities in deploying broadband and, as a result, what you may consider in helping to solve these challenges.

Our members see themselves as part of the solution working with you step by step. In short, what dominates the thinking of ACA members is overcoming the daily challenge of finding the capital to invest in resources to operate and upgrade services in high-cost areas, and to do so with no benefit of scale in any negotiation for content or technology, all while serving cost-sensitive consumers.

Despite this daily reality for them, they want you to know of their commitment in the private sector to continue to make enormous investments to provide broadband and video services on their own.

Now let me turn to the four areas of insight that they want me to share with you and as I do so, I'm aware that some of these points may seem mundane, but I can assure you on their behalf that these points are critical.

First, ACA members have told us about the challenges they face in both obtaining and maintaining access to rights-of-way owned by local governments. Some local government entities charge or are seeking to charge cable operators for using the public rights-of-way to provide broadband service, even though these operators already pay a fee for video access.

Second, ACA members tell us that private entities limit and even prohibit access to rights-of-way. For instance, railroads often charge unreasonably-high fees to install fiber over or under their rights-of-way, or are slow to grant rights, and I'm very pleased to be here today with Mr. Jefferies and I look forward to working with him and talking with him about those issues.

Third, ACA members also tell us we are missing too many opportunities where their broadband distribution facilities could be added to existing conduits and where they could share in the cost and installation of such new facilities.

For similar facilities installed by private entities, our members think the Government should require a sharing process similar to Dig Once.

Finally, the Government should support private investment where possible, and be more selective when it decides to provide money to any entity to build new telecommunications infrastructure.

I would urge you to make sure that any new source of funds, whether they are USF, RUS, or some other program, are used only

to deploy in unserved areas and that the Federal Government does not subsidize overbuilding.

For example, where you make new investments, which will be necessary in some remote areas, we would encourage you to replicate the FCC's Connect America Program's features that target unserved markets and award funds via reverse auctions.

In the meantime, ACA members will continue to invest and improve our networks and ensure that our communities are competitive and connected, and as this committee acts to address our Nation's critical broadband infrastructure needs, you can count on the commitment of the innovative and independent members of the American Cable Association.

Thank you.

[The prepared statement of Mr. Polka follows:]

PREPARED STATEMENT OF MATTHEW M. POLKA, PRESIDENT AND CEO,
AMERICAN CABLE ASSOCIATION

Chairman Wicker, Ranking Member Cantwell, and Members of the Committee, I am Matthew Polka, President and CEO of the American Cable Association (ACA), and I want to thank you for inviting me to testify today on America's Infrastructure Needs and more specifically our broadband infrastructure needs.

I can break down ACA's overall assessment of broadband infrastructure in the United States and our needs into three parts. *First, overall the news is good.* Fixed and mobile broadband providers, including ACA members, are investing about \$75 billion annually, and they should continue investing at approximately this same level for years to come. As a result, the performance and reach of their broadband networks have been greatly enhanced. Here, our top priority should be to do everything we can to ensure providers are not discouraged from continuing to make these investments. *Second, even though the news is good, public and private sector barriers exist that hinder deployments.* This unnecessary friction increases the costs and slows the speed of broadband deployments. Congress and the Federal Communications Commission (FCC) have already taken steps to address these problems, but more can and should be done. *Third, we need to effectively and efficiently close the digital divide so that all Americans have similar opportunities to access our broadband information highways and fully participate in our 21st Century economy and educational, social, and political activities.* Here too, Congress, the FCC, the Rural Utilities Service, and many States have acted, and we have made real headway, but again, more can and should be done. Let me first review further where our broadband infrastructure stands today and then elaborate on each of the three points I just raised.

ACA's Assessment of the State of Broadband Infrastructure in the United States

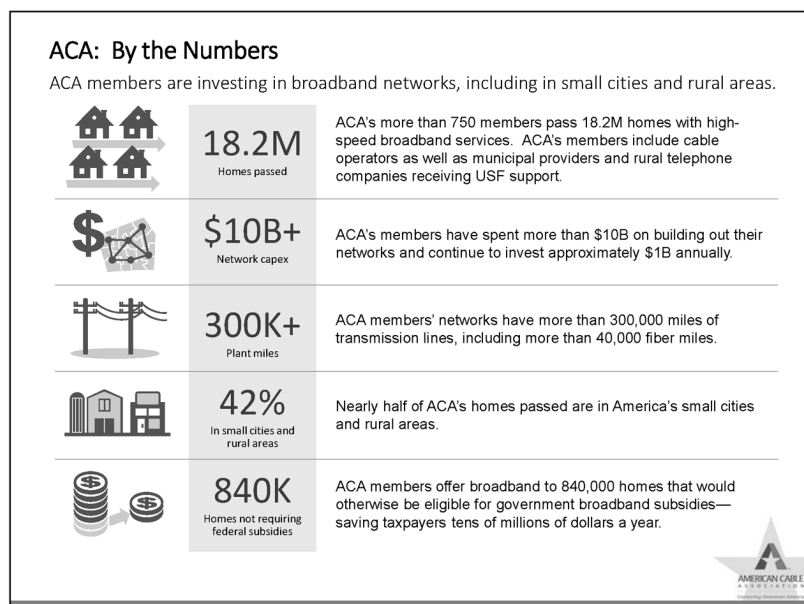
ACA's more than 750 broadband and video service provider members, who pass more than 18 million homes in all areas of the country and provide service to approximately 7 million broadband subscribers, have great experience in deploying broadband networks. During the past six years, ACA members have invested more than \$12 billion to upgrade and expand their networks, in both rural areas and as overbuilders bringing competition in urban areas,¹ and they plan to continue to spend billions each year to meet the ever growing demands of their subscribers for real-time, highspeed access to the Internet and other IP services. Many ACA members have deployed Gigabit broadband service, and many more intend to do so this year.

ACA members are not alone in making such substantial investments. As I just discussed, fixed and mobile broadband providers are investing enormous sums annually in their networks and related businesses, with cable operators alone investing approximately \$20 billion each year. These investments feed the two critical technologies for our broadband future—wireless 5G and wireline 10G. These tech-

¹This investment would be greater if not for regulatory barriers, including those discussed herein and in ACA's 2015 study on how rapidly rising video programming fees act as a drag on investment. See ACA, "High and Increasing Video Programming Fees Threatens Broadband Deployment" (2015), <https://drive.google.com/file/d/0BxUDdYFi5gnEa2xJdnhwSThWUUE/view?usp=sharing>.

nologies will work in tandem, with 10G not only connecting residents, business, and institutions directly but enabling 5G connectivity as well. That said, it is important to understand that while 5G wireless networks are critical to our Nation's future, advanced wireline networks will outperform wireless networks and provide the connectivity consumers and businesses will need as more bandwidth intensive applications and content flow over broadband pipes. That is why any broadband infrastructure legislation needs to address both our 5G and 10G future.

The Committee also should understand that ACA members and other broadband providers are not just upgrading and expanding their networks in "served" areas, but they are using their capital to bring service to unserved areas. To date, ACA members alone have invested private funds to build out to more than 840,000 homes that the FCC would otherwise consider high-cost areas eligible for Federal universal service support.



These investments not only reduced the areas where Federal universal support is needed, but they "freed-up" Federal support going into these areas, which could be used to bring broadband to unserved areas that were not receiving any support.

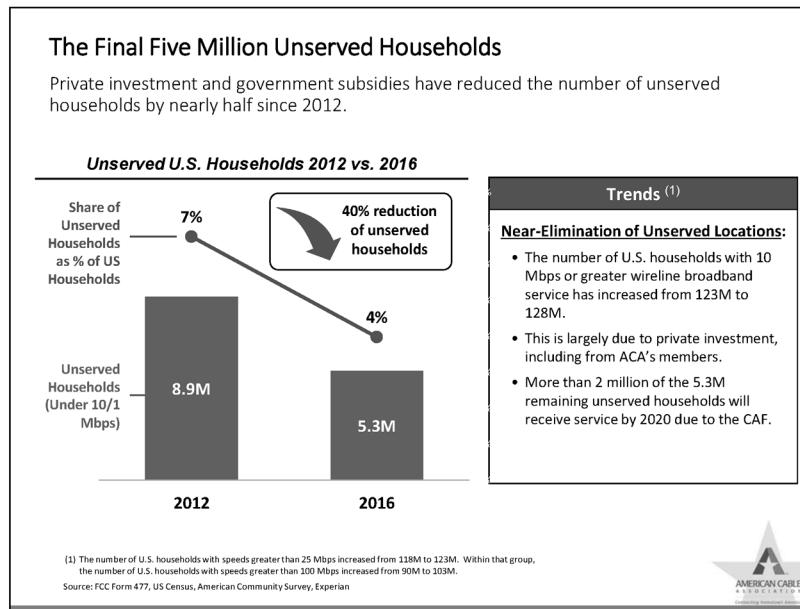
The FCC too has taken significant steps by reforming its universal service programs to close the digital divide. As I will detail later in my testimony, the FCC's high-cost programs alone, which award more than \$4 billion annually, have already brought broadband service to many millions of homes in unserved areas, and they are certain to close the gap even further in the near future.

The Rural Utilities Service (RUS) also is providing through its ongoing programs substantial support to build broadband networks in high-cost areas. Appropriations for FY2019 will enable almost \$30 million in broadband loans and provide for \$30 million for Community Connect grants. These amounts are in addition to appropriations for the Telecommunications Infrastructure program, which will enable almost \$700 million in loans. Moreover, in the 2018 appropriations, Congress provided an additional \$600 million to RUS for broadband buildout in unserved areas over the next two years.

So, in brief, because of the enormous amount of capital investment by providers, the FCC's reforms to its universal service programs, and the many RUS programs, over the past decade we have made tremendous progress in bringing fixed broadband service to all Americans. Notwithstanding the size and rural footprint of the country, more than 97 percent of American households, including about 90 percent of rural households, have access to fixed broadband service with speeds of 10 Mbps or greater. That is a 40 percent reduction in unserved households in just the past four years, leaving fewer than five million homes without access to broadband

service at speeds less than 10 Mbps.² Further, more than 100 million homes have access to broadband speeds greater than 100 Mbps, and that number is growing significantly each year.

By 2020, the FCC's current Connect America programs should reduce these five million unserved households even further, such that only about three million homes will be without fixed broadband service. And, when the FCC launches the Remote Areas Fund and the new RUS program gets underway, we should get much closer to bringing broadband to everyone.



Our current broadband “success” should be heralded, but more can, and should, be done. We should now move forward based on all that we have learned. We should acknowledge that in all areas, both served and unserved, providers continue to face barriers imposed by both the government and private entities that add cost to broadband builds, thereby reducing their reach and capabilities. Moreover, we need to do more to efficiently and effectively bring broadband to all Americans. Congress should address these issues in any broadband infrastructure legislation.

To that end, let me share with the Committee *ACA's four principles for our broadband future*: (1) respect private investment; (2) remove barriers to deployment; (3) before adopting additional programs to close the digital divide, account for additional deployments in unserved areas resulting from the removal of barriers, the recently enacted tax law, and existing Federal and state support programs; and (4) provide broadband subsidies efficiently.

Principle #1: Respect private investment. As I noted at the outset, overall broadband providers, both fixed and mobile, are spending some \$75 billion annually on infrastructure, and there is every indication this level of spending will continue absent actions by the government that would discourage it. We, therefore, urge you and the Federal agencies to refrain from imposing harmful new regulations on broadband providers where investment and deployment could be curtailed because the regulatory costs exceed their benefits. This is most important for smaller providers, who have far fewer resources to deal with government rules and regulations. In addition, the government should award any new government support only in areas where existing providers have not deployed infrastructure or where such de-

²Between 2013 and 2017, the percentage of Americans with access to speeds greater than 25 Mbps increased from approximately 84 percent to 94 percent and in rural areas from 48 percent to 76 percent overall. See Federal Communications Commission, 2018 Communications Marketplace Report at 136, Fig. G-4 (Dec. 26, 2018), <https://docs.fcc.gov/public/attachments/FCC-18181A1.pdf>.

ployments are unlikely in the near future.³ Nothing will undermine our broadband future more than signaling to private investors that their returns on investment are uncertain, or, even worse, in jeopardy.

Principle #2: Remove barriers to deployment. Building high-performance broadband networks is costly, and ACA members tell us that there are a series of problems they face and actions that you can take, without spending a penny, that will “move the deployment needle.” The chart on page 13 below, which breaks down the total cost of deploying and operating fiber-to-the-home networks, indicates the greatest deployment costs and should help you target your solutions. For instance, network costs related to pole attachments account for approximately 13 percent of total cost of ownership. That is a big number. Fortunately, last summer, the FCC adopted an order that reduced many barriers ACA members face in seeking to attach to poles owned by investor owned utilities and incumbent telecommunications carriers. That said, virtually every week we hear from members about problems with pole attachments, so Congress and the FCC should be vigilant and conduct regular oversight and then address attachment concerns that pose real threats to deployments.

Installing conduits and ducts is another significant cost of owning a wireline network. Congress helped address this matter with the Broadband Infrastructure Deployment provision contained in the MOBILE NOW Act passed last year.⁴ This provision will help lower the cost of ownership by facilitating the installation of conduits and ducts by states in highway rights-of-way when new construction and major upgrades are underway, rather than having to spend large sums afterward to tear up roadways. That said, we urge Congress to further build upon last year’s legislation to ensure that such cost saving practices are actually implemented.

Further, Congress has recognized that broadband providers, particularly in rural areas, require access to Federal lands on reasonable terms to deploy their facilities. Specifically, it understood that often Federal agencies take too long to approve access applications, which forestalls, and drives up the cost of, deployments. The MOBILE NOW Act addressed this problem by requiring Federal executive agencies to be more responsive to requests from communications providers for access to easements, rights-of-way, and leases, and in other ways.⁵ Federal agencies are now implementing those Congressional directives, and we urge Congress to ensure they act consistent with the need to expedite access to Federal lands.

ACA members also continue to encounter other barriers to their broadband deployments, including:

- ACA members have told us about challenges they face in both obtaining and maintaining access to rights-of-way owned by local governments. For instance, some local government entities charge or are seeking to charge cable operators for using the public rights-of-way to provide broadband service even though these operators already pay a fee for video access, and their networks impose no additional burden on the rights-of-way. As you well know, when you tax something, you only get less of it—and no one wants less broadband.
- ACA members also tell us that private entities limit and even prohibit access to rights-of-way. For instance, railroads often charge unreasonably high fees to install fiber over or under their rights-of-way. In fact, sometimes these fees are so unfair that they block deployments entirely.⁶ Other times, railroads are very slow to grant rights.⁷ To date, only a few states have stepped in to regulate these fees or establish timelines for obtaining rights.
- ACA members also tell us that we are missing too many opportunities to permit them to access existing conduit and ducts and to share in the cost of and access to new conduit and ducts or new opportunities to install them. For existing conduits and ducts, our providers find that there is a lack of information about their location and availability, and even once they have such information, they

³ACA notes that smaller local telephone companies have demonstrated, for the most part, competence in providing telecommunications service in high-cost, rural areas. They operate in fewer and much smaller service territories and also tend to be less diversified than the major telephone providers. Any action by Congress or the FCC to implement these principles should continue to account for the value these companies deliver.

⁴See Consolidated Appropriations Act, 2018, Pub. L. No. 115–141, 132 Stat. 348, Division P, Title VI (MOBILE NOW Act), § 607 (codified at 47 U.S.C. § 1504).

⁵See MOBILE NOW Act, § 606.

⁶See Letter From Thomas Cohen, Counsel to ACA, to Marlene H. Dortch, Secretary, FCC (dated Apr. 23, 2017), https://ecfsapi.fcc.gov/file/104030805116267/ACA_Summit_Infrastructure_ture_Ex_Parte_04032017.pdf.

⁷See ACA, Comments in FCC Proceeding on Accelerating Infrastructure Deployment, WC Docket No. 11–59 (Sept. 30, 2011), <https://ecfsapi.fcc.gov/file/7021712335.pdf>.

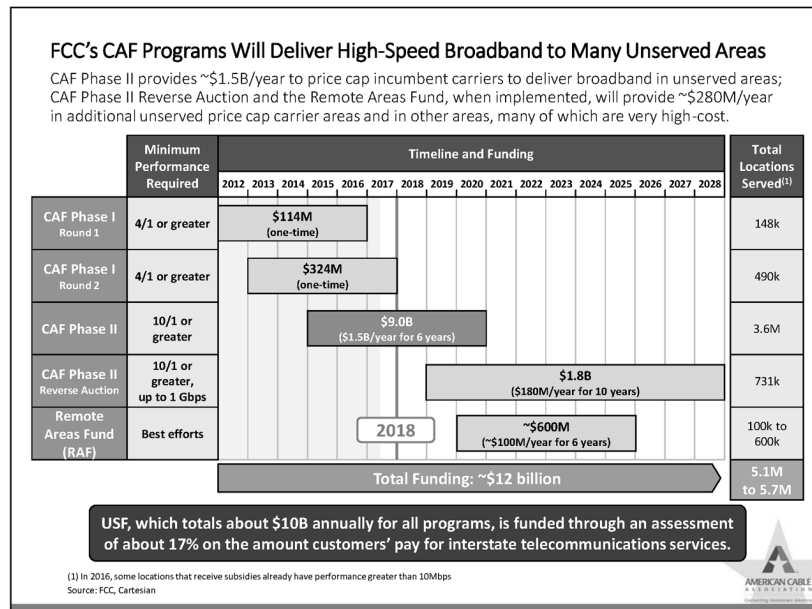
find that installation fees and construction costs are frequently unreasonable. For new conduits and ducts installed by private entities, they recommend the government require a sharing process similar to “Dig Once.” That is, any provider opening a new trench to install conduit and ducts should be required to notify other providers of the opportunity to install their own facilities and share in the cost.

Principle #3: Before determining unserved areas where new support programs should be provided, account for the additional deployments in unserved areas that will result from the removal of barriers, the recent tax law, and existing Federal and state support programs. By adopting this approach, we will ensure that we maximize use of limited Federal funds. To that end, ACA has calculated that actions taken so far by the FCC to remove barriers to deployment and potential additional actions will lower the cost of network deployment sufficiently such that 1.2 million unserved homes will become suitable for broadband providers to spend private money to deploy hybrid fiber/coax or fiber-to-the-home broadband services⁸—all without spending additional government funds. Removal of these barriers also will encourage providers using other technologies, including fixed wireless and DSL, to upgrade their networks and expand them into additional unserved areas.

In addition, further network investment is being propelled by the recent tax statute. The law permits broadband providers to “expense” their network investments immediately and cuts the corporate tax rate to 21 percent, which already has resulted in providers increasing their capital spending. We expect this increased spending to continue. We estimate that the new tax law will turn more than 400,000 homes in unserved areas into economically viable areas ripe for private investors to build high-speed broadband or fiber-to-the-home services.

We also should recognize that the FCC is providing more than \$4 billion annually to bring broadband to unserved and high-cost areas. Additionally, the broadband programs of the RUS provide tens of millions of loans annually for rural builds, and the Re-Connect broadband program launched by Congress last year has \$600 million in funding for loans and grants over the next two years. States also are implementing their own support programs. By our calculations, the current Federal Connect America programs alone, by 2020, should reduce the number of “unserved” homes by 2 million, and even more by later in the next decade, and RUS and state efforts will reduce them even further. In fact, it would be valuable for an agency like the National Telecommunications and Information Administration to report to Congress each year on the effect all Federal and state programs have on reducing the number of unserved locations. In sum, the government is already well on its way to closing the digital divide, and it should take account of the gains that are being achieved by removing barriers to deployment, the recent tax cut, and existing support programs before determining how much and where to spend additional funds to bridge the digital divide.

⁸ ACA estimates that such deployments will create almost 20,000 new jobs.



Principle #4: After removing barriers to deployment, accounting for the tax cut and current Federal and state support programs, where unserved locations remain, the government should provide subsidies to bring broadband to these unserved locations and do so efficiently. The FCC has essentially provided the roadmap for awarding support efficiently with the Connect America programs it initiated in its major reform in 2011. The FCC has reshaped and continues to refine these programs so that its limited support is awarded much more efficiently. It has sought to target support in price cap carrier territories only to unserved areas, and last year, it awarded for the first time fixed broadband support using a reverse auction. ACA believes you should adhere to the following guidelines in distributing any new money to close the remaining digital divide.

- *Provide subsidies for broadband only in unserved, high cost areas.* ACA supports the FCC's current definition providing that an area is unserved if no provider offers 10/1 Mbps broadband service. While ACA understands the urge to "bid-up" these speeds, ACA cautions that we should not divert our attention from bringing service to those areas currently deemed unserved. In addition, any change in the definition of unserved must not result in any overbuilding of providers that are investing private capital. That would be especially counter-productive. Finally, you should keep in mind that as you increase the speed threshold for determining whether an area is unserved, because higher speed services costs more to deploy, you lower the number of locations that will receive service.
- *Limit the amount of Federal support for broadband buildout in an area to account for subsidies provided by states, unless any additional broadband performance is required.* It would be inefficient and a waste of scarce Federal support to enable recipients of such support to also receive state funding if they are only required to meet the Federal broadband public interest requirements. This is because the Federal program already contemplates these requirements would be met. In the future, any Federal program that provides support for unserved locations should account for any funding from a state program that provides support to achieve the same result. This might be done by requiring the recipient of funding from both programs to provide higher speed service or meet faster deployment deadlines. For instance, the FCC and New York State developed (and ACA supported) an approach where providers in that state could receive support from both the FCC's Connect America program and New York State's Empire State Development program to deploy broadband networks that are

faster than those available under the FCC's Connect America program alone.⁹ Such an approach is a potentially valuable model for propelling higher performance networks sooner in unserved areas. But, absent such enhanced obligations, a recipient of Federal support should not receive state support to provide the same service.

- *Use reverse auctions to distribute support for network deployments to maximize cost-efficiency.* Prior to 2011, the FCC awarded high-cost universal support only to incumbent telephone companies through a complex array of factors that were out of sync with how modern broadband networks are built and operated. The FCC also understood that bringing broadband to unserved areas would be very expensive and, to maximize use of its limited funding, it needed to award support much more efficiently. Last year's reverse auctions demonstrated that they award support much more efficiently than using cost models—lowering the cost of providing support to serve an area by approximately 70 percent.¹⁰ ACA thus urges that any new funding be given out using a reverse auction approach (as adjusted for the removal of barriers to deployment).

ACA has established its principles by learning from the experiences and expertise of its members and by seeing over the past decades policies that have—and have not—worked. From our conversations with Members of the Committee, you too understand what it takes to bring broadband to all Americans. At the end of the day, ACA's principles will maximize consumer welfare, increase economic growth, and make communities throughout the country thrive. As for additional legislation, we urge the Committee to examine the approach we have just set forth. We believe it will enable you to drive broadband deployments in all areas of the country.

In closing, I want to commend the Chairman, Ranking Members, and other Members of the Committee for their intense and well-considered focus on accelerating high-performance broadband deployment to all Americans. ACA and its members stand ready to assist you in this endeavor.

⁹Letter From Ross Lieberman, Senior Vice President of Government Affairs, ACA to Marlene H. Dortch, Secretary FCC (dated Jan. 12, 2017), [https://ecfsapi.fcc.gov/file/1011376742036/ACA Ex Parte Letter re State Initiatives and NY State Proposal 01132017.pdf](https://ecfsapi.fcc.gov/file/1011376742036/ACA%20Ex%20Parte%20Letter%20re%20State%20Initiatives%20and%20NY%20State%20Proposal%2001132017.pdf).

¹⁰See Connect America Fund Phase II Auction Results, Rural Broadband Auctions Task Force, Federal Communications Commission, Open Meeting, September 26, 2018, <https://youtu.be/aHMuVwMwtrG4> (presentation begins at 27:45). The reserve price for the auction as established by the cost model was \$5 billion. The final awards totaled \$1.49 billion. In addition, more than 50 percent of the locations were to receive service at speeds of at least 100/20 Mbps, which is far in excess of the speeds required for price cap carriers electing to receive support pursuant to the cost model.



Seven Parkway Center, Suite 755
875 Greentree Road
Pittsburgh, PA 15220-3704
Office 412-922-8300, Ext. 14 • Fax 412-922-2110
Cell: 412-735-0401
Email: mpolka@americancable.org
Website: www.americancable.org
Twitter: [www.twitter.com/MATTatACA](https://twitter.com/MATTatACA)
LinkedIn: www.linkedin.com/MatthewMPolka

MATTHEW M. POLKA -- President and CEO



Matthew M. Polka is responsible for the daily operations and affairs of the American Cable Association, a nearly 800-member national non-profit association dedicated to serving the interests of independent, smaller and medium-sized broadband, cable and phone businesses across the United States. The Association, whose cable, telco and municipal members serve more than 10 million broadband internet subscribers primarily in smaller/rural markets and competitive areas in all 50 states and in many U.S. territories, is the only group of its kind solely representing the concerns of such independent businesses before Congress, the Federal Communications Commission, other federal agencies and in the 50 states, where Matt has testified many times.

The primary purpose of the Association, founded in May 1993, is to help ACA Members stay competitive through a legislative and regulatory framework that (1) recognizes the unique economic circumstances of smaller and medium-sized independent communications businesses and their unique communities; (2) provides for regulatory and financial parity with potential competitors; and, (3) encourages access to financial markets for capital needs.

Matt joined the Association as its first president on May 1, 1997. Prior to joining the Association, he was the Vice President and General Counsel of Pittsburgh-based Star Cable Associates from 1990-97, one of the nation's top-100 multiple-system cable companies, which specialized in the construction, operation and management of smaller, independent cable television systems in seven states. Matt worked on the Board and Executive Committee of the Association as a volunteer from 1993-97, helping to establish ACA in Washington, and then joining in 1997 to create a full-time Members' organization.

Matt is a 1982 honors graduate of West Virginia University in Morgantown, W.Va., where he received an undergraduate degree in journalism, *magna cum laude*, and was recipient of the Journalism School's award for Outstanding Graduate in Journalism. He is also a 1986 graduate of Pittsburgh's Duquesne University School of Law, where he was editor of the Law School Newsmagazine, *JURIS*, and recipient of the Law School's Most Distinguished Graduate award.

In five years of private legal practice from 1986 through 1990, Matt specialized in civil litigation and corporate practice with the Pittsburgh law firms of Buchanan Ingersoll Professional Corporation and Thorp, Reed & Armstrong. In particular, since 1986 he has represented a number of independent communications clients in a variety of corporate transactions, contract negotiations and litigation matters.

Matt, a frequent speaker throughout the communications industry, was named once again in 2018 a member of the CableFAX 100, and in 2009 was named a "Cable Television Pioneer," one of the highest awards bestowed in the cable industry. Matt lives in the Pittsburgh area with his wife, Shanman, and their two daughters.

The CHAIRMAN. Thank you very, very much, Mr. Polka.
Mr. Chris Spear of the American Trucking Association.

**STATEMENT OF CHRIS SPEAR, PRESIDENT AND CHIEF
EXECUTIVE OFFICER, AMERICAN TRUCKING ASSOCIATIONS**

Mr. SPEAR. Mr. Chairman, Ranking Member Cantwell, and members of the Committee, thank you for the opportunity to testify this morning on behalf of the American Trucking Association.

The ATA's an 86-year-old federation representing 50 state trucking associations. Our industry supports more than 7.7 million employees or one in 18 jobs in the United States where a truck driver is the top job in 29 states.

In Mississippi, trucks haul 90 percent of the freight and 70 percent of the freight delivered from Washington State. Nationally, trucking moves 71 percent of the domestic freight tonnage. That's more \$10 trillion worth of goods streamed across a national network of roads and bridges that define interstate commerce.

Without trucks, our cities, towns, and communities would lack the key necessities, including food and drinking water. There'd be no clothes to purchase and no parts to build automobiles or fuel to power them.

The rail, air, and water intermodal sectors would not exist in their current form without the trucking industry to support them, and every time the Government makes a decision that affects the trucking industry, those impacts are felt by individuals and the millions of businesses that could not exist without trucks.

Our roads and bridges are literally crumbling. Last week, chunks of falling concrete struck cars traveling under bridges in California and Massachusetts. We are no longer facing a future highway maintenance crisis. We're living it. And every day we fail to invest, we're putting more lives at risk and truck drivers are on the front lines.

Each day they see potholes getting deeper, bridges getting weaker, and as a result, the safety of the motoring public increasingly compromised. In nearly 53 percent of the highway fatalities, the condition of the roadway contributed.

Time wasted sitting in bottleneck traffic rather than at work or with our families has skyrocketed. Motorists now pay an average of \$1,600 due to repairs and congestion each year. Trucking now loses \$74.5 billion sitting in gridlock. That equates to 1.2 billion lost hours or 425,000 truck drivers sitting idle for an entire year.

These are the regressive costs of doing nothing and they're reflected in the prices we all pay. These costs to consumers and the economy are measurable and they can and should serve as offsets for new spending on our Nation's infrastructure.

ATA believes our Nation's roads and bridges should be paid for by users. While trucks make up just 4 percent of the vehicles on our Nation's highways, trucking pays for nearly half of the Highway Trust Fund and we're willing to pay more.

ATA advocates the passage of a BUILD America Fund consisting of a modest increase in the price of fuel. The BUILD America Fund would increase the price of fuel 20 cents per gallon at the fuel rack, just a nickel a year over 4 years, generating \$340 billion over 10 years.

