

**KEEPING GOODS MOVING:
CONTINUING TO ENHANCE MULTIMODAL
FREIGHT POLICY AND INFRASTRUCTURE**

HEARING

BEFORE THE

SUBCOMMITTEE ON SURFACE TRANSPORTATION
AND MERCHANT MARINE INFRASTRUCTURE,
SAFETY AND SECURITY

OF THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

APRIL 4, 2017

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ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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CONTENTS

	Page
Hearing held on April 4, 2017	1
Statement of Senator Fischer	1
Statement of Senator Booker	3
Prepared statement	3
Statement of Senator Hassan	43
Statement of Senator Wicker	45
Statement of Senator Inhofe	47
Statement of Senator Duckworth	49
Statement of Senator Udall	51
Statement of Senator Blunt	53
Statement of Senator Blumenthal	55
Statement of Senator Cantwell	59

WITNESSES

Derek J. Leathers, President and Chief Executive Officer, Werner Enterprises	4
Prepared statement	6
Lance M. Fritz, Chairman, President, and Chief Executive Officer, Union Pacific Corporation	15
Prepared statement	16
Michael L. Ducker, President and Chief Executive Officer, FedEx Freight Corporation	30
Prepared statement	32
James Pelliccio, President and Chief Executive Officer, Port Newark Container Terminal; President, Atlantic Division, Ports America; and Member, Coalition for America's Gateways and Trade Corridors	35
Prepared statement	38

APPENDIX

Response to written questions submitted to Derek J. Leathers by:	
Hon. Amy Klobuchar	63
Hon. Richard Blumenthal	64
Response to written question submitted to Michael L. Ducker by:	
Hon. Todd Young	65
Hon. Amy Klobuchar	66

**KEEPING GOODS MOVING:
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TUESDAY, APRIL 4, 2017

U.S. SENATE,
SUBCOMMITTEE ON SURFACE TRANSPORTATION AND
MERCHANT MARINE INFRASTRUCTURE, SAFETY AND SECURITY,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:30 p.m. in room SR-253, Russell Senate Office Building, Hon. Deb Fischer, Chairman of the Subcommittee, presiding.

Present: Senators Fischer [presiding], Booker, Wicker, Cantwell, Blunt, Klobuchar, Blumenthal, Udall, Inhofe, Duckworth, Capito, Hassan, Young, and Gardner.

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

The CHAIRMAN. Good afternoon. The hearing will come to order. I thank you all for being here today for our third hearing of the 115th Congress. Today's hearing is titled, "Keeping Goods Moving: Continuing to Enhance Multimodal Freight Policy and Infrastructure."

I am pleased to bring together a panel of leaders who work each and every day to strengthen America's transportation system. I am particularly proud that we have representation from two of our Nation's largest transportation companies: Werner trucking and Union Pacific railroad. Both happen to be headquartered in Omaha, Nebraska.

Today's topic is freight policy. This is an issue that's important to every state, including urban and rural communities, and advances a wide array of transportation projects across the country.

Enhancing the flow of commercial freight across our country grows our economy, reduces costs for families and businesses, and, most importantly, increases safety for all Americans.

Everyone here today knows that the White House and Congress have been discussing a major infrastructure package. In fact, recent news reports suggest the Administration is considering a legislative strategy to pair tax reform and infrastructure together. Combining these objectives makes sense, and I support using a portion of tax reform revenues to fund our infrastructure investments.

Infrastructure is a core duty of the Federal Government. These are investments, and investments in infrastructure strengthen our

economy, public safety, and national security. But as we think about an infrastructure package, we should avoid falling into the trap of a stimulus style spending just for its own sake. States know best their own transportation needs, not the Federal Government. And there is no need to create a new program that works for various transportation projects in urban and rural states. We already have one.

In 2015, Congress passed the Fixing America's Surface Transportation, or the FAST Act, and President Obama signed it into law. The FAST Act was the first long-term highway bill in more than a decade. In it, Congress established a formula freight program that provides every state with annual, guaranteed funding.

Because of the freight program, states will have greater flexibility to work with key stakeholders and local officials to develop long-term strategic investments in transportation. The program funnels transportation funds to states, and allows them to decide on their terms how to use it. The only stipulation: projects must somehow be connected to enhancing freight transportation movements. Railway-highway grade separations, truck-only lanes, and highway or bridge projects are examples of possible uses.

By dedicating funding for rural and urban freight corridors, the program enhances the flow of commercial traffic and increases safety on our Nation's roads for all travelers.

The true beauty of this program is it offers states the opportunity to make critical investments that best meet their specific geographic and infrastructure needs. For example, Nebraska can elect to invest in a rail-grade crossing, or a truck parking lot along a rural road. At the same time, California could choose to invest in on-dock rail projects at our Nation's largest port complex, located just outside of Los Angeles. The national freight program works for all states without leaving any behind.

The national freight policy also has robust bipartisan support. For example, I know my colleague and friend, Senator Cantwell, has been a strong proponent and advocate of the freight program.

As Congress and the Trump administration work to address our Nation's infrastructure needs with revenue from tax reform, expanding the national freight program should be an idea that is on the table. I believe it would be a wise investment in America's future.

Along with investing in infrastructure, Congress must keep in mind how unintended regulatory consequences can impact our freight network, whether it's a delay to a critical highway project or a new requirement that negatively alters the supply chain, burdensome regulations can hinder progress.

States need certainty, they need predictability, when initiating key transportation projects. Transportation stakeholders in the private sector are constantly innovating to enhance efficiencies along the supply chain using real-time data and novel technologies.

There's a real opportunity to work together and facilitate greater innovation across our nation's transportation network. I look forward to today's discussion and how we can bolster our Nation's freight infrastructure.

And I now turn to my colleague and Ranking Member, Senator Cory Booker, for his opening remarks.

**STATEMENT OF HON. CORY BOOKER,
U.S. SENATOR FROM NEW JERSEY**

Senator BOOKER. Madam Chairwoman, even though my colleagues relish in hearing me speak, especially Senator Inhofe, who likes my comments, I'm going to actually just submit my comments for the record.

I just do want to say, in the hallway, I met Larry Liberatore. I just want to point him out. He is one of the many residents of our country that come here because of grief that drives them, and I can see the grief still in his eyes as they weld up, him telling me about his son. It has been 20 years since Nick's death on our highways. He was actually going to New Jersey, going to Great Adventure, from where he lived in Maryland.

Public safety is something I'm going to still continue at just about every hearing to talk about—40,000 motor vehicle deaths last year alone. It's a number that's actually increasing. We are a great nation. We can do better than this, and we cannot accept this level of carnage. So I just want to thank Larry for coming here.

I'll submit the rest of my testimony to the record. And I can pass this down to Senator Inhofe if you would like to read it now.

Senator INHOFE. Sure.

Senator BOOKER. OK.

[Laughter.]

[The prepared statement of Senator Booker follows:]

PREPARED STATEMENT OF HON. CORY BOOKER, U.S. SENATOR FROM NEW JERSEY

Thank you, Chairman Fischer for holding this hearing. Thank you to the witnesses for being here today.

Our country's economic competitiveness depends on the movement of freight. Ports, rails, and roads all work together to move goods in and out of the country. This is critical in New Jersey, which is home to the Port of New York and New Jersey—the largest port on the East Coast of North America, and the third-largest in our Nation. And home to Port Newark Container Terminal, which is critical to moving goods through our region.

In 2014, the Port of New York-New Jersey handled nearly 5.8 million twenty foot equivalent containers, which carried over 42 million tons of bulk cargo. The port supports more than 300,000 jobs representing more than \$21 billion in annual wages and \$7 billion in tax revenues. It's a critical part of our economy.

The same is true for the railroads, trucks, and waterways that move the goods from the port to their final destinations. Each of these transportation systems is critical to our Nation's economy. That's why I have been a strong supporter of investing in our freight system.

But we have sadly not done enough. While our freight network is the true economic engine of our country, the Federal Government is woefully underinvesting in our infrastructure. The American Society of Civil Engineers (ASCE) released their 2017 report card and again the United States received a grade of D+. Our infrastructure investments are at a 22-year low. Europe spends 5 percent of its economy on infrastructure. China spends 9 percent while the United States spends less than 3 percent. For the United States to get a B grade overall, ASCE projects we need over four trillion dollars in investment over the next eight years.

In 2014, the cost of Americans stuck in traffic alone was a staggering 160 billion dollars. On the other hand, every dollar invested in our national infrastructure, increases economic output by at least 2 dollars. We must drive investment toward key corridors that have a major impact on the national economy.

FASTLANE and TIGER are critical parts of that effort. These grants allow ports to increase efficiency, help businesses move goods quicker, and reduce air pollution. It is critical that we increase funding for these popular programs that have received strong interest from our communities.

Beyond investing in our infrastructure, it's also critical that we improve safety. Whether that's on our rails or roads, safety continues to be a serious problem. Ac-

According to the National Safety Council, preliminary 2016 data estimates that as many as 40,000 people died in motor vehicle crashes last year. That marks a 6 percent increase over 2015, and a 14 percent increase over 2014—the most dramatic two-year escalation since 1964. This trend is heading in the wrong direction. We must do more to prevent these tragic crashes from happening. These are not just statistics. Each crash is a devastating tragedy for a family.

I want to recognize Larry Liberatore who is here today. This year marks the 20th anniversary of the tragic accident involving a tired truck driver that took his son Nick's life on his way to Great Adventure in New Jersey. Thank you Larry for your two decades of advocacy including your current work serving on the board of Parents Against Tired Truckers. I am concerned by any efforts to undermine safety and am hoping to find areas where we can work in a bipartisan manner to improve safety.

The same is true on our railways, where we have seen accidents that have caused serious problems. Just yesterday, a New Jersey Transit train derailed in Penn Station. Luckily, according to reports, the derailment was relatively minor, but several individuals were injured and thousands more were severely delayed. This is the second derailment at New York Penn station in the last two weeks. This is an important reminder that we must invest in safety as well.

I look forward to hearing from the panelists about how we can work together to improve our Nation's economy and increase public safety.

Thank you.

The CHAIRMAN. Thank you, Senator Booker. Maybe light reading for tonight, Senator Inhofe.

With that, I would like to start with our panel discussion. And our first witness today is Derek Leathers, who is President and Chief Executive Officer of Werner Enterprises. Werner is one of the largest truckload motor carriers in the United States, and as I said, it is headquartered in Omaha.

Mr. Leathers has 25 years of experience in the transportation and logistics industry, having started his career as a dispatcher. His transportation experience has included roles covering multiple facets of the industry, including operations, safety, driver training, and intermodal.

Welcome, Mr. Leathers.

**STATEMENT OF DEREK J. LEATHERS, PRESIDENT
AND CHIEF EXECUTIVE OFFICER, WERNER ENTERPRISES**

Mr. LEATHERS. Thank you. Chairman Fischer, Ranking Member Booker, and members of the Subcommittee, thank you for the opportunity to testify on enhancing multimodal freight policy and infrastructure.

My name is Derek Leathers. I am President and Chief Executive Officer of Werner Enterprises, proudly headquartered in Omaha, Nebraska. Werner is among the five largest truckload carriers in the United States, with 7,200 and 12,000 combined professional drivers and associates worldwide.

I commend the Congress for recognizing the importance of the safe and efficient movement of freight in our nation's economy. Congress and the Administration can utilize Werner as a resource on helping improve the freight system. It is essential the Federal Government supports a safe, uncongested, and reliable highway system as a fundamental element of an integrated global supply chain. Our nation's vast network is critical to this effort, especially roads.

Trucks move more than \$10 trillion worth of freight each year, comprising more than 70 percent of the U.S. freight tonnage. Trucks and our professional drivers are tasked with the increas-

ingly more complicated task of being the connectors between rails, ports, cities, and rural communities each day. Truck tonnage is projected to increase 28 percent from 2015 to 2027.

To meet freight capacity challenges, it will take combined forces of multimodal coordination, strategic highway investments, and regulatory environment that allows for improved efficiencies to be successful. Congress should concentrate investment in major freight bottlenecks and congestion that hamper the efficient movement of both freight and passenger travel.

The additional freight demand combined with increased congestion, insufficient parking, and a patchwork of state regulations only add needless stress to our driver workforce and distract from the focus on safely and efficiently delivering our Nation's goods.

It is essential we provide safe and structurally sound roads and bridges for our professional drivers, and the motoring public. Congress should explore all viable options that benefit goods movement on the Nation's highways. And we support a variety of revenue sources to avoid overreliance on just one single option.

We commend Senator Fischer's leadership in introducing the Build USA Infrastructure Act. The trucking industry supports higher user fees to provide better roads if the revenues are dedicated to projects and programs that benefit goods movement on the Nation's highways. Increasing and indexing the Federal fuel tax is the most efficient revenue source, with no additional collection costs. It has the largest transport segment of the freight market. We believe surface transportation should receive a strong portion of this investment.

In order to move the Nation's freight, we also need to continue to invest in a strong workforce. Drivers keep America moving and our company moving forward every day, yet we and other trucking companies continue to struggle to find qualified, professional drivers, as the industry faces a significant driver shortage. These men and women are the backbone of our economy, delivering our Nation's freight each and every day.

Over the next 10 years, the trucking industry will need 890,000 more drivers to keep pace with expected growth. Simply put, the trucking industry is hiring. An aging workforce and an inability to recruit younger drivers provides additional challenges to the industry.

The industry and Congress need to collaborate to find workable solutions that connect individuals to jobs while improving safety, matching the growing freight demand, and addressing the significant shortage of drivers today.

At Werner, we invest over \$50 million annually on direct safety, technology, and training. Werner believes training, technology, and safety are vital to empowering drivers with the tools and culture to drive safely.

We appreciate the Subcommittee's work in moving the truck safety agenda forward and the provisions included in the FAST Act. Addressing deficiencies and reforming the regulatory development process of FMCSA improves coordination between government and business. We appreciate Congress's efforts to prioritize critical rulemakings like hair testing guidelines, entry level driver training requirements, and electronic logging devices.

In the last 20 years, Werner drivers have driven over 17 billion miles using electronic logging devices in our trucks. This is done to make our roads safer for the motoring public. As new technologies are introduced, the trucking industry should have an active role in advancing market-driven automated vehicle technologies that improve the areas of safety, driver wellness, productivity, efficiency, and the environment.

We encourage the Congress to engage the industry as the development of policy and regulatory framework that will govern these new technologies. Collectively, Werner drivers travel over 3 million miles a day. In order to guarantee that we deliver on the demands of the American economy, we must ensure a fair and uniform application of interstate commerce rules. We continue to see an increase in patchwork regulations, hampering our ability to efficiently and reliably move goods across our country while increasingly burdening the life of the driver.

Thank you again for the opportunity to share the industry's perspective. It is essential we continue to jointly address the challenges of the infrastructure investment, the driver shortage, and the development of safety technologies to enhance freight movement and the lives of our professional drivers.

We look forward to working with the Subcommittee to provide the necessary tools to modernize America's transportation network.

Thank you.

[The prepared statement of Mr. Leathers follows:]

PREPARED STATEMENT OF DEREK J. LEATHERS, PRESIDENT
AND CHIEF EXECUTIVE OFFICER, WERNER ENTERPRISES

Introduction

Chairman Fischer, Ranking Member Booker, and members of the Subcommittee, thank you for the opportunity to testify today about continuing to enhance multimodal freight policy and infrastructure. My name is Derek J. Leathers and I am the President and Chief Executive Officer of Werner Enterprises, headquartered in Omaha, Nebraska.

Since 1956, Werner has grown from a one-truck operation to be among the five largest truckload carriers in the United States with more than 7,200 trucks and 12,000 combined professional drivers and associates worldwide. Werner's transportation and logistics portfolio includes freight management, truck brokerage, freight forwarding, intermodal, and international services throughout the world.

I commend the Subcommittee for recognizing the importance freight plays in our Nation's economy. A safe, efficient system of highways connecting America's cities, towns, and rural areas is essential to our country's economic well-being, national security, and overall quality of life. It is essential that the Federal Government craft policy that promotes the safe, clean and efficient movement of goods, and Werner stands ready to act as a resource to our congressional and agency partners on this front.

Background

A safe, uncongested, and reliable highway system is the key to a fluid global supply chain, which is a fundamental element of our growing and prosperous economy. Each day thousands of trailers and containers, carrying everything from food, fuel, raw materials, and finished products flow through our ports, across our borders, and on our highways, railroads, air, and waterway networks. The highway system connects these modes to manufacturing centers, assembly plants, warehouses, retail outlets, and homes. Our nation's vast freight network is critical to this effort, especially roads. Trucks move \$10.1 trillion worth of freight each year, which makes up

more than 70 percent of U.S. freight tonnage. Combined, this freight represents 56 percent of the U.S. economy,¹ and 81 percent of domestic freight revenue.²

This dynamic system of a complex goods movement network is made possible by the work of millions of Americans, utilizing trucks, trains, ships, barges, planes, and logistics operations. In fact, we all owe a debt of gratitude to the men and women who are professional truck drivers, who do a fantastic job, who do that job conscientiously and safely, and who are all too often taken for granted. Simply put, the work of the trucking industry and other aspects of the freight industry, make our way of life possible by providing consumer choices for a broad array of products in stores and online. Trucking employs millions of Americans, plus creates new and expanding markets for U.S. businesses. In order to ensure we deliver on the demands of the American economy, we must ensure a fair and uniform application of interstate commerce rules. In recent years, we have seen an increase in patchwork regulations hampering our ability to efficiently and reliably move goods across our country. We encourage Congress to take steps to eliminate this patchwork of regulations and preserve the efficient system on which the United States was built.

Congress plays an important role in protecting interstate commerce, and most recently, supported the industry by including critical reforms and safety provisions in the Fixing America's Surface Transportation (FAST) Act. Policymakers can continue to do this by supporting nationally uniform Federal rules and regulations that promote the safe, efficient, and competitive movement of freight throughout the country rather than a state-by-state patchwork that undermines these goals. As Congress looks to new opportunities to support the trucking industry, I offer the following proposals for the Subcommittee's consideration:

1. Invest in our Nation's highway infrastructure.
2. Develop the trucking workforce by addressing the driver shortage.
3. Support efforts to improve highway safety.
4. Support efforts to advance automated vehicle technologies.
5. Support tax reform.
6. Support the movement of multimodal freight.
7. Support trade.

Need For Increased Infrastructure Investment

Our highways, bridges, and roads are the lifeblood of the trucking industry. Unfortunately, the current infrastructure system increasingly feels the strain of long-term underinvestment at all levels of government. Nearly one-third of major urban roadways are in substandard condition, and the average motorist in the United States is losing \$523 annually—\$112 billion nationally—in additional vehicle operating costs as a result of driving on roads that are in need of repair.³

As our highway system ages, many bridges, including those on the Interstate System, are beginning to deteriorate to the point where they need major repairs or replacement. For example, nearly 7,000 bridges in New Jersey—35 percent of the total—are structurally deficient or functionally obsolete. Approximately 4,000 state and local bridges in Mississippi are in need of repair or replacement. Without a significant increase in Federal funding, states will find it very difficult to undertake these projects. This is particularly concerning for the trucking industry. Sixty-seven thousand bridges are closed or posted.⁴ Poor bridge conditions force trucks to seek alternative routes because they cannot cross a bridge on the most direct route. This increases the cost of freight transportation, which impacts businesses and consumers. Re-routing traffic creates additional safety concerns due to increased mileage and additional congestion as traffic is concentrated on fewer routes. Moreover, the additional mileage and congestion unnecessarily add frustration for our country's professional truck drivers, who already sacrifice so much to safely keep America moving.

Traffic congestion is further increased by underinvestment and creates additional costs to the country. Congestion on the Interstate System alone cost the trucking industry nearly \$50 billion in 2014 and wasted more than 728 million hours.⁵ This was equivalent to 265,000 drivers sitting idle for a full working year. It is important to note that 88 percent of National Highway System congestion occurred on only 18

¹ U.S. Census Bureau, *2012 Commodity Flow Survey*, Dec. 9, 2014

² Global Insight, *U.S. Freight Transportation Forecast to . . . 2027*, 2016

³ TRIP, *Bumpy Roads Ahead: America's Roughest Rides and Strategies to make our Roads Smoother*, Nov. 2016.

⁴ FHWA National Bridge Inventory.

⁵ ATRI, *Cost of Congestion to the Trucking Industry*, April 2016.

percent of the network. Therefore, we should focus our attention on addressing the bottlenecks.

Unfortunately, very little is being done to address these problems. The latest report card from the American Society of Civil Engineers (ASCE) found that the United States is projected to spend \$941 billion on surface transportation infrastructure over the next decade, which is less than half of what is needed to address maintenance and capacity investment requirements.⁶ ASCE estimates by 2025 this funding gap will result in gross domestic product losses of nearly \$1.2 trillion, more than a million lost jobs and \$2.2 trillion in lost business sales. While funding must continue to come from federal, state and local governments, approximately half of the capital investment in the highway system is provided by the federal-aid highway program. Without a significant infusion of additional Federal revenue, the safety and efficiency of our surface transportation system will continue to deteriorate.

The Administration's renewed focus on improving the Nation's infrastructure systems presents an exciting opportunity to make an investment in our country's economic future, prevent thousands of needless accidents and injuries, and improve human health through a reduction in emissions. Congress should explore all viable options to significantly invest resources into our highway system. As the largest transport segment of the freight market, we believe surface transportation should receive a strong portion of this investment. Congress' first priority should be to ensure the solvency of the Highway Trust Fund (HTF), which is projected to have insufficient revenue to cover likely authorized spending levels beginning in Fiscal Year 2020.

Highway User Fees

Federal investment in the highway system is essential, and while state and local governments, as well as the private sector, must assume a degree of fiscal responsibility for its upkeep, the Federal role is both indispensable and a responsibility that is delineated by the Constitution. We support Federal investment in highways through, primarily, user fees on the beneficiaries of the system. The sources of revenue should:

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

Werner believes fuel taxes meet all of these criteria and we support an increase in, and indexing of, the Federal fuel tax. The fuel tax is the most efficient revenue source, and increasing it will produce no additional collection costs and minimal evasion. Indexing can limit the negative revenue impacts of inflation and improved vehicle fuel efficiency.

The trucking industry will consider support for any funding proposals that are likely to induce investment in highway infrastructure, and we support a broad mix of revenue sources in order to avoid over-reliance on a single option.

Werner strongly opposes tolls on existing lanes of the Interstate System. Tolls cause diversion of traffic to alternative routes that were not built to handle the additional traffic, and this diversion poses a threat to safety. Compared with fuel taxes and other user fees in common use, a significant share of toll revenue is diverted from infrastructure investment and is wasted on administrative costs. While just one to two percent of fuel tax revenue goes toward collection costs, for example, even on toll roads using the most advanced systems, approximately 12 percent of revenue is spent on collection, enforcement and capital expenses. This is highly inefficient and a waste of taxpayer money. We urge Congress to oppose and eliminate provisions that provide tolling authority for existing Interstate Highways, including the existing pilot programs, and to refrain from authorizing additional tolling flexibility.

Finally, we have concerns about mileage-based user fees, which would be inefficient and difficult to administer. While we recognize that in the future a replacement for the fuel tax as the primary source of revenue for highway funding will be necessary due to changes in vehicle technology that future is likely at least two decades away. Currently available options for implementing vehicle miles traveled (VMT) fees are limited. These options have extremely high collection costs and could experience a very high level of evasion.

The fuel tax is collected from a few hundred fuel supplier taxpayers, while the VMT fee would have to be collected from tens of millions of individual taxpayers. In 2015, there were nearly 264 million registered vehicles in the United States.

⁶American Society of Civil Engineers, *2013 Report Card for America's Infrastructure*, 2016.

Therefore, a bureaucracy would have to be established to deal with the same number of individual accounts. Compare this with the Internal Revenue Service (IRS), which processes approximately 150 million individual income tax returns each year. The physical and bureaucratic infrastructure necessary to effectively collect a VMT fee would have to be massive and the unproductive collection and administrative cost to both government and taxpayer would be enormous. Furthermore, because a VMT fee would have to rely on technology for monitoring and collection, significant enforcement challenges resulting from system tampering and equipment malfunction should be expected.⁷ The challenges facing fuel tax revenue over the next 20 years can be addressed by indexing the rate. Substituting an untested, highly inefficient revenue collection mechanism for an efficient revenue mechanism that is already in place would be illogical and irresponsible, and would receive significant resistance from the trucking industry and other highway users.

Strategic Highway Investment

Federal investment in infrastructure for the Interstate System, the larger National Highway System (NHS), and the National Highway Freight Network must be the top priorities. The NHS contains only 5 percent of the Nation's total route mileage, but carries 55 percent of all vehicle miles traveled and 93 percent of truck VMT. Federal resources should be focused primarily on these systems. In addition, Congress should concentrate investment in major freight bottlenecks. Significant steps were taken in the FAST Act toward ensuring that federal-aid dollars are invested wisely through the creation of the National Highway Freight Program and Nationally Significant Freight and Highway Projects program. In addition, Congress in recent years established requirements for national and state freight plans and performance measurement. These actions will significantly improve the ability of transportation agencies to better focus investment.

A future authorization bill, or infrastructure investment legislation such as the initiative supported by the Administration, should provide the sufficient, stable, long-term resources needed to fix the bottleneck projects that hamper the efficient movement of both freight and passenger travel. For example, the American Transportation Research Institute identified the top 100 freight bottlenecks in the country.⁸ These bottlenecks, which are located in 28 states and the District of Columbia, are an outsized source of freight transportation inefficiencies and should be a Federal priority. For example, the number one bottleneck is the I-85 at I-285 interchange in Atlanta. Fixing that bottleneck, and addressing other congestion problems on those two Interstates within the region could save nearly \$42 million each year in congestion costs and prevent over 600,000 hours of delay annually. However, congestion is not limited to large metropolitan areas. Congestion is added expense even in a mostly rural state like my own state of Nebraska, where the trucking industry absorbed over \$200 million in congestion costs in 2014. New Jersey has the second worst freight bottleneck in the country—I-95 at SR 4 in Fort Lee. Congestion in the Garden State cost the trucking industry nearly \$3 billion in 2014. The bottom line is that the top 25 bottlenecks alone cause the trucking industry 5.6 million hours of delay annually at a cost of \$382.5 million per year. Therefore, out of the \$9.5 billion in annual congestion costs to the trucking industry, 25 projects out of the thousands that are funded each year nationwide could reduce highway freight congestion costs by four percent.

Truck Parking

Research and feedback from carriers and drivers suggests 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. Investing in truck parking results in significant safety benefits. Insufficient truck parking can add needless stress to the daily lives of our driver workforce, and can take away from their focus on safely and efficiently delivering our Nation's goods. 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 efforts to address the truck parking shortage, including the creation of a new discretionary grant program with dedicated funding from the federal-aid highway program for truck parking capital projects.

⁷ Texas Department of Transportation. *Vehicle Mileage Fee Primer*, p. 16. Dec. 2009.

⁸ ATRI. *The Nation's Top 100 Bottlenecks 2017*.

Support Efforts to End the Driver Shortage

Werner and other motor carriers continue to struggle to find qualified, professional drivers. An ATA study found that 90 percent of for-hire truckload carriers reported difficulty in recruiting drivers capable of meeting Department of Transportation (DOT) driver qualification requirements. ATA estimates that in 2015 the industry experienced a shortage of 48,000 qualified drivers, and this figure could balloon to more than 175,000 by 2024.⁹ Over the next 10 years Werner anticipates it will need to hire well over 100,000 professional drivers to meet demand and grow the company. Furthermore, the trucking industry will need to hire 890,000 new drivers over the next decade.

Two factors stand out as primary contributors to the shortage: driver demographics and the Federal requirement that a Commercial Motor Vehicle (CMV) driver must be at least 21 years old to drive a truck across state lines. The median age of an over-the-road truck driver is 49 and at Werner, our driver median age is 42. Unfortunately, recruiting younger drivers is challenging. Often candidates have already settled on a career when they reach the minimum age to drive a truck across state lines. Without a steady pool of new drivers, motor carriers' growth will be restricted. The cost of employing a driver can increase as well, which impacts freight pricing.

To ensure a stable flow of highly trained, professional drivers in a time when the entire industry is facing a significant driver shortage, Werner acquired two truck driving training schools, the American Institute of Trucking in 2013 and Roadmaster Driver Schools in 2014. These investments help further Werner's long-standing commitment to securing the success and safety of the next generation of professional drivers. Werner and the schools have a vested interest in putting safe, professional drivers on the road. We believe incorporating the most modern strategies, techniques, and technologies through specialized training for commercial truck drivers is needed to improve overall safety on America's highways. It is equally important to have a legislative and regulatory environment that allows workforce development and job placement opportunities.

Werner has made additional efforts to invest and grow the workforce by partnering with the Department of Labor and the Department of Veterans Affairs in 2006 to start the industry's first Professional Truck Driver Apprenticeship program to further invest in the development and training of professional drivers. Civilian and veteran drivers under 24 months of experience can enroll into our program. Earlier this year, Werner was proud to hire its 25,000th military veteran driver. Our veteran hiring has increased significantly over the past few years, and veterans now comprise about 20 percent of Werner's driver workforce.

There are numerous ways to help alleviate the driver shortage, including: (1) decrease significant CDL skills testing delays and wait times; (2) provide additional Federal funds for driver training programs and removing barriers to students seeking Federal aid to attend truck driving schools; (3) direct the Department of Labor to establish truck driving as a national in-demand occupation, which would free up resources devoted to filling vacant truck driving jobs; (4) implement the Entry-Level Driver Training rule; and (5) require DOT to conduct a comprehensive study of efforts to streamline the licensing requirements between DOT and the Department of Defense.

The FAST Act took a step in the right direction by encouraging DOT to conduct a pilot program to study the safety of allowing younger drivers to operate in interstate commerce. However, this provision restricted participation in the pilot to military personnel under the age of 21 whose military occupation classification is driving a truck. This pilot should be expanded to allow civilian drivers under the age of 21 to participate, which will provide a significantly improved understanding of the benefits of allowing drivers between the ages of 18 to 21 to drive in interstate commerce. In addition, Federal law should be changed to establish graduated Commercial Driver's License standards to allow commercial motor vehicle drivers ages 18 to 20 to engage in both intrastate and interstate commerce in a safe, controlled manner.

Support Efforts to Improve Highway Safety

Safety is the trucking industry's top priority. Werner along with the approximately five hundred thousand carriers, vehicle manufacturers, and other suppliers who comprise the industry invest nearly \$10 billion in safety initiatives annually. These investments in safety have yielded impressive dividends for the industry and our company. At Werner alone we spend approximately \$53 million annually on

⁹American Trucking Associations, *Truck Driver Shortage Analysis 2015*.

safety, some of it to meet a myriad of regulatory requirements, but much of it on voluntary, progressive safety initiatives. This includes driver training, compliance initiatives (e.g., hair testing), and the adoption of emerging accident prevention technology such as forward collision warning and lane departure devices.

Over the past decade, the number of truck-related fatalities has decreased by 22 percent despite steady growth in the overall number of trucks and truck-miles traveled. Furthermore, we have improved the fatality- and injury crash-rates over this period. While the number of industry crashes and the crash rate increased in the most recent reporting period (2014–2015) it is too early to determine whether this indicates a trend.

Much of this improvement is due to progressive safety initiatives supported by Werner and our fellow industry members. It is the motor carrier's responsibility to put the professional driver in the best position to be as safe as possible. Technology, training, and placing safety as a company core value are vital to providing the driver with the tools and culture to drive safely.

We appreciate the Subcommittee's work in moving the truck safety agenda forward in provisions included in the FAST Act. Some of the critical improvements included:

- Addressing deficiencies with the Federal Motor Carrier Safety Administration's (FMCSA) Compliance, Safety, Accountability (CSA) Program.
- Reforming FMCSA's regulatory development process to ensure new regulations are based on sound science.
- Prioritizing the establishment of critical hair testing standards.
- A pilot program to test the safety of allowing military drivers between the ages of 18 and 21 to operate in interstate commerce.

Additionally, we are grateful that the FAST Act instructed FMCSA to expedite completion of several important rulemakings required under MAP-21, including:

- Creation of a national drug and alcohol clearinghouse.
- Mandatory adoption and use of electronic logging devices (ELDs).
- Establishing entry-level driver training requirements.

Furthermore, following passage of the FAST Act, Congress adopted a requirement that FMCSA demonstrate the effectiveness of the existing hours-of-service (HOS) restart rule or revert to the previous requirements. FMCSA recently found that it could not demonstrate the safety of the restart provision and reinstated the previous restart rule, eliminating concerns about putting a significant number of trucks on the road during peak congestion periods.

Congress can build upon these successes by supporting implementation of the following:

Hair Testing

As mentioned above, Congress mandated that hair testing be developed as an alternative to urinalysis for Federal drug testing requirements in the FAST Act. However, this mandate has not been completed. Federal law requires trucking companies to drug test new drivers and randomly test existing drivers using methods established by the Department of Health and Human Services' (HHS) Substance Abuse and Mental Health Services Administration (SAMHSA). Section 5402 of the FAST Act requires HHS "to issue scientific and technical guidelines for hair testing as a method of detecting the use of controlled substances for purpose of section 31306 of Title 49, United States Code" by December 4, 2016. Completion of this mandate will unlock tremendous safety benefits by providing employers a longer detection window, ease of collection, and make it more difficult for testers to adulterate than urinalysis.

SAMHSA has long expressed an interest in recognizing hair testing as a federally-accepted drug testing method, but the lack of action is having real impacts on the industry. Werner is using the urinalysis test to meet the Federal requirements while also paying the additional cost to conduct hair testing. In 2016, hair testing identified 664 prospective Werner driver hires that tested positive for a controlled substance. Only 48 of those same prospective drivers also tested positive for controlled substances on their urine drug screen. While we were able to prevent 616 controlled substance users from driving our trucks, the inability to share the results with other carriers leads to an undesirable situation where those disqualified drivers might gain employment elsewhere, while circumventing the return to work process.

We are concerned that HHS failed to meet the statutory deadline, and we encourage the Subcommittee to take appropriate steps to ensure that the agency meets

its statutory obligations. Doing so will pave the way for trucking companies to more fully utilize this pro-safety testing method and identify a greater number of safety-sensitive employees who violate Federal drug testing regulations.

Electronic Logging Devices (ELDs)

Werner is particularly thankful for the Subcommittee's efforts on ELDs to manage compliance for HOS and encourage oversight of its implementation. Werner is the recognized industry leader in ELD systems and was the first carrier to utilize electronic logs. In 1996 Werner proactively developed and implemented ELD software using GPS technology installed in our trucks. In 1998 we received approval from FMCSA to utilize this proprietary system to electronically manage and monitor our drivers' HOS, in accordance with Federal regulations. ELD regulations are now going into effect for virtually all trucking companies in December of this year. Werner drivers have already driven over 17 billion miles in the last 20 years with our ELD technology to make our roads, highways, and interstates safer for the motoring public.

Safety Technologies

Another area where Congress can support highway safety is incentivizing new vehicle safety technologies. Connected and automated vehicle technologies have the potential to dramatically impact nearly all aspects of the trucking industry. The potential of automation benefits to the trucking industry is significant. Research into the safety impacts of automated or assisted braking and steering will likely show significant improvements in mitigating crashes and injuries. As vehicles are able to communicate with one another and the surrounding infrastructure, safety is also expected to improve exponentially. We would like to look for opportunities to advance safety technologies through tax incentives or utilizing FMCSA's pilot program authority to review the safety performance of new technologies.

Support Efforts to Advance Automated Vehicle Technologies

Werner believes the trucking industry should have an active role in advancing market driven automated vehicle technologies that improve safety and reduce environmental impacts. These technologies can bring benefits in the areas of safety, the environment, productivity, efficiency, and enhance driver health and wellness. While the widespread adoption of highly automated trucks is years away, development of the policy and regulatory framework that will govern this technology is already underway.

A number of precursor systems like automatic emergency braking systems, automated manual transmissions, electronic stability control, lane departure warning and forward collision warning systems are working their way into the marketplace, both for commercial and passenger vehicles. Werner's new equipment in the fleet is Level 2 driving automation, which integrates systems on the truck, including safety technologies. These technologies will provide real-world proof that not only can more comprehensive automated vehicle packages work, but they provide a return on the investment carriers make in the form of improved safety and efficiency. Vehicle connectivity to other vehicles and to infrastructure will enhance the benefits of automation, supplementing vehicle sensors with additional information about road conditions ahead and other vehicles outside sensor range.