This new revenue is real, not fake funding, like P3s or asset recycling. The BUILD America Fund is the most conservative proposal, costing less than one cent on the dollar to administer versus up to 35 cents a dollar for tolling schemes.

Last, our proposal is sustainable. It shores up the Highway Trust Fund which will go broke in just a couple of years without action, and it doesn't add one dime to our Nation's debt.

In summary, our Nation's growing economy is placing significant demands on all transportation modes. Federal inaction has prompted cash-strapped states to adopt regressive revenue schemes that hurt commuters, communities, and divert funds to non-infrastructure priorities.

Look no further than the 10-mile stretch of I-66 just minutes away from this hearing room. A year ago, this short patch of Virginia interstate went to congestion pricing. As a result, I-66 commuters now pay peak toll of \$47.50 one way 1 day one road.

For many who can't afford peak prices, they are either forced to drive through residential areas and school zones or navigate a costly maze of public transportation connections which are often delayed or down due to under-investment.

Under the BUILD America Fund, that same driver paying \$47.50 for a 10-mile stretch of I-66 would pay just \$2 a week for all roads and bridges in the United States.

President Reagan understood why our approach makes the most sense, which is why he signed a user fee increase into law twice during his Administration. Now is the time for the Senate, House, and this President to come together and do what's right for America.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Spear follows:]

PREPARED STATEMENT OF CHRIS SPEAR, PRESIDENT AND CHIEF EXECUTIVE OFFICER,
AMERICAN TRUCKING ASSOCIATIONS

Chairman Wicker, Ranking Member Cantwell, and members of the committee, thank you for providing the American Trucking Associations (ATA)¹ with the opportunity to testify on our Nation's infrastructure needs.

Trucking is the fulcrum point in the United States' supply chain. This year, our industry will move 70 percent of the Nation's freight tonnage, and over the next decade will be tasked with moving nearly three billion more tons of freight than it does today while continuing to deliver the vast majority of goods.² Trucks haul 90 percent of the freight originating in Mississippi and 70 percent of the freight delivered from Washington State. In 2017, the goods moved by trucks were worth more than \$10 trillion.³ The trucking industry is also a significant source of employment, with 7.7 million people working in various occupations, accounting for every 1 in 18 jobs in the U.S.⁴ Furthermore, "truck driver" is the top job in 29 states.⁵

¹*American Trucking Associations* is the largest national trade association for the trucking industry. Through a federation of 50 affiliated state trucking associations and industry-related conferences and councils, ATA is the voice of the industry America depends on most to move our Nation's freight. Follow ATA on *Twitter* or on *Facebook*. *Trucking Moves America Forward*.

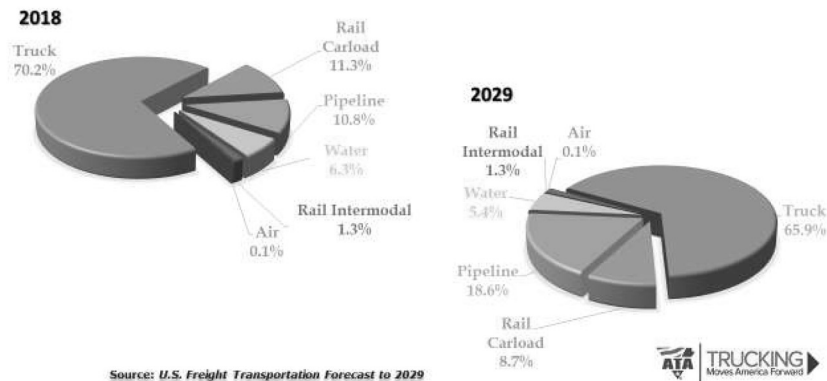
²*Freight Transportation Forecast 2018 to 2029*. American Trucking Associations, 2018.

³*2017 Commodity Flow Survey Preliminary Report*. U.S. Census Bureau, Dec. 7, 2018.

⁴*American Trucking Trends 2018*, American Trucking Associations.

⁵<https://www.marketwatch.com/story/keep-on-truckin-in-a-majority-of-states-its-the-most-popular-job-2015-02-09>

Distribution of Tonnage by Mode: 2018 vs 2029



Without trucks, our cities, towns and communities would lack key necessities including food and drinking water; there would be no clothes to purchase, and no parts to build automobiles or fuel to power them. The rail, air and water intermodal sectors would not exist in their current form without the trucking industry to support them. Trucks are central to our Nation's economy and our way of life, and every time the government makes a decision that affects the trucking industry, those impacts are also felt by individuals and by the millions of businesses that could not exist without trucks.

Mr. Chairman, we are on the cusp of a transformation in the movement of freight, one that you and your colleagues will greatly influence. Radical technological change will, in the near future, allow trucks to move more safely and efficiently, and with less impact on the environment than we ever dared to imagine. Yet we are facing headwinds, due almost entirely to government action or, in some cases inaction that will slow or cancel out entirely the benefits of innovation. Failure to maintain and improve the highway system that your predecessors helped to create will destroy the efficiencies that have enabled U.S. manufacturers and farmers to continue to compete with countries that enjoy far lower labor and regulatory costs.

Mr. Chairman, we are at a critical point in our country's history, and the decisions made by this committee over the next few months will impact the safety and efficiency of freight transportation for generations. ATA looks forward to working with you to develop and implement sound policy that benefits the millions of Americans and U.S. businesses that rely on a safe and efficient supply chain.

The Cost of Inaction

A well-maintained, reliable and efficient network of highways is crucial to the delivery of the Nation's freight, and vital to our country's economic and social well-being. However, the road system is rapidly deteriorating, and costs the average motorist nearly \$1,600 a year in higher maintenance and congestion expenses.⁶ Highway congestion also adds nearly \$75 billion to the cost of freight transportation each year.⁷ In 2016, truck drivers sat in traffic for nearly 1.2 billion hours, equivalent to more than 425,000 drivers sitting idle for a year.⁸

While the cost and scale of addressing highway improvement needs is daunting, it is important to note that much of the congestion is focused at a relatively small number of locations. Just 17 percent of National Highway System (NHS) miles represents 87 percent of total truck congestion costs nationwide.⁹ Many of these locations are at highway bottlenecks that are identified annually by the American Transportation Research Institute. ATRI just released its latest freight bottlenecks

⁶ *Bumpy Road Ahead: America's Roughest Rides and Strategies to make our Roads Smoother*, The Road Information Program, Oct. 2018; *2015 Urban Mobility Scorecard*. Texas Transportation Institute, Aug. 2015.

⁷ *Cost of Congestion to the Trucking Industry: 2018 Update*. American Transportation Research Institute, Oct. 2018.

⁸ *Ibid.*

⁹ *Ibid.*

report, which identifies the top 100 truck bottlenecks around the country.¹⁰ The worst bottleneck was Interstate 95 at State Route 4 in Fort Lee, NJ. More than half of the bottlenecks are in states represented by Members of this committee, including thirteen in Texas, six in Connecticut, and five in Washington State. While most of the bottlenecks were in large metropolitan areas, the report found trouble spots even in smaller cities like Baton Rouge, LA, San Bernardino, CA, Birmingham, AL, Chattanooga, TN, and Greenville, SC. ATA's highway funding proposal, described below, would adopt a strategy for funding improvements at these costly choke points.

Most troubling is the impact of underinvestment on highway safety. In nearly 53 percent of highway fatalities, the condition of the roadway is a contributing factor.¹¹ In 2011, nearly 17,000 people died in roadway departure crashes, over 50 percent of the total.¹² Many of these fatalities result from collisions with roadside objects, such as trees or poles located close to the roadway.

The Highway Trust Fund (HTF), the primary source of Federal revenue for highway projects, safety programs and transit investments, is projected to run short of the funds necessary to maintain current spending levels by FY 2021.¹³ While an average of approximately \$42 billion per year is expected to be collected from highway users over the next decade, nearly \$60 billion will be required annually to prevent significant reductions in Federal aid for critical projects and programs.¹⁴ It should be noted that a \$60 billion annual average Federal investment *still* falls well short of the resources necessary to provide the Federal share of the expenditure needed to address the Nation's surface transportation safety, maintenance and capacity needs.¹⁵ According to the American Society of Civil Engineers, the U.S. spends less than half of what is necessary to address these needs. As the investment gap continues to grow, so too will the number of deficient bridges, miles of roads in poor condition, number of highway bottlenecks and, most critically, the number of crashes and fatalities attributable to inadequate roadways.

A recently released report¹⁶ by the Transportation Research Board (TRB) requested by Congress focused specifically on the current state and future needs of the Interstate Highway System. This critical network binds our Nation together and reaps immeasurable economic and national security benefits for the United States. Most importantly, because interstates are far safer than surface roads, since 1967 it has prevented nearly a quarter million people from losing their lives in vehicular crashes.¹⁷ The Interstate Highway System accounts for about one-quarter of all miles traveled by light-duty vehicles and 40 percent of miles traveled by trucks.¹⁸ The TRB report estimates that conservatively, the state and Federal investment necessary to address the Interstate system's maintenance and capacity needs will need to double or triple over today's expenditures in the next 20 years.¹⁹

Build America Fund

ATA's proposed solution to the highway funding crisis is the Build America Fund. The BAF would be supported with a new 20 cent per gallon fee built into the price of transportation fuels collected at the terminal rack, to be phased in over four years. The fee will be indexed to both inflation and improvements in fuel efficiency, with a five percent annual cap. We estimate that the fee will generate nearly \$340 billion over the first 10 years. It will cost the average passenger vehicle driver just over \$100 per year once fully phased in.²⁰

We also support a new fee on hybrid and electric vehicles, which underpay for their use of the highway system or do not contribute at all. We look forward to working with Congress to identify the best approach to achieve that goal. In addition, ATA supports repeal of the Federal excise tax on trucking equipment, provided the revenue it generates for the HTF is replaced. This antiquated 12 percent sales

¹⁰<https://truckingresearch.org/2019/02/06/atri-2019-truck-bottlenecks/>

¹¹ *Roadway Safety Guide*. Roadway Safety Foundation, 2014.

¹² *Ibid.*

¹³ *Projections of Highway Trust Fund Accounts—CBO's January 2018 Baseline*, Congressional Budget Office.

¹⁴ *Ibid.*

¹⁵ *2015 Status of the Nation's Highways, Bridges, and Transit: Conditions & Performance*. USDOT, Dec. 2016; see also *2017 Infrastructure Report Card*. American Society of Civil Engineers, 2017.

¹⁶ *Renewing the National Commitment to the Interstate Highway System: A Foundation for the Future* (2018). Transportation Research Board, National Academy of Sciences.

¹⁷ *Ibid.*, p. 2–18.

¹⁸ *Ibid.*, p. 2–10.

¹⁹ *Ibid.*, p. S–5.

²⁰ Federal Highway Administration, *Highway Statistics 2016*, Table VM–1. Average light-duty vehicle consumed 522 gallons of fuel.

tax, which was adopted during World War I, is a barrier to investment in the cleanest, safest trucks available on the market.

Under the BAF proposal, the first tranche of revenue generated by the new fee would be transferred to the HTF. Using a FY 2020 baseline, existing HTF programs would be funded at authorized levels sufficient to prevent a reduction in distributed funds, plus an annual increase to account for inflation.

Second, a new National Priorities Program (NPP) would be funded with an annual allocation of \$5 billion, plus an annual increase equivalent to the percentage increase in BAF revenue. Each year, the U.S. Department of Transportation would determine the location of the costliest highway bottlenecks in the Nation and publish the list. Criteria could include the number of vehicles; amount of freight; congestion levels; reliability; safety; or, air quality impacts. States with identified bottlenecks could apply to USDOT for project funding grants on a competitive basis. Locations could appear on the list over multiple years until they are addressed.

The funds remaining following the transfer to the HTF and the NPP would be placed into the Local Priorities Program (LPP). Funds would be apportioned to the states according to the same formula established by the Surface Transportation Block Grant Program, including suballocation to local agencies. Project eligibility would be the same as the eligibility for the National Highway Freight Program or National Highway Performance Program, for highway projects only.

This approach would give state and local transportation agencies the long-term certainty and revenue stability they need to not only maintain, but also begin to improve their surface transportation systems. They should not be forced to resort to costly, inefficient practices—such as deferred maintenance—necessitated by the unpredictable Federal revenue streams that have become all too common since 2008. Furthermore, while transportation investment has long-term benefits that extend beyond the initial construction phase, it is estimated that our proposal would add nearly half a million annual jobs related to construction nationwide, including nearly 6,000 jobs in Mississippi and more than 8,000 jobs in Washington State (see Appendix A for a full list of state-specific employment figures).²¹

The fuel tax is the most immediate, cost-efficient and conservative mechanism currently available for funding surface transportation projects and programs. Collection costs are less than one percent of revenue.²² Our proposal will not add to the Federal debt or force states to resort to detrimental financing options that could jeopardize their bond ratings. Unlike other approaches that simply pass the buck to state and local governments by giving them additional “tools” to debt-finance their infrastructure funding shortfalls for the few projects that qualify, the BAF will generate *real* money that can be utilized for *any* federal-aid project.

Mr. Chairman, while some have suggested that a fuel tax is regressive, the economic harm of failing to enact our proposal will be far more damaging to motorists. The \$100 per year paid by the average car driver under this proposal pales in comparison with the \$1,600 they are now forced to pay annually due to additional vehicle maintenance, lost time, and wasted fuel that has resulted from underinvestment in our infrastructure. Borrowing billions of dollars each year from China to debt-finance the HTF funding gap—a cost imposed on current and future generations of Americans who will be forced to pay the interest—is far more regressive than the modest fee needed to avoid further blowing up our already massive national debt. Forcing states to resort to tolls by starving them of Federal funds is far more regressive than the \$2.00 a week motorists would pay under our proposal. One needs only look to I-66 in Northern Virginia, where tolls average more than \$12.00 per roundtrip and can sometimes exceed \$46.00, to understand the potential impacts on lower-or middle-income Americans.²³ To put this into perspective, even if motorists only paid the average toll, the cost of a 10-mile trip over an eight day period on I-66 would be equivalent to their cost for an entire year under ATA’s BAF proposal for all roads and bridges.

Alternative Revenue Sources

The fuel tax is the most fair and efficient method for funding highways. Just 0.2 percent of fuel tax revenue goes to collection costs.²⁴ However, we are willing to consider other funding options, provided they meet the following criteria:

²¹ *A Framework for Infrastructure Funding*. American Transportation Research Institute, Nov. 2017.

²² *Ibid.*

²³ http://www.66expresslanes.org/documents/66_express_lanes_january_2018_performance_report.pdf

²⁴ *Ibid.*

- Be easy and inexpensive to pay and collect;
- Have a low evasion rate;
- Be tied to highway use; and
- Avoid creating impediments to interstate commerce.

While ATA is open to supporting a wide range of funding and financing options, we will oppose expansion of Interstate highway tolling authority and highway “asset recycling.” Interstate tolls are a highly inefficient method of funding highways. Tolling also forces traffic onto secondary roads, which are weaker and less safe. Asset recycling involves selling or leasing public assets to the private sector. Where asset recycling has been utilized on toll roads in the U.S., toll payers have seen their rates increased, only to subsidize projects with little or no benefit to them. One need only consider the recent 35 percent increase in truck toll rates on the Indiana Toll Road for an example of these abusive practices. The state gets a single tranche of money for road, broadband, airport and other projects that have no direct benefit for toll road users, while the private operator of the highway reaps the profits for the next six decades. Please note that our position on asset recycling pertains only to the highway sector.

ATA is aware of proposals to create a new fee that taxes the cost of freight transportation services. While such a proposal is attractive in concept, we have identified several issues that have yet to be resolved to our satisfaction, and therefore we cannot support it at this time. Our primary (though by no means only) concerns are: high administrative costs; significant potential for evasion; and difficulty imposing the fee on private carriers.

Future Revenue Sources

While ATA considers an increase in the fuel tax to be the best and most immediate means for improving our Nation’s roads and bridges, we also recognize that due to improvements in fuel efficiency and the development of new technologies that avoid the need to purchase fossil fuel altogether, the fuel tax is likely to be a diminishing source of revenue for surface transportation improvements. We, therefore, encourage Congress, in consultation with the Executive Branch, state and local partners and the private sector, to continue to work toward identifying future revenue sources.

The FAST Act created a new grant program designed to accomplish this objective, and we hope that this research will continue. While much work has already been accomplished in this regard, there is much still to be done before these new revenue mechanisms are ready for mainstream implementation. ATA encourages Congress to include in a future infrastructure package or surface transportation reauthorization bill a plan to bolster and, if necessary, ultimately replace current highway funding mechanisms with new, more sustainable revenue sources. We recommend a ten-year strategy that could include creation of a blue-ribbon commission to explore the results of pilot programs already completed or underway, with recommendations for either further research or a proposal for Congress to adopt a new funding approach.

Freight Transportation Improvement

While trucks move the vast majority of freight, it is important to recognize the critical nature of the multimodal supply chain. The seamless interchange of freight between trucks, trains, aircraft, ships and waterways operators allows shippers to minimize costs and maximize efficiencies. While carriers do what they can to make this process as smooth as possible, some things are largely out of their hands and require government action.

Importance of the Federal Role

The Federal Government has a critical role to play in the supply chain. Freight knows no borders, and the constraints of trying to improve the movement of freight without Federal funding and coordination will create a drag on all freight providers’ ability to serve national and international needs. As the maps in Appendix B show, trucks move products to and from all corners of the country, and serve international markets as well.

These maps demonstrate that parochial debates over how much funding each state receives is ultimately destructive to shippers no matter where they are located. The cost of congestion for a truck that moves freight from Kansas City to Chicago is no different whether that congestion occurs in Kansas City or in Chicago. There is little advantage to a truck moving a load of cars from the Port of Baltimore to a dealership in Washington, D.C. if roadway improvements are made around the port, only to experience severe congestion in Washington. The critical role that only the Federal Government can play is to look at investment decisions in the context

of national impacts and determine which investments can produce the greatest economic benefits regardless of jurisdictional considerations. Only the Federal Government can break down the artificial constraints of geographic boundaries that hamper sound investment in our Nation's freight networks. Only the Federal Government can provide the resources necessary to fund projects whose benefits extend beyond state lines, but are too expensive for state or local governments to justify investments at the expense of local priorities.

Freight Intermodal Connectors

Freight intermodal connectors—those roads that connect ports, rail yards, airports and other intermodal facilities to the National Highway System—are publicly owned. And while they are an essential part of the freight distribution system, many are neglected and are not given the attention they deserve given their importance to the Nation's economy. Just nine percent of connectors are in good or very good condition, 19 percent are in mediocre condition, and 37 percent are in poor condition.²⁵ Not only do poor roads damage both vehicles and the freight they carry, but the Federal Highway Administration (FHWA) found a correlation between poor roads and vehicle speed. Average speed on a connector in poor condition was 22 percent lower than on connectors in fair or better condition.²⁶ FHWA further found that congestion on freight intermodal connectors causes 1,059,238 hours of truck delay annually and 12,181,234 hours of automobile delay.²⁷ Congestion on freight intermodal connectors adds nearly \$71 million to freight transportation costs each year.²⁸

One possible reason connectors are neglected is that the vast majority of these roads—70 percent—are under the jurisdiction of a local or county government.²⁹ Yet, these roads are serving critical regional or national needs well beyond the geographic boundaries of the jurisdictions that have responsibility for them, and these broader benefits may not be factored into the local jurisdictions' spending decisions. While connectors are eligible for Federal funding, it is clear that this is simply not good enough. We urge Congress to set aside adequate funding for freight intermodal connectors to ensure that these critical arteries are given the attention and resources they deserve.

Truck Driver Parking Shortage

Research and feedback from carriers and drivers suggest there is a significant shortage of available parking for truck drivers in certain parts of the country. Given the projected growth in demand for trucking services, this problem will likely worsen. There are significant safety benefits from investing in truck parking to ensure that trucks are not parking in unsafe areas due to lack of space.

Funding for truck parking is available to states under the current federal-aid highway program, but truck parking has not been a priority given a shortage of funds for essential highway projects. Therefore, we support the creation of a new discretionary grant program with dedicated funding from the federal-aid highway program for truck parking capital projects.

Additional Productivity Impediments

It is helpful to understand the full range of productivity constraints we are facing in the context of addressing infrastructure-related impediments. There are a host of actions that Congress can take to improve freight mobility without compromising important societal goals such as safety and air quality.

While ATA supports state flexibility on certain matters, it should be recognized that Congress has a Constitutionally-mandated responsibility to ensure the flow of interstate commerce. Where appropriate, Federal preemption may be necessary. Unfortunately, Federal avoidance of preemption in the name of states' rights or to avoid controversy sometimes leads to a patchwork of state regulations that creates significant inefficiencies. Where appropriate, the Federal Government must act to protect the public interest from the parochial demands of narrow constituencies.

Workforce Development

The trucking industry is facing a severe labor shortage that threatens to increase the cost of moving freight and reduce supply chain efficiencies. In 2017, for example, the industry was short 50,000 drivers, the highest level on record. If current trends hold, the shortage could grow to more than 174,000 by 2026. Over the next decade,

²⁵ *Freight Intermodal Connectors Study*. Federal Highway Administration, April 2017.

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ *An Analysis of the Operational Costs of Trucking: 2018 Update*. American Transportation Research Institute, Oct. 2018. Estimates average truck operational cost of \$66.65 per hour.

²⁹ *Ibid.*

the trucking industry will need to hire roughly 898,000 new drivers, or an average of nearly 90,000 per year.

In recognition of challenges like these, at last March's infrastructure hearing before this Committee, Labor Secretary Alex Acosta specifically advocated for workforce development reforms to be included in an infrastructure package. In particular, Secretary Acosta testified in support of occupational licensing reform. As you may be aware, reforming outdated occupational licensing requirements has been a bipartisan priority of the past three administrations, and there is broad bipartisan support for rolling back these unnecessary barriers that hold back so many Americans, and which disproportionately affect African-Americans, Hispanics, military spouses and veterans, returning citizens, and the poor.

To help alleviate this problem in the trucking industry, ATA supports a number of occupational licensing reforms. First, ATA supports lowering the minimum age requirement for interstate truck driving from 21 to 18, but only for qualified CDL-holding apprentices that satisfy the safety, training, and technology requirements spelled out in the DRIVE Safe Act (S. 3352 in the 115th Congress). Modern-day vehicle safety technologies have advanced by several orders of magnitude since the current minimum age requirement was promulgated decades ago. Research shows that the technologies required by the DRIVE Safe Act and endorsed by the NTSB—such as active braking, collision avoidance, and event recorders—significantly improve safety performance. Meanwhile, 6.4 million Opportunity Youth in this country are neither employed, nor in school, even as the Nation is short 50,000 truck drivers. An update to the minimum age requirement is long over-due.

Second, to better connect job-seekers to trucking careers that offer a median salary of \$54,585, health and retirement benefits, and potentially thousands of dollars in signing bonuses, ATA supports efforts to require states to better serve the growing number of truck driver candidates who receive driver training outside their state of domicile. Currently, out-of-state trainees have to travel back and forth to their home state, every time they pass either the CDL knowledge test or skills test, just to obtain the basic occupational licenses necessary to launch their trucking career. This arrangement imposes unnecessary financial burdens on those who can least afford it and exposes them to skills degradation. This problem could be addressed by requiring states receiving Federal funds for infrastructure projects to allow such out-of-state trainees to (1) complete all training; (2) take all necessary tests; and (3) obtain all necessary credentials in the state in which they are receiving training—without having to travel back to their home state.

As the Council of Economic Advisers has noted:

Because [occupational] licenses are largely granted by states (rather than being nationally recognized), licensing inhibits the free flow of licensed workers across state boundaries to better match labor supply to labor demand. Unless the geographic footprint and skill needs of expanded infrastructure investments match the geographic distribution of currently unemployed infrastructure workers, some reshuffling of workers across state lines may be needed.³⁰

In the trucking industry, the geographic distribution of currently unemployed truck driver candidates does not match the geographic footprint of Federal workforce development investments. Accordingly, individuals aspiring to become truck drivers are crossing state lines to obtain state-of-the-art training from motor carriers that have the support of Federal workforce dollars and have been hiring minorities, veterans, apprentices, and other underrepresented populations at industry-leading rates.

To better facilitate and scale this innovative model of workforce development, ATA supports efforts to require states of domicile to (1) accept the results of an applicant's CDL knowledge test administered in another state, and to (2) electronically transmit or deliver by mail the relevant credential—be it a CLP or a CDL—to the applicant without requiring him or her to physically come back to the state of domicile.

Infrastructure and Trucking Technology

ATA supports the development and deployment of automated vehicle technology and connectivity for all vehicle types. The transportation industry is in an era of technological evolution that can deliver increased safety and efficiency for highway vehicles and vulnerable road users. Automated driving systems and vehicle safety communications are peaking in research and development, and are on the brink of market utilization. We encourage Congress to adopt legislation that facilitates the

³⁰The Council of Economic Advisers, "The Economic Benefits and Impacts of Expanded Infrastructure Investment," March 2018

adoption of technology that improves safety, the environment, traffic congestion, and energy efficiency. It is important to ensure that all vehicles that share the road together, including commercial vehicles, are included in legislation that governs and facilitates these improvements. Furthermore, as you consider funding for infrastructure investment generally, keep in mind that these improvements are vital to the successful adoption of intelligent transportation systems.

Conclusion

Mr. Chairman, over the next decade, freight tonnage is projected to grow by 30 percent.³¹ The trucking industry is expected to carry two-thirds of the Nation's freight in 2029 and it will be tasked with hauling 2.6 billion *more* tons of freight than it moved this year.³² Without Federal support and cooperation, the industry will find it extremely difficult to meet these demands at the price and service levels that its customers—American businesses—need to compete globally. It is imperative to our Nation's economy and security that Congress, working in concert with the Administration, invest in critical highway freight infrastructure, and make the reforms necessary to create an improved regulatory environment that fosters greater safety and efficiency in our supply chain.

The trucking industry, and especially truck drivers, understands the importance of safe and efficient highways like nobody else. Roads and bridges are our workplace, and we cannot properly serve the needs of the Nation if elected officials continue to allow highways to fall into greater neglect. The trucking industry already pays nearly half the user fees into the HTF and we are willing to invest more. To us, and most Americans, this is not an ideological debate. It is simply a decision about whether we make the investments necessary to remain competitive and prevent needless injuries and deaths, or continue on the current path.

Mr. Chairman, on January 6, 1983, President Ronald Reagan, in signing into law legislation that increased the Federal fuel tax, said:

Today . . . America ends a period of decline in her vast and world-famous transportation system. . . . [We] can now ensure for our children a special part of their heritage—a network of highways and mass transit that has enabled our commerce to thrive, our country to grow, and our people to roam freely and easily to every corner of our land.

That bill was supported by 261 Members of the House, including a majority of both Republicans and Democrats. Roads and bridges know no political party; we all benefit from them. It is time for elected officials to put aside partisan politics and regional differences and fulfill the promise to the American people expressed so eloquently by President Reagan.

Mr. Chairman, we appreciate your support and the support that Senate Leaders—Republican and Democrat—have given to passage of an infrastructure bill this Congress. In his State of the Union speech last week, President Trump called on Congress to work with him to pass an infrastructure bill, and correctly stated that this is not an option, it is a necessity. You have a willing partner in the White House, and also in the House of Representatives where Speaker Pelosi and T&I Chairman DeFazio have made similar commitments to pursuing a robust, bipartisan infrastructure package. Congress has a unique opportunity this year to show the American people that Congress is, once more, able to work together, in partnership with the President, to pass bipartisan legislation that will improve their daily lives, create good jobs and grow the economy.

Thank you once again for the opportunity to testify on this important subject. We look forward to working with the committee to advance legislation that enables the trucking industry to continue to provide safe and efficient freight transportation services to the American people.

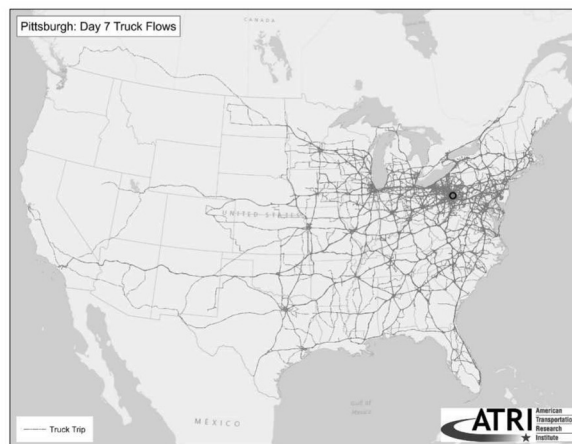
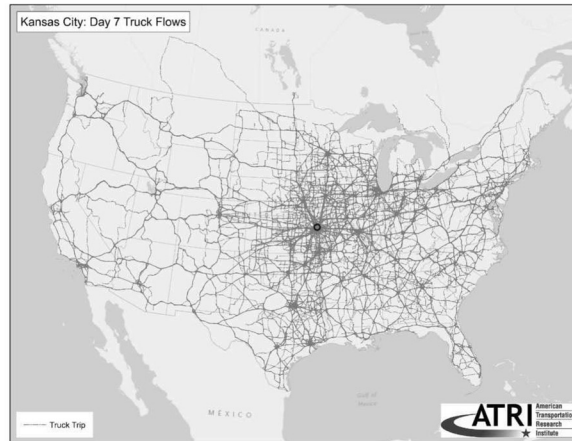
³¹ *Freight Transportation Forecast 2018–2029*. IHS Global Insight, 2018.