The DOT has taken the regulatory lead and issued the Federal Automated Vehicles Policy in September 2016. This Policy sets the framework for the safe and rapid deployment of automation technologies. However, the Policy was developed without the input of the trucking industry, including truck manufacturers. While DOT is expected to issue automated guidelines for trucks later this year, it is important for the trucking industry to continue to work with Congress and the appropriate regulatory agencies as policies are developed. One current issue at the forefront is preservation of spectrum for transportation. It is vitally important that the 5.9 GHz spectrum that has been reserved by the Federal Communications Commission exclusively for vehicle-to-vehicle and vehicle-to-infrastructure communications be preserved against encroachment from other uses such as Wi-Fi. If it is not, many of the important promises of automation will be lost.

Support Tax Reform

The current tax structure inhibits many trucking companies from investing in their drivers, equipment, safety technologies, and improvements in productivity. Since the trucking industry is responsible for moving a considerable amount of domestic freight, those tax burdens are passed along to consumers nationwide. Any tax reform package should encourage trucking companies to invest in new, safer, environmentally friendly equipment, critical safety technologies, their drivers, and promotion of the safe and efficient movement of our Nation's goods. Werner supports

comprehensive tax reform and urges Congress to consider key tax provisions by simplifying the Tax Code, reducing corporate income tax, protecting interstate carriers from a patchwork of discriminatory state taxation, and retaining safe harbor for independent-contractor relationships in trucking. These goals can be achieved through several policies, including:

- *Lowering the Income Tax Rate on all Business Income:* Many small carriers are organized for tax purposes as pass-throughs (that is, businesses whose profits are taxed directly to their owners). Tax reform should not result in the income of such businesses being taxed at a higher rate than that of traditional corporations.
- *Simplifying the Tax Code:* The U.S. tax code is unacceptably lengthy and complex. Therefore, simplifying the tax code should be a key priority of any reform effort.
- *Retaining Section 1031 of the Internal Revenue Code or allowing immediate expensing of capital equipment (tractor and trailer) purchases:* Section 1031 allows businesses to replace capital goods employed for business or investment with like-kind property without recognizing capital gains. This arrangement is critical to the trucking industry because it allows carriers to purchase newer and safer equipment and invest in critical facility improvements. Any limitation or repeal of this section would lead to slowing in U.S. economic growth, a decline in job creation, and less competition in the marketplace unless immediate expensing of capital equipment purchases replaced Section 1031.
- *Eliminate/Replace the Federal Excise Tax (FET) to Encourage Investment in Safe and Clean Technologies:* Werner has made significant investments in new equipment (primarily trucks and trailers) of nearly \$1 billion in the last 2 years. Werner prioritizes the deployment of cleaner and more fuel efficient trucks to be in compliance with the Environmental Protection Agency's Phase I and Phase II emissions standards. The tax code should encourage trucking companies to invest in the newest equipment with the most advanced safety technologies, best fuel efficiency, and most up-to-date emissions systems. Eliminating the FET and replacing it with a comparable increase in the diesel fuel tax would encourage new truck and trailer sales, while creating much-needed, well-paying jobs for truck manufacturers, dealers, and suppliers.

Multimodal Integration

Werner encourages cooperation across transportation modes. Rail, ocean, air, and trucking industries serve different markets, and although at times we are competitors, we work together to ensure efficient delivery of goods. The industry continues to head towards logistics integration as customers and consumers demand a more simplified, single-user experience. The industry is adapting by adjusting to a different supply chain mode and prioritizing efficiencies by pairing goods to the right mode.

All modes are likely to experience increases in demand. Truck tonnage is projected to increase 28 percent from 2015 to 2027. To meet freight capacity challenges, multimodal coordination, strategic investment in the highways that carry significant truck volumes, and a regulatory environment that allows for improved efficiencies must be a priority. Intermodal rail service volumes and truck traffic will continue to be virtually imperceptible. If rail volumes grow at twice the rate of projections over the next decade, the trucking industry's market share would dip by only 1 percent. While the vast majority of truck freight does not move as part of an intermodal delivery, intermodal freight is an important and growing part of the supply chain. It is also where significant bottlenecks occur.

Intermodal Connectors

The trucking industry encourages dedicated funding of last-mile intermodal connectors: those parts of the highway system that link ports, rail intermodal terminals, and airports with the National Highway System. Many of these links have been described as "orphan roads" because while they are critical segments of the freight transportation system, they are often overlooked by the state or local governments responsible for them because many of the benefits accrue far beyond their borders.

Intermodal Equipment Safety

A barrier to the efficient movement of intermodal freight has to do with the condition and safety of chassis. Legislation enacted by Congress in 2005 established a statutory framework requiring intermodal chassis providers to ensure that their equipment (which is integral to the movement of millions of international freight

containers transported in the intermodal sector each year) is in a safe “roadable” condition before it is used for transport.

Unfortunately, implementation of the law has been slow, and overall compliance with the program’s key legal mandates has not yet reached a level where the chassis that are moving on the highway system can be considered to be systematically maintained and repaired, and are in a roadable condition, as the law requires. The lack of roadable equipment slows down the movement of intermodal freight when equipment is taken out of service or drivers are forced to find new roadable equipment when they fail a pre-trip inspection.

Moreover, intermodal drivers are still being charged during roadside inspections with equipment violations on the chassis that we believe should instead be assigned to the equipment provider, who under law is now supposed to be the responsible party. As a result of these regulatory enforcement practices, intermodal motor carrier/driver CSA scores are negatively and unfairly inflated by chassis deficiencies. With rising scores, we are seeing drivers leave the intermodal transport side of the business in order to avoid having their scores elevated by chassis deficiencies. This is exacerbating the intermodal driver shortage problem.

This failure to achieve the law’s mandates is in large part due to FMCSA’s decision to not require the driver’s mandated pre-trip chassis inspection to be documented and thereafter to not aggressively audit equipment provider operations, nor fine or shut down operators who do not have effective systematic maintenance and repair programs in place. The only way to generate data on whether an equipment providing facility has an effective systematic maintenance and repair system, as required by law, is to document the roadable condition of chassis prior to interchange with drivers. That is, does the provider have a “ready line” of chassis available at its facility that meet the law’s safety requirements before the equipment is interchanged with the trucker? Since that “ready-roadable” status is not routinely being identified and required, we believe the agency does not have the requisite equipment provider system performance records needed to perform the required Roadability audits to actually measure and evaluate program performance. This lack of measurable progress has gone on for far too long. We urge the Subcommittee to review the chassis Roadability program, and work with FMCSA to ensure that the statutory changes Congress put in place in 2005 are being implemented effectively.

Support Trade¹⁰

Werner supports free trade, including the North American Free Trade Agreement (NAFTA) and the DOT’s cross-border trucking program. Trade and trucking are synonymous, and the increased movement of freight yields good paying jobs and growth in American companies. Since 1995, the United States has been in a trade bloc agreement with Mexico and Canada through NAFTA. Data shows that the U.S. trucking industry is a large beneficiary of NAFTA. Since 1995, the value of goods traveling via truck across both the northern and southern borders jumped 168 percent and totaled nearly \$712 billion in 2015. This increase in trade has created or supported tens of thousands of jobs in the United States. Total trade via truck has increased by 80 percent since the enactment of NAFTA. In 2015, truck transported exports to Canada, as measured by the value of the goods, was 56 percent of total truck transported trade with the country. U.S. truck transported exports to Mexico, as measured by the value of the goods, was 43 percent of total truck transported trade across the southern border.

Furthermore, the value of goods traded with Canada transported by truck equaled \$335 billion in 2015, 80 percent more than in 1995 when NAFTA was enacted. Today, trucks haul 70 percent of the value of goods moving across the Canadian border. Nearly 5.8 million truck trips were required to move these goods. In 2015, trucks moved \$377 billion in merchandise across the Mexican border which equates to 337 percent more than in 1995. Today trucks haul 83 percent of the value of goods moving across the southern border. In 2015, it required 5.5 million truck movements across the U.S.-Mexican border to haul those goods. Any change in restricting trade between Mexico and Canada could be detrimental to the trucking industry. Furthermore, we will oppose any restrictions on the ability of Mexican carriers to cross the border and access U.S. highways, as agreed to by both parties under NAFTA, unless compelling and statistically significant evidence can be produced that demonstrates the current system presents a safety hazard to U.S. motorists.

¹⁰All data from Bureau of Transportation Statistics *North American Transborder Freight Data*

Conclusion

Thank you for the opportunity to testify today. Werner and the trucking industry look forward to working with this Subcommittee to provide the necessary tools to modernize America's transportation network. Furthermore, we encourage the Subcommittee to invest in and promote a strong Federal highway program, including the provision of significant additional resources to address the challenges of moving freight on a poorly maintained and unreliable highway system. We look forward to collaborating with you to find solutions to alleviate the driver shortage. Finally, we encourage Subcommittee members to work with Senate colleagues to promote tax and trade policies that support freight transportation efficiency and economic growth.

The CHAIRMAN. Thank you, Mr. Leathers.

Also from my home state is Lance Fritz, President and Chief Operating Officer of Union Pacific railroad. UP celebrated its 150th anniversary in 2012. UP links 23 states in the western two-thirds of the country by rail, providing freight solutions and logistics expertise to the global supply chain. Mr. Fritz also serves as Chairman of the Board of Directors for the Association of American Railroads.

Welcome.

**STATEMENT OF LANCE M. FRITZ, CHAIRMAN,
PRESIDENT, AND CHIEF EXECUTIVE OFFICER,
UNION PACIFIC CORPORATION**

Mr. FRITZ. Thank you. Good morning, or good afternoon, Chairwoman Fischer, Ranking Member Booker, and members of the Subcommittee. Thank you for the opportunity to testify today about freight programs and how to improve the performance of the transportation network.

In just a few words, the best way to improve performance in the rail industry is to ensure we have policies that support investment, safety, service, and efficiency. These four things are foundational to one another. My written testimony goes into much more detail about how to achieve these goals, so in the limited time I have, I will be briefly touching on four key things that we believe will help us maintain and excel with the development of these core tenets.

Fundamental to the rail industry's ability to perform is the ability to invest in our network. For us to do this, we need an economic regulatory policy that recognizes we must have the opportunity to charge market-based rates and earn market-based returns to attract the private capital needed to make investments in our business.

Railroad capital investments are risky because they are long-term and expensive, and even if successful, they may not generate positive returns for years. In the interim, markets can change in the ways that reduce the investment's return. As physically—as publicly traded companies, we cannot justify the inherently risky investments required to grow our network and respond to ongoing transportation market changes unless the potential upside gain from those investments are high enough to offset the potential downside risk associated.

As we compete for capital in the marketplace with other businesses, investors will only be willing to provide capital to us if they believe future returns will be as high as the investor can receive after accounting for risk from alternative opportunities.

As the Surface Transportation Board, our economic regulatory agency, and you, in Congress, contemplate our economic regulatory structure, this should be foremost in your thoughts.

Second, we need to be able to take advantage of technology and innovation that allows us to improve safety and create efficiencies. As it stands today, we have a heavy command-and-control type of regulatory structure. It isn't nimble, nor does it easily adapt to technology enhancements. We need to create regulatory process improvements that allow for performance-based approaches as well as a more robust waiver process that allows us to take advantage of the technologies that we are currently pursuing and those we will be pursuing in the future.

Third, while I know it isn't in your Subcommittee's jurisdiction, we have to get our tax and trade policies right to ensure U.S. competitiveness. The U.S. has the highest corporate tax rate in the developed world. The disparity between the United States and the rest of the world has become even larger in recent years. Since capital moves freely across international borders, the higher U.S. rate makes it harder for firms to justify investing in the United States and harder for U.S. firms to attract capital.

Getting trade policies correct is equally important. Trade plays a massive role in the U.S. economy. Exports and imports combined are equivalent to around 27 percent of U.S. GDP, which is up from around 17 percent 30 years ago. For railroads, at least 42 percent of carloads and more than 35 percent of our revenue is directly associated with international trade.

Today, there's a lot of talk about NAFTA. To bring NAFTA into the 21st century, we should work with our trading partners to strengthen it and its provisions on the environment and on labor, and update it to address e-commerce and cross-border data flows, things that didn't exist when NAFTA was first written over 2 decades ago. But we should not withdraw from NAFTA.

Finally, just a few words on public-private partnerships. Congress has done great work in developing and fostering public-private partnerships, whether it's the FASTLANE program or TIGER grants, these are excellent programs that allow projects to move forward that otherwise would never get off the ground. They allow each party to participate commensurate with their benefits.

As you debate what to do on an infrastructure package, I encourage you to continue these programs, as they're a great way to leverage private investment.

That concludes my testimony, and I'm looking forward to answer your questions.

[The prepared statement of Mr. Fritz follows:]

PREPARED STATEMENT OF LANCE M. FRITZ, CHAIRMAN, PRESIDENT,
AND CHIEF EXECUTIVE OFFICER, UNION PACIFIC CORPORATION

Thank you for the opportunity to be here today. I am Lance M. Fritz, the Chairman, President, and Chief Executive Officer of Union Pacific Corporation, the parent company of Union Pacific Railroad. Officially, I'm testifying today on behalf of Union Pacific, but most of what I have to say is applicable to other U.S. freight railroads as well.

Union Pacific Railroad was born when President Abraham Lincoln, who was a railroad attorney earlier in his career, signed the Pacific Railway Act of 1862. The main goal of the Act was to facilitate constructing a transcontinental rail line all the way to the Pacific, thereby allowing dispersed areas of a growing nation to be

bound together economically, socially, and politically. Today, Union Pacific directly serves approximately 10,000 customers in 23 states in the western two-thirds of the United States (see Figure 1), but through connections with our transportation partners, we deliver products in a safe, reliable, and environmentally responsible manner to consumers in every state and throughout the world.



Figure 1

Railroads Are the Transportation Backbone of America

Whenever Americans grow something, mine something, or make something; when they send goods overseas or import them from abroad; when they eat their meals or take a drive in the country, there's an excellent chance that railroads helped make it possible.

Approximately 600 freight railroads operate in the United States. Each of the seven "Class I" railroads, including Union Pacific, typically operates in many different states over thousands of miles of track. Class I railroads focus mainly (though not exclusively) on long-haul, high-density intercity traffic lanes. Meanwhile, hundreds of short line and regional railroads fill out our Nation's rail network, often providing crucial first-mile and last-mile service to customers. Non-Class I railroads range in size from tiny operations handling a few carloads a month to multi-state operators not far from Class I size.

Together, freight railroads operating in the United States form an integrated, nearly 140,000-mile system that provides the world's safest, most productive, and lowest-cost freight rail service. This extensive network pays for itself since nearly all of America's freight railroads are privately owned and operated. The U.S. freight railroad industry is the envy of the world, an irreplaceable national asset that enhances our Nation's standard of living and our Nation's competitiveness in the tough global economy.

Unlike trucks, barges, and airlines, our freight railroads operate almost exclusively on infrastructure that they own, build, maintain, and pay for themselves, a crucial point I will return to later in this testimony.

What Railroads Haul

Union Pacific and America's other freight railroads transport a huge variety of goods. Historically, coal has been the single largest commodity carried by rail. Cost-effective electricity generated by coal delivered to power plants by railroads has been crucial to our Nation's economic and industrial development. Railroads also carry enormous amounts of corn, wheat, soybeans, and other grains. We carry fertilizers, plastic resins, and a vast array of other chemicals. Cement, sand, and crushed stone to build our highways make the trip on rail, as does lumber and drywall to build our homes. We transport autos and auto parts, animal feed, canned goods, corn syrup, flour, frozen chickens, beer, countless other food products, and much more.

Rail intermodal is moving shipping containers and truck trailers by rail. Just about everything you find on a retailer's shelves may have traveled on an intermodal train. Intermodal now accounts for approximately 20 percent of revenue at Union Pacific and about 24 percent of the total industry's revenue, more than any other rail revenue source.



Figure 2

The Right Track for the Economy

Since the industry's founding more than 185 years ago, freight railroads have been indispensable to America's economic development. America's freight railroads connect producers and consumers across the country and the world, expanding existing markets and opening new ones.

- A June 2016 study from Towson University's Regional Economic Studies Institute found that, in 2014 alone, the operations and capital investment of America's major freight railroads supported approximately 1.5 million jobs (1.1 percent of all U.S. workers—nearly nine jobs for every railroad job), nearly \$274 billion in economic output (1.6 percent of total U.S. output), and \$88 billion in wages (1.3 percent of total U.S. wages). Railroads also generated nearly \$33 billion in tax revenues. In addition, 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.
- The approximately 170,000 U.S. freight railroad employees are among America's most highly compensated workers. In 2015, the average U.S. Class I freight railroad employee earned wages of \$86,300 and fringe benefits of \$34,600, for total average compensation of \$120,900. By contrast, according to the Bureau of Economic Analysis, the average wage per full-time equivalent U.S. employee in domestic industries in 2015 was \$59,400 (just 69 percent of the comparable rail figure) and average total compensation was \$73,300 (61 percent of the rail figure).
- Average rail rates (measured by inflation-adjusted revenue per ton-mile) were 45 percent lower in 2015 than in 1981 (see Figure 3). This means the average rail shipper can move close to twice as much freight for about the same price it paid more than 35 years ago.

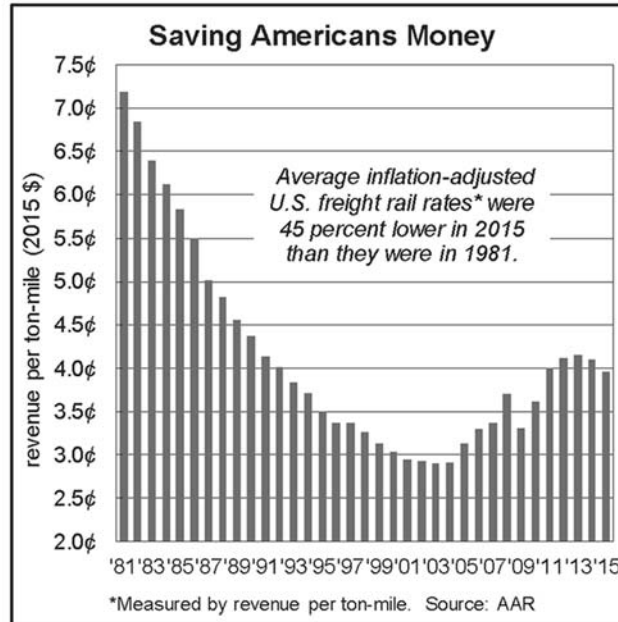


Figure 3

- Several years ago, the American Association of State Highway and Transportation Officials (AASHTO) estimated that if all freight rail traffic were shifted to trucks, rail customers would have to pay an additional \$69 billion per year. Adjusted for increased freight volume and inflation, it's probably close to \$100 billion today.