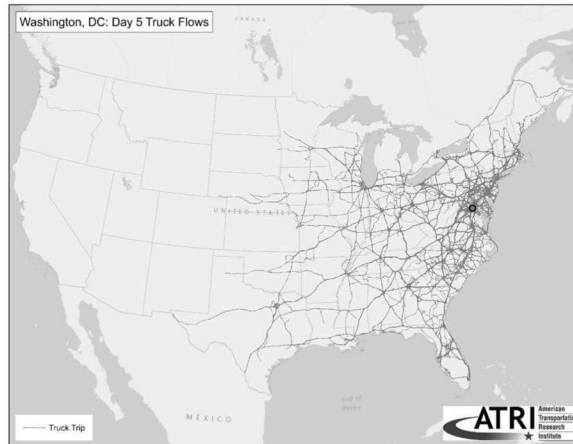
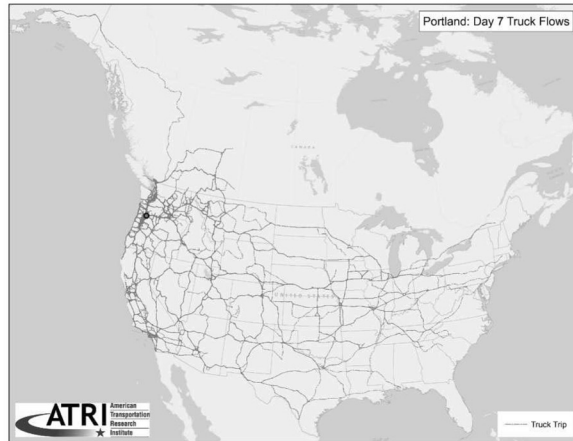
³² *Ibid.*

APPENDIX A: FUNDING IMPACT MATRIX - ANNUAL STATE-LEVEL JOB AND REVENUE INCREASES RESULTING FROM FEDERAL FUEL TAX INCREASES

STATE	Current Annual Allocation		Twenty Cent - Increase Federal Motor Fuels Tax Annual Benefits				Twenty Five Cent - Increase Federal Motor Fuels Tax Annual Benefits			
	FAST ACT Apportioned Funds	Percent of Total	Additional \$30 Billion Federal Funding	State Match (20%)	Total New Funds	# of Jobs	Additional \$37.25 Billion Federal Funding	State Match (20%)	Total New Funds	# of Jobs
	(in millions)		(in millions)	(in millions)	(in millions)		(in millions)	(in millions)	(in millions)	
ALABAMA	\$ 770	1.9%	\$ 581	\$ 116	\$ 697	9,067	\$ 722	\$ 144	\$ 866	11,258
ALASKA	\$ 509	1.3%	\$ 384	\$ 77	\$ 461	5,992	\$ 477	\$ 95	\$ 572	7,440
ARIZONA	\$ 742	1.9%	\$ 560	\$ 112	\$ 673	8,744	\$ 696	\$ 139	\$ 835	10,857
ARKANSAS	\$ 525	1.3%	\$ 397	\$ 79	\$ 476	6,187	\$ 492	\$ 98	\$ 591	7,682
CALIFORNIA	\$ 3,723	9.4%	\$ 2,812	\$ 562	\$ 3,374	43,862	\$ 3,491	\$ 698	\$ 4,189	54,462
COLORADO	\$ 542	1.4%	\$ 410	\$ 82	\$ 492	6,390	\$ 509	\$ 102	\$ 610	7,935
CONNECTICUT	\$ 509	1.3%	\$ 385	\$ 77	\$ 462	6,002	\$ 478	\$ 96	\$ 573	7,453
DELAWARE	\$ 172	0.4%	\$ 130	\$ 26	\$ 156	2,022	\$ 161	\$ 32	\$ 193	2,510
DIST. OF COL.	\$ 162	0.4%	\$ 122	\$ 24	\$ 147	1,907	\$ 152	\$ 30	\$ 182	2,368
FLORIDA	\$ 1,922	4.8%	\$ 1,451	\$ 290	\$ 1,742	22,642	\$ 1,802	\$ 360	\$ 2,163	28,114
GEORGIA	\$ 1,310	3.3%	\$ 989	\$ 198	\$ 1,187	15,430	\$ 1,228	\$ 246	\$ 1,474	19,159
HAWAII	\$ 172	0.4%	\$ 130	\$ 26	\$ 155	2,021	\$ 161	\$ 32	\$ 193	2,510
IDAHO	\$ 290	0.7%	\$ 219	\$ 44	\$ 263	3,418	\$ 272	\$ 54	\$ 326	4,244
ILLINOIS	\$ 1,442	3.6%	\$ 1,089	\$ 218	\$ 1,307	16,990	\$ 1,352	\$ 270	\$ 1,623	21,097
INDIANA	\$ 967	2.4%	\$ 730	\$ 146	\$ 876	11,387	\$ 906	\$ 181	\$ 1,088	14,139
IOWA	\$ 499	1.3%	\$ 376	\$ 75	\$ 452	5,873	\$ 467	\$ 93	\$ 561	7,292
KANSAS	\$ 383	1.0%	\$ 289	\$ 58	\$ 347	4,516	\$ 359	\$ 72	\$ 431	5,607
KENTUCKY	\$ 674	1.7%	\$ 509	\$ 102	\$ 611	7,940	\$ 632	\$ 126	\$ 758	9,859
LOUISIANA	\$ 712	1.8%	\$ 538	\$ 108	\$ 645	8,387	\$ 668	\$ 134	\$ 801	10,414
MAINE	\$ 187	0.5%	\$ 141	\$ 28	\$ 170	2,206	\$ 176	\$ 35	\$ 211	2,739
MARYLAND	\$ 610	1.5%	\$ 460	\$ 92	\$ 552	7,181	\$ 572	\$ 114	\$ 686	8,917
MASSACHUSETTS	\$ 616	1.6%	\$ 465	\$ 93	\$ 558	7,258	\$ 578	\$ 116	\$ 693	9,012
MICHIGAN	\$ 1,068	2.7%	\$ 807	\$ 161	\$ 968	12,582	\$ 1,001	\$ 200	\$ 1,202	15,623
MINNESOTA	\$ 661	1.7%	\$ 500	\$ 100	\$ 599	7,793	\$ 620	\$ 124	\$ 744	9,676
MISSISSIPPI	\$ 491	1.2%	\$ 370	\$ 74	\$ 445	5,780	\$ 460	\$ 92	\$ 552	7,177
MISSOURI	\$ 960	2.4%	\$ 725	\$ 145	\$ 870	11,313	\$ 900	\$ 180	\$ 1,081	14,047
MONTANA	\$ 416	1.0%	\$ 314	\$ 63	\$ 377	4,903	\$ 390	\$ 78	\$ 468	6,088
NEBRASKA	\$ 293	0.7%	\$ 221	\$ 44	\$ 266	3,454	\$ 275	\$ 55	\$ 330	4,289
NEVADA	\$ 368	0.9%	\$ 278	\$ 56	\$ 334	4,339	\$ 345	\$ 69	\$ 414	5,388
NEW HAMPSHIRE	\$ 168	0.4%	\$ 127	\$ 25	\$ 152	1,974	\$ 157	\$ 31	\$ 189	2,452
NEW JERSEY	\$ 1,013	2.5%	\$ 765	\$ 153	\$ 918	11,932	\$ 950	\$ 190	\$ 1,140	14,816
NEW MEXICO	\$ 372	0.9%	\$ 281	\$ 56	\$ 338	4,389	\$ 349	\$ 70	\$ 419	5,449
NEW YORK	\$ 1,703	4.3%	\$ 1,286	\$ 257	\$ 1,543	20,059	\$ 1,597	\$ 319	\$ 1,916	24,907
NORTH CAROLINA	\$ 1,058	2.7%	\$ 799	\$ 160	\$ 959	12,464	\$ 992	\$ 198	\$ 1,190	15,476
NORTH DAKOTA	\$ 252	0.6%	\$ 190	\$ 38	\$ 228	2,967	\$ 236	\$ 47	\$ 283	3,684
OHIO	\$ 1,360	3.4%	\$ 1,027	\$ 205	\$ 1,232	16,019	\$ 1,275	\$ 255	\$ 1,530	19,890
OKLAHOMA	\$ 643	1.6%	\$ 486	\$ 97	\$ 583	7,579	\$ 603	\$ 121	\$ 724	9,411
OREGON	\$ 507	1.3%	\$ 383	\$ 77	\$ 459	5,973	\$ 475	\$ 95	\$ 571	7,417
PENNSYLVANIA	\$ 1,664	4.2%	\$ 1,257	\$ 251	\$ 1,508	19,608	\$ 1,561	\$ 312	\$ 1,873	24,346
RHODE ISLAND	\$ 222	0.6%	\$ 168	\$ 34	\$ 201	2,614	\$ 208	\$ 42	\$ 250	3,245
SOUTH CAROLINA	\$ 679	1.7%	\$ 513	\$ 103	\$ 616	8,002	\$ 637	\$ 127	\$ 764	9,936
SOUTH DAKOTA	\$ 286	0.7%	\$ 216	\$ 43	\$ 259	3,370	\$ 268	\$ 54	\$ 322	4,185
TENNESSEE	\$ 857	2.2%	\$ 647	\$ 129	\$ 777	10,098	\$ 804	\$ 161	\$ 965	12,539
TEXAS	\$ 3,501	8.8%	\$ 2,644	\$ 529	\$ 3,173	41,250	\$ 3,283	\$ 657	\$ 3,940	51,219
UTAH	\$ 352	0.9%	\$ 266	\$ 53	\$ 319	4,150	\$ 330	\$ 66	\$ 396	5,153
VERMONT	\$ 206	0.5%	\$ 155	\$ 31	\$ 187	2,425	\$ 193	\$ 39	\$ 232	3,012
VIRGINIA	\$ 1,032	2.6%	\$ 780	\$ 156	\$ 935	12,161	\$ 968	\$ 194	\$ 1,162	15,100
WASHINGTON	\$ 688	1.7%	\$ 519	\$ 104	\$ 623	8,101	\$ 645	\$ 129	\$ 774	10,059
WEST VIRGINIA	\$ 443	1.1%	\$ 335	\$ 67	\$ 402	5,223	\$ 416	\$ 83	\$ 499	6,485
WISCONSIN	\$ 763	1.9%	\$ 576	\$ 115	\$ 692	8,992	\$ 716	\$ 143	\$ 859	11,165
WYOMING	\$ 260	0.7%	\$ 196	\$ 39	\$ 235	3,061	\$ 244	\$ 49	\$ 292	3,801
TOTAL	\$ 39,724	100.0%	\$ 30,000	\$ 6,000	\$ 36,000	468,000	\$ 37,250	\$ 7,450	\$ 44,700	581,100

APPENDIX B: TRUCK FLOWS AFTER 7 DAYS FROM CITY OF ORIGIN





The CHAIRMAN. Thank you very much, Mr. Spear.
Mr. Willis, welcome.

**STATEMENT OF LARRY I. WILLIS, PRESIDENT,
TRANSPORTATION TRADES DEPARTMENT, AFL-CIO**

Mr. WILLIS. Thank you. On behalf of the Transportation Trades Department, our 32 affiliated unions, and the millions of front-line transportation workers that I am proud to help represent, I want to thank Chairman Wicker, Senator Cantwell, for inviting me to testify this morning.

You know, in America today, it's easy to focus on what divides us, right. Polarizing rhetoric, political labels, and differing ideas can make us forget that at the end of the day, we all want the same thing, a good job and peace of mind for ourselves and for our family, and transportation and infrastructure should be an issue that unites us.

As Chairman Wicker already noted, you've proven that it can be with the recent passage of FAA Reauthorization, Amtrak Reauthorization before that, and, of course, the FAST Act.

These were all good pieces of legislation that the labor movement was proud to support, but when it comes to funding levels, they were simply not enough. They're not enough to meet the demands that we place on our system today. They are not enough to meet the demands that we're going to place on our system over the next 10 years, and they are nowhere near enough for what we need to leave a legacy of economic stability and world-class infrastructure for our children the way that our parents and grandparents did for us.

Past generations, they did more than just build the interstate highway system, rail lines that connected New York to California and every state in between, and an aviation system that set the global standard by ensuring that those who built this country and contributed to its economy enjoyed the benefits of a strong union contract. They also helped create the middle class.

Sadly, today, we run the risk of letting these great legacies crumble away. We know failure by the Federal Government to invest in infrastructure hurts working families. It hurts our economy and that's why today I want to take you past GDP indicators, past the report card scores and past the dizzying array of numbers and figures that we can all point to and focus on ways that failing to invest in infrastructure takes a toll on individuals.

I'm talking about the office worker who misses out on time with their family because of soul-crushing commutes, truck drivers right here in the Port of Virginia who regularly lose out on pay because they are stuck sometimes for hours on end on traffic jams caused by outdated infrastructure, families in West Virginia who face uncertainty because funding for their commuter train, their lifeline to a good job, is now being jeopardized.

You know, we used to pride ourselves on being a nation that dug deeper, built higher, and went faster, but now we are holding our economy and working families hostage by failing to invest in projects like Gateway in the Northeast and expanding the Soo Locks in the Midwest.

Let me be clear. Our members, they stand ready, willing and able to drive the buses, build the roads, move the freight, fly the airplanes, and dare to dream on major projects that are only possible with support and leadership from the Federal Government. The policy solutions here are no great mystery. We've already talked about them.

We need to stabilize the Highway Trust Fund through a gas tax increase, mileage-based user fee, or some other user fee-based approach. We must return the Harbor Maintenance Tax Fund to its intended purpose of funding our Nation's seaports. We must make permanent the tax credit for short-line railroads and fund grade crossing improvements, and Federal infrastructure investments must be paired with strong labor policies and "Buy America" rules so that American tax dollars will be used to create good middle-class jobs that we can all be proud of.

Finally, if we want to improve our transportation system, we have got to stop shutting down the Federal Government. We hopefully just avoided another crisis, if press reports are to be believed, but we cannot ignore the harm caused by shutting our government for 35 days, the longest in history.

I'm talking about Federal employees who use their government job to lift themselves out of poverty only to find that they couldn't pay for gas or rent or groceries, the safety issues posed and perishable evidence lost because NTSB accident investigators were told to stay home, the damage done to our aviation industry by forcing TSA officers, air traffic controllers, FAA inspectors and technicians to work without pay for over a month, closing air traffic control training facilities and failing to maintain the equipment needed to operate a world-class aviation system.

We have to stop punishing Federal employees and hindering the public service they provide over policy debates that, quite frankly, have nothing to do with them.

Let me close with this message. By showing the courage that this crisis, our infrastructure crisis deserves, we can leave behind a legacy better than crumbling roads, bridges, and struggling train systems, better than congested ports and airports. Working families are ready. It is now your turn to show America that you are ready to meet these challenges head on.

Thank you.

[The prepared statement of Mr. Willis follows:]

PREPARED STATEMENT OF LARRY I. WILLIS, PRESIDENT,
TRANSPORTATION TRADES DEPARTMENT, AFL-CIO

On behalf of the Transportation Trades Department, AFL-CIO (TTD), and our 32 affiliated unions, I want to first thank Chairman Wicker and Ranking Member Cantwell for inviting me to testify before you today.

These are difficult political times in America.

Every day, we hear more and more divisive rhetoric and unwavering points of view here in Washington, D.C., on the news, over social media, and in our communities. The effects of digging our heels in hurt every single American. It drives a wedge between friends and family members. It drives a wedge between neighbors. And it makes us forget that the people ten states or even just one county over have the same desire we do for a good job and peace of mind for our families.

While America is both large in size and diverse in our ideas and ways of life, I think that last point is something that really unites us. This country works harder than any other nation on earth. We see ourselves in our work. We take pride in

it and we want to contribute. In many ways, our shared interest in simply pitching in is our common national identity.

And working people expect the same of Congress.

In fact, transportation investment can and should be a great vehicle for showing folks back home that this body can still come together and get the job done. That we can see party lines not as lines in the sand but as a wealth of great ideas.

This committee, in particular, knows that we do not just build ports, fly planes, or build rail and transit systems for the sake of spending money. If we want to have a 21st century economy—if we want to be the leaders of a global economy—we simply cannot risk falling behind.

Your willingness to put party lines aside and get to work was evident last year when you passed a long-term FAA reauthorization bill that secured the broad support of transportation unions and included a number measures to improve the safety and efficiency of this sector. It was also evident three years ago when you passed a five-year Amtrak bill and reauthorized our transit, highway, and hazardous materials programs in the FAST Act.

These were not easy jobs. Nonetheless, many of you here today worked together to get them done.

But let me be clear: while these were all good pieces of legislation that included hard-fought provisions for America's working families, I am sad to say, they simply are not anywhere near enough.

They are not enough to meet the demands that we place on our transportation system today. They are certainly not enough to meet the demands that are going to be placed on it in ten years. And they are nowhere near what we need to leave a legacy for our children, the way our parents and grandparents did when they had the courage to build something as impossible-seeming as the interstate highway system and world-class urban and rural transit systems in every part of our country. Rail lines that connected New York to California and nearly every state in between. A network of more than 900 ports through which 99 percent of overseas trade passes. And an aviation system that set the global standard for moving people and goods safely and efficiently across our skies.

Past generations did more than just build a system of transportation infrastructure that inspired a nation. By demanding that working people have a voice on the job and earn living wages, our parents and grandparents helped define the American Dream. Through strong union contracts, they helped create an economic system that allowed a middle class to grow, and ensured those who built this country and contributed to its economy could support their families.

Sadly, today we are well past the point where we run the risk of letting those legacies quite literally crumble away.

We know that it hurts working families when the Federal Government fails to invest in infrastructure. We know it hurts our economy. We know that when the Federal Government fails to invest in infrastructure it leaves good union jobs on the table and delays the ability of goods and services to get to American manufacturers, business owners, and household consumers.

Voters back home—hard working men and women—sent you here to get this right.

That is why, today, I want to take you past GDP indicators, past the report card scores, past the dizzying array of numbers any of us can point to, and instead, focus on the ways failing to invest in infrastructure takes a toll on working families. I am talking about the young adult who is ready and willing to work, but does not have access to reliable transportation to get to where jobs are located. The single parent who burns the candle at both ends and is still barely able to scrape by. The dedicated Amtrak employee who has devoted her life to providing quality customer service to regulars and new riders alike, who worries about her family should her job be contracted out to save a few bucks.

The people I am describing are real people. They are the frontline transportation workers who want to operate and build a world-class system. They are the nurses, teachers, veterans, government employees, and business professionals who depend on a safe, efficient transportation network. They are your constituents back home. And the impacts they feel today are only going to get worse if we decide that current Federal measures are simply *good enough*.

Everyday Impacts on the American People

Take, for example, port truck drivers in Virginia, who come face to face with America's lack of infrastructure investment on a regular basis. Surges in containers from increasingly large ships regularly put the port over capacity, creating traffic jams that can be 13-lanes wide, 10-trucks deep, and take eight hours to clear. Port congestion not only means truck drivers lose out on pay, lessening their purchasing

power and placing a strain on their communities, but it means the shipment of goods and raw materials to retailers, small businesses, and farmers is severely delayed.

For rural communities, Federal investment in transportation infrastructure can mean the difference between isolation and having a lifeline to nearby towns and cities, between economic decay and economic vibrancy. Just look at what is happening in Hattiesburg, Mississippi. By taking their neglected train depot and making it the focus of a downtown revitalization effort, the people of Hattiesburg have breathed new life into their once-declining community, expanded transportation options for residents and visitors, and put the town on stable financial footing.

By contrast, when MARC funding in West Virginia was jeopardized last year, hundreds of Martinsburg residents, who rely on train travel to get to their jobs here in Washington, were forced to consider relocating. Many said they moved to the community *because* of the train and the valuable service it offers. Without it, they—and their tax dollars, civic contributions, and entrepreneurship—have no reason to stay.

Consider also small towns like Canadian, Texas; Scottsbluff, Nebraska; or Lima, Ohio, which have already suffered from the decline in rural aviation and bus services that began in the 1970s. Every day they see freight trains pass through their communities, but no passenger trains. Think of the opportunity that passenger rail service could provide to these otherwise isolated communities. Think of the stability and growth passenger rail could bring to Rockwood, Pennsylvania, which lies along the Capitol Limited line between Chicago and Washington D.C. The community of Rockwood has been fighting for a stop for 23 years. For far less than we handed away in the 2018 tax bill, we could have instead extended a hand to American towns all across the country.

Shutdowns Only Intensify the Problem

If we are serious about funding and supporting our Nation's transportation system, we have to stop shutting down the Federal Government. It is embarrassing, it is counterproductive and it is a selfinflicted wound that workers and our economy simply cannot tolerate.

When a transit agency in South Carolina, which is still recovering from the effects of Hurricane Florence, is forced to consider suspending service for an entire month because the Federal grants it relies on are not coming through, local economies suffer. When the Maritime Security Program faces uncertainty and vessel operators wonder if it will remain economically feasible to participate, civilian mariners, their families, and our national security are placed in jeopardy. When critical, perishable evidence from fatal transportation accidents is lost because NTSB investigators are forced to sit at home, we are all less safe. And when over one million working people, including Federal employees and government contractors, are forced to go without pay for more than a month, the economic desperation they feel ripples through communities.

Just look at the Federal worker in Florida who, in a frantic attempt to not spend any more than was absolutely necessary, refused to turn on the heat in her home, stopped driving except to go to and from work, and spent her free time scouring her home for things she could sell, including clothes and the camper van she had just paid off. Or the TSA worker in Oregon whose government job allowed him to claw out of poverty, only to find himself unable to make rent, pay bills, or buy presents for his son's birthday. Or, the air traffic controller and single dad who reported for duty knowing he was going to have to make a decision between buying groceries and paying the electric bill.

Perhaps nowhere was the chaos and devastation of failing to fund the government for 35 days more visible than in our Nation's aviation industry. This is a sector of our transportation system that has become a cornerstone of this country's economy—it supports nearly 12 million jobs, more than \$1.5 trillion in total economic activity, and accounts for 5.4 percent of our GDP. And yet, we subjected critical Federal employees, without whom this industry cannot function, including transportation security officers, air traffic controllers, and FAA inspectors and technicians, to the stressors and insecurities of working without pay for more than a month. It is not a coincidence that relatively modest delays in air traffic control are what brought the shutdown to an end.

It is also important to note, that closing large portions of the FAA and DOT are further delaying the implementation of important safety rules mandated by the FAA Reauthorization Act passed last year. Minimum rest requirements for flight attendants, mandates to install secondary barriers in commercial passenger aircraft, requirements for airlines to adopt assault mitigation plans to better protect customer service agents—to name a few—have yet to be implemented. Shutting down the gov-

ernment needlessly takes these tasks off course and further frustrates clear directives from this Committee.

We cannot repeat this mistake. Our aviation industry, portions of our broader transportation system, and too many Federal workers are still recovering from the damaging effects of the last shutdown. Lawmakers, including those of you here today, must be focused not only on preventing another shutdown, but ensuring government workers and Federal contractors are made whole. It is imperative we understand the important work these civil servants do is vital to our country and our economy. Too often, we demonize, laugh at, or scapegoat government workers. That must end today. The men and women who perform safety sensitive transportation work, keep government offices clean and secure, perform inspections, and a myriad of other duties that keep this country functioning are real people with families to feed, and, like any working person, they deserve our respect.

A Nation that Used to Dream Big

We used to be a country that prided itself on digging deeper, building higher, and going faster. But today, we have turned a blind eye to projects that will make us better. By failing to tackle some of our Nation's largest and most pressing needs, we are putting our country's entire economy on the line.

Consider the Gateway Tunnel on the Northeast Corridor. The Northeast accounts for 30 percent of all jobs in the U.S. and contributes \$3 trillion annually to the U.S. economy. It is home to 51 million people—one in seven Americans—a figure expected to hit 58 million by 2040. Yet, in the busiest rail corridor in the country, we continue to move people and goods at maximum capacity through a hundred year old tunnel that has been in dire need of expansion and modernization for the past 25 years. Frontline rail workers—including electricians, track employees and signalmen are responsible for keeping this system running safely and efficiently under almost impossible conditions. Our members also have to operate and dispatch trains every day through this labyrinth of outdated infrastructure. We know it is past time for this Administration to stop playing political chicken with Gateway and release grant money to allow this project to move forward.

At the Soo Locks in Sault Ste. Marie, Michigan, only one lock—the Poe Lock, built in 1896—is capable of handling the large lake freighters used on the upper Great Lakes. One hundred percent of the iron ore mined in the United States comes through this one lock. If it were to fail for six months or longer, the U.S. Department of Homeland Security estimates that it would have a \$1.1 trillion dollar economic impact on our country and cause 1.1 million jobs to be lost. Yet this project is still waiting on crucial Federal funding for the construction of a second lock.

Meanwhile, America's first truly high-speed rail project, which will lead to an estimated \$7.6 billion in new business sales and \$3 billion in new wages, faces continuous threats by some in Congress. By repeatedly seeking to bring this transformative project to a grinding halt, opponents of the project do little more than signal to China, Europe, Japan, Russia and other parts of the world that we do not want to be leaders—that we don't even want to be followers—in innovating our transportation network.

That is what *good enough* looks like.

We Stand Ready to Help Congress Get This Right

Our members stand ready, willing, and able to operate those trains that connect communities all across our country. To modernize and move freight in and out of our ports. To make the most advanced aviation system in the world even more efficient. To build the infrastructure we need today for the electric vehicles that are coming tomorrow. And to dare to dream big with you on projects like the Gateway Tunnel and California High Speed Rail.

And yet we sit here today, still trying to pay for a 21st Century transportation network on a 1993 budget. Still seemingly unwilling to make the difficult political choices that, frankly, we do not think are all that difficult.

The policy solutions are no great mystery.

Highways and Transit

We know that a user-fee supported system works when it generates enough revenue to meet our needs. But that is simply no longer happening with the Highway Trust Fund. Since 2008, Congress has transferred \$140 billion into the Highway Trust Fund from the general treasury, and even then, it is just barely enough money to keep pace with current spending levels. Spending levels that do not even begin to address the larger investment gaps I have discussed today. Spending levels that we know must be dramatically increased if we are to compete in the world economy and provide mobility options that working families are calling for.

We have long supported efforts for a modest increase in the Federal gas tax, which remains the most efficient and reliable means to raise revenue for our surface transportation network. Yes, an extra twenty-five cents per gallon at the pump will increase costs for some consumers by roughly \$ 100 per year. But this calculation overlooks the fact that investing in American infrastructure will raise household income, by a recent estimate, to the tune of \$ 1,400 per year.

We would also support any serious effort in this Congress to lay the groundwork for a transition to a mileage based user fee. As gasoline powered vehicles become more efficient and electric vehicles become more prevalent, contributions to the Highway Trust Fund will continue to dry up, leaving us back in the same position we are today. At a minimum, Congress should spearhead an immediate effort to dramatically expand the testing of a mileage-based fee.

Moving Goods by Land and Sea

We should take the Harbor Maintenance Trust Fund off budget and stop raiding it to pay for other priorities. America—not one of our competitors—should be home to the best ports the world has ever known. What's more, when Congress cannot show responsibility with the money they collect for our trust funds, it harms the public's faith in your work. In a very real way, this is about the health of our democracy.

In addition to funding our port infrastructure adequately, Congress must also do so responsibly. Last year, this Committee proposed modifying and increasing a port grant program to improve intermodal access, including investing in rail and highway connections. While we support these type of investments, we are concerned that money could be diverted to port automation projects. To date, all but one port in this country have chosen not to automate, due largely to the fact that automation projects are expensive and are likely not cost effective. Ports are free, of course, to pursue automation if they so choose. But the Federal Government should not subsidize private business decisions that would not be appealing otherwise, particularly when those decisions are made in an effort to cut labor costs.

Congress must also prioritize smart investments in our freight rail sector.

The Senate should pass the Building Rail Access for Customers and the Economy Act of 2019, or BRACE Act, to permanently extend the 45G Short Line Tax Credit once and for all. Privately owned short line freight railroads play a significant role in moving goods, connecting the entire freight rail network, and alleviating the deterioration of public roads and bridges within our transportation network. Yet, year after year, Congress has failed to make permanent the Short Line Tax Credit. Since it was first put to use in 2005, the tax credit has spurred \$4 billion in private infrastructure investment among short line railroads. It ensures the short line industry's continued private investment for the future and saves taxpayers from shouldering hefty annual bills for the wear and tear on the roadways.

Additionally, we support increasing the funding dedicated to the Section 130 railway-highway grade crossings program via the FAST Act. Annually, Section 130 funds are allotted to states for the installation of new grade crossing warning devices, the upgrade of existing devices and surfaces, and the separation and closure of grade crossings. This program has helped dramatically reduce grade crossing collisions over the past few decades, but with more than 125,000 public grade crossings in the United States and growing freight and passenger rail traffic alongside growing truck and automobile traffic, there is much more to be done.