Safe and Working Hard Every Day to Get Even Safer

For Union Pacific—and I'm sure I can speak for other railroads here too—nothing is more important than safety. At Union Pacific, a commitment to world-class safety is the very first of six “value tracks” designed to guide us as we work through the daily challenges of operating our 32,000-mile rail network.

We recognize we have not yet reached our goal of zero accidents and injuries, but we're encouraged by the progress we've made. I'm pleased to report that Union Pacific had a record safety year in 2016, with our reportable employee injury rate improving 14 percent compared to 2015.

For the rail industry as a whole, based on data from the Federal Railroad Administration (FRA), the overall train accident rate in 2016 was the lowest in history and down 44 percent from 2000; the employee injury rate in 2016 was down 47 percent from 2000; and the grade crossing collision rate in 2016 was down 39 percent from 2000. By all of these measures, recent years have been the safest in rail history (see Figure 4).



Figure 4

Railroads today have lower employee injury rates than most other major industries, including trucking, airlines, agriculture, mining, manufacturing, and construction—even lower than food retailers.

Safety improvements extend to hazardous materials too—over 99.99 percent of rail hazmat shipments reach their destination without a release caused by a train accident.

Essential to a Greener, Less-Congested Future

Freight railroads are the environmentally friendly way to move freight. Consider:

- In 2015, U.S. railroads moved a ton of freight an average of 473 miles per gallon of fuel.
- On average, railroads are four times more fuel efficient than trucks. That also means that moving freight by rail instead of truck reduces greenhouse gas emissions by an average of 75 percent.



- Emissions of particulate matter and nitrogen oxides per unit of freight volume are significantly lower for railroads than for trucks.
- Because a single train can replace several hundred trucks, railroads help reduce highway gridlock and the need to spend scarce taxpayer dollars on highway construction and maintenance.

Changing Markets Present a Serious Challenge to Railroads

In testimony to this committee in July of last year, my counterpart at Kansas City Southern, Patrick Ottensmeyer, explained that freight railroads are what economists call a “derived demand” industry. This means that demand for rail service is a function of demand elsewhere in the economy for the products railroads haul. Mr. Ottensmeyer used automobiles as an example: automakers’ demand for rail service rises when consumers are buying more cars, but dries up if consumers stop buying cars.

Therefore, what affects the broad economy affects railroads too. It’s no secret that the economy has not been doing as well the past few years as we all hoped it would, and rail traffic has suffered accordingly.

Moreover, while railroads obviously care about the state of the overall economy, demand for rail service is determined mainly by how well the goods-related sectors of the economy (as opposed to services-related sectors) are doing. If consumers are buying more services like travel, data plans, or health care, that doesn’t really impact our business. We want consumers to buy a house and fill it with appliances and furniture. We want manufacturers to expand their factories so they need more inputs delivered to them and have more finished goods heading out their doors. Unfortunately, in 2016 the goods side of the economy had its worst year since 2009 (see the bars in Figure 5). Rail traffic followed suit (see the line in Figure 5).¹

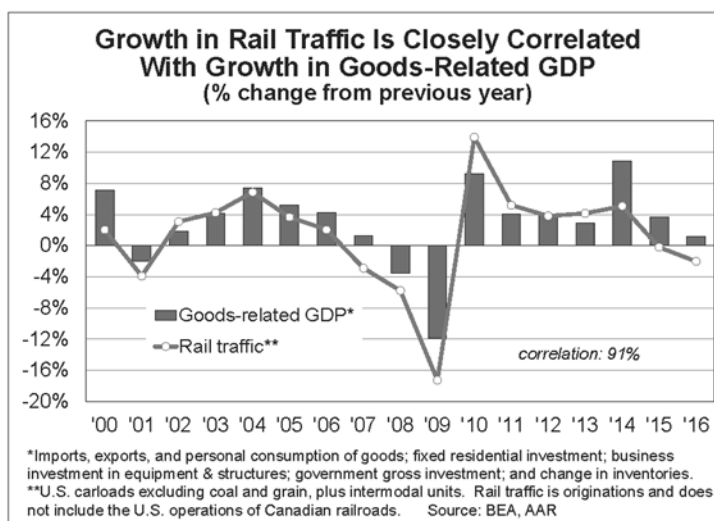


Figure 5

Railroads are also affected by what’s happening within specific industries. Electric utilities are a good example. Thanks to extremely difficult market conditions (due largely to cheap and plentiful natural gas) and increasingly stringent environmental restrictions, electricity generation from coal has been falling for several years. In 2016, coal-based electricity generation was down 8 percent from the same period in 2015, down 22 percent from 2014, and down 33 percent from 2010. Coal’s share of total U.S. electricity generation was 50 percent as recently as 2005, but it fell to 45 percent in 2010, 39 percent in 2014, and just 30 percent in 2016 (see Figure 6).

¹The rail traffic line in Figure 5 does not include carloads of coal and grain because their traffic volumes tend to rise or fall for reasons that usually have little to do with the condition of the overall economy. That’s not the case for most other rail traffic categories.

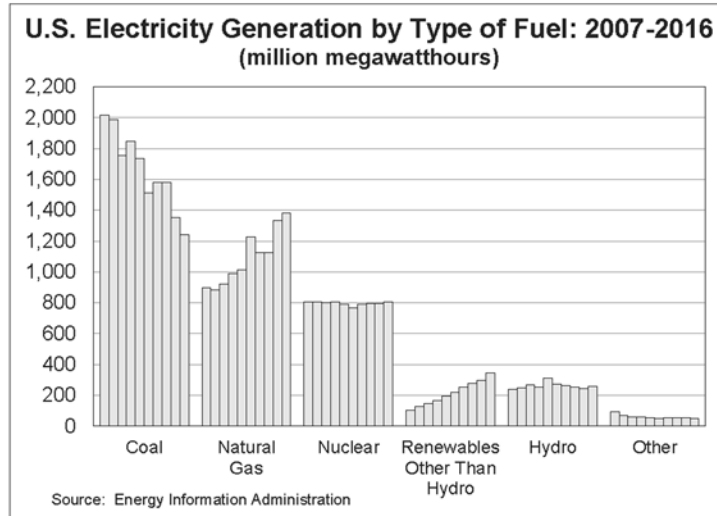


Figure 6

The effect on rail coal traffic has been predictable. In 2016, U.S. Class I railroads originated 4.2 million carloads of coal, down 1.1 million carloads (21 percent) from 2015, down 1.9 million carloads (31 percent) from 2014, and down 3.5 million carloads (46 percent) from 2008, which was the peak year for U.S. rail carloads (see Figure 7).

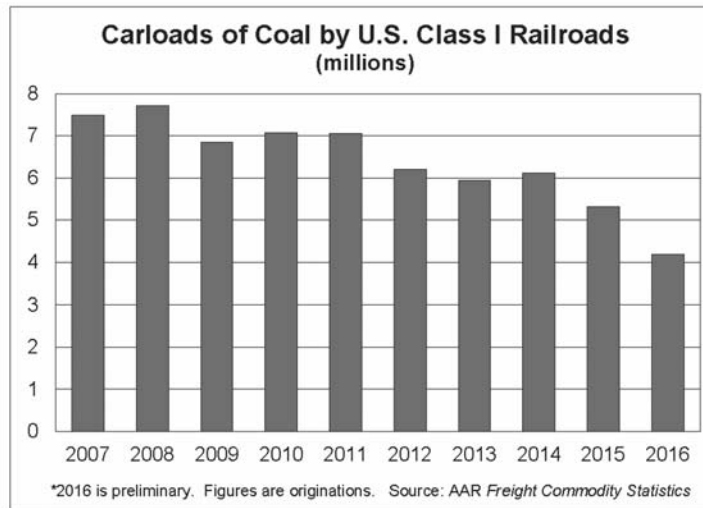


Figure 7

Likewise, recent slowdowns in crude oil production and other factors have led to reduced rail carloads of crude oil and associated products such as sand used in fracking, steel pipes used at drilling sites, and scrap iron and metallic ores used to create steel used in energy industries.

On the other hand, Union Pacific and other railroads are benefiting right now from strong U.S. grain sales, and are working with chemical firms as they build and

expand petrochemical facilities in the Gulf Coast and elsewhere in the United States to take advantage of low-priced natural gas used as a raw material. As housing markets continue to improve and if there is a near-term boost in infrastructure spending, railroads should see construction markets firming up. Consumer and business confidence appear to be growing, potentially creating additional opportunities for Union Pacific and other railroads.

The foregoing discussion about rail traffic illustrates—as Mr. Ottensmeyer noted in his testimony—that the U.S. and global economies are constantly evolving. Firms, even entire industries, can and do change rapidly and unexpectedly, and railroads must be able to deal with that flux. These broad, often unanticipated economic changes are reflected in changes not only in the volumes but also in the types and locations of the commodities railroads are asked to transport. When traffic changes occur in different areas—as is usually the case and has certainly been the pattern in recent years—the challenges to railroads become magnified. To successfully adapt to these challenges, railroads must be flexible and innovative while improving the efficiency and productivity needed to maintain their long-term financial health. Railroads may also have to invest in additional capacity to meet changing demand. Public policies that hamstring railroads by preventing or limiting this flexibility and innovation are sure to have a negative impact on railroads and on their ability to meet the transportation needs of our evolving economy.

The Importance of Appropriate Public Policies

Prior to passage of the Staggers Rail Act of 1980, excessive regulation put our Nation's freight railroads in a huge financial and operational hole. By enacting Staggers, Congress recognized that regulation prevented railroads from earning adequate revenues and competing effectively. Survival of the railroad industry required a new regulatory scheme that allowed railroads to establish their own routes, tailor their rates to market conditions, and differentiate rates on the basis of demand.



One of the fundamental principles of the Staggers Act was something that had been essentially ignored for decades prior to it: if our Nation is to have a viable, efficient, privately owned freight rail system, someone has to be willing to pay for it, and the market is far superior to the government in determining who should pay.

By giving railroads the opportunity (the Staggers Act guaranteed railroads nothing) to earn revenues sufficient to sustain and grow the rail network, deregulation sparked an industry transformation. In the more than 35 years since Staggers, rail income has increased, and with that has come the ability to invest anew in rail infrastructure and equipment. Since Staggers was passed, U.S. freight railroads have spent more than \$635 billion on their tracks, signals, bridges, tunnels, locomotives, freight cars, and other infrastructure and equipment. Higher rail spending has led,

in turn, to greater efficiency, improved safety, better service, and sharply lower average rates for rail customers.

Importantly, the Staggers Act did not completely deregulate railroads. In addition to retaining authority over a variety of non-rate areas, the Interstate Commerce Committee, and now its successor, the Surface Transportation Board (STB), retained the authority to set maximum rates if a railroad is found to have “market dominance” and to take other actions if a railroad engages in anticompetitive behavior.

Congress affirmed the appropriateness of the existing balanced regulatory structure when it passed the Surface Transportation Board Reauthorization Act of 2015. Members of this committee were instrumental in the development and ultimate passage of this legislation, and I thank and congratulate you for your efforts. This legislation provides common sense process improvements that will allow the STB to work more efficiently. At the same time, it recognizes the need for freight railroads to earn revenues that allow for billions of dollars in private spending each year to build, maintain and grow the nationwide rail network.

Nevertheless, some rail shippers, under the misleading guise of calling for more “competition,” support legislative and regulatory changes that would re-impose excessive and counterproductive regulation on railroads. It is beyond the scope of this testimony to discuss the various proposals in detail, but all of them would, in one way or another, force railroads, through what amounts to price controls, to lower their rates to a favored group of rail customers at the expense of all other rail customers, rail employees, and the public at large.

Unlike trucks and barges, which travel on heavily subsidized highways and waterways, U.S. freight railroads must finance nearly all of their infrastructure and equipment spending themselves. If the existing balanced regulatory structure were overturned, rail earnings would necessarily fall. This would make it far more difficult for railroads to make the massive investments they need year after year to meet current and future freight transportation demand.

It would be a mistake to let this happen. A fundamental tenet of the economics of competition says that where competition exists, there should be no regulatory intervention. Because the vast majority of rail freight movements are subject to strong competitive forces—including competition from trucks and barges, product competition², and geographic competition³—the vast majority of rail movements should likewise be free of governmental oversight. Moreover, no amount of rhetoric about “competition” can change the fact that if Union Pacific or any other railroad cannot cover its costs, it cannot maintain, replace, or add to its infrastructure and equipment. Nor can it provide the services upon which its customers depend. Simply put, if the existing balanced regulatory structure were changed, either taxpayers would have to make up the difference or the industry’s physical plant would deteriorate, needed new capacity would not be added, and rail service would become slower, less responsive, and less reliable.

Remember too that back in 2006, the Government Accountability Office noted that, “Rail investment involves private companies taking a substantial risk which becomes a fixed cost on their balance sheets, one on which they are accountable to stockholders and for which they must make capital charges year in and year out for the life of the investment. A railroad contemplating such an investment must be confident that the market demand for that infrastructure will hold up for 30 to 50 years. This is in sharp contrast to other modes such as highway infrastructure, which is paid for largely by public funds.”⁴ Accordingly, at Union Pacific, as at other railroads, new investments will be made only if they are expected to generate an adequate return over a long period of time. For this reason, adequate rail earnings—again, over the long term—are critical for capacity investment.

Major freight railroads face additional constraints because they are either publicly traded or are subsidiaries of publicly traded companies. As such, they must provide their shareholders a return commensurate with what those shareholders could obtain in other markets with comparable risk. No law or regulation can force investors to provide resources to an industry whose returns are lower than what the investors can obtain elsewhere. If railroads are viewed as returning less to shareholders, for

²Substituting one product for another in a production process—for example, generating electricity from natural gas (which is not carried by railroads) instead of coal (which is).

³The ability to obtain the same product from, or ship the same product to, a different geographic area. For example, clay is used for taconite pelletization in Minnesota. This clay is available from Wyoming mines served by one railroad and from Minnesota mines served by another. Iron ore producers can play one railroad against the other for clay deliveries.

⁴Government Accountability Office, *Freight Railroads: Industry Health Has Improved, but Concerns About Competition and Capacity Should Be Addressed*, October 2006, p. 56.

whatever reason, than comparable alternatives, then capital will flee the rail industry or will only be available at much higher costs than we see today.

It is true that freight railroad financial performance in recent years has been better than it once was. At Union Pacific, we will continue to work very hard to see that those improvements continue so that we can return more value to our shareholders. However, policymakers should not view these improvements as a reason to cap rail earnings through price controls, artificial competitive constraints, or by other means, since it would cause capital to flee the industry and severely harm railroads' ability to reinvest in their networks.

Today, our Nation faces a number of serious transportation related problems, many of which this committee, to its credit, is working hard to address. It makes no sense to add to that list by trying to fix something that isn't broken. The current rail regulatory system is working well. At a time when the pressure to reduce government spending on just about everything—including transportation infrastructure—is enormous, it makes no sense to enact public policies that would discourage private investments in rail infrastructure that would boost our economy and enhance our competitiveness.

Technology and Process Streamlining

New technologies are changing transportation. For example, widespread efforts are underway today—including extensive research subsidized by taxpayers—to develop autonomous motor vehicles, including autonomous trucks that would compete directly with railroads. Autonomous vehicle technologies and other technologies impacting transportation vary in their stage of development, but they are challenges that railroads must be prepared to confront.

This means railroads must themselves look to new technologies to make their operations safer and more efficient. The use of technology to improve safety and efficiency is nothing new for railroads, but it's taken on a new urgency as transportation markets have evolved and as technology has become more advanced.

I'm proud to say that Union Pacific is at the forefront of the innovation-through-technology effort. I mentioned earlier that a commitment to world-class safety is the first of six "value tracks" that guide our company. "Innovation" is another of the value tracks. It can encompass small, incremental improvements that we call "Little I" innovations—an example might be something as seemingly simple as ensuring that signs at rail yards are located in the most advantageous positions for rail crews to notice and act on them.

Innovation can also encompass larger innovation efforts—what we at Union Pacific call "Big I" innovations. The use of "machine vision" is a good example of a "Big I" innovation.

Before a train departs, each rail car generally requires a 13-point inspection. Trains can be 100 or more cars long, so these inspections can take several hours. Union Pacific operates hundreds of trains per day, so the time adds up.

Several years ago, our engineering teams realized that lasers could be used to inspect trains as they pass. The idea resulted in what's now called machine vision—in essence, an MRI for a rail car. As a train passes through a machine vision imaging area, lasers and cameras quickly provide a three-dimensional model of each piece of train equipment, identifying actual and potential defects. The model and images can be viewed remotely from any Union Pacific computer, so that these "in advance" inspections can be conducted rain or shine, day or night, from the comfort of a desk chair. It allows our mechanical team to know what repairs are needed before a train arrives in the rail yard. This speeds the repair process, reduces the time trains have to spend in rail yards, reduces costly system delays, and improves our reliability and customer service. So far, our system can identify and measure 22 components of a train, and it's been successfully implemented near rail yards in Nebraska, Iowa, and Arkansas.



Many of UP's technology initiatives are managed by our Technology Steering Group, comprised of leadership representatives from departments where innovative ideas are most likely to bubble up: operations, engineering, mechanical, safety, and information technologies. The group's goal is to validate, or invalidate if appropriate, technology projects that could benefit our customers, shareholders, employees, and the communities we serve. Among other projects currently under review are the use of gaming simulators to train engineers, 3D printing to speed equipment repair and maintenance, and the use of drones to improve the speed and accuracy of track and bridge inspections.

The efforts of Union Pacific and other railroads to harness the power of technology to improve their operations and drive innovation will not be as effective as they should be if legislative and regulatory processes and requirements fail to keep up, or are not well grounded in evidence-based, scientific understanding.

The current debate over the number of crew members inside a freight train's locomotive cab is a case in point. Legislation and regulations have been proposed that would mandate that all over-the-road freight trains must operate with a certified locomotive engineer and a certified conductor in the locomotive cab.

Existing FRA regulations do not mandate minimum crew staffing requirements. Some non-Class I railroads have long operated with just one person in the locomotive cab, and thousands of Amtrak and commuter passenger trains, carrying hundreds of thousands of passengers, operate every day with just one person in the locomotive cab. On Union Pacific and other Class I railroads, the subject of crew size has typically been addressed as part of the collective bargaining process with rail labor. For Class I railroads, industry practice to date has been to have two-person crews for over-the-road mainline operations. That said, it is important for Class I railroads to retain the flexibility to seek agreement with labor, at the appropriate time, to operate over-the-road mainline trains with one crew member.