Aviation

As we saw during the recent shutdown, the Federal Government and the American people expect air travel to continue without a hitch, regardless of the toll it takes on FAA and airline employees. However, requiring air traffic controllers, safety inspectors and other FAA employees to work for over a month without pay puts incredible stress on the system—stress that seriously risks the safety and security of our skies. These risks are unacceptable to FAA employees, airline employees and the flying public, and they should be unacceptable to Congress.

H.R. 1108, the Aviation Funding Stability Act, which was introduced in the House by Transportation and Infrastructure Committee Chairman Peter DeFazio and Aviation Subcommittee Chair Rick Larsen last week is unfortunately necessary in the current political climate. The bill would allow the FAA to use uncommitted Airport and Airway Trust Fund money to continue to operate fully in the event of a government shutdown. H.R. 1108 would allow the FAA to continue to ensure safe air operations and prevent it from being held hostage by political squabbles. Importantly, this bill would only be in effect during a government shutdown and would not otherwise remove the FAA from Congress's oversight and appropriations authority. To transportation labor, this is a no-brainer.

Unfortunately, because the funding would come through the Airport and Airways Trust Fund, this bill does not cover TSA and the dedicated Transportation Security Officers that were also required to work without pay. We are working with legislators to pass similar legislation to ensure that TSOs receive pay in the event of a shutdown. This is simple. Air travel is going to continue. And funding the FAA and TSA during a shutdown will ensure that air travel continues safely.

Finally, we know that jobs created by smart investments in transportation and infrastructure are good jobs that people can raise families on. In part, this is because of high union density in some of these sectors and in part because of the Federal policies that have been associated with these investments. In particular, labor standards specific to construction and transportation have been included in past infrastructure investment statutes and together have resulted in a high-road labor model and ensured a skilled workforce is utilized. These standards and other employee protections should be expanded and applied to future investments considered by the Committee. In addition, Buy America rules should be aggressively applied to Federal infrastructure programs so that we can grow our manufacturing base as we seek to reverse decades of under-investment. It would be a grave mistake for the health of our Nation to use an infrastructure bill to attack these important laws or to undercut collective bargaining rights that are essential to the good jobs that can and should be created in this space.

Leaving Behind a Legacy for our Nation

By taking these steps today, we can leave behind a legacy better than crumbling roads and insufficient transit. Better than seaports that no longer compete with our neighbors to the north and to the south. Better than airports where we ask our workforce to do more with less every single day. Better than an economy where the ultra-wealthy only get richer at the expense of everyone else.

It is your turn in Congress, now, to show America's working families that you are ready to meet this challenge. To show our children the kind of courage and leadership that our parents dared to show us. The kind of leadership that inspired a nation to invest in the economic wellbeing of its people by building the Hoover Dam, the Panama Canal, the Interstate Highway System, and countless other projects named after great Americans who dared to dream bigger than we seem capable of today.

We must not find ourselves back at this table in ten or 30 years asking what went wrong. Why nobody rose to meet the challenge. And so I challenge each of you and all of us to seize the opportunity before us.

With that, I am happy to answer any questions.



Transportation Trades Department, AFL-CIO
A bold voice for transportation workers

TTD MEMBER UNIONS

Air Line Pilots Association (ALPA)
 Amalgamated Transit Union (ATU)
 American Federation of Government Employees (AFGE)
 American Federation of State, County and Municipal Employees (AFSCME)
 American Federation of Teachers (AFT)
 Association of Flight Attendants-CWA (AFA-CWA)
 American Train Dispatchers Association (ATDA)
 Brotherhood of Railroad Signalmen (BRS)
 Communications Workers of America (CWA)
 International Association of Fire Fighters (IAFF)
 International Association of Machinists and Aerospace Workers (IAM)
 International Brotherhood of Boilermakers, Iron Ship Builders,
 Blacksmiths, Forgers and Helpers (IBB)
 International Brotherhood of Electrical Workers (IBEW)
 International Longshoremen's Association (ILA)
 International Organization of Masters, Mates & Pilots, ILA (MM&P)
 International Union of Operating Engineers (IUOE)
 Laborers' International Union of North America (LIUNA)
 Marine Engineers' Beneficial Association (MEBA)
 National Air Traffic Controllers Association (NATCA)
 National Association of Letter Carriers (NALC)
 National Conference of Firemen and Oilers, SEIU (NCFO, SEIU)
 National Federation of Public and Private Employees (NFOPAPE)
 Office and Professional Employees International Union (OPEIU)
 Professional Aviation Safety Specialists (PASS)
 Sailors' Union of the Pacific (SUP)
 Sheet Metal, Air, Rail and Transportation Workers (SMART)
 SMART-Transportation Division
 Transportation Communications Union/ IAM (TCU)
 Transport Workers Union of America (TWU)
UNITE HERE!
 United Mine Workers of America (UMWA)
 United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service
 Workers International Union (USW)

These 32 labor organizations are members of and represented by the TTD



The CHAIRMAN. Thank you very much, Mr. Willis, and thank you to all of our witnesses for very thought-provoking and substantive suggestions.

Mr. Spear, is all P3 funding fake funding or can you differentiate between workable 3Ps and fake P3s?

Mr. SPEAR. I would argue that from the context of roads and bridges and from a trucking perspective, P3s are code for tolling.

Tolling is only profitable when you have a high throughput and to have the level of throughput that would make it profitable on a road or bridge, it's only applicable to less than 1 percent of the roads and bridges in the United States, so which is why it's really difficult to attract private investment on tolling schemes and make them profitable.

P3s, however, could be profitable in other venues, other, you know, modes of transportation, airports, seaports perhaps, you know, could be beneficial. That's been proven in other countries. But as we see it from roads and bridges, a P3 is a tolling scheme that time and time again has proven to be very regressive, high administrative costs, up to 35 percent to administer a toll on the dollar versus less than one penny on the dollar for the user fee. So we look at the user fee as a much more viable solution, Mr. Chairman.

The CHAIRMAN. Mr. Willis, do you agree that P3 is fake funding?

Mr. WILLIS. Excuse me. We agree that direct funding through user fee or, you know, some other mechanism is the right approach.

P3s do have a role. Mr. Jefferies mentioned them in the context of the CREATE Project. I think that's something that we have traditionally supported there, but I think it has to be part of a—it's going to always be a minority of our infrastructure needs and when you do deploy them, you have to make sure that the public is protected.

You have to make sure that "Buy America" rules, labor policies apply, just like they would in other projects, and recognizing that most projects aren't a for-profit model. So really you aren't going to work in the P3 component. So part of the solution but a small part.

The CHAIRMAN. You want to weigh in, Mr. Willis, on the congestion pricing that Mr. Spear mentioned and particularly the I-66 example that he used?

Mr. WILLIS. Yes. We have not gotten involved in those type of issues, but again I think when you look at that type of a P3 model, making sure that you have the public interest protected and at the table, I think is important, not just on highways but in other deployments of P3s.

The CHAIRMAN. And, Mr. Polka, you are concerned that we not use scarce funds to build over where we already have coverage.

We've had concerns on both sides of the aisle up and down this dais about the map that the FCC has. Are you satisfied that we know enough about where the coverage deficits are?

Mr. POLKA. It's better, but we need to do more. The fact that we have started to look on a more granular basis at what homes are served is good. Certainly as we have in our mapping processes looked down to the census tract level, we have incorporated things, such as what the FCC has done to institute a challenge process in

its Connect America Fund, programs which help to more singularly focus where homes are, where they're not.

The CHAIRMAN. Do you think—

Mr. POLKA. But the truth is we don't know what homes are served and what homes aren't served. So if there's a need from a mapping perspective, I think ultimately we need a map that would be part of an infrastructure program to help us determine what homes are served and what homes aren't and then we'll know where the funds need to go.

The CHAIRMAN. OK. So you might want to get back to us then on some specific legislation to make sure we get it right where the coverage is and where it is now currently?

Mr. POLKA. Yes, this is something where a map of this nature would need to focus really in on the specifics of where homes are located, to geo-code specific homes where we can then overlay whether or not there is service and that whether those homes are served or not, and we'll be glad to do that with you.

The CHAIRMAN. OK. Well, we're getting ready to spend a ton of money on these reverse auctions and it just seems to me that we don't quite have the correct information.

Thank you very, very much.

Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman.

I mentioned in my opening statement this article that *Seattle Times* reporter Mike Lindblom reported on but what triggered his analysis of traffic challenges and investment was an INRIX report, which is a worldwide data and traffic analysis. The American Transportation Research Group in their Annual Congestion Report said that truck delays cost over \$66 billion.

So many of you mentioned the economic impact of congestion on to the economy and to consumers. So if we know we're losing \$66 billion then at least these levels of investment should be considered.

In your statement—I'm sorry. In, Mr. Friedman, your statement, you were commenting about various ways in which freight—thank you for mentioning The Freight Act and the passage of that. That truly was about us losing our competitive advantage.

One of the largest grain elevators in the entire world is in Vancouver, Washington. I said why do we have the largest grain elevator in Vancouver, Washington, and they said, well, if the Asians want to eat beef, we have to have grain and if we have grain, we're going to ship it through this port and that's where you're going to have the largest grain terminal.

So the world is changing. It's growing and that's good news because Americans know how to grow things and we know how to build things and the question then becomes how do we get them to the market?

So how do you think we should look at this as it relates to particularly the freight proposal, the freight way fee? How do we contrast the costs we know we're losing with the economic competitiveness of moving forward on more investment at our ports?

Mr. FRIEDMAN. Thank you, Ranking Member Cantwell, for that question.

Yes, as I highlighted in my prepared statement, our ports are struggling with the so-called last and first mile connectedness and with those freight bottlenecks and so AAPA would support increasing the fuel tax, gas tax, looking at a VMT program, and looking at a freight waybill program in concept in order to fund more programs, more funding, and greater eligibility for our ports through multimodal programs, like INFRA, so that we could work in partnership with the Federal Government, with local and state government, and with our private sector partners to really aggressively attack those bottlenecks so we can move grain through our system to export ports, like the Port of Vancouver, and, as you pointed out in your opening remarks, make us more competitive.

So, you know, we look forward to seeing those sorts of proposals emerge in the next reauthorization of the FAST Act or whatever the surface transportation bill will be called.

Senator CANTWELL. But this INRIX report on movement and freight and congestion, these are—now we can analyze by data, what we're losing in competitiveness or in delays and so this modernization of our ports, we should be able to come to terms with how we save investment as opposed to lose it, right?

So somebody's ignoring the problem is costing us and do you think the freight waybill issue is the right way to go? Is that—

Mr. FRIEDMAN. Yes. Our port association does support exploring that concept, probably not in and of itself going to solve our funding gap, but we do think it is worth exploring, and I think, you know, we would agree that we can zero in in terms of sort of cost-benefit the cost to our Nation versus the cost of fixing these problems and, yes, we are in favor of looking at that concept.

Senator CANTWELL. Mr. Spear, do you have a comment about that since a lot of the bottlenecks for your associations do happen at that last mile?

Mr. SPEAR. Yes. We share that concern and recognize that the problem—we do take a different approach and we oppose lifting the current 10-percent cap on revenue use for non-highway projects in the two freight programs. One's a formula, one's a grant program.

As I read AAPA's testimony, if I read it correctly, lifting that to a hundred percent, trucks and what we fund into the freight programs would then be used to pay for more efficient ports, and I think the argument is clear that more efficient ports benefit trucking. That is true.

But you could also argue that more efficient highways, roads, and bridges benefit the ports. The difference is we're paying half the tab into the Trust Fund. We're willing to pay more.

Mr. Jefferies testified they're paying for rail. We think, you know, everybody should be contributing to their own bottleneck areas. So I think if everybody's contributing to the cause and funding a robust infrastructure bill, you'll see efficiencies across the board, but I think changing the formulas and taking money from one program to pay for another, I would caution against that.

Senator CANTWELL. Thank you, Madam Chair.

Senator BLACKBURN. Mr. Gardner.

**STATEMENT OF HON. CORY GARDNER,
U.S. SENATOR FROM COLORADO**

Senator GARDNER. Thank you, Madam Chair. Thank you, and thank you to the witnesses for your time and testimony today.

I will agree on the incredibly urgent need to fix, repair, and grow our Nation's infrastructure. In my home state of Colorado, we have some of the fastest-growing cities in the country, fastest-growing counties in the country. According to the Bureau of Labor Statistics, in terms of metropolitan job growth, Colorado Springs was the fourth fastest for most jobs created in the Nation last year. Ft. Collins, Colorado, was the ninth highest metro area in terms of job creation. The population in Colorado over the last decade has grown between 2010 and 2018 nearly 14 percent.

At the same time we've seen this population growth, that we've seen these cities explode, the American Society of Civil Engineers has talked about the fact that Colorado infrastructure is costing drivers an estimated \$580 each annually. Furthermore, the American Society of Civil Engineers estimates that of Colorado's more than 88,000 miles of public roads, approximately 21 percent are in poor condition, and nearly everywhere I travel along Colorado's Front Range, I hear from people about fixing the traffic, fixing the roads, fixing the potholes.

I'm reminded regularly that there are no Democrat or Republican potholes, they're potholes, and according to this report that came out, the Trip Report, in June 2018 by the National Transportation Research Organization, the transportation infrastructure in Colorado is costing, just Colorado alone, \$7.1 billion a year. That's what the cost of our aging infrastructure has meant to—an inadequate infrastructure has meant.

The report estimates that the average driver in Denver sits through an average of 52 hours worth of delays per year as a result of congestion. That's an entire work week that is lost in a car. That's an entire vacation with the family that is lost. That's a soccer game that's lost. That's a lacrosse game that's lost in Colorado. More importantly, that's a Broncos game that is lost in Colorado.

[Laughter.]

Senator GARDNER. It's past time for us to come together and address our infrastructure needs.

We've had several communities in Colorado who've done an incredible job putting up their dollars, putting up their own local funding to match dollars for Federal projects, including for projects in North and South I-25 where we've seen such incredible growth.

Communities along our Front Range Corridor continue to grow and thrive. Those numbers prove it. But we get off of I-25 and we have problems, too, because in the rural areas of Western Colorado and Eastern Colorado, the Eastern Plains, the Western Slope, we see rural areas that are being left behind because what works in Denver or Boulder may not work in Durango or Lyman, and so how do we make sure that we have the flexibility to determine what fits best in those communities?

And so I think this body, as we have this split bi-camera opportunity to come up with an infrastructure bill, I hope that we can work together to consider what measures will work to adequately fund transportation, to adequately fund our traffic problem, to

make solutions go further, but we also have to look at permitting issues and regulatory reforms, how we compare those with a funding mechanism or funding legislation, considering the impact of regulations on infrastructure and our economy.

I talked to county commissioners in Colorado who turned down Federal dollars because they can do a road, the same section of road for magnitudes less than the Federal Government would require you to fix the same portion of road. So why is it that the same portion of road costs three times more money for the Federal Government to do it than it does for the county commissioners to do it?

So I look forward to working with members on both sides of the aisle to address this problem, to get through the red tape, to have the regulatory reforms that we need.

All of you brought up great points in your opening. Mr. Polka, I'm reminded about the Eagle Net fiasco in Colorado which a \$100 million, over a \$100 million of taxpayer money went to a state to duplicate existing facilities and broadband Internet infrastructure investments. A \$100 million without the oversight, that's money that was just gone, bankrupt, and unfortunately didn't have the oversight that you rightfully say we need.

Mr. Spear, Mr. Jefferies, curious about other solutions for transportation funding and, Mr. Friedman, Mr. Willis, thank you for being here today.

So I guess a final question is this. Beyond a gas tax, if I could just quickly go through each one of you, what other sources of revenue should we look at beyond a gas tax for highway funding? Maybe perhaps not everybody's involved in this but whoever wants to take a crack at it.

Mr. WILLIS. Well, I'll briefly start. I think we're going to give similar answers.

I do think looking at a VMT, as some members have, is the right sort of next step. You know, the gas tax is great because that's in place today. We know how it works. It can immediately raise revenues.

As we move to more fuel-efficient vehicles and that hasn't kept up in any event with what our needs are, looking at something else over the long term is the right approach, and I think a VMT can do that.

Senator GARDNER. Thanks. I'm over time already, so very quickly.

Mr. SPEAR. I would just say I think, as I testified in my opening, that, you know, user fee is the most immediately conservative way to shore up the Trust Fund and provide immediate funding for roads and bridges.

Privacy aside, on VMT, you'd have to register 270 million vehicles. That is a tremendous undertaking. The administrative apparatus to do that is going to—

Senator GARDNER. You could probably do that while every building in America gets remodeled and rebuilt.

Mr. SPEAR. True. It's going to be very costly and, you know, I think, you know, the privacy aside, the administrative costs associated with that, but it's not a proposal that's ready for prime time.

If you ask anybody in Oregon that's doing the major pilot on VMT, they would tell you it's about eight to 10 years out.

However, we would argue that technology could provide a lot of solutions in the future for revenue streams beyond the user fee. We need to be having that discussion now. That should be part of this bill. Build it into a blue ribbon commission, have something reported out to this committee that you can use and shape over the next 10 years, so when we get to that juncture, you've got something to turn to that's viable long term, perhaps technology-driven.

Senator GARDNER. I'm out of time. So hopefully the three of us can get together and finish the answer.

Thank you, Madam Chair.

The CHAIRMAN. The gentleman yields back.

Ms. Baldwin, five minutes.

STATEMENT OF HON. TAMMY BALDWIN, U.S. SENATOR FROM WISCONSIN

Senator BALDWIN. Thank you.

President Trump came to Kenosha, Wisconsin, in April 2017 to announce an Executive Order on Buy American, Hire American. The Order required a report to recommend ways to improve "Buy American" laws and to provide guidance to agency heads to ensure that they maximize their use of American-made materials under current law.

The report was due in November 2017. No one has seen it yet and no guidance has been issued as the Executive Order stated.

President Trump recently issued a second Executive Order on buying American in Infrastructure. The second Order directs agency heads to encourage the use of American-made materials and report back to the President if they believe that their infrastructure programs would support a requirement to buy American.

Simply put, the President has not delivered on his "Buy America" promises.

I've introduced legislation, the Made in America Act, to require all Federal infrastructure programs to use American-made construction materials subject to the same waivers that exist in current law.

Mr. Willis, how do you think that the President could engage with Congress to actually strengthen Buy America requirements for Federal infrastructure projects?

Mr. WILLIS. Well, Senator, thank you for that question, and thank you for your leadership on this issue.

You mentioned the first Executive Order on Buy America that this administration put out in 2017. We said good things about that because we were hopeful that that would lead to a real robust framework in Buy America and obviously this administration and particularly this President has talked a lot about that.

You know, the second Executive Order that was put out a couple of days ago, we think could have gone significantly, you know, further. You know, encouraging compliance, encouraging the application of Buy America is a little weak from our perspective, and we would have liked to have seen a little bit more of a direct framework for how Federal agencies can do a better job both on the en-

forcement and cutting down on the number of waivers that might exist.

As far as what the Administration can do with Congress, obviously if you consider an infrastructure bill, I think extending and raising up the percentage of Buy America requirements in existing programs is important and making sure that you extend it whether to new grant programs or those that are financed through sort of different ways.

So there's a lot to do here. Again, we appreciate, you know, the President's support for Buy America. We just have to make sure that the rhetoric sort of catches up with the deeds.

Senator BALDWIN. How would the Buy America requirements in the Made in America Act help in this situation?

Mr. WILLIS. Well, as you noted, you know, I'll just speak from a transportation perspective, the statutes in transportation are good. There are sort of different levels and I think one of the goals to harmonize them is a good one, but we need to harmonize them in the right way, which is up, and there are also places where we know we are spending Federal dollars outside of transportation where Buy America should be applied.

We know that, you know, when you do Buy America right, you're not only sort of buying good infrastructure but you're stabilizing a manufacturing base that is so critical to this country.

So if you're going to spend the dollars, you should do it in a way that maximizes job creation, extending Buy America more broadly as your legislation does is definitely the right approach.

Senator BALDWIN. Thank you.

Mr. Polka, I want to follow up on the back and forth that you already engaged in about the accuracy of the data and maps.

You were talking about pinpointing homes. There have been a number of suggestions about trying to either crowd source the data or use, let's say, the U.S. Postal Service as the delivery trucks and vehicles travel throughout the country to supplement the data.

Do you think those are helpful ideas to get an accurate picture that would help prioritize the funding?

Mr. POLKA. I think we have to use whatever means are possible because it is a hard project and a hard task to solve if we want to identify all homes in America and determine whether or not they're receiving broadband or not.

This could be a critical portion of any infrastructure bill that this committee would consider going forward because I think it would take a significant amount of money to accomplish, but also your idea about using other sources in the meantime to try to get better data before we get to that ultimate solution of a project, using those other sources, whether through the Postal Service or otherwise, I don't see why we're not.

Senator BALDWIN. And I would note that modern farm equipment often requires a good broadband signal in the field as well as, you know, beyond the home.

One other thing we can follow up for the record because I see I've run out of time, but your comments about the relationship to the railroads or municipalities in terms of fees charged. Certainly I hear other sides of that argument and I just wonder if you could

provide examples to the Committee that would guide us in looking at the situation more clearly.

Mr. POLKA. We would be happy to, yes.

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

Senator THUNE. Thank you, Senator Baldwin.

Let me just start by saying that I think transportation infrastructure investment has always been an area for bipartisan cooperation. I think it was evidenced by the passage of the FAST Act, which enjoyed wide popularity in Congress and among states and ensured, I think, both rural and urban participation in Federal surface transportation programs, which is always important.

States are partners in all this, and rural states, like mine in South Dakota, rely on Federal investment infrastructure to keep roads, bridges, and railways well maintained so that the freight can continue to flow, critical to our economy.

Mr. Spear, your testimony highlighted that 40 percent of truck miles traveled are on the interstate highway system. The same data indicates that more than 25 percent of truck miles traveled are on rural non-interstate roads, which communities depend on to transport their goods to the marketplace.

So could you maybe speak to the importance of the rural road network to your industry and outline where you see opportunities to strengthen Federal investment in rural infrastructure?

Mr. SPEAR. Absolutely, Senator. I think rural development is essential for connectivity, interstate commerce. A lot of the roads that connect states, like South Dakota, are interstates but U.S. highways and county and local roads and a lot of that is moving agricultural products, livestock, wheat, corn.

This is very essential. It generally goes to rail, rail goes to ports. So the connectivity is extraordinarily important, not to be dismissive of rural state development, and there is a shared relationship between Federal funding and states that have low populace, inability, low tax base to fund major construction projects, and that connectivity is absolutely essential.

So we strongly believe in a strong Federal role in continuing that program that benefits rural states. I think that's essential devolution. Handing states, particularly rural states, like South Dakota, the keys to raise the revenue, it's simply not possible when they don't have the revenue stream to do it, and they don't have the administrative capacity to oversee it.

The partnership has to exist between rural and Federal Government to make interstate commerce possible and all the modes represented at this table successful in serving the American economy.

Senator THUNE. Great. I want to switch gears for just a minute but reliable access directed you to, Mr. Polka, to high-speed Internet in rural areas provides new opportunities and efficiencies in a variety of sectors, including health care, education, and agriculture.

Federal broadband programs, whether that be the FCC's High-Cost Program or the Rural Utility Service at USDA, play an essential role in stimulating rural broadband infrastructure deployment.

In order to close that digital divide, it's important that these programs complement each other, not conflict with ongoing efforts.

So if infrastructure legislation were to be passed with additional funding for rural broadband, how much more important will coordination be to prevent overbuilding?

Mr. POLKA. Well, Senator, first, let me say how privileged I am to be here at this table with my colleagues, just that broadband is here in the room, because broadband is essential to everything that we do today. We cannot survive without robust broadband throughout America to every home and in each one of these industries, as well, which rely on it.

To your point about how we can ensure that homes are served without misappropriating Federal funds, I think we have to first look back at the successes that have already been achieved through various programs at the FCC, at the RUS, here in Congress, even in the most recent bill that Congress passed where funds were directed to unserved areas primarily that didn't have a 10:1 ratio of service.

That was important because Congress said let's focus funds where they're needed most and I think that's a good template to do going forward.

We can also look at other programs that have been successfully implemented at the FCC and even at the RUS, as well, where there has been more disclosure, more information, and even introducing a challenge process, so when applications are made for funding, the providers that are actually out there in the field can say, well, that place is unserved but that place is served and maybe shouldn't receive more funds.

So it all comes down to oversight and accountability, but building on the successes that I think have already been achieved.

Senator THUNE. Good. I just think it's important from the resource allocation standpoint here that we get the dollars on the targets and those are underserved areas that don't have—have not had access to some of the build-out that's occurred in other areas and that's going to take a level of coordination.

So my time has expired. Senator Tester is up next, and I have a question I'll submit for the record having to do with rail, but thank you all for being here.

Senator Tester.

**STATEMENT OF HON. JON TESTER,
U.S. SENATOR FROM MONTANA**

Senator TESTER. Thank you, Senator Thune, and I want to thank everybody who's testified today, appreciate your testimony.

I want to start with you, Mr. Jefferies. You talked about the amount of money that the rails are pumping into infrastructure every week.

Has your industry projected what kind of investment needs to be made over the next 10 years?

Mr. JEFFERIES. Thank you, Senator Tester. Great question. Certainly robust investments are going to continue to be made. We've talked historically about upwards of \$700 billion since the mid eighties.

When we look outwards toward 2040, freight movements and freight needs are only going to continue to increase dramatically. I can tell you that railroads have a demonstrated track record of

sustained investment and so we have plans to continue that level and we will make the long-term investments needed overall.

Senator TESTER. Are there particular programs as we look at an infrastructure bill that are particular and necessary for the rails from a dollar investment?

Mr. JEFFERIES. So you certainly heard us, you know, the pride we have in our private investment, but we also see——

Senator TESTER. And I appreciate that, too,——

Mr. JEFFERIES. Thank you.

Senator TESTER.—by the way.

Mr. JEFFERIES. The transportation network's an integrated network. So it needs to work across the board and programs, like the INFRA Grant Program that this committee did work on last Congress, are critically important, especially to those first-mile/last-mile connectors, be it at ports or other intermodal facilities. So across the board that's one that comes to mind, absolutely.

Senator TESTER. OK. Let's jump over to Mr. Spear with the Trucking Association.

Has the Trucking Association talked about what kind of investments are needed in roads and bridges in this country over the next 10 years?

Mr. SPEAR. Yes. We do. We looked at American Society of Civil Engineers, which estimates the U.S. spends less than half of what is necessary to address those needs.

The Transportation Research Board, its most recent report estimated conservatively that state and Federal investment necessary to address the interstate system's maintenance and capacity needs will need to double or triple.

Senator TESTER. What kind of dollars are we talking about?

Mr. SPEAR. Oh, goodness. That would probably be upwards of 120–150 billion a year.

Senator TESTER. Over the next 10?

Mr. SPEAR. It's \$60 billion currently.

Senator TESTER. OK. All right. What about the build-out for cable, Mr. Polka? What kind of dollars are we talking about there? Let's just for a minute, we can dream that we're talking 5G. What kind of dollars are we talking about, you know, for all of that, 5G and cable?

Mr. POLKA. Well, 5G and fiber are the two most important——

Senator TESTER. Right.

Mr. POLKA.—broadband technologies that we need to implement today and they complement each other.

The amount of money is vast. I don't have a number that I can put on it for you right now to say from our membership's perspective, but I know that our members have been investing roughly \$10 billion through the course of their deployment in smaller markets and rural areas.

Senator TESTER. \$10 billion per year?

Mr. POLKA. Yes.

Senator TESTER. OK.

Mr. POLKA. Yes.

Senator TESTER. And how much of that has been Federal or state dollars?

Mr. POLKA. I don't know specifically the breakdown of that, sir, and I'd be happy to get back to you on that.

Senator TESTER. OK. All right. I want to talk about a different kind of infrastructure.

By the way, those numbers are pretty important, I think, if we're going to move forward in these particular areas and ports need to be thrown in there, too, and I apologize because Montana doesn't have any seaports with climate change that's coming, I'm sure.

[Laughter.]

Senator TESTER. But the truth is, is that in order to really sit down and do a good honest evaluation of where we need to be from a dollar standpoint, those figures are going to be really critically important.

Let's talk about a different kind of infrastructure. Let's talk about work force, and I want to talk about trucking for a second. In a few years, everybody says in 20 years, we're going to have self-driving trucks and all that. I look forward to seeing that, but I don't believe it.

So the question is, is what are the workforce needs in the trucking industry right now, and what are we doing about it?

Mr. SPEAR. Well, I appreciate that question, Senator, especially coming from you with a CDL holder. So I know you understand this issue firsthand.

Our industry has to hire a million people over the next 10 years just to meet current economic demand. Right now, we're short 50,000 drivers. That's a number that will double in the next 5 years if we don't take action.

ATA is very focused on this issue for the long-term growth of the industry and we believe that there are several ways to address it, urban hiring being one of them, certainly minorities, women.

We need to go about attracting talent into the industry differently. Hiring veterans or ex-service members from the military that have that skill set is another avenue. Certainly dealing with our aging work force, we average about 50 years old for our driver force, health problems, wellness programs, keeping them in the trucks longer, as long as they want to drive, and then 18- to 21-year-olds.

A lot of people don't realize that 48 states allow an 18- to 21-year-old to drive a Class 8. They just can't cross state lines. That works pretty great in Montana, maybe not so much in Rhode Island. If we can send 18- to 21-year-olds off to protect our freedom and fight our wars, I'm pretty certain we can train them to cross state lines.