The major reason offered by proponents of a two-person crew mandate is that it would enhance rail safety. Yet no one—not the FRA, not sponsors of the legislation in Congress, not rail labor—can point to hard data that support this contention: there is no evidence that trains with one-person crews have accidents at a higher rate than trains with two-person crews. The FRA itself, after its own review, stated in 2009 that it found no “factual evidence to support the prohibition against one-person operations.”

Railroads believe that the forthcoming implementation of positive train control (PTC) potentially presents an opportunity to move to one-person crews with no degradation of safety. PTC describes technologies designed to automatically stop a train before certain accidents caused by human error occur. As such, PTC advances rail safety through the use of advanced technology, while at the same time potentially eliminating the need for “a second set of eyes” in locomotive cabs. Neither Union Pacific nor other Class I railroads seek the ability to impose one-person crews unilaterally or haphazardly. Rather, we seek the flexibility to continue to work with rail labor under the existing collective bargaining framework to identify when the presence of PTC, or other technologies, allow a reduction in the number of crewmembers in a locomotive cab without jeopardizing rail safety.

There are many other areas in which outdated regulations unnecessarily hinder rail innovation and progress. The use of machine vision discussed earlier is just one of many different technologies railroads use to improve their ability to identify defects in infrastructure and equipment. Many additional technologies are under development.

As Matt Rose of BNSF explained to this committee back in February, new railroad technologies must be overlaid upon railroads' existing regulatory compliance activities. As Mr. Rose explains, "Advances in locomotives, signal systems, grade-crossing warning devices, and track inspection made possible by technology in some ways are marginalized for purposes of regulatory compliance because they exist outside of the current regulatory construct, which recognizes only the safety value of prescribed practices. Existing [FRA] regulations which prescribe physical inspection at specific intervals for equipment and facilities now make less sense because of the advances in equipment, which is itself continuously self-diagnostic and self-reporting in the event of defects. Technology based inspection can also reduce the safety exposures related to frequently putting people in, under and between equipment or out on the line of road to perform physical inspections for the same conditions. Technology driven operational advancements, like electronic delivery of mandatory train orders and directives in lieu of required paper versions which will enable other technologies, should be incentivized."

Union Pacific agrees with Mr. Rose's assessment. We also agree with Mr. Rose that a greater use of the FRA's broad waiver authority represents a great opportunity to modify FRA regulatory directives in light of changed circumstances, while retaining appropriate regulatory oversight. Unfortunately, as Mr. Rose notes, the timeline for even the simplest waivers are measured in months or years, and often come with conditions that largely negate the value of the waiver or innovation being sought.

More broadly, in light of the growing role of technology to enhance rail safety and operational efficiency, the FRA should shift its focus away from command-and-control design-based standards towards the use of performance based standards. Command and control standards specify the precise characteristics of workplace rules, while performance-based standards define the desired result rather than mandating the precise characteristics that a workplace must exhibit. The point of a performance based goal is to focus attention and effort on the outcome, not the method.

For example, an FRA regulation mandates that locomotive brakes undergo a certain prescribed inspection every 1,000 miles. The 1,000-mile limit was last changed in the early 1980s, when it was updated from an earlier 500-mile standard that dated from the era of steam locomotives—an era that largely ended decades earlier. Since the early 1980s, there have been tremendous advances in locomotive, brake and defect detection technology, but railroads have not been able to persuade the FRA to update the 1,000-mile standard.

There is little evidence that rigid design-based standards, such as the 1,000-mile locomotive standard, have a positive impact on railroad safety. They are, however, very costly for both railroads and the FRA to administer and maintain and tend to impede innovation because they "lock in" existing designs, technology, and ways of thinking. Reliance instead on a performance based approach would allow the FRA the best opportunity to ensure the attainment of desired safety rates at lower cost for the FRA as well as for railroads.

Promoting Economic Growth Through Corporate Tax Reform

Today more than ever, countries around the world are competing to attract new businesses and investments to help their economies grow and create jobs. One step many countries have taken—but not the United States—is reducing their corporate income tax rate. The United States should follow their example.

- A lower rate would improve U.S. competitiveness. The U.S. rate of 35 percent is the highest statutory corporate income tax rate in the developed world. The disparity between the United States and the rest of the world has become even larger in recent years as dozens of countries have cut their corporate income tax rates. Since capital moves freely across international borders, the higher U.S. rate makes it harder for firms to justify investing in the United States and harder for U.S. firms to attract capital.



- A lower rate would encourage greater investment in the United States. By improving returns on investment and encouraging the repatriation of funds kept abroad by U.S. based firms, a lower rate would lead to more investment in the United States and increased domestic production. More investment means safer workplaces, more innovation, higher productivity, less pollution, and a higher standard of living.
- A lower rate would enhance the prospects for long-term growth and job creation. Experts consider the corporate income tax to be among the most harmful for long-term economic growth. Moreover, because a major portion of corporate income taxes are ultimately borne by consumers through higher prices and by employees through lower wages, reforming corporate income taxes would benefit all Americans.
- Tax reform would sharply reduce deadweight costs to the economy. Inefficiencies and misallocation of resources caused by the complex U.S. tax structure impose huge costs that all of us pay, but sensible reform would reduce these costs considerably.

Promoting Economic Growth Through International Trade

Virtually no one in the world today is self-sufficient. Put another way, we all trade. Our trading partners might be across the street or on the other side of the world, but the principle is the same: we trade because we produce some goods or services at costs lower than the costs our trading partners would incur to produce those same goods or services. By trading, we play to our strengths, leading to more goods and services to go around. Trade makes the world richer.

Moreover, trade is not a zero-sum game in which one side “wins” and the other “loses.” Instead, both sides benefit. Because trade is almost always voluntary, people and firms gain from it, or else they wouldn’t do it. The flip side is that increased barriers to trade prevent people from making exchanges they want to make and make people pay more for what they want. That helps explain why international trade plays a massive role in the U.S. economy. Exports and imports combined are equivalent to around 27 percent of U.S. GDP, up from around 17 percent 30 years ago.

For railroads, international trade plays an even greater role: at least 42 percent of the carloads and intermodal units our Nation’s railroads carry, and more than 35 percent of rail revenue, are directly associated with international trade (see Figure 8).

International Trade as a Share of Rail Traffic in 2014			
	Rail Total	Trade Share	Trade % of Total
Revenue (\$ bil)	\$75.1	\$26.4	35.2%
Tons (millions)	1,879.4	511.0	27.2%
Units (millions)*	32.2	13.4	41.6%
*carloads and intermodal containers and trailers			
Source: AAR analysis of government and other data			

Figure 8

Rail movements associated with international trade include virtually every type of commodity railroads carry and involve every region of the country—coal for export out of ports in Maryland, Virginia, the Gulf Coast, and the Great Lakes; paper and forest products imported from Canada to the Midwest; imports and exports of Canadian and Mexican automotive products to and from auto factories in dozens of U.S. states; plastics shipped by rail from Texas and Louisiana to the East and West Coasts for export to Europe and Asia; iron ore mined in Michigan and shipped by rail to Great Lakes ports; grain grown in the Midwest and carried by rail to the Pacific Northwest and the Gulf Coast for export to Asia. The list goes on and on.

The fact is, railroads are inexorably tied to our Nation's trading system. Without railroads, American firms and consumers would be unable to participate in the global economy anywhere near as fully as they do today. Conversely, without trade, America's freight railroads would be a fraction of what they are today.

To be sure, trade has always been a sensitive political issue in American politics because of its real and perceived impact on jobs. Policymakers should consider assisting those who have not shared in the gains from trade. Assistance might take the form of improved training and educational options that enhance domestic opportunity and social mobility. Even better, policymakers can implement pro-growth economic policies that lead to a robust economy where those who are displaced from a job for any reason are more likely to be able to find another one. Increased protectionism, on the other hand, is not the way to go because it would entail costs that greatly exceed the benefits.

Robust international trade means more jobs for railroaders. Approximately 50,000 rail jobs, worth over \$5.5 billion in annual wages and benefits, depend directly on international trade. This does not include other significant job-related impacts including employees at ports who handle shipments moving by rail, jobs at firms that supply goods and services to railroads and others in support of trade-related rail movements, and secondary and tertiary job impacts derived from the expenditures of railroad employees, port employees, and their suppliers.

Public-Private Partnerships

Public-private partnerships—arrangements under which private freight railroads and government entities both contribute resources to a project—offer a mutually beneficial way to engage in infrastructure improvement projects where the fundamental purpose of the project is to provide public benefits or meet public needs.

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 enabling faster freight trains) 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. As a result, the universe of projects that can be undertaken to the benefit of all parties is significantly expanded.

Since railroads contribute funding commensurate with the benefits they receive, public-private partnerships are not “subsidies” to railroads. In some partnerships, public entities and private railroads both contribute to a project’s initial investment, but the railroads alone fund future maintenance to keep the project productive and in good repair.

Perhaps the most well-known public-private partnership involving railroads is the Chicago Region Environmental and Transportation Efficiency Program (CREATE), which has been underway for several years. CREATE is a multi-billion dollar program of capital improvements aimed at increasing the efficiency of the region’s rail infrastructure. A partnership among various railroads, the City of Chicago, the state of Illinois, and the Federal Government, CREATE includes approximately 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 dispatch systems of all major railroads in the region into a single display. As of the end of January this year, 27 projects have been completed, 5 are under construction and 17 are in the design phase.

Railroads are confident that, as CREATE proceeds, rail operations in Chicago will become more fluid and better able to withstand shocks such as those presented by extreme weather.

Conclusion

At Union Pacific, our goal is to provide a customer experience that is as safe, efficient, and cost effective as possible. I know that other railroads share these goals. We are always willing to work cooperatively with you, other policymakers, our employees, our customers and all other interested parties to advance our shared interests in moving our Nation forward with the help of our best-in-the-world freight railroads.

The CHAIRMAN. Thank you, Mr. Fritz.

Michael Ducker is President and Chief Executive Officer of FedEx Freight. He provides strategic direction for FedEx’s less-than-truckload companies throughout North America as well as for FedEx Custom Critical, a leader character—carrier—probably character, too—of time-sensitive shipments.

Mr. DUCKER. There are a few there.

The CHAIRMAN. So welcome, Mr. Ducker.

STATEMENT OF MICHAEL L. DUCKER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, FEDEX FREIGHT CORPORATION

Mr. DUCKER. Thank you very much, Chairwoman Fischer and Ranking Member Booker. I appreciate the opportunity before all you Subcommittee members to testify here today.

I know you all understand how critical today’s freight transportation system is to this country’s economy. My colleagues have discussed it. And as you noted, my written statement is in the record, so I’ll focus on a few key points.

At FedEx, we believe we’re uniquely positioned to comment on these matters. FedEx is an engine for job growth and economic growth. Through our group of transportation companies, we have 450,000 team members worldwide. We utilize all major modes of transportation to serve our customers. We do that with four operating companies: FedEx Express, Ground, Freight, and FedEx Trade Networks.

Now, I'm here today to talk about surface transportation, so I want to quickly provide some additional background on FedEx Freight, our less-than-truckload operating company, of which I'm the CEO.

We employ about 40,000 team members and operate 20,000 vehicles that collectively transport on average 100,000 daily shipments. FedEx Freight has long been on the leading edge of safety, innovation, and technology. We continue to deploy the most advanced safety systems available on our truck fleet, including collision mitigation, speed limiters, lane departure warning, roll stability, and the latest telematics, cameras, and electronic logging devices, the majority of which will be 100 percent deployed by the end of the year.

FedEx Freight, along with other transportation and logistics companies, pumps the lifeblood of commerce through our transportation of goods across the Nation. Without improved surface infrastructure and wise policy decisions, we cannot continue to help grow the U.S. economy and increase jobs. The need for significant investment in our infrastructure has never been more critical.

So let me mention three areas that I believe should be priorities for this committee: number one, enhancements to the national highway system and funding sources; number two, innovation; and number three, modernization.

First, our interstate system is now over 60 years old and is in desperate need of repair. Along with the American Trucking Association, FedEx supports Federal investment in highways primarily funded by user fees. We must identify revenue sources for long-term funding for the Highway Trust Fund.

In order to avoid overreliance on a single option, FedEx supports a broad mix of revenue sources, including increasing and indexing fuel taxes, a vehicle-miles-traveled or other direct user-based fee, a reduction in the U.S. corporate tax rate, and territorial system adoption and congestion pricing.

Second, national uniformity in areas of innovation. Regarding this, emerging technologies such as vehicle-to-vehicle and vehicle-to-infrastructure communications and autonomous vehicles would benefit from having an infrastructure that allows innovations that drive productivity. FedEx supports Federal efforts to encourage national uniformity with reasonable and flexible guidelines, as innovation offers solutions for our transportation needs.

And, last, modernization. I want to mention three primary areas. The first is modernizing trucking equipment standards, which haven't been changed in over 25 years. FedEx strongly supports a new Federal standard to change the twin-trailer limits from 28 feet to 33 feet with no—repeat no—change in the Federal weight limit.

The highway networks are being overwhelmed with e-commerce. Twin 33-foot trailers will make more efficient use of our existing infrastructure because it takes fewer trucks to haul the same amount of freight. Twin 33s are currently allowed in 20 states, and we have been operating them for many years without a single accident. They are safer than the current Twin 28s. When widely adopted, Twin 33s will improve safety, reduce congestion, reduce wear and tear on highways and bridges, increase productivity, save millions of gallons of fuel, and reduce billions of pounds of carbon

emissions. That solution will result in near instant infrastructure benefits with zero Federal funding required. It's a common sense policy solution.

The second area of modernization consists of reducing unnecessary regulatory burdens while also ensuring that appropriate regulations keep pace with innovations.

And, last, we need to ensure the broad adoption of the most modern and advanced safety systems on our vehicles. That is critical to ensure the safety of not only our employees, but also of the motoring public.

In conclusion, we must upgrade our transportation infrastructure. It is long overdue. The private sector investment in updating safety and efficiency technologies needs to be complemented with government policies that support long-term funding and innovation. The time for us all to act is now. Thank you.

[The prepared statement of Mr. Ducker follows:]

PREPARED STATEMENT OF MICHAEL L. DUCKER, PRESIDENT
AND CHIEF EXECUTIVE OFFICER, FEDEX FREIGHT CORPORATION

Chairman Fischer, Ranking Member Booker, and members of the Subcommittee, thank you for inviting me to testify before you today.

I know that you all understand the critical importance of the freight transportation system in today's cost-and time-driven economy, particularly in this era of explosive e-commerce growth and increasing digital connectivity. Every day we are all reminded of the unfortunate state of disrepair of our Nation's highways and bridges, as well as the lost productivity for businesses and individuals caused by traffic congestion.

The nation's freight network continues to experience strain. Our nation's transportation system moved 18.1 billion tons of goods, worth \$19.2 trillion in 2015, according to a Bureau of Transportation Statistics document titled "DOT Released 30-year Freight projection" (March 2016). The U.S. Department of Transportation projects that freight volume will increase by 45 percent by 2045.

In order to address these challenges, we must work together on policy and solutions that will modernize our surface transportation system and drive our economy forward. Infrastructure investment cannot be limited to road and bridge improvements. A holistic modern transportation system needs to be established combining physical and digital infrastructure enhancements with sound transportation policies, including incentives for improved safety and fuel efficiency. And, of course, stable and sustainable sources of funding for the Highway Trust Fund will be essential for success.

FedEx Operations

At FedEx, we are an engine for job and economic growth. Through our group of transportation companies with more than 400,000 team members worldwide, we utilize all major modes of transportation to serve our customers.

- Our FedEx Express air-ground system is a global network, offering time-definite air express, ground and freight shipping within the U.S. as well as linking the American economy to 99 percent of the world's GDP.
- Our FedEx Freight and FedEx Ground networks use both road and rail for our business-to-business as well as business-to-consumer services, which are essential in these days of Internet shopping.
- Our FedEx Trade Networks business provides freight forwarding services around the world, combining ocean shipping options with air and ground tailored to meet the varying needs of our customers.

Intermodality allows transportation services to be offered to American customers in the most efficient way, providing transport services that vary as to speed, price and mode. A critical component of intermodality is the Nation's surface transportation system, which is our focus today. So, I want to give you a bit more perspective on the surface transportation company for which I am the CEO: FedEx Freight, our less-than-truckload operating company.

FedEx Freight includes 40,000 team members and operates more than 20,000 vehicles from 370 service center locations that collectively transport, on average, more than 100,000 daily shipments. To give you a few more numbers about the size and scope of our LTL operation:

- FedEx Freight road and city operations, along with our purchased transportation motor and rail use, total more than 5 million average daily miles traveled.
- This highly engineered network moves on average more than 250 million pounds in daily loaded weight.

FedEx Freight, along with other transportation and logistics companies, pumps the lifeblood of commerce, transporting goods from manufacturers, warehouses and retailers to business end-users and consumers. Without improved surface infrastructure and wise policy decisions from Washington, FedEx and other companies cannot continue to help grow the U.S. economy and increase jobs. The need for significant investment in our infrastructure has never been more critical.

Interstate Road System

The building of the U.S. interstate highways fundamentally changed our country and the way we work together as Americans. It took 17 years to create and fund the idea of the interstate, beginning with a 1939 Report to Congress and culminating with President Eisenhower signing the Federal-Aid Highway Act of 1956.

Our interstate system is now over 60 years of age and it is in desperate need of updating. We need both short and long term investment. Short term, we must stop the deterioration in many interstate roads and bridges that have long suffered from neglect. Long term we need a plan to modernize, improve, and expand the entire system.

Currently, more than 40 percent of major U.S. highways in urban areas are congested. On average, a typical American commuter loses 34 hours sitting in traffic each year. According to the American Society of Civil Engineers (ASCE), over 30 percent of U.S. interstates are in poor or mediocre condition. These substandard roads result in drivers paying \$67 billion, or \$324 per motorist, annually in vehicle repairs and operating costs. The ASCE rates U.S. roads 19th in the world, behind Namibia.

Left unaddressed, future demand will continue to challenge our bridges and roads for years to come. As previously mentioned, the U.S. Department of Transportation projects that by 2045 freight volume will increase by 45 percent and currently there are 20 new proposed interstate highway segments. The expected volume growth will add even more pressure on freight bottlenecks throughout the country and further hamper the performance of our highway system and the transportation industry alike by adding delays to truck freight. We must build this modern interstate highway system, as the current situation can no longer be tolerated.