Senator TESTER. Yes. And look, I think Senator Young and myself have a bill that, with proper training, allows exactly that.

Mr. SPEAR. We thank you for that.

Senator TESTER. Yes. And my time's up, but I would ask the same question of the rails.

What's the manpower needs that are going for you? You don't have to answer now because I'm out of time, but if you could get back to me on that, and for the cable industry to actually lay the cable or the fiber, I should say, what's the workforce there, and what should we be doing, and if you have any recommendations on what we should be doing to make sure you have the workforce that

you need because we can pump all the money in but if we don't have the work force, we're not going to get things done.

Thank you, Mr. Chairman.

**STATEMENT OF HON. MARSHA BLACKBURN,
U.S. SENATOR FROM TENNESSEE**

Senator BLACKBURN. Well, it looks like I can yield myself five minutes and ask my questions.

Mr. Polka, I want to start with you and I appreciate that you mentioned the Dig One——

Mr. POLKA. Yes.

Senator BLACKBURN.—provisions that we have passed out of the House and the good work that we did there and also that you mentioned keeping the focus on unserved areas——

Mr. POLKA. Yes.

Senator BLACKBURN.—as we look at grants and as we look at loans and the build-out that is there and Ray Bombs' Act, which I shepherded through the House and am grateful that this committee and the Senate pushed it forward to finish the FCC Reauthorization that had not been done since 1990 and Mr. Thune had his MOBILE NOW Bill; we put that in there, which will help facilitate 5G and that expansion.

So we're a year in on Ray Bombs and we're looking at the RUS grants that are there, the FCC money that has been placed for rural health. If you will talk for just a second about what the obstacles are for our small and mid-size cable providers that are seeking to serve their footprint because as we push this money forward, we want to make certain that we are using it well and that we're getting the result which is closing the digital divide.

Mr. POLKA. I couldn't agree with you more. Our members are committed in small communities and rural areas to delivering broadband. We consider ourselves broadband forward.

I've been in the industry for a long time and I still sort of call myself a cable guy, but let me be honest, we're broadband guys. We're broadband everything in all that we do, and serving our homes with high-speed broadband across the country is our commitment.

Now to your specific question, there are barriers. When we look at things that I mentioned in my opening statement, whether it's the processes that we have to work through with investor-owned utilities for the right to attach to poles, the process, the cost, the implementation through an application process which sometimes creates time toward deployment and adds more time to the clock so we don't get broadband out there, but we are focused on working with you as well as with other agencies, such as the FCC, which has helped to streamline that process, to eliminate those barriers and to build on other successes that we've already achieved here in Congress and in the other agencies.

Senator BLACKBURN. What about siting?

Mr. SPEAR. Siting, you mean for mapping and——

Senator BLACKBURN. For the towers, yes, and then I will come to that, but talk to me a little bit about siting for the towers, especially as we look at how that applies to the new towers for wireless and fixed wireless, the 5G components that are coming online.

Mr. POLKA. Our members are primarily wireline broadband providers, but I can say that we recognize how important 5G is to our country and the need to facilitate the deployment of 5G and to ensure that we have sites that are available to help implement it as well as to complement what happens with 5G networks with fiber, because every 5G network is going to have a fiber component where—

Senator BLACKBURN. Especially the fixed wireless.

Mr. POLKA. Exactly.

Senator BLACKBURN. Let me move on for just a moment. Several of you have mentioned the VMT and, of course, we all know that you have to find a way to fund our transportation system.

I think as we look at the possibility of a VMT, we realize something's got to be done. Cars are more fuel efficient, electric cars are coming, and going back to when I was in the State Senate in Tennessee, we were beginning to look at this. I know there were some in the trucking industry and different things that are not in favor of that.

But I want to just, Mr. Friedman, start with you, go down the line, Mr. Polka, we'll skip you, and as we talk about funding and looking at a VMT, the one thing you think is important that we consider because we have to find a fairness component as we fund this infrastructure. So you're on and right down the line.

Mr. FRIEDMAN. OK. Thank you for that question, Senator.

I'm certainly no expert in that topic specifically. As I mentioned in my testimony, AAPA, the U.S. ports support looking broadly at both fuel tax increase and VMT. We understand there will be some hurdles—

Senator BLACKBURN. Well, then let's move on to Mr. Jefferies.

Mr. JEFFERIES. We support an immediate gas tax increase and long term, a transition to a VMT or similar program that fully accounts for all users' infrastructure use that could also include a weight component, as well.

Senator BLACKBURN. Mr. Spear.

Mr. SPEAR. Yes, thank you, Senator. We, too, support an immediate increase in the user fee at the rack to help administer robust immediate funding for infrastructure.

We would be very open to having a dialogue over the next 10 years during this bill in place to have a technology solution put in place that's a viable revenue source that captures alternative fuel vehicles, both trucks and cars. That's coming. Technology is going to pose new solutions that are viable. They may not be ready right now but in 10–15 years, they could be. We will be at the table having that dialogue. We're very open to that discussion.

Senator BLACKBURN. Mr. Willis.

Mr. WILLIS. Well, I would only add I think your point on fairness is key and making sure that again we're doing this increase in revenues for, you know, infrastructure investment.

So, you know, making sure that we do it in a way that actually increases the deposits going in and just isn't transferring from a gas tax to a VMT I think is critical.

Senator BLACKBURN. My time has expired. I yield back.

The CHAIRMAN. Thank you very much.

Mr. Jefferies and Mr. Spear, would you index that increased gas tax?

Mr. SPEAR. Yes, Mr. Chairman.

Mr. JEFFERIES. I think that makes sense as you transition into a mileage-based system.

The CHAIRMAN. Had we done that in years past, we'd be in better shape.

Mr. SPEAR. We wouldn't be having this discussion right now if it had been done in 1993.

The CHAIRMAN. Senator Rosen is next.

**STATEMENT OF HON. JACKY ROSEN,
U.S. SENATOR FROM NEVADA**

Senator ROSEN. Thank you, Mr. Chairman, Ranking Member Cantwell, and all the witnesses for being here today.

You know, as my home state of Nevada continues to grow, our infrastructure needs to grow with it. Along with Idaho, Nevada's one of the two fastest-growing states in the Nation and today, our population is above three million, but we actually have nearly 50 million tourists a year.

So our relatively recent growth puts us in a different category versus some of the infrastructure that needs to be repaired or updated, we need new growth, like I-11. Finally a freeway that would connect Phoenix, Las Vegas, and Reno, and there hasn't been enough conversation about how we balance new growth in some of the Western states versus repair and maintenance.

And so in the House, I was part of the Problem Solvers Caucus Infrastructure Task Force. We talked about this blueprint to produce potential solutions for our Nation's infrastructure problems and/or challenges, I'll say that.

So what I want to task you with is thinking about what we haven't traditionally thought about in infrastructure. We have our electric grid. We have cybersecurity. You talk about smart trucks, driverless trucks. I'm sure railroad, all these things. We're going to have smart highways, transportation.

So as we improve the workforce, as you change your work model, what stakeholders do you need to have us engage with, bring to the table, and possibly fund so that we can grow not just your industry but your workforce into these 21st Century—deal with these 21st Century issues? Anyone can take that.

Mr. JEFFERIES. I'm certainly happy to start and take a stab.

You're absolutely right that the rail industry is one in transformation. Certainly we like to say we're not your grandfather's railroad anymore. We're deploying new types of sensors and detectors throughout our system, deploying drones to help with inspections, developing various capabilities that not only enhance capacity but also improve safety, and with that comes changing work roles and changing responsibilities. So we are looking to partner not only with our 13 unions we work with but also with universities, with other outlets to identify those skills early and make it clear to potential candidates that the rail sector is an opportunity for innovation and technology for those interested, and we certainly would be happy to come in and talk with you and your staff more about that.

Senator ROSEN. Well, I think it would behoove us to be partnering in all these industries with cyber technology and the added value that it creates for data analytics and our ways to do things better, smarter, and smoother, but that the challenges or obstacles, privacy issues, and all those things that it also creates for our cities, our end users, and all of us.

Anyone else want to talk about the challenges at the table here that we need to bring for another hearing?

Mr. POLKA. Yes, Senator. I would say it is so important in your state and in every state just to build networks.

We talk of these other industries that are networks in and of themselves, but when we think of broadband today and how that improves communities, the lives of individuals, helps to connect rural areas, which many exist in your state, to the world,—

Senator ROSEN. Right.

Mr. POLKA.—and in building those networks, but then protecting them.

I think you mentioned in terms of cybersecurity, resiliency, these are very, very important issues that I know our members are very concerned about because we want to make sure we get the broadband connectivity out there, which is essential to life today, but we also want to make sure that we protect it and that's where our commitment lies regarding building those networks.

Mr. SPEAR. Senator, I would not be dismissive of the military. I think a lot of technologies that are developed by DARPA and other branches of the military, they're tested and tried, they're later commercialized, and there's a lot of technology that flows into the commercial sector that we adopt as an industry. Other modes adopt and utilize and leverage.

So as we look to that, I think that's another stakeholder that we need to bring into the fold and understand what they're doing, what are the emerging technologies that we're going to see 10–15–20 years from now that have already begun in the military testing field.

Senator ROSEN. Thank you.

Mr. WILLIS. Yes. I would add that, you know, as we talk about technology and sort of the changing nature of work in a lot of these areas of transportation, I mean, we're obviously watching that very carefully and, you know, as we have said before, I think thinking about the right labor policies and how you, you know, deal with automation issues, how you deal with technology in these sectors of transportation, making sure that you have a trained workforce that is able to transition into whatever's coming and to make sure that you have, again, labor policies in place that can bridge that, sort of recognizing that, you know, the impact of technology can be pretty significant here for our members.

So it's definitely something that we're watching. We want to make sure we get the policies right on the front end.

Senator ROSEN. Thank you. I would just hope that in our connectivity, we would realize that each industry shouldn't stay siloed, that sharing of information and data can make each avenue stronger.

Thank you.

The CHAIRMAN. Thank you, Senator Rosen.

Senator Blumenthal.

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

Senator BLUMENTHAL. Thank you, Mr. Chairman.

We're here to discuss the importance of investments in our Nation's infrastructure generally, but I'm very interested in railroads and, Mr. Jefferies, you just mentioned technology.

Last week, the National Transportation Safety Board, NTSB, released its most wanted list. I know you're probably familiar with it. There are a number of recommendations that are critical to the future of our railroads. Would you agree?

Mr. JEFFERIES. Absolutely.

Senator BLUMENTHAL. And one of them is positive train control. The deadline has been extended a number of times. Would you agree that the final deadline must be met?

Mr. JEFFERIES. I would agree that all Class 1 railroads will be fully installed and implemented, the plan is, by 2020.

Senator BLUMENTHAL. Would there be any reason or excuse to fail to meet that deadline?

Mr. JEFFERIES. I can tell you right now there are no plans in place to extend beyond that. As of the end of December 2018, all equipment was installed, all employees were trained, all Spectrum was acquired, and 83 percent of route miles required were PTC operational.

Senator BLUMENTHAL. And that's important to safety, isn't it?

Mr. JEFFERIES. Absolutely.

Senator BLUMENTHAL. What other recommendations of the NTSB would you say are priority recommendations?

Mr. JEFFERIES. You know, I think the NTSB in its recommendations takes a very holistic approach across the transportation network and we should take all of them to heart.

Specifically on the rail front, transporting hazmat as safely as possible is absolutely a key priority and addressing such issues as sleep apnea are also things that are on our members' radars, as well.

Senator BLUMENTHAL. Sleep apnea, as a matter of fact, has been a cause of at least one fatal accident.

I want to shift to ports. Connecticut is one of just 12 states with three or more deepwater ports. Over 11.4 million tons of freight go through Connecticut's ports every year. Each of Connecticut's ports handles tens of millions of dollars in trade and over 90 percent of shipping entering Long Island Sound uses a Connecticut port as opposed to a New York port.

But these Connecticut ports have not grown as much as their potential would allow, meaning that a lot of freight remains on our roads or goes elsewhere. I think that's unfortunate because anyone who's driven I-95 knows that congestion needs to be addressed and ports offer a means to do it.

Let me ask, Mr. Friedman. How can Congress help improve the opportunities for states that rely on these small ports?

Mr. FRIEDMAN. Thank you, Senator, and that's a question that's actually near and dear to me being from the Port of Cleveland and a relatively smaller, more of a niche port, more similar to your

ports in Connecticut. So I'm keenly interested in just that topic and certainly would encourage Congress to look at greater use of our waterways and some of our ports that are less utilized and I would agree completely that it's an opportunity to relieve congestion and improve safety on other modes of transportation, as well.

So, you know, how would we do that? I would love to follow up with you and your staff on ideas we have. I think there are certain policy impediments today that should be considered as we look at fully utilizing our water infrastructure.

Senator BLUMENTHAL. Would dredging be one of the—

Mr. FRIEDMAN. Dredging is certainly one and, as you know, we—

Senator BLUMENTHAL. What else would you suggest?

Mr. FRIEDMAN. I think we need to look at fees that are imposed on the water side and water transportation that aren't necessarily imposed on other modes of transportation. I think we need to look at ease of use on the maritime side. I think we need to look at, you know, are we adequately funding infrastructure at these smaller ports, these emerging ports, so that they can compete effectively. Those would be some of my suggestions.

Senator BLUMENTHAL. And what kinds of infrastructure at the ports would you suggest ought to be expanded?

Mr. FRIEDMAN. Well, I think again, as I mentioned earlier, it's these first and last mile land-side connections which often can become impediments. You've mentioned dredging already on the water side. It's not only dredging but it's other types of public works that these harbors rely on, jetties and breakwaters, etcetera, which are funded, of course, through the Army Corps of Engineers. Those are some of the things that we need to address. Real connections in particular into these ports, so that they can access the rail networks and can compete in that manner.

Senator BLUMENTHAL. I appreciate your answers and like Cleveland, New London, Bridgeport, New Haven are ports that are underutilized and we need to make use of them much more expansively not only for the sake of interstate commerce, but also our environment. So I appreciate your responses.

Mr. FRIEDMAN. Thank you.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Blumenthal.

Senator Lee.

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

Senator LEE. Thank you, Mr. Chairman.

Utah's seaports are also vastly underutilized and I'm trying to change that.

[Laughter.]

Senator LEE. As we talk about our infrastructure, there are a lot of people who point out that our gasoline tax hasn't been enough and that we've run a shortfall. There are a lot of people who are responding to that concern by suggesting that we raise the gas tax by 20 cents, perhaps 25 cents per gallon, and there are a lot of people who are very enthusiastic about that and I understand their enthusiasm, and yet I also think it's important that we take into

account what impact this will have on many Americans, particularly poor and middle-class Americans who are less able than others to go out and buy new technology, new cars that are more fuel efficient, or perhaps hybrid or electric vehicles.

It may well also have a bigger impact on rural Americans than Americans living in or closer to big cities. Rural Americans very often tend to have to travel farther as they go about their day-to-day business and this might have an impact on them.

In any event, those who are not wealthy in this country are perhaps hit hardest by such a tax increase because unlike Federal income tax, for example, which is progressive, which is not only based on a percentage of income but is also a graduated progressive tax system, the gas tax is not progressive and it's not fixed as a percentage of your income.

Many people describe it as regressive but, regardless of whether you describe it that way or not, it does have an impact that is felt more by poor and middle-class Americans.

So let's start with you, Mr. Willis. Don't you think we ought to be concerned about this, that we ought to be concerned about how this might affect poor and middle-class Americans, and do you think I'm fair to raise that concern, that it might hurt them more?

Mr. WILLIS. Well, as an organization that does represent front-line workers, we are obviously sympathetic to that position and, you know, it would have—you're right. Some have described the tax as regressive. I'm not sure I would in this case.

I would say a couple of things. One is that, you know, a modest increase in the gas tax, you know, for example, I think there has been a study, 25 cents, would cost an average family maybe a \$100 a year, maybe more. That's not insignificant, but you balance that out with the improvements that you could see in roads and transit systems, you have less wear and tear on your vehicle. People are getting to work faster, more efficiently, and, you know, the nice thing about this user fee is that we know what it goes for and, you know, people get a return on that investment.

So we've heard those concerns, we're sympathetic to it, but I think on balance, it is something we think is good for working families and it's why we've endorsed it for decades.

Senator LEE. I understand your desire to use the word "modest" there, but to be clear, we're talking about, what, 18 and a half cents per gallon that is collected currently. So this would amount to a more than doubling of that and again because it's not a fixed percentage of income for a poor family, that's going to be a much bigger cost than it is for a wealthy family. For a family that lives in a rural area, it's going to be a lot bigger hit than the one that you described.

Mr. Spear, the gas tax debate is certainly an important one to have. I think we have to keep in mind that when it was created back in the 1950s, it was created for the purpose of establishing an interstate highway system. There was no effective way to do that with each state operating in isolation and the benefits to the country as a whole and to interstate commerce as a whole made a difference. So we put in place the Federal gasoline tax.

As I understand it, you can now maintain the entire Federal interstate highway system for somewhere between four and five cents per gallon.

What has changed that has been so significant is that we're now using that Trust Fund with those revenues to pay for a lot of other projects that are not part of the interstate highway system; things like surface streets that start and end in one state and even bike paths and trails, which, while laudable objectives and while public goods, worthy of government attention, are not necessarily inexorably linked with the Federal Government.

So in light of those considerations, as long as we're talking about a gasoline tax increase, shouldn't we also look at the expenditure side from the Federal Government's perspective?

Mr. SPEAR. Absolutely. I couldn't agree more with you, diversion of funding from the Highway Trust Fund is a problem. We need to shore it up and the best way to do it is make certain that the monies coming into it are dedicated to highways and bridges and that the repairs be made but also for new construction to alleviate congestion.

Going back to your earlier comment about regressive, I think you've got to look through a different lens when you're looking at 20-cent-per-gallon increase. That would raise \$340 billion in new revenue for all roads and bridges.

The average motorist, those folks that you're talking about, spends \$1,600 a year on repairs to the vehicles and sitting in traffic. There's a report that came out yesterday that was just previously cited and D.C. ranked Number 2 in the country, a 155 hours spent a year sitting in traffic. That's an entire month, an entire month sitting in traffic.

Now if you're low-income, now that's regressive. I mean, that's a whole month. Think of the productivity losses to the economy just sitting in traffic. So I think a 20-cent increase, \$100 a year for all roads and bridges will lower, dramatically lower that \$1,600 that motorists are paying on average for traffic and repairs. There's your offset in spades.

Senator LEE. I see my time has expired. I would add here only that no one here is in favor of people sitting in roads. What I'm saying is we ought to look for ways that don't involve raising taxes on poor families.

Thank you.

The CHAIRMAN. Thank you, Senator Lee.

Senator Duckworth is next.

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

Senator DUCKWORTH. Thank you, Mr. Chairman, and thank you for convening today's hearing. I'd like to thank our witnesses for your participation.

Mr. Jefferies, I'd like to talk about PTC. You know, America's rail operators started this journey more than 10 years ago with the enactment of the Rail Safety Improvement Act and even though it's taken much longer than what any one of us would have liked, we see the light at the end of the tunnel and when it comes to fully implementing PTC and according to the FRA, it appears that all

of the Class 1 railroads have finished or are very nearly finished with their PTC systems.

But I want to sort of get a little deeper into this issue and really talk about one component that is still a challenge to both freight and passenger operators, especially in high-density areas, like the Northeastern part of Illinois, like Chicago land area, and that's specifically interoperability.

Can you update us on the Class 1's efforts to ensure individual PTC systems are able to communicate effectively, especially in dynamic areas, like the Chicago land area? Do you expect this challenge to be successfully added prior to the December 2020 deadline?

Mr. JEFFERIES. Thank you, Senator. That's a great question and you hit the issue spot on. You're right, railroads have been working a long time to get PTC into place and at the end of 2018 had all equipment installed, all Spectrum in place, all employees trained, 83 percent of the route miles operational.

The last major challenge is getting the various company's systems to work together and talk together seamlessly. As you know, one railroad is often on another railroad's tracks and in urban corridors perhaps talking to another railroad's back office system. So making sure those different tenets of PTC operate in a seamless manner between the railroads is absolutely critical.

Chicago, no better case than that, where you have nearly every Class 1 railroad; Amtrak, Metra, all working together, all communicating, and that issue is an area we prioritized and really that's a key focus over the next upwards of 2 years. We have established a specific PTC Working Group out of Chicago that is meeting on a regular basis. We have a plan in place and we are working through that process to ensure that interoperability is achieved by the deadline. So absolutely that's something we're prioritizing.

Senator DUCKWORTH. Thank you. Thank you.

Mr. Spear, I want to follow up on your conversation you just had with my colleague, Senator Lee. As a member of both the Commerce Committee and the EPW, I'm interested in your perspective regarding the impacts of our Nation's infrastructure on the trucking industry.

For instance, while there are no Illinois bridges in danger of imminent collapse, my state ranked fifth in the Nation for the number of structurally deficient bridges in 2017 with an astounding 2,303 bridges falling into this category.

Yesterday, the *Chicago Tribune* reported that an Annual Report on Traffic Congestion found that Chicago now ranks third worst in the Nation for congestion, which translates into my constituents losing an average of 138 hours each year sitting in traffic.

Mr. Chairman, I ask unanimous consent to include this *Tribune* article into the record.

The CHAIRMAN. Without objection.

Senator DUCKWORTH. Thank you.

[The *Chicago Tribune* article follows:]

The article can be found at: <https://www.chicagotribune.com/news/breaking/ct-biz-traffic-chicago-20190211-story.html>

Senator DUCKWORTH. You've already talked about the loss of productivity from hours spent sitting in traffic. I would like to hear your view on what the long-term costs would be of Congress failing to act. What harm will result if we fail to invest now in better roads, more efficient rail, and safer bridges?

Mr. SPEAR. Yes, I appreciate the question. You know, 68 percent of the freight moved in Illinois is moved by truck. You actually have four of the top 100 bottlenecks in the United States, all in Chicago, not something we're proud of. We obviously have to find remedies for this and the costs go up exponentially.

The American Transportation Research Institute report just last year had trucks losing \$64 billion a year sitting in traffic. That's 360 million drivers—excuse me—363,000 drivers, truck drivers sitting idle for an entire year.

The recent report that just came out has it at \$74.5 billion lost by our industry sitting in traffic, 425,000 drivers sitting idle. So you can see just in 1 year time, the exponential impact that this is having just on the commercial sector. We're only 4 percent of the vehicles on the roads, so that is a huge number.

If you roll in passenger vehicles just in your state alone, that is a very, very measurable number that's very impactful on the economy.

Senator DUCKWORTH. Thank you.

Mr. Chairman, as the co-chair of the bipartisan GPS Caucus, I'd like to ask unanimous consent to enter into the record testimony for today's hearing from the GPSIA and the Comp-TIA Space Enterprise Council.

The CHAIRMAN. Without objection.

Senator DUCKWORTH. Thank you.

[The information referred to follows:]

PREPARED STATEMENT OF THE GPS INNOVATION ALLIANCE
AND COMPTIA SPACE ENTERPRISE COUNCIL

The GPS Innovation Alliance (GPSIA) and the CompTIA Space Enterprise Council jointly submit this statement in support of the Committee's examination of our Nation's infrastructure.

America has a history of creating infrastructure milestones that have led to significant prosperity and national advantages. During the 1950s and 1960s, our Nation was transformed by explosive growth in its public infrastructure ecosystem. That ecosystem allowed America to prosper by bridging communities and creating regional pockets of innovation. Coupled with the Space Race with the Soviet Union, the 20th century infrastructure ecosystem helped make America a technological superpower.

Now we have the opportunity to create a 21st century national infrastructure that will benefit all Americans. In almost every aspect of our infrastructure ecosystem, the Global Positioning System (GPS), a constellation of satellites located 12,500 miles above the earth, has played an integral role. The three capabilities derived from the constellation are Positioning, Navigation, and Timing. All three play key roles in the infrastructure ecosystem. According to the Department of Transportation, Positioning is the ability to accurately and precisely determine one's location and orientation two-dimensionally (or three-dimensionally when required), Navigation is the ability to determine current and desired position (relative or absolute) and apply corrections to course, orientation, and speed to attain a desired position anywhere around the world, from sub-surface to surface and from surface to space. Timing is the ability to acquire and maintain accurate and precise time from a standard (Coordinated Universal Time, or UTC), anywhere in the world and within user-defined timeliness parameters. Similarly, communication satellites provide voice, video, and data supporting aviation, defense, banking, and agriculture.

A 21st century infrastructure ecosystem includes transportation (roads, bridges, ports, and airports), water (public utilities) and energy (electric grid) that is layered by cross-cutting smart technology and enabled by ubiquitous broadband connectivity and sensors. Our infrastructure is urban, suburban, and rural, impacting every single American.

As we invest in our infrastructure, we must take into account emerging technologies for both the physical infrastructure (new durable materials) and the digital tier that makes the physical infrastructure smart. These technologies range from commercial earthmoving and grading equipment that use GPS to digital 3D models that can help streamline the construction process. When we utilize commercially-proven and competitively acquired technologies, we can improve efficiency, productivity and reduce delays associated with the engineering, construction and operation of infrastructure projects. All of this translates into substantial savings, both in terms of new and existing spending.

Whether in the air or on the ground, it is imperative that we invest the resources needed to build a 21st century infrastructure. The status quo of aging bridges and not yet universal broadband connectivity is simply unacceptable. We must aim for American exceptionalism. Our GPS constellation will play a leading role in that exceptionalism. GPSIA and the CompTIA Space Enterprise Council appreciate the opportunity to share this perspective with the Committee and stand ready to work with you on efforts to advance our Nation's infrastructure while promoting, protecting, and enhancing GPS and other communication satellites.

Senator DUCKWORTH. Mr. Jefferies, could you very briefly just touch on the CREATE Project and as Congress begins developing the next reauthorization bill, could you describe how dramatically increasing Federal investments in freight projects, like the CREATE Program, would benefit our Nation's economy and improve supply chain efficiency?

The CHAIRMAN. Briefly.

Mr. JEFFERIES. Sure. Very quickly, the CREATE Program, in our minds, is a model public/private partnership because you have the state, the city, the county, Amtrak, Metra, and the freight railroads, all invested into a series of 70 projects.

We're thrilled that one of our biggest projects, the 75th Street Corridor, received a \$130 million Federal grant last year to partner with nearly \$380 million in private investment and other public investments, and so you see the impact that these programs can have and it's certainly something that should be prioritized moving into reauthorization.

The CHAIRMAN. Thank you very much. Thank you, Senator Duckworth.

Senator Cruz.

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

Senator CRUZ. Thank you, Mr. Chairman. Welcome to all the witnesses. Thank you for your testimony.

Mr. Friedman, we're witnessing right now an energy renaissance in the United States and I'm proud to say my home state of Texas is leading the way. The shale revolution has led not only to increased production of oil and natural gas, but also to record levels of crude oil, refined products, natural gas liquids, and other petroleum product exports from the United States.

Some reports indicate that these exports are expected to double from a \$141 billion to \$330 billion in the next 6 years. What this translates to is incredible economic growth and high-paying jobs throughout Texas and across the country.

Last year, the Department of Energy announced that the Houston-Galveston Port District, which includes the Port of Houston as well as several other ports along the Texas Gulf Coast, from Galveston to Corpus Christi, began exporting more crude oil than it imported for the first time on record.

In fact, right now, 70 percent of the crude oil exported from the United States is coming from Texas ports. Another way of saying this is three out of every four barrels of oil being exported move through Texas Gulf Coast ports.

We see a similar story with LNG, liquid natural gas, as more LNG export facilities are built at ports all along the Texas coast, from Port Arthur to Brownsville. All together, these ports in Texas are the driving engine to our state and national economy.

And my question to you, Mr. Friedman, is, as this record-breaking growth continues and as traffic increases at our ports and on our waterways and as ships get bigger, what can we do to ensure that our ports and waterways in Texas and across the country keep up with this economic growth?

Mr. FRIEDMAN. Thank you, Senator Cruz, for that question.

Yes, you're describing something that is critically important as the country moves toward a net exporter of petroleum products and other energy products, and I would answer it in much the same fashion as I've, you know, answered the general questions posed earlier.

You know, we need to work together in a partnership with you, with the Federal Government, to make sure we can solve those first and last mile problems at our ports. We need to make sure that our ports have eligibility under the law to apply for the competitive grants as they're reauthorized.

We're going to work effectively with our rail and with our trucking partners and with others in the supply chain to make sure we're zeroing in on the right projects so we can move those projects efficiently through the system.

We have shale gas coming out of my state in Ohio that's going to want to move down to your state and we want to make sure that that can occur. So again, we would emphasize increased funding and we would emphasize eligibility, multimodal eligibility being broadened so that we can make those investments and be able to move exports.

We tend to focus sometimes on the inbound movements of containers but there are a lot of products that move through my port and the ports in your state of Texas that are not in a container and they need to get to those ports so they can be exported.

Senator CRUZ. And in your judgment, what are some of the regulatory impediments at the Army Corps or other Federal agencies that can delay the completion of a channel improvement project or even delay a project from beginning?

Mr. FRIEDMAN. Well, looking at the Army Corps and deepening projects and maintenance projects, they're too slow. I mean, I think you've certainly talked to your port directors in your state and I think what you'll hear universally is that we need to somehow cause the Army Corps to move faster on these projects.

I know there has been in some legislation recently, there have been some provisions which are aimed at just that. So I would en-

courage you to continue to look at mandating that the Army Corps move through their process faster.

As you know, their process can take in some cases decades to get a deepening project completed and as a nation, we just don't have time to wait for those exceedingly long processes.

I think looking for ways that local sponsors can work more efficiently upfront with the Army Corps, in some cases maybe even fund planning work so that we can then move toward construction faster. We'd be looking for more flexibility on that end, as well.

Senator CRUZ. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cruz.

We now have Senator Udall.

**STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO**

Senator UDALL. Thank you, Chairman Wicker, and appreciate the witnesses being here today.

Mr. Jefferies and Mr. Spear, New Mexico's border region, including the Santa Teresa port of entry, is a bright spot in New Mexico's economy. The economic development in this area is due mostly to trade from Mexico and a 2010 expansion of the port of entry.

Now Customs and Border Patrol seek funding to increase capacity for inspectors and for infrastructure because of the increased traffic.

Additionally, railroads say increased Customs and Border Patrol resources would help with faster and more thorough inspections of goods crossing the border.

In your opinion, should Congress include ports of entry in any upcoming infrastructure legislation? Would increased funding for Customs and infrastructure in areas, such as the Santa Teresa facility, facilitate economic development while providing greater security for the border and for the country?

Mr. JEFFERIES. Thank you, Senator Udall. Cross-border traffic is immensely important to the rail industry. We've learned through analysis that 42 percent of our revenues and 37 percent of traffic is due to cross-border movement, supporting 50,000 rail jobs specifically. That's not only north and south but also in and out of our ports, as well. But our largest cross-border movement is grain exports to Mexico.

So free flow and efficient flow of goods across borders, Mexico included, is critical to the success not only of the economy but the rail industry and anything that can be done to make that flow more efficient, to keep goods moving back and forth I think is a good idea worth considering.

Senator UDALL. And including it in an infrastructure-type package for improvement?

Mr. JEFFERIES. I think that absolutely merits consideration.

Senator UDALL. Mr. Spear, do you have any thoughts on that?

Mr. SPEAR. I would wholly agree with Mr. Jefferies on that point.

From a trucking perspective, we move 76 percent of the NAFTA surface freight. Eighty-two percent of the border crossings with Mexico are moved by truck and I've been down to the border. Laredo's a good example. I know it's not in your home state, but 14,000 trucks a day, it is unbelievable, and the amount of emphasis

that you can put on funding infrastructure, CBP, FMCSA with safety, U.S. AG with agricultural concerns that they have to inspect for, good trade policy, good tax policies. It's a culmination of a lot of things that makes the efficiency work.

I think an infrastructure bill certainly could look at that and be part of that equation. We would strongly favor that, Senator.

Senator UDALL. Thank you very much.

Mr. Willis, are you familiar with the Amtrak proposal to turn around trains in Albuquerque, New Mexico; and Dodge City, Kansas, and bus passengers across Kansas, Colorado, and into New Mexico?

One reason that Amtrak gives for this dramatic shift in routes is safety. Do you believe that it would actually be safer for trains to stop in these cities, customers to be offloaded on to buses, and then driven over high mountain passes, especially in the winter?

Mr. WILLIS. Well, I would defer to Amtrak on that specific route. What we have been seeing with Amtrak with the Southwest Chief and some of the other long-distance routes is a little bit of walking away from them on their commitment to a national railroad and national service.

We think Amtrak is an important component of our multimodal transportation system, but for that to be a part of that, they have to be a national system. They have to provide the long-distance routes. They may not always be profitable but they provide a public service and they provide transportation options in places, like in your state, where there may not be enough.

So we want to make sure that Amtrak, you know, continues to be in the business of providing those type of routes and we've been, you know, pretty vocal about it with Amtrak, both publicly and privately.

Senator UDALL. Great. Well, thank you for that, and I think it's really clear if you look at the routes and look at where they're talking about offloading and doing buses, that there's a very serious safety issue there. So I'm urging Amtrak to take a look at that.

I know the Chairman has an Amtrak issue with the Gulf Coast from Katrina. I think there are a lot of Amtrak issues where we need to really make some investments.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Udall.

Senator Markey.

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

Senator MARKEY. Thank you, Mr. Chairman, very much. Thank you all for being here.

Climate change is a real threat to our planet, to our own country. Senator Schumer wrote an op-ed in December saying that any infrastructure bill has to have a climate change component to it; that we're realistic in terms of how we're going to deal with this issue, especially since in 2018, we lost \$300 billion in the United States to the flooding and to the fires in California. \$300 billion over 10 years, that's \$3 trillion that's lost, and we know it's climate-related.

So as we look at this legislation that's moving forward, as we talk about infrastructure, the question's really going to be, you know, how can we use this as an opportunity to invest in new technologies, new infrastructure that helps to curb greenhouse gas emissions where applicable.

So in the transportation sector, Mr. Spear, would you support a program to invest in electrification of the trucking fleets throughout this country?

Mr. SPEAR. I think its market forces are already at play on that. Whether they need included in the bill or not is open for debate. I think it is a technology that is emerging. It is certainly viable. I think it's only relevant currently, or at least for the near future, for certain segments of the trucking industry, those that are regional, where the equipment returns to the terminal every night, where there's infrastructure to recharge it. If you're going long haul, you're going to need the infrastructure across the country to charge that. It's not as efficient or useful.

So certain segments, yes, I think it could be very viable. Other alternative fuels, like compressed natural gas and hydrogen, certainly viable. Those are being looked at in terms of hybrid technology as well as full alternative fuel powered equipment, so certainly in the future.

Senator MARKEY. Great. Mr. Friedman, do you think it should be the policy of the United States as we're looking at an infrastructure bill to help curb greenhouse gas emissions wherever possible, that we're putting in place policies that could accomplish that goal?

Mr. FRIEDMAN. Thank you, Senator. Well, I'm here representing AAPA, which doesn't have a position yet specifically on that question, but I can say that AAPA is focused on the resiliency component of climate change and the challenges that will be posed by climate change.

We're particularly concerned with rising sea levels and more extreme weather events. So we are working as an industry to try to get ahead of that future.

I would say on the whole, if you look at what our ports do individually, they're very, very focused on decarbonization. They're very focused on keeping up with the changes that the market is going to bring to us in terms of our alternative fuels, and I would say, again without having a policy in place yet, that generally, yes, our industry very much agrees with the Federal Government leading the way on that issue.

Senator MARKEY. OK. Great. Thank you. Very much appreciate it.

On September 13, 2018, last year, the gas distribution system in Lawrence, Andover, and North Andover, Massachusetts, experienced a pressure surge and the resulting fires and explosions killed a young man, damaged hundreds of buildings, and left thousands of homes and businesses without gas service for months. We're still working to dig out in Massachusetts and recover from this disaster and have a long way to go.

At the Commerce Committee hearing, which we had up in Lawrence, thanks to the Majority on the Committee allowed us to have a hearing up there, we discussed some of the failings of the pipeline safety regulations, failings that we must address during the

next PHMSA reauthorization by tuning into the lessons of the Merrimack Valley.

Mr. Willis, do you agree that regulations that require stronger safety standards and the use of installation of modern technology can promote pipeline integrity and protect both workers and American communities and create jobs in this country?

Mr. WILLIS. Senator, there's no question that we need to do more on pipeline safety. We have specific unions that can come in and talk to you in more detail about, you know, those workers who handle that type of work, but I think your efforts in relation to what happened in your state, and obviously we've seen it elsewhere, are excellent.

We do agree that we need to improve safety there, improve monitoring and use technology in the right way. So we're looking forward to working with you on that for sure.

Senator MARKEY. Thank you. I think that should be a way in which we view infrastructure, too, because those pipes were right around the house that my father grew up in, born in 1911, in Lawrence. So there's a real opportunity here for infrastructure upgrades that make the whole system a lot safer while we're creating jobs for the country.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Markey.

Senator Klobuchar.

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

Senator KLOBUCHAR. Thank you very much, Mr. Chairman. It's good to be here.

We had a Rules Committee meeting, that's why I was a little tardy.

I want to start with you, Mr. Spear. In your testimony, you talked about the fact that the U.S. spends less than half of what's necessary to address the Nation's surface transportation policy. We saw this loud and clear with the I-35W Bridge in Minnesota which, as you know, tragically crashed into the river, killing 13 people and injuring many more.

Could you explain why this is so important to upgrade our existing transportation infrastructure? Often you can't have a glamorous ribbon-cutting when you're just upgrading and that's one of the problems. Mr. Spear.

Mr. SPEAR. We would certainly celebrate with an upgrade. I think 67,000 bridges in the United States are deemed deficient, certainly a safety hazard, this one included. So it's tragic when this happens and I think we're only going to see more of it if we do not take immediate steps to pass a robust infrastructure bill that focuses on repairing our ailing roads and bridges, and, you know, I think congestion is also playing a part of that.

Minnesota has five of the top 100 bottlenecks in the United States. The amount of time we sit in traffic, including in Minnesota, is very measurable and so, you know, the impact that the growth, the surge in the economy, we have to meet that demand. All of our modes work together to ensure that we're meeting economic growth, but our infrastructure is lagging and it has to be

done and done right, not just for the economy, but for safety. It's imperative.

Fifty-three percent of the fatalities the roadway contributed to the fatalities on the highway. This is a national tragedy.

Senator KLOBUCHAR. Thank you. Mr. Polka, love your name. We're a big polka state. It's very festive.

[Laughter.]

Senator KLOBUCHAR. Dig Once, I know you recognized it in your opening statement, and this was a provision. We got a provision in the MOBILE Now Act, which was signed into law last Congress.

How do Dig Once's policies help to improve broadband access specifically in rural areas?

Mr. POLKA. First off, I think Dig Once is vitally important. It's a great idea. When you think of Federal highway projects and long-haul fiber that can be installed as those highways are built, I think they're a great idea and we look forward to working with you and the committee on furthering, you know, that concept.

In smaller markets, rural areas, it's a little bit of a different challenge. We're not necessarily using highways but streets and roads, sometimes maybe not necessarily paved, and we're not necessarily working with Federal projects.

So there where you have situations, such as utilities or others that may be installing such facilities, we need to have a similar concept, I think, and as the Committee thinks about infrastructure legislation, this may be something to consider where we think of something that could be more of a sharing process, where when a utility might be opening up a conduit, there's notification and coordination, so that fiber can be also installed.

So it's a little bit of a different issue, but I think the concept of Dig Once could be used ultimately in rural areas, as well.

Senator KLOBUCHAR. And then Senator Capito and I have a bill about measuring the economic impact of broadband. I think it will be helpful. We got stalled out in the House, is that right—there you go—last time, and we couldn't get it done at the end of the year but I think we have a good opportunity, but the reason I think it's so important is just to get that data because we can get to connecting all our households but it's just been—we need the will, and could you talk about the importance of getting the economic data?

Mr. POLKA. We have members today that are building broadband into communities that haven't had it yet and in those local situations, we're discussing how we can actually measure that economic impact.

We don't have the answer yet but I know the answer's going to be a good one, once you can show a community that didn't have broadband before that has it tomorrow and what difference it makes in the lives of every citizen.

Senator KLOBUCHAR. OK. One last question, then I'll put some more on the record.

Mr. Jefferies, Port of Duluth supports industries from agriculture to manufacturing. It's the largest and busiest port on the Great Lakes, 900 vessels, an average of 35 million short tons of cargo per year. We, with the help of a TIGER Grant and other things, have been able to enhance that port, new intermodal terminal open for Canadian National Railway and Duluth Cargo Connect.

As you see this port traffic increase, as we see the future of some of our economic growth, getting goods to market and exporting, what kind of investments are needed to support the flow of these intermodal cargo shipments?

Mr. JEFFERIES. Absolutely. Thank you, Senator. That's a great question.

For railroad's part, we are investing \$25 billion a year back into our network. So once it hits the railroad, we have the capacity to move the product. On the intermodal connector, first-mile/last-mile port infrastructure, we think there's an absolute need for robust Federal role, be it through a public/private partnership or direct funding to the port to ensure that again once we get to that first-mile/last-mile, we often run into congestion. So let's smooth that out and really provide a streamlined process because it is an integrative network.

Senator KLOBUCHAR. All right. Thank you very much. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Klobuchar, and thank you to all of our witnesses.

It is clear that we have been treated to a great amount of brainpower today and also thought put into this. So we do appreciate it.

There being no further questions, the Chair will announce that the hearing record will remain open for two weeks. During this time, Senators are asked to submit any questions for the record. Upon receipt, our witnesses are requested to submit their written answers to the Committee as soon as possible but by no later than Wednesday, February 27, 2019, by close of business.

So thank you again, and this hearing is now adjourned.

[Whereupon, at 12:18 p.m., the hearing was adjourned.]

A P P E N D I X

January 15, 2019

Hon. NANCY PELOSI,
Speaker,
U.S. House of Representatives.

Hon. MITCH McCONNELL,
Majority Leader,
U.S. Senate.

Hon. KEVIN MCCARTHY,
Republican Leader,
U.S. House of Representatives.

Hon. CHARLES E. SCHUMER,
Democratic Leader,
U.S. Senate.

Re: Benefits of Embedding Energy Efficiency in Infrastructure Investments

Dear Speaker Pelosi, Leader McConnell, Senator Schumer, and Leader McCarthy:

We the undersigned, on behalf of a coalition of energy businesses, trade associations, researchers, energy officials, and advocacy organizations, respectfully urge you to ensure that any infrastructure proposals considered by the 116th Congress include energy efficiency provisions that will maximize the investments made by taxpayers, reduce long-term operations and maintenance costs, and improve overall U.S. energy productivity.

Energy efficiency is our Nation's most abundant energy resource. Without the gains in energy efficiency made since 1973, the U.S. economy would today require at least 70 percent more energy than we currently consume. Between then and today, U.S. gross domestic product has tripled while energy consumption has only risen by about 30 percent. Improving energy efficiency is one of the most effective policy strategies for addressing the threat of climate change—both in terms of reducing emissions and enhancing the resilience of buildings, the industrial sector, transportation, and energy systems—while also representing an extraordinary bipartisan opportunity to boost economic growth, add to the 2.25 million jobs in the energy efficiency sector, and improve U.S. energy security and global competitiveness. These benefits would align with many of your stated goals for an infrastructure package in the 116th Congress.

The American Society of Civil Engineers gave our Nation's aged and increasingly failing infrastructure a grade of D+ in its most recent *Infrastructure Report Card* and identified a funding shortfall of more than \$1.4 trillion by 2025. Energy efficiency would improve the costeffectiveness and sustainability of any investments in infrastructure, including critical improvements across the entire buildings sector, water and wastewater treatment facilities and distribution systems, the power grid, and our increasingly-connected transportation systems. We therefore encourage you to incorporate energy efficiency in any infrastructure proposals from the start. Otherwise, Congress runs the risk of locking in decades of high costs and unnecessary energy waste for the duration of the physical infrastructure our economy needs to remain prosperous in the 21st Century.

In order to make the best, most-efficient use of taxpayer investments in infrastructure, we ask that you first consider these tenets:

- *Promote adoption of updated building energy codes, high-performance buildings, and high-efficiency equipment.* Buildings account for roughly 40 percent of U.S. primary energy use and 76 percent of the electricity we use, and recent climate assessments and reports consistently point to reducing building energy consumption as a top solution to reduce greenhouse gas emissions. As we invest in building and rebuilding the very places where people and commerce meet, we should ensure these structures meet the highest standards for efficiency. The latest model building energy codes deliver 30 percent more efficiency than codes of just a decade ago, which will result in more than \$5 billion in annual savings for U.S. homes and businesses from, for example, improved thermal envelopes and high-efficiency heating and cooling equipment and lighting fixtures. Just as important, the experiences of states and communities demonstrate that more efficient buildings are key to enhancing energy system resilience in the

face of extreme weather events. Congress should ensure that any infrastructure proposals encourage states and local governments to adopt and enforce updated building energy codes and promote energy efficiency retrofits of existing buildings that will deliver long-term savings to homeowners, renters, and commercial building owners and tenants and improve the health and resilience of communities. Energy efficiency delivers savings to all households and consumers, including those with limited incomes, and would ensure that the benefits of an infrastructure package will help the Nation as a whole.

- *Expand opportunities for public-private partnerships to finance projects.* The burden of paying for infrastructure does not need to fall solely upon the shoulders of taxpayers through direct appropriations. The Federal Government should show leadership by addressing critical buildings and energy infrastructure upgrades through public-private partnerships that leverage private funds to implement resilience-enhancing energy-and water-conservation measures. To address the backlog of \$165 billion in deferred maintenance projects in Federal facilities, any infrastructure package should encourage performance contracting and other financing mechanisms at all levels of government to install high-efficiency equipment and systems in individual buildings and across campuses with little to zero upfront cost to taxpayers and tremendous resilience benefits for mission-critical public facilities.
- *Apply life-cycle cost-effectiveness analysis to all appropriate projects.* To deliver the best long-term return-on-investment to taxpayers, Congress should avoid short-sighted decisions based on incremental first-costs and instead take into account costs and benefits over the expected lifetime of physical infrastructure. This focus on lower up-front costs rather than lower operations and maintenance costs tends to encourage an under-investment in energy-and water-saving technologies that then saddle unsuspecting homeowners, consumers, and businesses with an unpredictable burden of higher utility bills. A missed opportunity now means future generations of taxpayers will be paying for our mistake for decades to come.

We are prepared to work with you and your colleagues to provide more assistance as requested to identify specific programs, activities, and projects that may warrant specific attention as Congress turns its focus to infrastructure. And we pledge to assist your staff by identifying existing and developing new energy efficiency proposals that would maximize taxpayer investment in infrastructure that delivers benefits today, lowers costs over time, and provides our children and grandchildren with a more sustainable future.

Thank you for your consideration.

Sincerely,

Advanced Energy Economy
Alliance for Industrial Efficiency
Alliance to Save Energy
American Council for an Energy-Efficient Economy
American Institute of Architects
ASHRAE
Business Council for Sustainable Energy
Chelan County Public Utility District
Copper Development Association, Inc.
Covestro
E4TheFuture
Environmental and Energy Study Institute
Federal Performance Contracting Coalition
Hannon Armstrong
Heat is Power Association
Home Performance Coalition
Ingersoll Rand
Knauf Insulation

National Association for State Community Services Programs
National Association of Energy Service Companies
National Association of State Energy Officials
National Electrical Manufacturers Association
Natural Resources Defense Council
New Dominion Group, LLC
North American Insulation Manufacturers Association
Polyisocyanurate Insulation Manufacturers Association
Sheet Metal and Air Conditioning Contractors National Association
Signify (formerly Philips Lighting)
The Stella Group, Ltd.
U.S. Green Building Council
Vermont Energy Investment Corporation

Cc: Members, U.S. House of Representatives Committee on Energy and Commerce
Members, U.S. House of Representatives Committee on Transportation and Infrastructure
Members, U.S. House of Representatives Committee on Ways and Means
Members, U.S. Senate Committee on Energy and Natural Resources
Members, U.S. Senate Committee on Environment and Public Works
Members, U.S. Senate Committee on Finance

PREPARED STATEMENT OF RESILIENT NAVIGATION AND TIMING FOUNDATION

When GPS signals are not available because of natural, accidental or malicious interference, every mode of transportation slows down, carries less capacity, and becomes more expensive and dangerous. First responder communications and coordination systems are degraded. If the disruption lasts long enough, networks of all kinds begin to fail.

For this reason, officials at the Department of Homeland Security have called our Nation's overreliance on GPS "a single point of failure for critical infrastructure." This sentiment and concern has been echoed by a wide range of engineers and technologists including the National SpaceBased Positioning, Navigation and Timing Advisory Board, and the "father of GPS," Dr. Bradford Parkinson.

The lack of a difficult to disrupt, terrestrial backup system for GPS is a significant gap in our Nation's infrastructure. It must be filled to protect and enable current applications and allow development of future transportation and IT systems.

Validating this shortfall, the National Institutes of Standards and Technology has twice warned that our Nation's wireless precise timing architecture (almost entirely based on GPS signals) is insufficient to support development of the Internet of things (IOT). As another example, further development of safe automated vehicles and intelligent transportation systems of all kinds will be unwise without difficult-to-disrupt, wide area location and timing signals to pair with the much weaker signals from space (see our comment to the Department of Transportation here: <https://www.regulations.gov/document?D=DOT-OST-2018-0149-0022>).

Congress began to address this shortfall by passing the National Timing Resilience and Security Act of 2018 which became law in December. This act requires the Secretary of Transportation to establish a terrestrial timing system as a backup for GPS by the end of 2020. Also, that this timing system be expandable to provide a backup for GPS navigation. Separate legislation last year provided \$15M for a technology demonstration of GPS backup technology.

These initial steps are important but will not by themselves make our Nation safer. Sufficient funds must be made available to establish the timing system, and the administration must be held accountable for progress on all fronts.

The last two administrations promised to establish backup systems for GPS, but never followed through. And we have seen little action from the current administration. For example, funds for the GPS backup technology demonstration Congress mandated have been available for almost a year. Yet we have seen no public evidence that the project has even begun. This, despite Congress' mandate the demonstration be complete by June 2019.

Our nation's infrastructure is much more than just roads and waterworks. Our dependence upon wireless precise time and navigation continues to increase. We must focus on ensuring America has the positioning, navigation, and timing infrastructure it needs to be secure today, and to prosper in the future.

We urge you to:

- Support funding for the timing system mandated by the National Timing Resilience and Security Act of 2018,
- Encourage the Department of Transportation to actively pursue its role as the Federal lead for civil positioning, navigation, and timing issues,
- Hold the administration accountable for complying with Congressional direction and intent, and
- Identify a terrestrial, difficult-to-disrupt, terrestrial navigation and timing system as an essential part of our Nation's infrastructure.

Respectfully submitted,

DANA A. GOWARD,
President,

Resilient Navigation and Timing Foundation.

PREPARED STATEMENT OF JASON HARTKE, PRESIDENT,
THE ALLIANCE TO SAVE ENERGY

Thank you for the opportunity to submit a written statement regarding the Committee's hearing titled, "America's Infrastructure Needs: Keeping Pace with a Growing Economy."

We look forward to working with you in the 116th Congress to develop bipartisan policies for rebuilding American infrastructure, and we submit this statement to

highlight the role that energy efficiency can play in sharply reducing both the costs and carbon footprint of infrastructure projects.

Infrastructure, of course, is more than roads and bridges. It's the foundation that determines where and how we fuel our vehicles, deliver electricity and natural gas, and treat and distribute water. It's our airports, seaports, transit hubs and other critical public buildings. These facilities have an enormous impact on U.S. energy consumption, and a nationwide infrastructure initiative presents an opportunity to "get it right" and save consumers and taxpayers decades of wasted energy costs.

Transportation is now the greatest source of greenhouse gas emissions in the United States and the second highest expense for households. Exciting breakthroughs in electrified transit, efficient alternative fuel vehicles, ridesharing, and other tools have the potential to enhance travel experiences while reducing energy waste, congestion and emissions.

Similar energy-saving opportunities exist across other infrastructure sectors. Water treatment and distribution facilities, for example, are typically the largest energy users in their local communities, often accounting for *a third or more* of a municipality's total energy consumption. Cutting their energy use by a modest 10 percent could save *\$400 million a year*, according to the EPA. And, there are enormous opportunities for savings in modernizing public buildings. The Federal Government alone *spends \$6 billion annually* on energy for its buildings.

We must avoid the temptation to look only at short-term costs and build a truly modern infrastructure network that locks in savings over decades and lays the foundation for a more competitive and productive economy. In some cases, infrastructure projects can pay for themselves through public-private partnerships and innovative financing around energy savings investments. Incorporating energy efficiency can also provide a host of additional benefits, such as reducing harmful emissions and improving power grid reliability and resilience—all while creating good-paying jobs.

Already, energy efficiency supports *more than 2.2 million U.S. jobs*, with an employment growth rate double the national average. Seven in 10 of energy efficiency jobs are in construction and manufacturing.

We encourage you to incorporate energy efficiency in any infrastructure proposals from the start to make the best, most-efficient use of taxpayer investments. The Alliance to Save Energy's infrastructure priorities include:

- *Laying the foundation for an efficient transportation sector.* The transportation sector is undergoing rapid transformation due to innovation in new technologies, business models and connectivity. These new tools could enable a more efficient, effective, clean, and affordable transportation system, but their success depends heavily on effective infrastructure development. For example, for emerging alternative vehicle markets, especially electric vehicles, hydrogen fuel cell and renewable natural gas vehicles, the lack of such infrastructure presents a market barrier to deployment for highly-efficient vehicles that have great potential to reduce energy waste and climate emissions in light-, medium- and heavy-duty sectors. Stronger transit systems have an outsized positive impact on the lives of low-income, elderly, and disabled communities, which rely on these services for mobility. Smarter traffic systems and system optimization at ports and distribution centers can enhance the longevity of infrastructure by controlling traffic congestion and optimizing the vehicles used, reducing maintenance costs while enhancing safety. And autonomous vehicles and ridesharing could change the shape of urban mobility. Congress should pursue opportunities to support these emerging trends to ensure that the infrastructure built today will be ready for tomorrow's needs.
- *Promoting adoption of updated building energy codes, high-performance buildings, and high-efficiency equipment.* Buildings account for roughly 40 percent of U.S. primary energy use and 76 percent of the electricity we use, and recent climate assessments and reports consistently point to reducing building energy consumption as a top solution to reduce greenhouse gas emissions. As we invest in building and rebuilding the very places where people and commerce meet, we should ensure these structures meet the highest standards for efficiency. The latest model building energy codes deliver 30 percent more efficiency than codes of just a decade ago, which will result in more than \$5 billion in annual savings for U.S. homes and businesses from, for example, improved thermal envelopes and high-efficiency heating and cooling equipment and lighting fixtures. Just as important, the experiences of states and communities demonstrate that more efficient buildings are key to enhancing energy system resilience in the face of extreme weather events. Congress should ensure that any infrastructure proposals encourage states and local governments to adopt and enforce updated building energy codes and promote energy efficiency retrofits of existing build-

ings that will deliver long-term savings to homeowners, renters, and commercial building owners and tenants and improve the health and resilience of communities. Energy efficiency delivers savings to all households and consumers, including those with limited incomes, and would ensure that the benefits of an infrastructure package will help the Nation as a whole.

- *Expanding opportunities for public-private partnerships to finance projects.* The burden of paying for infrastructure does not need to fall solely upon the shoulders of taxpayers through direct appropriations. The Federal Government should show leadership by addressing critical buildings and energy infrastructure upgrades through public-private partnerships that leverage private funds to implement resilience-enhancing energy-and water-conservation measures. To address the backlog of \$165 billion in deferred maintenance projects in Federal facilities, any infrastructure package should encourage performance contracting and other financing mechanisms at all levels of government to install high-efficiency equipment and systems in individual buildings and across campuses with little to zero upfront cost to taxpayers and tremendous resilience benefits for missioncritical public facilities.
- *Applying life-cycle cost-effectiveness analysis to all appropriate projects.* To deliver the best long-term return-on-investment to taxpayers, Congress should avoid short-sighted decisions based on incremental first-costs and instead take into account costs and benefits over the expected lifetime of physical infrastructure. This focus on lower up-front costs rather than lower operations and maintenance costs tends to encourage an under-investment in energy-and water-saving technologies that then saddle unsuspecting homeowners, consumers, and businesses with an unpredictable burden of higher utility bills. A missed opportunity now means future generations of taxpayers will be paying for our mistake for decades to come.

We are eager to work with you and your colleagues to identify specific programs, activities, and projects that can help achieve our mutual goals and build a smarter, less expensive and more sustainable infrastructure system. Please also find attached a letter from the Alliance and 30 other companies and organizations urging Congress to embed energy efficiency into infrastructure legislation.

About the Alliance to Save Energy

Founded in 1977, the Alliance to Save Energy is a nonprofit, bipartisan alliance of business, government, environmental and consumer leaders working to expand the economy while using less energy. Our mission is to promote energy productivity worldwide—including through energy efficiency—to achieve a stronger economy, a cleaner environment and greater energy security, affordability and reliability.

Sincerely,

JASON HARTKE,
President,

The Alliance to Save Energy.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO WILLIAM FRIEDMAN

Question. Mr. Friedman, as you know, in addition to establishing a National Multimodal Freight Policy, the FAST Act created the Build America Bureau to strengthen coordination between modes on multimodal infrastructure planning and investment in the United States. While there certainly are no seaports in South Dakota, they play a critical role in connecting my home state to markets around the world. Do you believe the Build America Bureau has improved project delivery for port infrastructure improvements, and do you see opportunities for improvements to multimodal planning and investment?

Answer. Senator Thune. Thank you for this question. The short answer is I believe the Build America Bureau is getting better at delivering port infrastructure improvement opportunities. As an example, can be a tool for ports to explore ways to access private capital in public-private partnership. The *Rail Rehabilitation Innovation Financing* (RRIF) program has been in existence since 2002, and only late last year did a port (Port of Everett) receive a RRIF loan. One recommendation to make RRIF more accessible to ports is to provide 100 percent financing. AAPA members responded that there were potentially 75 BUILD/TIGER projects that would become RRIF-financed projects if the financing fee was removed.