Along with the American Trucking Associations, FedEx supports Federal investment in highways primarily funded by user fees. The trucking industry—which currently pays more than 40 percent of Federal highway user fee revenue—supports an increase in highway user fee payments if they perceive value in the form of road and bridge improvements from the expenditures. The sources of revenue should:

- 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.

We must identify revenue sources that provide sufficient long-term funding for the Highway Trust Fund. We must recognize that due to changes in vehicle technologies, fuel taxes cannot alone fund the system. Alternative vehicles such as electric and natural gas need to also pay a user fee. This can now be easily done through technology. Consequently, FedEx supports a broad mix of revenue sources in order to avoid over-reliance on a single option. The recent, bipartisan effort to adequately fund the Inland Waterways Trust Fund can serve as an example.

Increase Freight Program Funding

The FAST Act created a new National Highway Freight Program to provide funds across all states for needed highway-specific freight improvements, but only funded it at about \$1.24 billion a year. The legislation also created a new Nationally Significant Freight & Highway Projects Program, funded at \$900 million per year distributed to every state by formula. Any infrastructure package moved through Congress going forward needs to significantly increase funding for FAST Act freight programs

so states will have sufficient funding to begin addressing their needs over the remaining years of that legislation.

National Uniformity in Areas of Innovation

With the explosive growth of e-commerce, the Nation's supply chains are quickly adapting to American consumers' expectation of fast and efficient delivery of consumer products. Supply-chain programs are moving from an inventory-based "manufacture-to-supply" model to a "manufacture-to-order" model. Emerging technologies such as vehicle-to-vehicle and vehicle-to-infrastructure communications and autonomous vehicles need to have a transportation and digital infrastructure able to allow innovations that drive productivity and results toward maximizing the efficiency of transportation networks.

New technological advancements are changing the way we look and think about our transportation needs. These technological advancements must be factored into what kind of infrastructure we need now in the 21st Century. It is critical the U.S. have policies that encourage national uniformity in areas of innovation as we advance into the next century. A good example is in the area of autonomous vehicles.

The National Highway Traffic Safety Administration ("NHTSA") recently issued the Federal Automated Vehicles Policy, the first Federal policy on automated vehicles. Focused on "highly automated vehicles" (HAV), the guidelines show that the Federal Government sees automated car technology as a safer alternative to cars driven by humans. Importantly, the NHTSA establishes a Model state policy. The model policy seeks to promote consistency in state autonomous vehicle regulations. It allows a manufacturer to focus on developing a single HAV fleet, rather than 50 different versions to meet individual state requirements. Because State regulations vary widely, a lack of national uniformity creates difficult issues for manufacturers and service providers.

FedEx supports Federal efforts to encourage national uniformity as innovation offers solutions for our transportation needs. However, Federal guidelines need to be reasonable and flexible with respect to technology developments, and not become overly restrictive, in order to allow technology to grow without hindering advances. If guidelines err too much on the side of caution, or are too broadly or indiscriminately applied, it could slow innovative solutions necessary to overcome the Nation's transportation challenges.

Modernization

Given the state of our country's current infrastructure and the projected growth in freight volumes, FedEx supports the modernization of trucking equipment standards. FedEx is part of *Americans for Modern Transportation (AMT)*, a diverse group of American shippers, deliverers, and retailers working to improve transportation infrastructure and policy. Fast, safe, and reliable shipping needs to be a top priority in building an American economy geared for the future. We can make smarter, more effective use of existing infrastructure now, while also leveraging technologies and solutions that bring about greater safety and efficiency.

Around 70 percent of all U.S. domestic freight tonnage moves by truck—that is 10.5 billion tons of freight. As transportation demand has increased over the years, equipment standards for other transportation modes have adjusted to accommodate the increased capacity—such as rail utilizing double-stacked containers.

Less-than-truckload (LTL) carriers, including FedEx Freight, rely primarily on twin trailers to haul freight. In 1982, Congress fixed a standard of 28 feet for twin trailers that States must allow on their highways. Capacity expansion has not been adjusted for over two and a half decades due to the Federal Government freeze on truck size and weight under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

FedEx and AMT strongly support increasing the national standard for twin trailers from 28 feet to 33 feet. The adoption of a 33-foot twin trailer standard would allow a carrier, on any given lane, to increase the volume carried up to 18.6 percent before having to add incremental trips. Importantly, 33-foot twin trailers would be subject to the same Federal law that applies to 28-foot twin trailers today, which limits their operation to the National Highway System (NHS) and gives states wide discretion to determine the appropriate segments of the NHS on which the equipment can safely operate. Additionally, this solution requires no increase in the Federal gross vehicle weight limit of 80,000 lbs., and therefore, it would not increase wear-and-tear on the highway system. In fact, with fewer truck trips, there would be less stress on the road system. According to a 2015 U.S. DOT study, if a national standard of 33-foot twin trailers had been widely adopted in 2014, it could have already resulted in over 3 billion fewer miles traveled, saved \$2.6 billion in oper-

ational costs for the LTL industry and provided congestion-relief savings for all motorists of nearly \$1 billion.

Fewer trucks on the road also means significant saving on fuel and emissions. By increasing the length of twin trailers by just five feet, fuel consumption is reduced by 255 million gallons every year, with a concomitant annual reduction of 2.9 million tons of CO₂ emissions.

Most importantly, studies have shown 33-foot twin trailers are stable and safe. They perform equal to or better than current 28-foot trailer combinations in four critical safety measurements: static rollover threshold, rearward amplification, load transfer ratio, and high speed transient off tracking. FedEx and other trucking companies have been operating 33-foot twin trailers for years in states like Florida. Our drivers tell us repeatedly they find them to be more stable than 28s. In addition to improved stability with the 33-foot trailers, safety would be enhanced by simply reducing the number of truck trips and miles driven.

FedEx Freight Safety Investment

FedEx Freight has long been at the leading edge of safety innovation and technology in the LTL industry and has an industry-leading safety record. The following advanced safety systems are currently deployed on 80 percent of our road fleet: Collision Warning/Collision Mitigation, Lane Departure Warning, and Roll Stability. Our road fleet will be 100 percent equipped with these systems by June 2018.

In addition, our entire fleet is equipped with electronic speed limiters, which limit our vehicles to speeds of 65 mph or less. Approximately 87 percent of our fleet now has the latest telematics, cameras and electronic logging device systems installed and operational. That number will soon be 100 percent, well ahead of the December 2017 compliance date. FedEx Freight is leading the industry on implementation of these safety technologies, and we support an FMCSA rule mandating that proven safety systems be in all commercial motor vehicles.

Conclusion

The time is now to modernize our country's transportation infrastructure. Freight volumes and roadway congestion are increasing. Continued private sector investment in updated safety and efficiency technologies should be complemented with Federal and state policies that support long-term transportation funding and innovation. Collaboration and sustained commitment to modernization will be vital to ensuring a reliable transportation system for American consumers, businesses and the growing e-commerce marketplace.

The CHAIRMAN. Thank you, Mr. Ducker.

Next we have Mr. James Pelliccio.

Did I pronounce your name correctly?

Mr. PELLICCIO. Yes, Chairman.

The CHAIRMAN. And you are the President and CEO of Port Newark Container Terminal. That would be in New Jersey.

Mr. PELLICCIO. Yes.

[Laughter.]

The CHAIRMAN. Mr. Pelliccio is also the President of East Coast Operations at Ports America. Port Newark Container Terminal is located in Port Newark, New Jersey, and handles over 700,000 containers annually.

Welcome, sir.

STATEMENT OF JAMES PELLICCIO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, PORT NEWARK CONTAINER TERMINAL; PRESIDENT, ATLANTIC DIVISION, PORTS AMERICA; AND MEMBER, COALITION FOR AMERICA'S GATEWAYS AND TRADE CORRIDORS

Mr. PELLICCIO. Thank you, Chairman Fischer, Ranking Member Booker, and distinguished members of the Subcommittee for inviting me to appear before you today and share my views on multimodal freight policy from a marine terminal perspective. I'm representing both Ports America and Port Newark Container Ter-

minal as well as the Coalition for America's Gateways and Trade Corridors. The Coalition is a diverse group of more than 60 public and private organizations dedicated to increasing Federal investment in America's multimodal freight infrastructure.

Ports America is the largest marine terminal operator in North America. We manage operations in more than 42 ports and 80 locations. In a typical year, Ports America handles more than 13 million 20-foot equivalent units, 2.6 million vehicles, 10.5 million tons of general cargo, and 1.5 million cruise passengers.

Ports America maintains focus in key areas, including terminal concessions, joint venture partnerships, infrastructure funding, public-private partnerships, labor management, and relationships with the world's leading shipping lines.

Above all is our commitment of a culture of safety. The health and safety of our employees are our single highest priority. Since the 17th century, our harbors and rivers have connected North America to the world. Ports, by their nature, are intermodal hubs and magnets for trade.

Sixty years ago, the world's first containership carrying 58 35-foot trailers from Port Newark, New Jersey, to Houston, Texas, launched a new era in cargo transportation. To create some perspective, last year, a vessel carrying 18,000 containers from Shanghai called on the Port of Long Beach, California. Changes in the global supply chain, including the widening of the Panama Canal, shifts in manufacturing, and increasing liner capacities associated with ultra-large container vessels add to the urgency of strengthening aged and inadequate infrastructure.

The ability to move freight safely, reliably, and expeditiously provides a competitive advantage to U.S. exporters and importers in the global marketplace. I applaud the members of this committee for prioritizing freight infrastructure investment under the FAST Act. This landmark legislation is a down payment on our nation's infrastructure needs and will begin making improvements necessary to keep pace with demands of a growing global economy and population.

It's not simply a matter of spending. Investment must be strategic and cut across traditional modal barriers. Some of freight infrastructure's largest, most complex, and most desperately needed investments occur where multiple modes come together. These instances often require a partnership at the Federal level to help disentangle chokepoints, which place a multitude of burdens on our communities and inhibit commerce.

The FAST Act contains criteria written into law that focuses on freight movement infrastructure. The goals of the program include increasing global economic competitiveness, improving connectivity between freight modes, and improving the safety, efficiency, and reliability of the movement of freight and people.

Competitive grant programs, such as FASTLANE, assist in funding large-scale infrastructure projects. These programs span modes and jurisdictional borders, which are difficult, if not impossible, to fund through traditional distribution methods such as formula programs. These competitive grant programs foster public-private partnerships, which are required on critical multimodal infrastructure projects.

By way of example, as part of a restructured long-term leasing agreement with the Port Authority of New York and New Jersey, Port Newark is undergoing one of the largest privately funded transportation projects in the region. This project will complement improvements by the Port Authority and Federal investments in rail, road, channel, and bridge infrastructure. PNCT alone has spent over \$200 million in upgrades since 2011 and will spend between \$500 million and \$600 million at completion of the project.

Last December, Essex County, New Jersey, submitted a FASTLANE application for \$29 million for its \$112 million PNCT Wharf Revitalization project. If awarded, FASTLANE Funding would accelerate the reconstruction of an unusable 1,200-foot berth. In addition, the project will upgrade an adjoining substandard 1,200-foot berth to enable ultra-large container vessels to call the port at Newark and support the expansion of PNCT's Marine Highway barge service. Seventy-three percent of this project would be privately funded.

FASTLANE, coupled with private capital investments, will fast-track Port Newark's development plans years ahead of schedule and will allow PNCT terminal operations to coincide with the raising of the Bayonne Bridge, the expansion of the Panama Canal, and the completion of the New York Harbor and Kill Van Kull deepening projects.

In addition to FASTLANE, TIGER grants are critical for transportation projects that are difficult to fund through traditional distribution methods. Whereas the FASTLANE program was developed with freight-focused investment criteria, the TIGER program can address many types of mobility needs, including freight, mixed-used infrastructure, and transit.

While traditional formula programs invest to a standard 80 percent Federal, 20 percent non-Federal match, under competitive grant programs, such as TIGER and FASTLANE, states and localities are encouraged to bring their best deals to the table, driving innovation and creative funding and financing arrangements and frequently reducing the Federal funding share.

This is exemplified in the Essex County, New Jersey, TIGER award at Port Newark Access Improvement, which flipped the traditional model, 80/20 formula model, on its head: thirty percent of the funding came from Federal Government, and 70 percent was from private industry.

According to the USDOT, for every one dollar of Federal monies distributed through the TIGER program, \$3.50 is leveraged through other sources, including private funds. The first round of FASTLANE yielded similar results. The grants, totaling \$800 million, will be combined with other funding sources to support \$3.6 billion in investment.

In closing, the Coalition for America's Gateways and Trade Corridors recommends Congress take the following steps: develop a national strategy that guides long-term planning; provide dedicated, sustainable, and flexible funding, a minimum of \$2 billion annually through multimodal, freight-specific competitive grant programs; implement a set of merit-based criteria for funding allocations; and encourage partnerships with the private sector.

Chairman Fischer, Ranking Member Booker, and distinguished members of the Subcommittee, thank you for the opportunity to testify today.

[The prepared statement of Mr. Pelliccio follows:]

PREPARED STATEMENT OF JAMES PELLICCIO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, PORT NEWARK CONTAINER TERMINAL; PRESIDENT, ATLANTIC DIVISION, PORTS AMERICA; AND MEMBER, COALITION FOR AMERICA'S GATEWAYS AND TRADE CORRIDORS

I would like to thank you for allowing me the opportunity to testify before the Senate Committee on Commerce, Science and Transportation's Subcommittee on Surface Transportation and Merchant Marine Infrastructure, Safety, and Security.

Today I am representing both Ports America/Port Newark Container Terminal as well as the Coalition for America's Gateways and Trade Corridors ("the Coalition"), a diverse coalition of more than 60 public and private organizations dedicated to increasing Federal investment in America's multimodal freight infrastructure. I thank Chairman Fischer, Ranking Member Booker and Members of this Subcommittee for the opportunity to share my views with you. It is a pleasure to sit before the Subcommittee's Ranking Member, Senator Booker, and I thank him for his commitment to improving goods movement in our home state of New Jersey.

At the turn of the Century in America, port cities fueled the growth of a new nation. Dockworkers built New York into the busiest harbor in the Western Hemisphere. Then on April 26, 1956, shipping and the supply chain changed forever, as the first containership set sail from Port Newark. In the 1960s, the first marine container terminals in the world were built on Newark Bay.

Port Newark Container Terminal, or PNCT, is located at the heart of the Port of New York and New Jersey ("PONYNJ"), the largest port on the East Coast of North America and second largest port complex in the Nation. In 2016, the PONYNJ handled 6.3 million 20-foot equivalent units (TEUs) and captured approximately 30 percent of North American East Coast market share. PNCT has a substantial imprint in the region, occupying roughly 300 acres and handling over 1.2 million TEUs or 20 percent of the container market share in the Port of New York and New Jersey.

The Port of New York and New Jersey supports 190,100 direct jobs 336,000 total jobs; \$21.2 billion in personal income; nearly \$53.5 billion in business income; and almost \$7.1 billion in federal, state and local tax revenue across a 31-county region.¹ Moreover, for every job that Port Newark Container Terminal creates, another indirect job is created in Essex County, the county in which PNCT is located.

The ability to move freight safely, reliably, and expeditiously provides a competitive advantage to both exports and imports in the global marketplace. I applaud the efforts made by the Members of this Committee in prioritizing freight infrastructure investment under the FAST Act. This landmark legislation is a downpayment on our Nation's infrastructure needs. It is paramount that we acknowledge that much more is needed in order to maintain and improve aging and insufficient infrastructure in order to keep pace with the demands of a growing global economy and population.

The multimodal freight network of the United States directly supports 44 million jobs and impacts every American's quality of life. Moreover, it is a critical force in the world's largest economy: the system moves 55 million tons of goods daily, worth more than \$49 billion. That's over 63 tons per capita annually; meanwhile, the U.S. population is expected to increase by 70 million by 2045.² Such population growth presents both challenge and opportunity—to capitalize on a growing consumer base, our infrastructure network must be up for the task.

Every sector of our economy depends on highly-efficient freight infrastructure in order to be competitive in the global marketplace, and businesses are taking note of deficiencies. According to a 2014 study by the National Association of Manufacturers, 65 percent of members surveyed do not believe that infrastructure, especially

¹ New York Shipping Association, *The Economic Impact of the New York-New Jersey Port Industry*, July 2014. < http://nysanet.org/wp-content/uploads/NYSA_Economic_Impact_2014V2>

² U.S. Department of Transportation, *National Freight Strategic Plan*, October 2015. <https://www.transportation.gov/sites/dot.gov/files/docs/DRAFT_NFSP_for_Public_Comment_508_10%2015%2015%20v1.pdf>

in their region, will be able to respond to the competitive demands of a growing economy over the next 10 to 15 years.³

According to the U.S. Department of Transportation, the annual cost of congestion, including passenger car delay on roads shared with trucks, is estimated at \$1 Trillion, roughly seven percent of U.S. economic output.⁴ To foster economic growth, retain U.S. businesses, and attract new industry, the U.S. needs freight infrastructure which provides a safe and competitive platform for the U.S. market. Unique from other types of infrastructure wide investment, investment in the Nation's multimodal freight network is an economic multiplier. Not only are jobs created immediately in the construction phase, but an efficient goods movement system will attract and retain U.S. businesses, support exports, and benefit the economy for future generations.

It's not just a matter of spending. Investment must be strategic and cut across traditional modal barriers. Some of freight infrastructure's largest, most complex, and most desperately needed improvements occur where multiple modes come together. These instances often require a partnership at the Federal level to help disentangle chokepoints which place a multitude of burdens on our communities and inhibit commerce.

The FAST Act created a much-needed competitive grant program designed to target investments in large freight and highway projects. The Nationally Significant Freight and Highway Projects Program, or FASTLANE program, contains criteria written into law that focuses on goods movement infrastructure. The goals of the programs include, *increasing global economic competitiveness, improving connectivity between freight modes, and improving the safety, efficiency and reliability of the movement of freight and people*. Competitive grant programs, such as FASTLANE, assist in funding large-scale infrastructure projects, spanning modes and jurisdictional borders, which are difficult, if not impossible, to fund through traditional distribution methods such as formula programs.

As part of a restructured long-term leasing agreement with the Port Authority of New York and New Jersey, PNCT is undergoing one of the largest privately funded transportation infrastructure projects in the state of New Jersey. Leveraging other multimodal transportation projects in the region, funded by the Port Authority and Federal investments in rail, road, channel and bridges infrastructure, PNCT has spent \$200 million in upgrades since 2011 and will spend between \$500 and \$600 million by 2030 to complete the project. These upgrades will double the capacity of the terminal allowing PNCT to adequately handle forecasted increased volumes while improving efficiency and resiliency. However, this progress would not be possible with private investment alone.

The County of Essex, New Jersey submitted a FASTLANE application under the second round seeking \$29.7 million for its \$112 million PNCT Wharf Revitalization and Improvement Project. Of note, 73 percent of this project is privately funded. If awarded, FASTLANE funding will accelerate the reconstruction of a decommissioned and unusable 48-year old 1,200-foot berth. In addition, the project will upgrade an adjoining substandard 1,200-foot berth to enable Ultra Large Container Vessels (ULCVs) to call at Port Newark following the completion of the raising of the Bayonne Bridge. Additionally the upgrade will support the expansion of the Marine Highway barge service system. These projects are linked to support a more efficient marine transportation system in the region.

These projects would not be completed in a timely manner using only traditional funding. While traditional formula funds complement a grant funding approach and provide state departments of transportation a funding stream to carry out construction, maintenance and preservation of the Nation's highways, their ability to fund non-highway freight projects is severely limited. Freight mobility—on all modes—requires added capacity and improved efficiency to keep pace with growing demands. Connectivity among the modes is key to the efficient movement of goods. These large-scale infrastructure projects, spanning modes and jurisdictional borders are not funded via traditional methods; therefore, we must continue to support non-traditional methods of funding in order to ensure the implementation of these key multi-modal projects.

³Horst, Ronald and Jeffrey Werling, National Association of Manufacturers, "Catching Up: greater Focus Needed to Achieve a More Competitive Infrastructure," September 2014. <<http://www.nam.org/Issues/Infrastructure/Surface-Infrastructure/Infrastructure-Full-Report-2014.pdf>>

⁴U.S. Department of Transportation, National Freight Strategic Plan, October 2015. <https://www.transportation.gov/sites/dot.gov/files/docs/DRAFT_NFSP_for_Public_Comment_508_10%2015%2015%20v1.pdf>

In addition to the Nationally Significant Freight and Highway Projects program, TIGER grants, are critical for transportation projects that are difficult to fund through traditional distribution methods, however the two are not interchangeable. Whereas the Nationally Significant Freight and Highway Projects Program was developed with freight-focused investment criteria, the TIGER program can address many types of mobility needs—including freight, mixed use infrastructure, and transit.

While formula programs invest through a standard 80 percent Federal to 20 percent non-federal match, under competitive grant programs, states and localities are encouraged to bring their best possible deal to the table, driving innovative and creative funding and financing arrangements.

Competitive grant programs frequently drive down the Federal share through creative financing arrangements, private sector participation, and strong non-federal matching. This is exemplified through Essex County, New Jersey's TIGER award for the Port Newark Terminal Access Improvement Project, which flipped the traditional 80/20 formula match on its head. Thirty (30) percent of funding came from the Federal Government, and 70 percent was from private industry. According to the U.S. Department of Transportation, for every \$1 of Federal monies distributed through the TIGER program, \$3.50 is leveraged through other sources, including private funds. The first round of Nationally Significant Freight and Highway Projects program yielded similar results: the grants, totaling nearly \$800 million, will be combined with other funding from federal, state, local, and private sources to support \$3.6 billion in infrastructure investment.

As Congress contemplates its Fiscal Year 2017 budget, I urge you to retain and robustly fund the TIGER competitive grant program. It has been a critical program for freight infrastructure, including ports.

It is important to note that 95 percent of the market for U.S. goods lies outside of U.S. boundaries,⁵ and more than 90 percent of global trade is waterborne.⁶ Ports are critical to moving goods produced in the U.S. to foreign markets. Decreasing investment in transportation and infrastructure is not a choice which supports economic growth.

Federal Role for Freight Investment

Freight congestion is more than a hindrance to economic growth—it is also a threat to public health and safety. Congestion from any mode of transport diminishes air quality and impacts essential community services such as police and EMS response times. In so many instances, local communities are bearing the environmental and social burden of nationally-significant freight movement, but they are unable to foot the bill on large-scale infrastructure projects that would alleviate negative impacts.

The benefits of freight movement accrue nationally, and as such, there is a Federal responsibility to be a partner in making improvements, and in many instances, there is an opportunity for private sector contributions. State and local governments cannot shoulder the burden alone, nor can this lift be expected to be borne entirely by the private sector.

Without a campaign of strategic investment to expand capacity and increase efficiency, U.S. productivity and global competitiveness will suffer, costs will increase and investment will lag. As Congress considers steps to meet these needs, perhaps through a large-scale infrastructure investment proposal, we respectfully ask that the following steps be considered:

Develop a national strategy that guides long term planning: A national “vision” and investment strategy that shapes and guides the Nation’s freight infrastructure system with active coordination among states, regions, localities is needed. A focus on multimodal freight should be established within the U.S. Department of Transportation’s Office of the Secretary to guide freight mobility policy and programming with a particular focus on projects of national significance that aid in the movement of commerce.

Project planning horizons for freight needs extend over multiple decades, therefore planning and financing approaches must be facilitated to support these long-term projects that enable economic growth, both domestically and internationally.

A unique mix of public and private infrastructure and specialized knowledge at the Federal level is required to understand the operational and economic differences

⁵ U.S. Department of Commerce, *Build it Here, Sell it Everywhere: Why Exports Matter*, May 2012. <<http://www.commerce.gov/news/fact-sheets/2012/05/17/fact-sheet-build-it-here-sell-it-everywhere-why-exports-matter>>

⁶ International Chamber of Shipping. <<http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade>>

between the various types of goods movement infrastructure. For example, port infrastructure development challenges will be different from challenges presented by highways and roads. This investment strategy should include innovative and flexible approaches to structuring Federal financial assistance in a manner that encourages private sector investment.

Existing and undersubscribed programs such as TIFIA, which hold the potential to provide leverage to grant programs and private investment need to be retooled from a platform to support public entity partners to a platform of public-private partnerships. Over the past two years PNCT has continued to work with the Build America Bureau at the U.S. DOT to establish creative financing initiatives through the TIFIA program in support of infrastructure development in Port Newark.

Provide dedicated, sustainable, and flexible funding: Federal funding should incentivize and reward state and local investment and leverage the widest array of public and private financing. In addition to current programming, a minimum annual investment of \$2 billion dedicated to multimodal freight infrastructure, and distributed through a competitive grant program is needed. We encourage Congress to provide oversight for the existing Nationally Significant Freight and Highway Projects Program and the Freight Formula Program to ensure this funding is used to improve freight infrastructure.

Implement A set of merit-based criteria for funding allocation: A goods movement funding program, such as the Nationally Significant Freight and Highway Projects Program grant program, should select projects through merit-based criteria that identify and prioritize projects with a demonstrable contribution to national freight efficiency. Long-term funding must be made available to ensure that, once a project is approved, funds will flow through to project completion. Funds would be available to support multi-jurisdictional and multi-state projects, regardless of mode, selected on the basis of objective measures designed to maximize and enhance system performance, while advancing related policy objectives.

A partnership with the private sector: Private participation in the Nation's freight infrastructure is vital to system expansion. Federal funding should leverage private participation and provide transportation planners with the largest toolbox of financing options possible to move freight projects forward quickly and efficiently. The establishment of an advisory council made up of freight industry members and system users could assist and partner with USDOT in order to foster such partnering with the private sector.

Our nation's ability to move goods is tied to the quality of our multi-modal infrastructure, a key component of U.S. economic growth.

I would like to thank the Committee for their time and attention to this critically important topic.

The CHAIRMAN. Thank you, sir.

And thank you to the panel for your opening statements. With that, I will begin the first round of questioning.

Mr. Fritz, you discussed the importance of a balanced regulatory structure for freight railroads which invest billions in their own infrastructure. Can you provide us with any details as to the consequences of an unbalanced or overreaching with Federal regulations for our nation's railroads?

Mr. FRITZ. Certainly, Chairwoman. As you recognized, it's very important for us to be able to earn a return, and part of that is the regulatory environment. We invest something like \$3 billion or \$4 billion a year, and we own and maintain our own right-of-way.

Our safety regulatory, the Federal Railroad Administration, has recently put forward a potential rule to, for instance, mandate two people in a cab of a locomotive. We just heard from several panels here exhorting this Committee to support autonomous vehicles, both a partner in some cases, and a competitive mode in others. It strikes the rail industry and me personally as extremely ironic that our primary safety regulator would mandate staying frozen in time for the railroads versus actively supporting our competitive mode in pursuing autonomous vehicles.

Our point is let technology take us where technology is going to take us. I think the regulatory environment that would make most sense is one where it's performance-based as opposed to command-and-control based. It uses waivers as an excellent way to test technology and test out new regulation, and also would allow us to test technology with a little bit more encouragement as opposed to exhorting us to live in the past.

The CHAIRMAN. If I can follow up with you in that you're talking about moving away from the command-and-control style regulations, and you talked about performance-based and utilizing technology so that you can see even greater safety. Give me an example of how that would work exactly and why you think it would be safer.

Mr. FRITZ. Sure. So right now we have—Union Pacific has three or four installations on our railroad where trains go through these installations. Think about them as a portal, a gantry, a portal of devices, and at 60 or 70 miles an hour, it takes 50,000 images per second of every car on the train. And it uses laser infrared imaging, high-speed digital imaging, and onsite, it crunches those 50,000 images to determine if that car or that intermodal box is in good operating condition. If it's not, it identifies where the possible defect is and sends that image on to the terminal where the train is going to ultimately terminate so that the carmen working in that terminal can fix the defect as opposed to spend really unproductive time searching for defects.

What that does is it helps us find more defects than the human eye can find, we get it fixed more rapidly, it enhances the customer experience, and it removes people from environments where there is significantly more risk to them, *i.e.*, walking in and around equipment while in a terminal. That's something that we would love to be able to advance as a methodology for inspecting cars as opposed to forcing our carmen to do it by eye.

The CHAIRMAN. Thank you.

And, Mr. Leathers, I share your concerns about addressing the commercial driver shortage. And you mentioned several potential ways to address the challenge, including decreasing testing delays or requiring the U.S. Department of Labor to designate truck driving as a national in-demand occupation.

How do you believe that greater training or any kind of innovative technologies can help us to be able to address that shortage?

Mr. LEATHERS. So I think, Senator, there's a gamut of things that we could and should be doing. I think the first thing I'd like to start with is more of a statement. I think the men and women that drive, the professional drivers delivering our Nation's freight every day, deliver over 70 percent of the tonnage, and they're doing it in our nation's service. And these folks out there work diligently every day to try to do it safely.

What we have to do is find ways, innovative ways, as you've mentioned, to allow them to focus all of their efforts unfettered on safety and safely delivering of freight, and remove any obstacles that aren't directly tied to that specific benefit.

As it relates to driver testing, we've seen driver CDL delays. So we take a driver, a driver goes to a truck driving school, they graduate from that school, and they want to be tested. They have a job

waiting for them. So you talk about shovel-ready. This is wheel-ready, and we're awaiting their employment.

Well, they may take 2 to 4 weeks in some states before we can get them a test. By the time that test takes place, those skills have eroded. We need to be able to be quick on the draw, be able to eliminate bottlenecks where they exist, and get these folks tested.

Once they test out, we and others like us, still put them in a finishing program. So they're not done yet. They come to Werner, they go through 6 to 8 weeks of additional training. That's necessary. That's something we're committed to, to make sure the driver we put on the road is truly professional and able to do it as safely as possible.

But anything we can do, from arbitrary restrictions on CDL permitting, where we can't cross state lines where a school may exist to be able to get your CDL permit, so you can engage in your education and get back to work sooner, those are things that we need to focus on.

I want to correct the record a bit. We're not one that's proposing that autonomous trucks are going to solve this problem. I do believe that autonomous truck technology solves a different problem, which is it allows the driver to have a better way of life.

If we can take the technologies that we're gaining today already, what's called Level 2 autonomy, which are integrated into trucks today—collision mitigation, integrated collision mitigation, forward braking, forward cameras, lane departure technology—we can eliminate or greatly reduce accidents on our Nation's roadway. We want to see a focus on that type of investment, and that kind of investment be better rewarded for those people that are taking it.

You know, I mentioned in my testimony \$50 million of investment in safety technology, but that's the cost of admission. To get that technology, we spent \$980 million in the last 2 years in capital expenditures for a company that's much, much smaller than some of my competitors up here, because to get the new technology, you need a new truck to go with it, and we're buying those trucks in great volume to try to ensure a better lifestyle for our drivers.

The CHAIRMAN. Thank you. Senator Booker and I are interested in working on partnerships when it comes to the use of technology, and I happen to think transportation is a really viable area where we're going to be seeing that in the future. So thank you very much.

Senator Booker.

Senator BOOKER. With your permission, Chairman, I would like to pass my time on to Senator Hassan.

The CHAIRMAN. OK. Senator Hassan.

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

Senator HASSAN. Thank you, Madam Chairman and Ranking Member Booker. And thank you for passing your time on to me.

And good afternoon to all of our panelists. Thank you so much for being here.

I wanted to start with you, Mr. Ducker. We know what a critical role the trucking industry plays in our economy and certainly in my home state of New Hampshire. And you referenced a little bit

the things that FedEx have done. You've really demonstrated exceptional leadership, as I understand it, in using new technology and promoting safety across your fleet. I know there is more work that needs to be done to ensure safety, and we've been talking about it, and Mr. Leathers was just speaking about it. But I'd like to give you an opportunity just to elaborate a little bit more on what FedEx is working on and what additional measures you hope to see taken in the future to improve safety on our highways.

Mr. DUCKER. Well, thank you, Senator Hassan. And you're absolutely right. And to Ranking Member Booker's comment, any accident is one too many, so improving safety has always been a focus for us. That's why we've always been at the top of the charts in terms of safety performance.

So there are a lot of things that I think we could do. We are working right now and will have within the year 100 percent of our employee road fleets, we're also incenting any of our independent service providers, to have the following technologies, and Derek mentioned some of them in his testimony: collision mitigation; lane departure mitigation; roll stability; telematic event recorders, which help inform you about the future; electronic logging devices. One hundred percent of our fleet is already speed limited at 65 miles per hour and has been for many years. Our drivers go through extensive training, 100 to 200 hours of one-on-one instruction before they ever go out on the road on their own.

We have a top-notch research and development division at FedEx where we look at every new safety technology that's coming on the marketplace. If it's out there, we've seen it. We take it in, we test it, we determine its viability for the operation, and then we seek driver feedback and employee feedback on all of those. And once approved, then, as Derek said, we spend the capital and we put it to work in all of our systems because nothing is really more important.

I think we have to continue to look at all of those kinds of new innovations because the markets out there are changing rapidly, supply chains are, and we have to meet those challenges with technology where we can. Automated vehicles is just one example of that.

Senator HASSAN. Thank you.

Mr. Pelliccio, I wanted to touch on the Marine Highway project with you. Through the Maritime Administration, the Department of Transportation is working to better integrate our Marine Highway vessels and ports into the Nation's surface transportation system. Better integration will help alleviate freight congestion and provide additional benefits, such as alleviating the impact of shipping on our environment.

So what is your assessment of the need for this program and the feasibility of it?

Mr. PELLICCIO. Thank you. We have spent a considerable amount of time studying the 23,000 miles of Marine Highway capability that exists in the United States and that are underutilized. I have worked closely with the Maritime Administration in these discussions, and we're focused on areas of the country where we believe this is best served. One example is the Northeast Corridor.

We are currently—we were currently appointed a Marine Highway System and began running services on an ad hoc basis between Port Newark Container Terminal and Brooklyn Red Hook Terminal. If you look at that particular corridor, we refer to it as the Liberty Corridor, up through Massachusetts, there is a great opportunity to begin to consider through the supply chain how overweight hazardous material, refrigerated material, can be handled within that corridor.

We're looking now at different possibilities regarding placing of equipment chasses, potential locations, and we're studying the feasibility from an economic standpoint on how that can compete.

I see this as complementary to the other modes of transportation currently as a marine terminal. We're an intermodal function where we turn cargo over to rail, truck, and now barge. We're doing it throughout the country to different degrees, but in our most congested areas of the country, it follows considerable logic, it makes sense for us to think about what the future will look like with the change in container vessels that will approach many of the gateway cities in the United States. Today, we may handle a vessel that carries 9,000 containers, but will discharge 2,500 or 1,500 containers on a particular move. In tomorrow's environment, we'll handle ultra-large container vessels that will discharge as many as 6,000 and 7,000 containers in that same window and will put further pressure on the supply chain.

So the Marine Highway is, I think, a reality for the future of our industry. It's certainly a reality relative to the roadway infrastructure that we feed today. The environmental impact is inarguable. It makes significant sense for us from an environmental perspective. We are working with Labor, we are working with the port authorities, and we're working with the states to develop a schematic that will allow us to launch that program, and we're in the midst of that now.

Senator HASSAN. Well, thank you. And I see that I've gone over time. I appreciate very much your work on that, and we'll follow up with you about what more could be done to move that initiative forward.

Mr. PELLICCIO. Thank you.

Senator HASSAN. Thank you all very much.

The CHAIRMAN. Senator Wicker.

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

Senator WICKER. Thank you, Mr. Chairman.

And thank you all. I appreciate what each of your companies is doing with regard to moving product around the country. I hope we get an infrastructure bill. I hope you're all enormously successful because that will mean the economy is successful.

As my colleagues know, I've taken a strong position, though, against the idea of forcing the Twin 33 trailers on states, on the 30 states, that have opted out of this. And there are huge concerns, safety concerns, as expressed by sheriffs, by the AAA, and by safety advocates that have come to see me.

But my question today, Mr. Fritz, is with regard to whether the large-scale implementation of Twin 33s would tilt the playing field

in terms of competition. Would large-scale implementation of Twin 33s negatively affect the railways?

Mr. FRITZ. Senator, we're in the process of evaluating that exact question amongst other aspects of the Twin-33 initiative. Our historic position has been one where we have not taken a position; we have essentially been neutral on the topic. We're in the process of reevaluating that, and I do not have a direct answer for you today.

Senator WICKER. OK. You know, there have been a number of entities that have reevaluated. For example, the American Trucking Association last year lobbied extensively in favor of moving to a twin-33 mandate, and they announced in January of this year that they do not plan to push in this session for an extension length of twin trailers beyond their current legal limit. As a matter of fact, the ATA website says, "We support a reformed Federal truck size and weight regime that gives states more flexibility," and of course, that's what I support, "to authorize safer, cleaner, and more productive vehicles, and that retains Federal regulations designed to promote interstate commerce." So this is the ATA reevaluating their position.