I will add that in building off the FAST Act, establishing a multimodal freight office within the DOT would best leverage across all modes planning tools and re-

sources made available in the FAST Act an AAPA proposed maritime freight supply chain title.

A multimodal freight office is an ideal spot to administer the soon-to-be-released multimodal freight network and the multimodal freight plan. Both these documents are templates to work from and would be best implemented in a mode-neutral office. Additionally, the multimodal freight office would have oversight over the FAST Act compliant state freight plans, which are all multimodal.

Furthermore, with multimodal funding programs in USDOT's Federal Highway Administration, MARAD and FRA, a multimodal freight office will coordinate and direct investment and policy.

Finally, AAPA believes that a multimodal freight office would complement the Build America Bureau within USDOT. In the original FAST Act, consolidating the Build America Bureau's lending and financing programs into one allowed for better leveraging of those programs to meet the Administration's goals. A freight office would be better positioned to work with these new, multimodal focused programs, and to lead the development of a multimodal network necessary to meet 21st century supply chain and transportation needs.

This type of policy and organization within USDOT would not only leverage resources but allow for a more comprehensive approach to freight planning that integrates port states with non-port states such as South Dakota.

Please feel free to follow up with me or AAPA if we can answer any additional questions. I look forward to working with you during the reauthorization process.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
WILLIAM FRIEDMAN

Question. The Heartland Intermodal Gateway (HIG) in Prichard, West Virginia, sits on 100 acres of land donated by Norfolk Southern Railway, and various private property owners, along the Big Sandy River. This facility provides businesses with a truck-to-rail transfer facility along the Heartland Corridor running from the Port of Virginia through West Virginia to Chicago.

Intermodal facilities such as the HIG decrease handling, improves security, reduces damage and loss, and allows freight to be transported faster. According to the West Virginia Public Port Authority, the HIG has filled a major hole in the country's intermodal network. The Port Authority has also identified close to 1,500 jobs being created as a result of the HIG.

- Before its construction, an economic study indicated that the \$30 million investment in the Prichard Intermodal Terminal would generate a net increase of between 700 and 1000 jobs, and a statewide benefit of \$47–69 million by 2025. Intermodal facilities, like the HIG, have significant benefits for our economy. Can you speak to the economic benefits of such intermodal facilities?

Answer. Intermodal facilities that bring cargo to and from a maritime port help improve the efficiency of cargo movement through ports. Rail connections from ports to intermodal transfer facilities can:

- significantly decrease the amount of truck traffic coming into a port,
- decrease truck traffic on interstate roads and subsequent wear and tear,
- lessen pollution as rail movement is more environmentally friendly, and
- improve delivery times.

Ports are often located in coastal cities, where road congestion can impact a port's ability to move cargo efficiently. Intermodal transfer facilities can quickly move cargo from congested urban areas to less congested areas, especially those that utilize rail. Depending on the location, intermodal transfer facilities also can offer the added benefit of creating jobs and economic development in more rural areas. These intermodal transfer facilities often attract distributions centers, which also create local jobs.

The Department of Transportation programs are very helpful in establishing and improving these facilities. The BUILD/INFRA/Fast Act grants provide an important incentive to get these projects built more quickly. Most multimodal transfer facilities are public-private partnerships and these Federal grants leverage private sector improvements. The American Association of Port Authorities (AAPA) has recommended that the multimodal caps on FAST Act funds be removed in the next reauthorization bill so there are not limitations on the amount of funds available for multimodal projects including intermodal transfer facilities. Other helpful Federal programs in funding the establishment of these facilities include the Transportation

Infrastructure Finance Innovation Act (TIFIA) and the Railroad Rehabilitation and Improvement Financing (RRIF) program.

The AAPA's State of Freight III report on Rail Access and Port Multimodal Funding Needs Report noted that 66.67 percent of ports reported that funding and financing options are the greatest barriers to have improved rail access. AAPA port members identified more than \$20 billion in projected multimodal port and rail access needs in the next decade.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
WILLIAM FRIEDMAN

Freight Investment. I have long been a champion of Federal funds for freight projects, which for the first time received dedicated funding in the FAST Act when I authored what became the INFRA program. Trade and the movement of goods is the backbone of our economy. In Washington state, we know this all too well as forty percent of our jobs are tied to trade.

Question 1. Where do you see the main chokepoints that require multi-modal investments to keep freight moving? How can increased investments in the freight program better address these challenges?

Answer. Increased interconnectedness and trade have increased the demands placed on our ports and on our infrastructure more broadly. While the commerce and travel that flows through our ports has been a boon to Americans and to our Nation's economy, it has also contributed to stressed capacity at our ports. Ports have plans to address increased wait times and other capacity issues with expansion and investment, but without Federal backing, there is a 'chokepoint' in a) the literally accumulated cargo, and b) the figurative chokepoint on investment ports are able to undertake. Such a growing issue in the context of increasing ecommerce and consumer and business expectations about delivery speed are barreling towards a looming storm.

Increased multimodal investments evidence Congress's attention to a dynamic and growing economy. As transport, distribution, and logistics companies innovate and create newer, faster systems, Congress should modernize its smart investments by doing away with artificial caps on investment in multimodal projects in order to continue encouraging innovation.

President's Proposal. During his state of the union speech, President Trump continued his push for an infrastructure bill. This echoes his previous calls for a \$1 trillion infrastructure investment. However, instead of Federal investment, his plan relied heavily on public-private partnerships, which would likely lead to more tolling. To pay for it, his budget also proposed cuts to current infrastructure programs.

Question 2. What concerns do you have with the Administration's proposal to cut Federal funds for current infrastructure programs?

Answer. Through member data, the American Association of Port Authorities finds that U.S. ports plan investment of \$31 billion per year on average. AAPA is currently conducting its questionnaires for planned port investment for 2021–2025 and expects to find comparable numbers.

Only with the help of the Federal Government's fulfilling its explicit Constitutional role for maintaining the national waterways, *inter alia*, can American ports have requisite resources to finance badly-needed investments. AAPA's data-backed survey of the investment landscape suggests ports continue to need the government as a partner, and, in fact, would benefit from government playing an *increased* role in infrastructure investment in order to meet growing demand and to leverage private capital.

Question 3. One of the President's proposed cuts was to the BUILD grant program, how would that impact ports?

Answer. In FY19, U.S. Department of Transportation (USDOT) awarded seven marine-related projects, including five seaport projects, *among the 55 selected* for funding in the 11th round of BUILD. AAPA applauds these important projects around the country, but there's always more to be done. Moreover, though maritime represents one quarter of the intermodal mix, it only received 14 percent of BUILD grants this Fiscal Year. AAPA hopes to help Congress and the Department of Transportation boost that number—both in gross and percentage terms—in order to reflect the important role played by maritime transport.

Paying for Infrastructure. We can all agree that we need a robust infrastructure investment, but when it comes time to pay for it the conversation dies down pretty

quickly. Without significant leadership on how to pay for this much needed investment, I'm concerned that all we will have is conversation.

Question 4. Why is it so important that we heed these calls for action now? What will happen if we continue to punt this conversation down the road?

Answer. To reiterate the above, AAPA's last investment questionnaire showed that ports plan for about \$31 billion per year in infrastructure investment. Ports with growing volumes *must* invest continuously to meet demand, and in some cases, U.S. ports that don't offer the best possible service may lose business to ports in Canada or Mexico. In all cases, ports must offer a safe and reliable place for travelers and shippers to operate.

Long-term, sustainable multimodal funding is critical, and we encourage you to start looking at solutions. AAPA has endorsed the concept of a 1 percent waybill fee as an equitable approach to provide immediate and long-term funding for multimodal freight infrastructure challenges. Additionally, AAPA supports a gas tax increase as well as a VMT program. With all increased funding, AAPA recommends that any new funding be multimodal-eligible.

National Cyber Strategy. Modern infrastructure relies on interconnected broadband communication networks that optimize performance and efficiency. This applies to everything from intelligent transportation to smart grid, and smart cities systems.

It's not just new personal devices—all of our infrastructure is becoming digital infrastructure.

This increased connectivity comes with new threats—we have to get serious about cybersecurity in this country. This Administration's failure to implement a real, consistent and robust cyber strategy puts our national security and everything that uses our communication networks at risk.

Question 5. Do you agree that it is time for the Federal Government to craft and implement a comprehensive national cyber strategy? What are the risks to our national and economic security without such a strategy?

Answer. While AAPA currently does not take a position on a national strategy, cyber incidents have had an impact on the shipping industry. Moreover, because of the global nature of shipping, it is easy for malware to spread rapidly and without regard for borders. In that vein, international and private-public cooperation is just as important a national plan, especially in the ways an attack might occur, spread, and damage a global supply chain.

Most ports are targets ripe for cyber attacks given the second-order effects of disrupted supply chains and affected travelers. Ports are critical infrastructure as designated by DHS, so they will always be on the proverbial front lines of cyber security and are always ready to play their part.

Question 6. What cyber security threats are you seeing to the infrastructure you rely on and what tools do you have to combat these cyber threats?

Answer. An attack that takes down a port's connectivity and/or communications can freeze movement of all freight and bring operations to a standstill. Such an incident can cost millions of dollars just to get business back up and running to say nothing of the almost-incalculable economic costs of halted goods—including perishables—not getting to where they need to go, along with stranded travelers.

Supply chain partners must have top-notch firewalls and authentication *between and among* themselves because of their continuous communications about freight location, customer data, and more. Blockchain increases the level of interconnection almost infinitely. All partners in the supply chain should have redundant systems in case one is attacked by ransomware, for example.

Not all of these issues face ports *per se* but rather their customers, tenants, and partners. Nevertheless, ports work hard to understand their industry issues and the growing interconnected between and among port users.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
WILLIAM FRIEDMAN

The efficient flow of freight across America's transit systems is crucial to the competitiveness of our economy. When shippers are delayed by major congestion and outdated infrastructure, products don't arrive on time, businesses suffer and costs for consumers go up.

Question. In addition to addressing major freight bottlenecks, what investments should we be making to improve supply chains and the flow of freight?

Answer. Decades of growth in global trade have seen more people and businesses trading in America. In the last decade, the growth in the volume and market share

of ecommerce has put more demands on infrastructure and supply chains, which do their best to keep up but which, as you note, need better, smarter investments.

Increased multimodal investments evidence Congress's attention to a dynamic and growing economy. As transport, distribution, and logistics companies innovate and create newer, faster systems, Congress should modernize its smart investments by doing away with artificial caps on investment in multimodal projects in order to continue encouraging innovation.

An overriding economic lodestar should be a welcoming business and investment environment. When businesses believe trade policy is predictable and welcoming, they are more likely to make the investments needed to meet the increased—and hopefully continuing—decades of increased demand in trade.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
WILLIAM FRIEDMAN

Question. Mr. Friedman, it's not just physical infrastructure that can cause bottlenecks at our ports of entry. Technology also limits how fast we are able to process and inspect the increasing volume of trade at our borders. Innovations like non-intrusive inspection systems have helped alleviate some of these challenges. What technologies should we be thinking about right now to integrate infrastructure improvements that will improve security while also reducing friction at our ports of entry?

Answer. For all its laudable work, Customs and Border Protection (CBP) admits it is in desperate need of capital investment. Upgrades to its tools and technology will help the United States keep pace with the rest of the world in scanning and clearing goods; this is an issue so immediate that our government is consulting with other governments to learn how fast it is falling behind. Two immediate infrastructure investments—needed no matter how fast non-intrusive inspection grows—are long-lasting conveyor belts and container straddle carriers.

Scanning technology is still only as good as its users, and the Federal Government has a vital role to play with freight flow performance. For our ports to perform efficiently, CBP must be adequately funded and staffed. As an industry, with growing volumes in freight and passengers, we would like to see, at a minimum, annual hiring of CBP staff to 500 annually, over and above attrition. This may sound like an appropriations or Homeland Security issue, but it is a supply chain problem.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY JOHN THUNE TO
IAN JEFFERIES

Question 1. Mr. Jefferies, you mentioned in your testimony the importance of innovative technologies to the freight rail industry. Could you elaborate on how the railroads are utilizing emerging technologies to improve safety and enhance rail service?

Answer. According to Federal Railroad Administration (FRA) data, recent years have been the safest on record for the rail sector. This achievement is due in large part to the industry's strong safety culture, visible in everything from training to operational protocols.

Even so, accidents sometimes occur. Railroads prioritize investments to address and eliminate the causes of these accidents, knowing they will have a significant impact on the long-term safety of the freight rail network.

Technology plays a crucial role in achieving that goal. Today's rail technology enables railroads to inspect their track and equipment with greater efficiency and reliability: Railroads are using ultrasound technology to see inside steel rail; ground-penetrating electromagnetic radar to assess the condition of ballast and detect abnormalities; wayside detectors using infrared and lasers to assess bearings, axles, wheels and springs as trains pass by at up to 60MPH; and machine visioning that capture 50,000 images per second of service and safety critical components on a passing train. Railroads use these insights to improve safety by identifying potential problems and proactively scheduling maintenance, helping to keep small issues from becoming big problems.

In addition to these important safety benefits, emerging technologies are also helping the railroads improve operations that allow railroads to maintain their competitive edge. By applying advanced software and technologies to operations, including advanced dispatch-planning to optimize train movements, railroads move freight more efficiently and cost-effectively than ever before—to the benefit of both the railroads and rail shippers. Efficiency and productivity improvements help railroads keep prices low. In fact, rail shippers today can move roughly twice the amount of

freight for nearly the same price paid in 1980, giving them an edge in an increasingly globalized economy.

- As a follow-up, could you provide an example of where you believe advancements in technology have outpaced the current regulatory framework, and offer suggestions for how these advancements could be better incorporated into regulation?

Answer. The freight railroads have made significant advances in continuous rail inspection, currently deployed extensively in Europe, China and Japan, that makes it possible to use non-stop inspection vehicles to locate and repair potential rail defects much earlier than previous inspection methods. However, FRA regulations require that when such technology is used, potential defects must be verified within four hours. As a practical matter, this means the employees testing the track must stop and verify before the inspection vehicle can proceed—a tremendously inefficient use of expensive innovative technology. Stop and verify should be the rule only for significant defects. Although the FRA has granted waivers that allow certain railroads to deploy continuous rail testing, the uncertainty associated with temporary waivers is an impediment to long-term investment and innovation. AAR members believe regulations should allow for the use of such technology that results in equivalent or higher levels of safety.

In addition, FRA should be encouraged to expand the use of test programs to more nimbly respond to rapid advances in technology. For example, new and alternative automated track inspection technologies provide an objective method to evaluate track conditions and to identify track defects. In contrast to visual inspections by track inspectors, as currently required by FRA regulations, automated inspections can take key measurements continuously and at track speed, allowing the inspection of more track in any given time period. Onboard computers process the enormous amount of raw data in real time and produce concise track condition reports, noting indications of track deficiencies so that track owners can take prompt remedial action. These technologies are making the railroad safer, but have also outpaced the current regulatory framework. Test programs are one way to provide the safety regulator with an efficient and effective way to authorize the demonstration of new technology or processes.

Lastly, substantial data has conclusively established that reduced air brake testing, which would allow rail cars to be off-air for extended periods of time (well beyond the required four hours and as currently permitted in Canada) could be permitted without any safety degradation. In most situations, harmonizing FRA air brake testing regulations with Canadian regulations would better facilitate operational efficiencies across the North American rail network without jeopardizing safety.

Question 2. Mr. Jefferies, as you know, the FAST Act made important strides to streamline the project permitting process for railroads. Building on these changes, does your industry see additional opportunities to improve project delivery and better enable investment in safe and efficient freight rail infrastructure?

Answer. The freight railroads applaud Congress for their work in both MAP-21 and the FAST Act to streamline the Federal permitting process and speed project delivery through significant reforms, such as expanding categorical exclusions and allowing for concurrent reviews. Delays in permitting slow down the modernization of rail infrastructure and cost the rail industry billions of dollars each year, which could otherwise be invested back in the network. The freight railroads encourage the Committee to build upon the successful streamlining provisions from previous reauthorization bills to provide further relief.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
IAN JEFFRIES

Freight Investment. I have long been a champion of Federal funds for freight projects, which for the first time received dedicated funding in the FAST Act when I authored what became the INFRA program. Trade and the movement of goods is the backbone of our economy. In Washington state, we know this all too well as forty percent of our jobs are tied to trade.

Question 1. Where do you see the main chokepoints that require multi-modal investments to keep freight moving? How can increased investments in the freight program better address these challenges?

Answer. Within the interconnected freight network, the “first mile” and “last mile” connections, where freight is handed off from one mode to another, are highly vulnerable to disruptions and improving them would lead to especially large in-

creases in network efficiency and fluidity. Policymakers can target multimodal investments by implementing or increasing funding for programs that improve these first and last mile connections.

The Transportation Investment Generating Economic Recovery (TIGER) Federal grant program, its replacement, the Better Utilizing Investments to Leverage Development (BUILD) Transportation grant program, and the Infrastructure for Rebuilding America (INFRA) grant program are examples of approaches to help fund crucial multimodal projects of national and regional significance that can bring significant improvements to the flow of freight throughout the country.

Together, these programs have directed billions of dollars to critical infrastructure projects all over the country. As an example, the 2016 TIGER award is helping to modernize the Port of Everett (Washington) South Terminal. The project includes strengthening more than 500 feet of dock, creating a modern berth capable of handling roll-on/roll-off and intermodal cargo, and upgrading high voltage power systems. The project will also construct rail sidings to increase on-site rail car storage. The entire freight network will benefit from the efficiencies achieved by this project and those like it.

Paying for Infrastructure. We can all agree that we need a robust infrastructure investment, but when it comes time to pay for it the conversation dies down pretty quickly. Without significant leadership on how to pay for this much needed investment, I'm concerned that all we will have is conversation.

Question 2. Why is it so important that we heed these calls for action now? What will happen if we continue to punt this conversation down the road?

Answer. According to the most recent Budget and Economic Outlook from the Congressional Budget Office, the Highway Trust Fund is projected to run a deficit of \$191 billion for the 10-year period beginning in 2020, when the FACT Act is due to expire. Already, Congress has had to transfer \$144 billion from the General Fund to keep the Highway Trust Fund solvent since 2008. The status quo of funding public infrastructure—one in which the users of the system are not covering their full costs—is not sustainable.

The movement away from the user-pays principle also puts the freight railroads at a distinct competitive disadvantage because they own, build, maintain, and pay for their infrastructure themselves—spending \$1 billion every other week to maintain their infrastructure.

Each day that passes without action, the problem becomes more difficult and expensive to fix. The freight railroads believe a long-term, two-part solution is required. First, the gas tax needs to be increased to bring revenues in line with expenditures. Second, freight railroads urge Congress to move to a vehicle miles traveled or weight-distance tax as soon as practicable. Addressing the solvency of the Highway Trust Fund and restoring the user-pays requirement should be among the Congress' top priorities, and the freight railroads stand ready to support you in these efforts.

Rail Safety. Rail safety continues to be a challenge. In December 2017, Amtrak Train 501 derailed in DuPont, Washington resulting in 3 fatalities and more than 60 injuries. In May 2016, a freight train hauling crude oil derailed and caught fire in the Columbia River Gorge.

Rail safety, including the need to fully implement positive train control, will continue to be a focus this Congress as we work on the next surface transportation reauthorization.

Question 3. What rail safety actions should Congress consider as we work on reauthorization?

Answer. Railroads are safe and constantly working to get even safer. The train accident rate in 2017 was down 40 percent from 2000; the employee injury rate in 2017 was down 43 percent from 2000; and the grade crossing collision rate in 2017 was down 38 percent from 2000. By all these measures, recent years have been the safest in history.

Of course, Positive Train Control (PTC) is an important technology to reduce accidents attributable to operator error. As noted in my testimony, Class I railroads had 83 percent of required PTC route-miles in operation at the end of 2018, well above the 50 percent required by statute, and each Class I railroad expects to be operating trains in PTC mode on all their PTC routes no later than 2020, as required by statute.

Railroads believe that technology is the key to future significant improvements in rail safety. The industry has been actively looking at technology to improve the detection of defects before accidents occur, whether the defects be in track or rolling stock.

Congress should work to ensure safety regulations provide an incentive to utilize technology that would improve safety, not a disincentive which is oftentimes the case today. One example is the use of continuous rail inspection, an area in which the freight railroads have made significant advances. Currently deployed extensively in Europe, China and Japan, continuous rail inspection makes it possible to use non-stop inspection vehicles to locate and repair potential rail defects much earlier than previous inspection methods. However, FRA regulations require that when such technology is used, potential defects must be verified within four hours. As a practical matter, this means the employees testing the track must stop and verify before the inspection vehicle can proceed—a tremendously inefficient use of expensive innovative technology. Stop and verify should be the rule only for significant defects. Although the FRA has granted waivers that allow certain railroads to deploy continuous rail testing, the uncertainty associated with temporary waivers is an impediment to long-term investment and innovation. AAR members believe regulations should allow for the use of such technology that results in equivalent or higher levels of safety and, in the case of continuous rail inspection, can detect internal rail defects more widely than today.

National Cyber Strategy. Modern infrastructure relies on interconnected broadband communication networks that optimize performance and efficiency. This applies to everything from intelligent transportation to smart grid, and smart cities systems.

It's not just new personal devices—all of our infrastructure is becoming digital infrastructure.

This increased connectivity comes with new threats—we have to get serious about cybersecurity in this country. This Administration's failure to implement a real, consistent and robust cyber strategy puts our national security and everything that uses our communication networks at risk.

Question 4. Do you agree that it is time for the Federal Government to craft and implement a comprehensive national cyber strategy? What are the risks to our national and economic security without such a strategy?

Answer. While the Federal Government and the private sector have worked to implement cybersecurity strategies in a number of key areas—from the National Cyber Strategy of the United States of America to the 2018 Department of Homeland Security 2018 Cybersecurity Strategy, as well as a strategy developed by the TSA's interagency and public-private Transportation Systems Sector Cybersecurity Working Group (TSS-CWG)—inconsistencies and omissions in implementation of the priorities defined in the respective strategies have resulted in missed opportunities to enhance their collective effectiveness. It is clear a comprehensive approach could provide real benefits to harden both the public and private sectors from cyber-attacks. Cyber threats pose a risk to both our national and economic security, which is why the railroads employ robust cybersecurity efforts, as described in detail below.

Question 5. What cyber security threats are you seeing to the infrastructure you rely on and what tools do you have to combat these cyber threats?

Answer. The types of illicit cyber activity railroads and industry organizations have encountered include phishing e-mails, attempts to commit fraud by impersonating corporate personnel, scans for information on corporate leadership, and occasional high volume or otherwise suspect activity from foreign Internet protocol (IP) addresses. The railroads typically report these incidents to government security and law enforcement agencies and industry partners.

Railroads and industry organizations work continuously to protect against cyber threats. Perhaps most notable, the industry established the Rail Information Security Committee (RISC) in 1999 as the focal point of the its unified, coordinated cybersecurity efforts. The RISC is comprised of railroads' chief information security officers and information assurance leads, and is augmented by AAR staff and representatives of other industry groups.

Also key to our cybersecurity efforts, the railroads work with public sector partners to share information on cyber threats and continually work to develop effective countermeasures. The industry's cyber threat intelligence priorities emphasize tactical analysis of successful cyber intrusions and blocked attempts that have targeted private sector and governmental entities. In addition, the railroads employ a host of other tools to combat cyber threats, including:

- Maintaining cybersecurity incident response plans that are tested regularly in drills and exercises;
- Conducting regular comprehensive vulnerability assessments, including “penetration testing” that simulates an attack from malicious outsiders;

- Directing an annual comprehensive industry-wide security exercise that integrates cyber and physical threats and incidents; and
- Employing effective systems, software, and other technologies to detect and quarantine cybersecurity threats.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
IAN JEFFRIES

Question. Mr. Jefferies, providing Customs and Border Patrol with additional funding and resources that aid in the inspection of goods being shipped from Mexico in a timely, efficient, and comprehensive manner is vital. How would increased investment in technology impact the railroad industry?

Answer. A train at rest is a train at risk. Implementing innovative technologies that allow for faster speeds through the border will reduce risk and increase much needed capacity. Currently, 100 percent of railcars that enter the United States at the southern border are examined using outdated Non-Intrusive Inspection (NII) technology that restricts train speed to 3–5 mph. This speed restriction creates risk for intrusion to the railcars before they enter the United States. Improved technology is available that would allow trains to move through the inspection point faster and yield clearer images for Customs and Border Protection (CBP) examination. New technologies like Common Viewer and Machine Learning Algorithms would allow the images to be adjudicated automatically and viewed from almost any location. These capabilities would improve the process for both the railroads and CBP and enhance trade.

Moving trains through the inspection points faster would add capacity to the rail network and mitigate potential risk. What might appear to be relatively small gains can result in significant increases in cargo throughput. Clearly, the railroads, CBP, and the U.S. economy would benefit from the addition of the enhanced technology.

The rail industry supports investment in additional technological capabilities for CBP.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JON TESTER TO
IAN JEFFRIES

Workforce Needs

Question 1. What are the workforce needs in the railroad industry over the next ten years—especially in rural areas?

Answer. Today, freight railroads employ approximately 165,000 employees, from high school graduates to those holding graduate degrees, with average wages and benefits totaling \$120,000.

The number and geographic location of rail industry workers over the next ten years will depend on many factors, including, of course, the state of the economy, since demand for rail service is largely a function of how well the economy is doing.

That said, America's freight railroads connect markets across the country and the world, operating on a network of nearly 140,000 miles in 49 states and the District of Columbia. A huge number of these miles are in rural areas. That won't change, so by necessity a large share of rail jobs will be focused in rural areas too.

The specific requirements for jobs in the rail industry vary by position, but in general they require an unwavering commitment to safety, an ability to work well in teams, a can-do attitude, and, frankly, a willingness to work hard. These qualities are not exclusive to rural America, but they certainly are abundant there, which is why railroads will continue to rely heavily on rural Americans for the workers they need to meet our Nation's transportation demand.

Question 2. What actions are being taken to provide training and/or job opportunities in the railroad industry aimed at hiring of veterans into positions where they could utilize their skills and develop professionally?

Answer. The freight railroads depend on veterans as a vital part of their workforce. In fact, nearly one in five railroaders are military veterans, and the railroads aim to hire many new employees with military backgrounds.

The skills developed and valued in the military—a sense of dedication, discipline, teamwork and adherence to safety—are the same skills that keep the backbone of the Nation's economy running efficiently. Veterans are particularly well-suited for railroad careers because of their experience working with machinery, focus on operational safety, adaptability to changing conditions and their other abundant, diverse skills.

Railroads, unlike many other private industries, understand the technical aspects and demands of an armed forces job. That is why they work directly with the military to help talented service men and women transition from military service to private sector railroad employment.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
MATTHEW M. POLKA

Question 1. Last Congress, I introduced the Gigabit Opportunity (GO) Act and I plan to reintroduce it this Congress. This legislation would seek expedited deployment of broadband services in low-income rural and urban communities. The GO Act gives states flexibility, streamlines existing regulations, and eliminates barriers to investment so we can connect our low-income and rural communities.

- In your testimony, you acknowledge the importance of maximizing our use of limited Federal funds. As an example, despite significant Federal and private investment, West Virginia remains 48th nationally in broadband accessibility. Encouraging broadband adoptability has been hamstrung by little competition between service providers, burdensome regulation on deployment, and unleveraged assets from Federal investments.
- Do you have suggestions on best practices for future Federal investment in this area?

Answer. ACA Connects views Federal Government investments expansively, including both direct investments and policies that drive investments, and we believe there are numerous actions by which the Federal Government can accelerate broadband deployments. First, the Federal Government can remove barriers to investment by private broadband providers. This includes facilitating access to poles/ducts/conduits and public and private rights-of-way. Because access to this infrastructure is so essential and often costly, actions that remove barriers to such access would drive increased investment and deployments. Second, the Federal Government can educate communities about steps that can be taken to obtain access to high performance broadband networks for their residences and commercial establishments, thereby encouraging investments. NTIA's Broadband Now program is an example of this type of educational outreach, which can be readily expanded. Third, the Federal Government can directly subsidize broadband deployments in unserved areas. The evolution of the FCC's Connect America Fund (CAF) programs show how the Federal Government can award subsidies efficiently to accelerate the deployment of high performance broadband networks. For example, in 2015, the CAF Phase II cost-model program relied on an FCC-developed cost model to award support to price cap carriers to deploy 25/3 Mbps service in their service territories. By contrast, several years later, the CAF Phase II used a reverse auction that awarded far less support per location to winning bidders than the cost-model predicted to provide much higher performance broadband service—often 100 Mbps or even 1 Gbps service. That is a win for unserved communities and for the Federal Government as it allows existing funds to be used more effectively. Because of this success, FCC Chairman Pai has announced the FCC will use similar reverse auction process to award support for the new Rural Digital Opportunities Fund. Finally, the FCC can partner with states that have programs that support deployments in unserved areas to drive much higher performance broadband service in those states. As an example of such a partnership, two years ago, the FCC leveraged its CAF Phase II funding by joining with New York and its State Broadband Program to provide much more robust broadband service to unserved consumers in the state.

Question 2. Congress has made several steps towards improving the deployment and accessibility of broadband to rural and tribal communities. For example, the AIRWAVES Act introduced in the last Congress by my Senate colleagues—Senator Gardner and Senator Hassan—included a “rural dividend” that would have dedicated 10 percent of any future spectrum auction funds to support the deployment of wireless infrastructure in unserved and underserved communities.

- How will rural set asides like this be used differently than Federal support already being distributed through programs like USF and RUS?

Answer. ACA Connects supports fully funding Federal efforts to bring high performance broadband service to unserved areas. Today, the FCC provides annually about \$4.5 billion through its high cost fund programs (Connect America Fund). These programs have helped carriers afford the significant capital expense involved in the deployment of broadband service to many millions of unserved locations, reducing the number of households without access to high-speed Internet access each

year. These programs also offset some operating costs in these areas. Over the past five years, the FCC, through its Connect America Fund programs, has found that the most efficient and effective way to award support is first to ensure that areas receiving support are truly unserved, so that private investment is not undermined, and second to use reverse auctions to award support. Additional support, such as a rural set aside, first should be awarded for both wireline and wireless services, since support for both is required to close the digital divide. Second, it would be most efficient to distribute any set aside funding through existing rules and mechanisms, which Congress and the FCC or RUS have refined and which are well-known to potential bidders.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
MATTHEW M. POLKA

Paying for Infrastructure. We can all agree that we need a robust infrastructure investment, but when it comes time to pay for it the conversation dies down pretty quickly. Without significant leadership on how to pay for this much needed investment, I'm concerned that all we will have is conversation.

Question 1. Why is it so important that we heed these calls for action now? What will happen if we continue to punt this conversation down the road?

Answer. The great news about our broadband infrastructure is that the private sector is continually responding to the demands of consumers for faster and more reliable services by investing tens of billions of dollars annually in their networks and is expected to do so for many years. The government can accelerate deployments by private providers by eliminating public and private barriers that raise the costs of broadband builds, which does not cost the government anything. By removing these barriers, broadband providers will extend their networks to many locations that are currently uneconomic to reach and, thus, remain unserved, saving the government from having to subsidize service to them. In addition, without spending additional funds, the government can reach more unserved areas by making existing broadband deployment programs more efficient, as the FCC has been doing with the Connect America programs. That said, there will still be some unserved locations in very remote areas that will not be served without the government providing additional support. It is important to serve these areas because without access to broadband, people in these areas are bound to be left behind, economically, socially, and politically, and we cannot let that happen. In sum, we have an obligation to make sure all Americans have access to broadband service and with focused policies we can make that happen within budgetary constraints.

Federal Broadband Investments. The Federal Communications Commission estimates that 32 million Americans lack access to robust broadband. That is completely unacceptable in a world where the Internet is a key driver of economic growth and innovation. Rural America is being shut out of the emerging opportunities for prosperity and growth created in our modern economy. We are contemplating investing a lot of money to solve the rural broadband problem, but we don't have good information about broadband and that's partly because the national broadband map hasn't been thoroughly updated in years. Last year GAO called out inaccurate data and mapping as key to why the FCC has been unable to help close the digital divide on Tribal lands. I don't see how we solve these problems with incomplete data. And that is why this Committee must explore ways to direct the government to collect adequate, verifiable data about those locations that currently lack service.

Question 2. Mr. Polka, do we have an accurate picture of how much money would be needed to get high speed broadband to all the unserved areas of America? How do you come up with your estimate?

Answer. It is important for Congress to have an accurate picture on the amount of money needed to get high speed broadband to all Americans. In deriving ACA Connects' estimates about the cost to bring current generation broadband service to unserved areas, we used a combination of public sources and work by a business consulting firm. The public sources are from the FCC and its Connect America Fund programs. Data from these programs give us reasonable numbers about unserved locations that have already been served and the number that are expected to be served. These programs also tell us the amount of support the FCC provides, and the FCC's Cost Model provides useful information about the cost to serve locations, although as we just learned from the Connect America Phase II auction, these costs are inflated. ACA Connects relied upon the deployment data available from Form

477, and we believe this information was sufficient to come up with a reasonable estimate.

Let me add some final points about broadband mapping. First, we need to identify the purpose for which we are collecting the data because that will help establish an efficient collection process. ACA Connects believes the main purpose for a collection is to more precisely determine unserved locations in large, rural census blocks and that by focusing just on this problem, we can expeditiously find which locations still require service. Second, the perfect should not be the enemy of the good. With millions of households without broadband today, we cannot afford to delay implementation of the Remote Areas Fund (RAF) and the next Connect America auction in price cap carrier areas because we lack knowledge of broadband availability on a location-by-location basis. There are immediate, incremental steps that can and should be made to improve the broadband map, and that information can be used to better target support to unserved areas. Third, because information about both locations and service areas is not static, we will not obtain truly accurate information unless we have some sort of challenge process.

And finally, I would add that there is often confusion between wireline and wireless services when there are discussions about providing service to everyone who needs it. ACA Connects believes that every household and business needs the kinds of high speed, reliable broadband that only wired services can provide. So as discussions are had about compiling useful data to determine served and unserved areas, we must keep in mind that there is not a one-size-fits-all solution.

Question 3. Without additional direct investment in broadband, do you believe we will be able to finally close the digital divide?

Answer. Because some remote locations are too costly for private sector providers to serve, we will continue to need government support in some form to reach them. That said, we urge Congress to consider innovative ways to provide this support. Certainly, using reverse auctions is a step in the right direction to ensuring each dollar is used as efficiently as possible. But, Congress should consider using auctions to award funding for one-time capital expenditures in robust wired networks to reach these unserved locations. After this support is awarded, there should be no or little need to provide additional funding. We also believe Congress should consider for “in-fill” unserved locations in price cap carrier areas, that is unserved locations that are within reasonable reach of current providers, providing vouchers for consumers to use to obtain broadband service from any provider.

Question 4. Would you be supportive of spending some infrastructure funds on maintaining an updated map?

Answer. Yes, we would support Congress appropriating new funding, including as a part of an infrastructure bill, to develop and maintain an accurate broadband map.

Question 5. Will you and your member companies commit to work with this Committee on broadband mapping reform efforts?

Answer. Yes, we commit to working with this Committee on broadband mapping reform efforts.

National Cyber Strategy. Modern infrastructure relies on interconnected broadband communication networks that optimize performance and efficiency. This applies to everything from intelligent transportation to smart grid, and smart cities systems.

It's not just new personal devices—all of our infrastructure is becoming digital infrastructure.

This increased connectivity comes with new threats—we have to get serious about cybersecurity in this country. This Administration's failure to implement a real, consistent and robust cyber strategy puts our national security and everything that uses our communication networks at risk.

Question 6. Do you agree that it is time for the Federal Government to craft and implement a comprehensive national cyber strategy? What are the risks to our national and economic security without such a strategy?

Answer. A comprehensive strategy that marries the efforts of federal, state, local, other public entities and the private sector is essential, especially when confronting nation-state level threats. No one company in ACA Connects has the ability to fight the ever-evolving set of threats without the benefits of that kind of cooperation (information sharing, best practices, etc.). The Congress and the Administration have offered numerous ideas about how to make that partnership a reality.

Many good ideas are common in various proposals that seek to secure Federal networks and information, secure critical infrastructure, and combat cybercrime and improve incident reporting. Many proposals specifically contemplate that the Fed-

eral Government will work with the private sector to manage risks to critical infrastructure, including communications networks, and maturing existing cybersecurity offerings and engagements to better manage those risks. We support that approach, and urge the Federal Government to build on initiatives that already exist rather than attempt to reinvent the wheel.

We would caution against adopting prescriptive cybersecurity mandates for the private sector. No mandates of any kind can reflect the realities of the risk-based nature of the networks, systems and data involved and the challenge that small, capital constrained, entities have to deal with such new costs. There is no such thing as a “one-size-fits-all” approach to cybersecurity, and the threats to the ecosystem grow and evolve far too quickly for mandates to prove effective. Private industry, and the communications sector in particular, must have the continued flexibility to adapt quickly to new threats. The government has an important role in promoting efforts to identify and mitigate risks, but should be wary of taking any actions that may interfere with private industry’s efforts to evolve in response to an ever-changing threat environment.

Question 7. What cyber security threats are you seeing to the infrastructure you rely on and what tools do you have to combat these cyber threats?

Answer. While ACA Connects is a member of several information sharing organizations, including DHS’s National Coordinating Center for Communications, we do not collect information about specific threats to our members, or their cybersecurity practices. Companies generally view that kind of granular information as sensitive and confidential. That said, there is publicly available information on broader industry trends, including the CSRIC report mentioned above.

Innovative Partnerships to Advance Broadband. In Washington we have a robust system of public utility districts and port districts—many of them have unused fiber capacity. We have seen some successful cases where public entities team-up with private companies and get service to unserved areas using extra fiber capacity. It saves money and gets communities connected faster than laying new fiber.

Question 8. Have you seen successful use cases in which existing infrastructure like dark fiber is leveraged to extend broadband coverage and if so what are the features of those projects?

Answer. We do not have information from our members that they are leveraging existing public entities’ unused or underutilized infrastructure to extend broadband coverage to reach unserved locations.

Question 9. What can we do to support the replication of these successful partnerships?

Answer. ACA Connects has long supported policies such as Dig Once where public conduit and rights of way are accessed more efficiently and would encourage implementation of similar opportunities in any new infrastructure package. Where we have good models about how providers leverage existing infrastructure to extend broadband coverage to reach unserved locations, we suggest having NTIA incorporate them into its Broadband USA program.

Innovative Last-Mile Technologies. Technologies that connect cities and urban centers are not a one-size-fits-all solution to bringing broadband to every American in underserved regions. Approaches that work in urban environments often are cost prohibitive or impractical in sprawling rural areas. We need innovation to solve the current rural broadband divide.

Question 10. What novel technologies are in development or being deployed to solve the last-mile broadband problem?

Answer. ACA Connects’ members today are bringing sophisticated DOCSIS 3.0/3.1 and all-fiber technologies to rural areas. These technologies provide the highest performance broadband capabilities and help ensure that rural residents, businesses, and institutions have the same type of connectivity found in urban areas. ACA Connects believes we should endeavor to supply all Americans with these superior broadband technologies. In much more remote areas where it would be cost prohibitive to deploy all-wireline plant, some ACA Connects members are using a combination of fiber backbones with fixed wireless tails to deliver broadband service. While the performance for such networks are not as great as an all-wireline network, these members find it provides good service and can be an interim step before an all-wireline deployment is economically justified.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
MATTHEW M. POLKA

As co-chair of the Next Generation 9–1–1 Caucus, I recognize that our Nation’s 9–1–1 system is in urgent need of an upgrade—and that infrastructure is a key aspect of addressing public safety issues.

Question. Why should upgrading our Nation’s 9–1–1 systems be an infrastructure priority?

Answer. For decades, 9–1–1 has been the critical lifeline that Americans rely on to obtain help in times of emergency or distress. As technology continues to evolve and Americans migrate to more advanced communications infrastructure, it is essential that the Nation’s 9–1–1 system evolve with them, so that they can continue to get the help they need when they need it. Today, ACA Connects’ members and their industry peers are working in close partnership with the public sector to facilitate the transition to Next Generation 9–1–1 (NG 9–1–1), replacing the copper-line technologies of yesterday with the feature-rich, advanced Internet Protocol networks of today and tomorrow. ACA Connects has contributed to these efforts in part through its participation on the FCC’s Communications Security Reliability and Interoperability Council (CSRIC), a diverse, multi-stakeholder body that has developed recommendations and voluntary best practices aimed at promoting a smooth and swift NG 9–1–1 transition. Through cooperative efforts such as these, the communications industry, emergency authorities, and other stakeholders are working to deliver to the American people the next-generation 9–1–1 system they deserve.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
MATTHEW M. POLKA

Question. Your testimony spoke to the importance of “dig once” legislation. Can you outline specific ways that “dig once” principles can benefit rural buildout?

Answer. Deploying new fiber is expensive, and most of the cost involves construction, that is, digging to bury fiber or stringing fiber on poles. Therefore, if you can lower the cost of construction, you can “move the needle” to accelerate fiber deployments. “Dig once” policies are one way to lower the cost of construction because they enable multiple providers to share the cost. For example, in a rural area, if there is new road construction or if a gas or water provider is opening a trench, it would be more cost effective for a broadband provider to install fiber at the same time.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JON TESTER TO
MATTHEW M. POLKA

Needed Level of Infrastructure Investment

Question 1. How much money would it take to build out 5G and Cable? Can you break it down between private and public dollars (including an additional breakdown between Federal and state funds)?

Answer. ACA Connects members are in the process of upgrading their wireline networks to deliver DOCSIS 3.0/3.1 and all-fiber technologies to the rural areas they serve. They also are expanding their networks where economically justified. We estimate they are spending approximately \$1 billion dollars annually and that they will continue these expenditures at least over the next decade. Private investments by ACA Connects members and other providers will bring high performance broadband service to most rural areas, but many areas are too costly to serve with private investment alone. In these areas, public expenditures are required, and the FCC spends approximately \$4 billion annually on its Connect America programs, although this funding is both for capital and operating costs. The FCC also is providing billions of dollars annually for E-rate and Rural Telehealth support. As for the RUS, it provides support for capital investments through grants, loans, and loan guarantees. FY 2018 RUS appropriations provided \$5 million for broadband loans, \$30 million for Community Connect grants, about \$1 billion for loan subsidies for the Telecommunications Infrastructure program, and \$600 million for the new Reconnect pilot program. We do not know the amounts that states are spending to support broadband deployments in unserved areas. We also do not know the cost of 5G deployments.

Question 2. You mentioned your members are investing \$10 billion per year. At that rate, how long will it take to completely buildout rural areas?

Answer. ACA Connects’ members have invested approximately \$10 billion over the past decade in their broadband networks, and we estimate they are spending

about \$1 billion annually to upgrade and extend these networks. We further estimate they will continue this expenditures for the next decade.

Workforce Needs

Question 3. Do you have adequate workforce to continue broadband buildout? If we need workers, what types of training programs can be established in rural areas?

Answer. ACA Connects' members have not reported they are encountering any issues in getting enough workers to upgrade and expand their networks.

Question 4. What do you see for our Nation's veterans who have come home with a variety of skills that might be useful in deploying broadband and cable across the nation?

Answer. Given that cable and other broadband providers are making enormous investments in their networks and will continue to do so, we expect there will be substantial opportunities for veterans to be hired by broadband construction firms.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
CHRIS SPEAR

Question. Mr. Spear, as you know the booming economy has led to the lowest unemployment rate since 1969, which means that many industries, including yours, are looking to expand their workforce. As we move toward consideration of infrastructure issues this Congress, workforce development is sure to be a part of that conversation. Does ATA have any recommendations for policies which encourage hiring and connect people to well-paying jobs?

Answer. Thank you for this question, Senator. As you may be aware, according to a March 2018 report by the Council of Economic Advisers, truck drivers are among the top "infrastructure occupations" that will be needed and in increased demand with expanded investments in infrastructure.¹ However, the trucking industry is already facing a severe labor shortage that threatens to increase the cost of moving freight and reduce supply chain efficiencies. In 2017, for example, the industry was short 50,000 drivers, the highest level on record. If current trends hold, the shortage could grow to more than 174,000 by 2026. Over the next decade, the trucking industry will need to hire roughly 898,000 new drivers, or an average of nearly 90,000 per year.

In recognition of challenges like these, at last March's infrastructure hearing before this Committee, Labor Secretary Alex Acosta specifically advocated for workforce development reforms to be included in an infrastructure package. In particular, Secretary Acosta testified in support of occupational licensing reform. As you may be aware, reforming outdated occupational licensing requirements has been a bipartisan priority of the past three administrations, and there is broad bipartisan support for rolling back these unnecessary barriers that hold back so many Americans, which disproportionately affect African-Americans, Hispanics, military spouses and veterans, returning citizens, and the poor.

To help alleviate this problem in the trucking industry, ATA supports a number of occupational licensing reforms.

First, ATA supports lowering the minimum age requirement for interstate truck driving from 21 to 18—but only for qualified apprentices that satisfy the safety, training, and technology requirements spelled out in the DRIVE Safe Act (S. 3352 in the 115th Congress). Modern-day vehicle safety technologies have advanced by several orders of magnitude since the current minimum age requirement was promulgated decades ago before the advent of the internet. And research has shown that the technologies that would be required by the DRIVE Safe Act and endorsed by the NTSB—technologies such as active braking, collision avoidance, and event recorders—significantly improve safety performance. Meanwhile, 6.4 million Opportunity Youth in this country are neither employed nor in school, even as the Nation is short 50,000 truck drivers. An update to the minimum age requirement is well over-due.

Second, to better connect job-seekers to trucking careers that offer a median salary of \$54,585, health and retirement benefits, in addition to potentially thousands of dollars in signing bonuses, ATA supports efforts to require states to better serve the growing number of truck driver candidates who receive driver training *outside* their state of domicile. Currently, out-of-state trainees have to travel back and forth to their home state, every time they pass either the CDL knowledge test or skills test—just to obtain the basic occupational licenses necessary to launch their truck-

¹The Council of Economic Advisers, "The Economic Benefits and Impacts of Expanded Infrastructure Investment," March 2018, at 26.

ing career. This arrangement imposes unnecessary financial burdens on those who can least afford it and exposes them to skill degradation. This problem could be addressed by requiring states receiving Federal funds for infrastructure projects to allow such out-of-state trainees to (1) *complete all training*, (2) *take all necessary tests*, and (3) *obtain all necessary credentials in the state in which they are receiving training—without having to travel back to their home state*.

As the Council of Economic Advisers has noted:

Because [occupational] licenses are largely granted by states (rather than being nationally recognized), licensing inhibits the free flow of licensed workers across state boundaries to better match labor supply to labor demand. *Unless the geographic footprint and skill needs of expanded infrastructure investments match the geographic distribution of currently unemployed infrastructure workers, some reshuffling of workers across state lines may be needed.*²

In the trucking industry, the geographic distribution of currently unemployed truck driver candidates does not match the geographic footprint of Federal workforce development investments. Accordingly, individuals aspiring to become truck drivers are crossing state lines to obtain state-of-the-art training from motor carriers that have the support of Federal workforce dollars and have been hiring minorities, veterans, apprentices, and other underrepresented populations at industry-leading rates.

To better facilitate and scale this innovative model of workforce development, ATA supports efforts to require states of domicile to (1) accept the results of an applicant's CDL knowledge test administered in another state, and to (2) electronically transmit or deliver by mail the relevant credential—be it a CLP or a CDL—to the applicant without requiring him or her to physically come back to the state of domicile.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
CHRIS SPEAR

Question. Thanks to a recent approval of \$1.6 billion dollar road bond referendum by West Virginia voters, my state has already begun to move forward on numerous infrastructure projects. This has been a huge investment. Despite my state's relatively small population we have been able to step up.

For example, as part of the referendum our state is upgrading U.S. Route 52 (King Coal Highway) into a high-speed four-lane divided highway. This road links an intermodal facility in Prichard, West Virginia with I-64, and its expansion will facilitate the movement of freight and increase safety for truck drivers who currently have to navigate a two-lane road almost 15 miles.

- Have you seen other examples of states who have taken it upon themselves to improve their surface transportation systems?
- How can we continue to promote such initiatives as Congress continues to work towards a highway bill?

Answer. Over the past 5 years more than half the states increased their fuel taxes. In addition, during the 2018 election voters in 31 states approved 79 percent of 352 state and local ballot measures. These measures are expected to generate an estimated \$30 billion in one-time and recurring revenue for transportation infrastructure investments. While many states and their citizens have shown a willingness to invest in transportation, without additional Federal investment our highways will continue to fall into disrepair. On average, the federal-aid highway program covers about half of states' highway capital budgets. Despite increased revenue generation, West Virginia continues to rely heavily on Federal aid to maintain and improve its highways, with \$371 million in Federal funds supplementing the State Road Fund in FY2018. Furthermore, the state issued \$500 million in GARVEE bonds, which are backed by anticipated future federal-aid funds.

ATA hopes that more states will follow West Virginia's example by raising additional money for local investments. Generally speaking, the public will support these initiatives if they perceive that the money is likely to be used productively. Congress can assist in this regard by ensuring that Federal funds are used on the most cost-beneficial projects and by further streamlining the project approval process.

²*Id.* at 33 (emphasis added).

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
CHRIS SPEAR

Freight Investment. I have long been a champion of Federal funds for freight projects, which for the first time received dedicated funding in the FAST Act when I authored what became the INFRA program. Trade and the movement of goods is the backbone of our economy. In Washington state, we know this all too well as forty percent of our jobs are tied to trade.

Questions 1. Where do you see the main chokepoints that require multi-modal investments to keep freight moving? How can increased investments in the freight program better address these challenges?

Answer. The American Transportation Research Institute (ATRI) releases an annual report on the worst highway freight bottlenecks. These chokepoints cause a disproportionately high share of the \$75 billion congestion cost borne by the trucking industry, which moves 70 percent of the Nation's freight. As part of our \$340 billion renewed commitment to surface transportation infrastructure, funded by an indexed 20 cent per gallon increase in the fuel tax, ATA has proposed a \$5 billion set-aside of funding for highway bottlenecks. Furthermore, Congress should dedicate funds to highway intermodal connectors, which connect the National Highway System with seaports, airports, rail terminals, pipeline terminals and other intermodal facilities. A 2017 Federal Highway Administration report found that many of these crucial roadways are poorly maintained and highly congested.

President's Proposal. During his state of the union speech, President Trump continued his push for an infrastructure bill. This echoes his previous calls for a \$1 trillion infrastructure investment. However, instead of Federal investment, his plan relied heavily on public-private partnerships, which would likely lead to more tolling. To pay for it, his budget also proposed cuts to current infrastructure programs.

Question 2. What concerns do you have with the Administration's proposal to cut Federal funds for current infrastructure programs?

Answer. The President's recently released budget proposal calls for a \$1 trillion infrastructure investment, including \$200 billion in new revenue over the next decade. Thus far the White House has not released details about how the additional revenue should be invested or where the money is to come from. The budget proposal also calls on Congress to provide long-term funding for the Highway Trust Fund, but once more does not identify a funding source. The traditional user fee model that has served our Nation well since 1956 should continue, with a greater Federal commitment through an increase in the Federal fuel tax and more strategic investment of resources. While state and local governments should also do their part to increase transportation investment, this cannot supplant the Federal role in improving the safety and mobility of America's surface transportation system, a role that is explicitly delineated by the U.S. Constitution. Furthermore, public-private partnerships are viable only in very limited circumstances on facilities with significant traffic volumes. The vast majority of projects will not qualify for a P3.

Question 3. How would incentivizing tolling impact trucking companies?

Answer. Tolling is among the least efficient revenue generating mechanisms and should be avoided whenever possible. While the cost of collecting the fuel tax is less than one cent on the dollar, even the most advanced electronic tolling systems waste 10 percent to 12 percent of their revenue on capital and administrative costs. On some toll roads the cost of collection exceeds one-third of revenue. These costs are passed on to the trucking industry, and carriers are, in turn, forced to increase their freight rates in order to survive. This raises the cost of manufactured products, food, housing, and everything else that Americans purchase. It also makes U.S. businesses less competitive in global markets. Furthermore, tolls provide an incentive for vehicles, including trucks, to take alternate routes which are likely less safe and not as well constructed, increasing crash risk, maintenance costs, congestion and emissions.

Paying for Infrastructure. We can all agree that we need a robust infrastructure investment, but when it comes time to pay for it the conversation dies down pretty quickly. Without significant leadership on how to pay for this much needed investment, I'm concerned that all we will have is conversation.

Question 4. Your organization has spent a lot of time thinking about how to pay for infrastructure and meeting with members to find a path forward. Given your conversations, where have you found any consensus on paying for infrastructure?

Answer. There is near universal agreement among surface transportation stakeholder groups that increasing the fuel tax represents the best solution for surface transportation infrastructure funding for the foreseeable future. In addition to ATA,

groups that have endorsed a fuel tax increase include the U.S. Chamber of Commerce, National Association of Manufacturers, AAA, American Society of Civil Engineers, Associated General Contractors, and many more. Furthermore, voters have not penalized elected officials who have supported state fuel tax increases. Virtually all politicians who have voted for a fuel tax increase have been reelected. ATA believes that a bipartisan agreement among Members of Congress to increase the fuel tax, along with White House support, would produce a successful vote.

Question 5. Why is it so important that we heed these calls for action now? What will happen if we continue to punt this conversation down the road?

Answer. In the short term, the Highway Trust Fund is projected to collapse beginning in FY 2021. Should this happen, approximately 200,000 jobs will be eliminated and vital projects will be canceled nationwide. Over the long term, the failure to invest in surface transportation will drive up freight transportation costs, increasing the price of every product; U.S. businesses will be less competitive, leading to lost jobs and lower salaries; and congestion will worsen, and with it more emissions will pollute the air and accelerate climate change impacts. Most importantly, critical highway safety improvements will not be made, resulting in more deaths and injuries on our highways.

National Cyber Strategy. Modern infrastructure relies on interconnected broadband communication networks that optimize performance and efficiency. This applies to everything from intelligent transportation to smart grid, and smart cities systems.

It's not just new personal devices—all of our infrastructure is becoming digital infrastructure.

This increased connectivity comes with new threats—we have to get serious about cybersecurity in this country. This Administration's failure to implement a real, consistent and robust cyber strategy puts our national security and everything that uses our communication networks at risk.

Question 6. Do you agree that it is time for the Federal Government to craft and implement a comprehensive national cyber strategy? What are the risks to our national and economic security without such a strategy?

Answer. ATA supports industry specific standards and best practices for trucking cybersecurity issues and concerns. There are as many computers, communications, and code in a modern commercial vehicle as there are in the office buildings that increase business through order tracking, vehicle monitoring, and logistically maneuvering freight to those vehicles. ATA has been equally heavily involved with cybersecurity as with onboard electronic systems that communicate or automate safety technologies and views security best in industry vertical integration.

The Federal Government has addressed cybersecurity through the Department of Transportation National Highway Traffic Safety Administration's 2016 Cybersecurity Best Practices for Modern Vehicles and the Department of Commerce National Institute of Standards and Technology's 2018 version Cybersecurity Framework, to name a few. ATA has supported these guides, and continues to implement their recommended actions by way of ATA's many events and meetings. Additionally, ATA supports the Department of Homeland Security's recently established Cybersecurity and Infrastructure Security Agency in protecting critical infrastructure from physical and cyber threats. We also continue to work with stakeholder coalitions supporting the Cyber SAFETY Act.

Of these working strategies, and others that ATA would be glad to share with the committee, we feel that the ATA has been committed to working collaboratively with the Federal Government efforts to address cybersecurity risks, and will continue to do so.

Question 7. What cyber security threats are you seeing to the infrastructure you rely on and what tools do you have to combat these cyber threats?

Answer. In February 2018, ATA launched the Fleet CyWatch program for trucking cybersecurity, national security information sharing and cybercrime reporting. Through our Fleet CyWatch program, ATA is working with the Federal Bureau of Investigation, the Department of Homeland Security, and other regulating agencies to assist industry in reporting cybercrime. Since Fleet CyWatch has been active, there have been no reported threats on commercial vehicle equipment or infrastructure connected devices.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
CHRIS SPEAR

Question 1. Mr. Spear, to follow up to the question that I asked Mr. Willis, how does the lack of funding for infrastructure projects affect our workers—particularly long-haul truckers that are in such short supply?

Answer. The trucking industry was short 50,000 drivers at the end of 2017, and—due to its aging workforce (average age of 49, which is 7 years older than the average American worker)—needs to hire 890,000 new workers over the next decade to keep up with demand. According to a report by the American Transportation Research Institute, in 2016 truck drivers sat in traffic for 1.2 billion hours, equivalent to more than 425,000 drivers sitting idle for a year. Without congestion there would be no truck driver shortage. If Congress continues to fail to provide the resources necessary to address our traffic challenges, congestion, along with the driver shortage, will continue to worsen. This will increase the cost of freight transportation, along with the price of every product Americans buy.

Question 2. Mr. Spear, Intel Corporation is a leader of the Internet of Things in my home state of New Mexico. It estimates the U.S. freight transportation industry alone could save \$168 billion dollars per year in fuel reduction by implementing I-O-T solutions in the industry. How can new freight tracking technology help us create a more efficient supply chain? What efficiencies do you expect to gain through new Internet of Things solutions?

Answer. Freight tracking technology has been developing a new generation of services for some time. This type of IoT solution for the trucking industry allows visibility to the supply chain via real-time cargo tracking and monitoring. New freight tracking technology increases visibility, for example, locational scanning (tracking freight between locations with the knowledge of arrival and delay times), driver tracking (apps or devices tied to an ELD for HOS, GPS and GIS updates), and transportation management systems (shipment pattern analyses, connecting and integrating loads simultaneously).

Advancing IoT solutions is very important to the trucking industry as it further develops safety technologies, such as vehicle-to-everything (V2X) connectivity for surface transportation safety communications. Developed V2X has been shown to greatly reduce automobile accidents with trucks. In addition, IoT currently has a large impact on fleet management software systems that manage, organize, and coordinate vehicles from a central data platform. IoT has allowed motor carriers manage their fleet operations more smoothly, thereby reducing costs, improving performance, and ensuring compliance with government regulations.