Do you know, Mr. Fritz, if the Association of American Railroads has taken a position on twin-33 trailers or increases in truck length?

Mr. FRITZ. The Association reflects its membership on the topic, which is largely neutral and also in the process of evaluating that position.

Senator WICKER. OK. Well, let me shift briefly in the 2 minutes I have to this issue of on-dock railway access. And this is a concern to my state of Mississippi, because we are interested in multimodal and intermodal access with our ports.

So to Mr. Pelliccio and Mr. Fritz, what suggestions do you have to improve transportation efficiency between the railways and the ports? And how much does on-dock railway access at ports increase the efficiency of intermodal transportation?

And, Mr. Pelliccio, I'll go to you first.

Mr. PELLICCIO. Well, thank you. And it's actually an excellent question. It's critical. When you think about port infrastructure, you think, you have to recognize, that we are the entry point and the exit point. Our responsibilities to the Midwest and non-coastal cities outside of the immediate gateway is critical for the supply chain.

In the case of—and I'll give you one example: We recently connected on-dock rail in our Newark operations where we brought what was previously a rail yard less than a quarter mile from our operation with a rail flyover bridge. We took 1,000 truck moves a day off the busiest roadway connecting the ports of New York and New Jersey from the north end to the south end of the port. We took 1,000 truck movements a day through that intersection off and connected them directly to the rail. We've quadrupled productivity of containers, their ability to move containers to that rail yard. And we've increased the capacity of that rail yard, lowering the environmental footprint caused by moving trucks through a public roadway to access that rail yard. That's one example. There are many, many examples. If you go to ports throughout the tri-coastal footprint, you will see opportunities to upgrade port infrastructure.

Another very good example is the on-dock rail in the port of Seagirt, Maryland, where we're working with the Maryland DOT and the Maryland Port Authority and CSX to raise the Howard Street Tunnel to allow double stacking for rail from the port of Seagirt, which will again increase capacity in the North Atlantic and the northeastern United States.

So I don't think you can overstate the importance of bringing rail and ports together as the supply chain continues to grow. The requirement to feed rail from the ports efficiently is paramount.

Senator WICKER. Madam Chair, I wonder if we could get a brief answer from Mr. Fritz on this issue.

Mr. FRITZ. Thank you, Senator. I couldn't agree more with Mr. Pelliccio. Likewise, adding in, in the intermodal products space, which generates I'll call it 13.5 million units of volume annually for the railroad industry, there's that critical connectivity between ports, trucks, and the railroads where the railroads are part of the solution to much of what we've been discussing here today as the potential problem, which is, how do you create more capacity in the states' highway system and allow for more robust, safer transportation via highway?

Intermodal product is great, and you hit it right on the head, Senator, from the standpoint of the connectivity of ports to rail to highway is critically important because ultimately the last mile or last 50 miles or sometimes the last 150 miles are executed by a truck. And so railroads very much support robust infrastructure investment. And we love it when you perceive that as being critically important in the connection points for intermodal product.

Senator WICKER. Thank you.

The CHAIRMAN. Senator Inhofe.

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

Senator INHOFE. Thank you, Madam Chairman.

It's going to be interesting. This Committee and the Committee that I chair, and the Environment and Public Works Committee, the Transportation Committee, we're all going to be working real close together and keeping pretty busy, I think.

Mr. Ducker, first of all, let me thank you because you opened up a big station in Oklahoma City. In fact, you came out for the dedication, and I did, too. And I just think it's—let me ask you one question about it. I know you have a hundred C&G trucks. Is this also, the station, going to be servicing the public, too, or just your trucks?

Mr. DUCKER. Just our trucks.

Senator INHOFE. OK, we'll talk about that.

Mr. DUCKER. Yes, sir. OK.

[Laughter.]

Senator INHOFE. All right. No, I was going to ask the same question that Senator Hassan asked about some of the innovative things that you have done, but you already answered hers.

Let me, Mr. Leathers, mention one other thing having to do with CDLs. The way it used to be, and I know you know this, but some of the members of the Committee may not know this, that you could go ahead and get a learner's permit or get a driver's permit

in your home state or in another state, and then when you come back to your home state, that would be honored. Then the Federal Motor Carrier Administration implemented a rule that would prevent that from taking place.

First of all, I don't understand why they did that. And, second, is there a solution to that to accommodate people who want to go back to the old system?

Mr. LEATHERS. Senator Inhofe, that's a great question. And so from our perspective, if we are going to take driver training seriously and get best-in-class training out there for men and women entering this industry, we are better served with larger scale, centralized operations with the best in technology, driver simulators, all of the ability that we can to invest to make sure that we give them the highest quality training. If we were to have—

Senator INHOFE. Which you could not do with all of the states—

Mr. LEATHERS. Which you could not do—you could not do across 50 states. And so realistically speaking, it is a far more cumbersome system we have today for somebody to have to get a CDL permit in their home state—

Senator INHOFE. All right. What is a solution?

Mr. LEATHERS. I think we have to allow them to get CDL permitting in the state of their school, where they're going to be taking their education, just like certification in other fields would take place the same way, some sort of Federal standard on a CDL learner's permit so that they can go to school, be educated, and be prepared for a career where there are jobs waiting.

Senator INHOFE. OK. Well, I will be helpful to you in that endeavor.

Mr. LEATHERS. Thank you.

Senator INHOFE. So stay in touch.

The FAST Act, when we passed the FAST Act, I was Chairman of the Environment and Public Works Committee. It was the biggest thing that we have done since 1998, and the first time that we had a provision in there for a national freight program. And it also provided for FASTLANE grants. In fact, we, in Oklahoma, had a FASTLANE grant, Mr. Fritz, that was very helpful in accommodating people to get by the railroad crossings. And I think you probably had some pretty good results like we have in Oklahoma. It's kind of a win-win situation because it helps the community with their congestion and it helps the railroads. Any comments about that?

Mr. FRITZ. Yes. The kind of spending that you've just outlined, which in a pure sense is public-private partnership—

Senator INHOFE. Yes.

Mr. FRITZ.—is a perfect way to target those freight dollars. We see the benefit when communities want to step into an investment with a freight railroad like Union Pacific that we couldn't justify the project on our own, but we'll receive some benefit from as well in terms of a more fluid network and a better service product for the customer base. Grade crossing separations are an example of that. So can be last-mile investment, like Senator Wicker mentioned. So we are very supportive of what you just talked about.

Senator INHOFE. Yes. Well, it's worked out very well in my state of Oklahoma. In fact, you, Mr. Ducker, you cite the congestion in our Nation's highways and in our cities as a major issue that you face daily. What are some of the proposals that you recommend out there that might reduce that congestion?

Mr. DUCKER. Well, I think there are a number of things that can. I brought up one in my oral testimony, putting less trucks on the road by increasing the capacity of the trucks that are already on the road with Twin 33s as opposed to Twin-28 trailers, as one. Congestion pricing is another thing that could be considered. Perhaps new roads that are built around congestion areas paid for by tolls. That sometimes has a public-private partnership element to it. I think there are a number of things.

Using the technology that my colleagues have talked about here early in terms of connecting customers with our vehicles and with the delivery schedules that we're on is another example of that as well. So those are just a few thoughts that come to mind on that.

Senator INHOFE. That's good.

Thank you, Madam Chairman.

The CHAIRMAN. Thank you, Senator Inhofe.

Senator Duckworth.

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

Senator DUCKWORTH. I want to thank the Chair and Ranking Member for convening today's hearing. And I want to thank our witnesses for participating in this very important conversation.

Mr. Fritz, as Union Pacific knows, any serious effort to improve our Nation's freight rail system must prioritize Illinois, the busiest rail hub in America. Can you remind us how much freight rail traffic passes through Illinois every year?

Mr. FRITZ. Yes. So if I narrow that down to Chicago, it's hard for me to speak to the full state, but roughly 25 percent of the Nation's freight traffic wants to move through Chicago.

Senator DUCKWORTH. I like how you say "wants to move through Chicago."

[Laughter.]

Senator DUCKWORTH. We're going to get to that part.

In your testimony, you touched on the CREATE program, a first of its kind public-private partnership to improve our region's rail network. In Illinois, we have already experienced benefits of the CREATE program. However, I strongly believe that CREATE could serve as a model to be copied throughout the Nation.

As a CREATE participant, would you be able to elaborate on the program's benefits and share your view on whether Congress should consider expanding this model for other important rail hubs around the country?

Mr. FRITZ. Absolutely, Senator. And the short answer is I am very supportive, and we've had a very positive experience. For the rest of the Committee, CREATE was birthed in the early 2000s, call it about 2002, and it was a partnership between all of the freight railroads that serve Chicago, plus Amtrak, state and local government, and the Federal Government, and it was designed to leverage private dollars, railroad dollars, investment dollars, with

public spending to benefit both Chicago area residents and the Nation's freight rail network. It's had tremendous benefit.

A couple of touch points. The time it takes for a car to get through Chicago has been reduced by about a third. That's a big lift when you consider how much traffic is trying to make it through Chicago. And it's also a big benefit when you consider how much traffic moves through Chicago.

So we've also had an opportunity to reduce emissions in the city and in the state because now we have freight trains moving more fluidly through. And we've improved safety because what you don't want to do is have freight traffic dwell and get a community lulled into thinking freight trains aren't moving as opposed to moving through routinely.

So it's had many, many benefits, and we are very supportive of finding ways to expand that concept in other locations. And we are making small steps in that area in other metropolitan cities.

Senator DUCKWORTH. Thank you. I think the data point that people are always astonished to hear—I'm speaking to your 25 percent trying to get through Chicago—is that it takes freight cargo 48 hours to get from the Port of LA to Chicago, and then another 30 hours just to get from one side of Chicago to the other. And so the 75th Corridor Project, Improvement Project, which you talked about under CREATE, is critical not just to Chicago and Illinois, but the entire Nation's freight supply system. So I thank you for your answer.

Would you also concur that this project is a textbook example of the type of investments Congress intended to support when it created the FASTLANE program in late 2015?

Mr. FRITZ. I would say certainly it is. It benefits the public, it benefits the Nation's ability to move freight, and it benefits our economy by enhancing our ability to produce and ship goods.

Senator DUCKWORTH. Thank you. I want to further expand on freight, Mr. Ducker. Would you agree with Mr. Fritz, that improving freight reliability benefits companies like FedEx? And also I would be interested in your perspective on the importance of improving freight efficiencies on the national economy and all the different modes of travel as well.

Mr. DUCKER. Yes, I would absolutely agree. With the rapid growth of e-commerce in the country, it has really overtaken the networks that have been created for many, many years. And so we're not modernizing these networks fast enough. Regulation is not keeping up with the pace of innovation and automation. And so I absolutely agree that it's a crucial issue for our country as we go forward.

I think by some estimates, we'll have a 15 percent compounded annual growth rate in freight traffic over the next 5 to 6 years, and so a lot of that is driven by e-commerce. So investment in the infrastructure and also the technology that enables the infrastructure has to be a key part of our future.

Senator DUCKWORTH. Thank you. Would you speak to aviation as well? We talked about rail here, but would you like to put in your two cents on things like the O'Hare Modernization effort?

Mr. DUCKER. Well, absolutely. As one of the larger airlines in the world serving 220 countries with a fleet of 655 planes, this is near

and dear to our hearts. And we've done some pretty creative, innovative things with Federal Aviation, but we certainly are always looking for ways to innovate and improve the aviation sector.

O'Hare is certainly one of the busiest airports in the world. We have a huge facility there with a large number of employees. So we're supported. We've already moved our facility once in O'Hare to make it a much more smooth-flowing, productive, and efficient freight terminal. But certainly those projects are very important to us as well, and an updating of the architecture and the infrastructure of the Nation's aviation system in total is very important to a company like ours, as it is to Chicago.

Senator DUCKWORTH. Thank you.

I yield back. And I thank the Chair.

The CHAIRMAN. Thank you.

Senator Udall.

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

Senator UDALL. Thank you, Madam Chairman, and thank you, Senator Booker, for this hearing. Very good panel. Good to see all of you here today.

Mr. Fritz, we've heard a lot about the border from Candidate Trump, and now President Trump, about building a wall, about raising tariffs on products coming from Mexico. And this talk has caused a lot of major concerns in my home state of New Mexico, concerns about whether the President's economic policies could hurt jobs and business opportunities. And I believe New Mexico could be one of the most hardest hit by a trade war.

New Mexico, most people here probably don't know it, but New Mexico exports \$1.6 billion in goods to Mexico every year, so we have significant trade going on there. I'm headed down to the border in a few weeks to celebrate a new port of entry—we have several along the border—in Columbus and to highlight international trade in nearby Santa Teresa. And as you know, Mr. Fritz, you have a substantial operation down there that I'm going to talk about in a bit, but I hope maybe you'll join us in that trade discussion down there.

Union Pacific has invested more than \$400 million in a Santa Teresa rail center. This multimodal complex is located along the border near Las Cruces, El Paso, and Ciudad Juárez. This center can move tremendous amounts of freight in both directions across the border.

And this week we expect President Trump to formally start the process of renegotiating the North American Free Trade Agreement. Many folks are on edge wondering how disruptive any negotiation process or resulting agreement will be. And one thing I feel quite strongly about is that any updated NAFTA agreement should be submitted to Congress for approval.

And so, Mr. Fritz, what does the renegotiation of NAFTA mean for Union Pacific, especially at the Santa Teresa facility there where you have made such significant investments? And what advice do you have for Congress and the Administration to ensure that any NAFTA renegotiation is as smooth as possible and avoid significant business disruption?

Mr. FRITZ. Thank you, Senator.

Senator UDALL. You bet.

Mr. FRITZ. As I mentioned in my testimony, international trade is critical to America's freight railroads. It's critical to the U.S. economy.

Just a couple of touch points. One in three acres in the United States is grown for export. Exports supports, or international trade supports, something north of 14 million U.S. jobs. Our trade relationship with Canada and Mexico is really inextricably linked in the supply chains for most, if not all, of U.S. industry.

When I look at the renegotiation of the NAFTA agreement, as I mentioned, there are some obvious opportunities for enhancement. We've made significant progress, as individual countries, on environmental law and regulation on labor law, on the development of e-commerce, on the development of complex data flows. Those are not reflected adequately in the current agreement. So those are all opportunities I think.

I think there's opportunity for enhanced language on border security. My admonition to the Administration, or suggestion, is that we tread deliberately and thoughtfully into the negotiation, that we do so—I think it would be most effective in a tripartite conversation as opposed to two bilateral conversations. And I think ultimately the administration talks a lot about helping the economy grow at 3 to 3.5 percent and to create great U.S. jobs, and NAFTA supports both. NAFTA and the trade that is enabled both helps the economy, and the jobs related to our international trade in the United States tend to pay 15 to 20 percent more than the average. So that's how we speak to NAFTA when we talk about it publicly.

Senator UDALL. Mr. Leathers, do you have any thoughts on kind of what's swirling around here and how that might impact trade there on the border?

Mr. LEATHERS. Yes. I mean, for us, it's pretty straightforward. Trucking and trade are inseparable. I mean, we pay very close attention, Werner in particular. We're the largest trucking—truckload company doing business to and from Mexico. I've lived and worked in Mexico, in the interior, prior in my life. I even ran a Mexican trucking company.

I agree there are things with a 22-, 23-year-old agreement that the time has probably come to look at, but tread lightly and be careful and think about what's at stake. This agreement has refutably brought a robust trade arrangement between ourself and our trading partners. And we're all in the North American neighborhood. I mean, we are inextricably linked.

I think we have to be careful of how we proceed. But we're open-minded to the idea of improvements that could be made, but look forward to continuing to serve our customers both in the U.S., as well as Mexico and Canada, which we do happily today at very large volume levels.

Senator UDALL. Thank you both and thanks to the whole panel. Thank you, Madam Chair.

The CHAIRMAN. Senator Blunt.

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

Senator BLUNT. Thank you, Chairman.

Mr. Fritz, in the last Congress in the long-term transportation package we call the FAST Act, we had a provision in there that I wrote that streamlined the permitting process for railroads just like we had tried in an earlier version of the transportation bill to streamline permitting for highways. Do you have any sense of the implementation of that so far? Or if not, how important it is we're able to get to the work that we need to do?

Mr. FRITZ. Senator Blunt, I do not have a good answer for you as regards the current implementation of that. I can tell you that we applauded the inclusion of that language. When you're trying to invest \$3 billion or \$4 billion a year as a company or tens of billions of dollars a year as an industry into your private network, it's shockingly hard.

I think the vast majority of the American public would not recognize how difficult it is to put a dollar in the ground in the United States if you're a railroad. So being able to streamline that process and bring a little bit of sensibility to it helps us. It helps us because, as I mentioned in testimony, we make very large, very long-term dollar bets. And when that time-frame is extended on the front end, once you've made the decision that an investment makes sense, all you're doing is enhancing the risk, most likely increasing the cost, and you probably haven't done anything to increase the benefits.

So it just makes a risky investment all the more risky. And the bottom line of those investments is so that we can provide a much better experience for our customer base, which is building America, which is essentially the fabric of the American economy.

Senator BLUNT. Thank you for that. As we look down the road of what comes next, we're seeing this great opportunity, and world food demand doubling in 35 years or so, world food need will double, and 10 years longer than that, we think the demand comes even quicker. You've got at the table people who really have a sense of the intermodal from air freight to truck to train.

What do we need to be thinking about that makes that intermodal competition work better for us than it's working now, and hopefully better for us than it works anywhere else? But give me a sense of how we maximize what we do and the ways we do it so that we maximize our competitive opportunity.

Mr. Ducker, do you want to start?

Mr. DUCKER. Certainly, Senator Blunt. Thank you for the question. And interestingly enough, we all three work together to deliver that today. We use each other's networks. We're each other's partners and customers. And so it's a very important concept for the growth of the transportation network long term.

I think probably the most important thing that we have to do is to find a method of funding and get started. There are 20 or so projects. I have a list of them here with me today that are ready to go as soon as we can. They've been highlighted as real congestion and chokepoints. So I think that's one thing.

And I think finding a sustainable source of funding, one that doesn't run out year one. But how do we fund it for the future so that we can secure these networks for the long haul?

And then, third, what kind of regulation do we create that allows for greater innovation, greater use of the technology, to connect those kinds of networks together?

Senator BLUNT. And you've got the 20 places we ought to start? Is that what you're telling me?

Mr. DUCKER. Well, I've got a list. It's not my personal list, but it is one that certainly has received some widespread attention.

Senator BLUNT. If you haven't offered it already, I would hope you're sure to leave it with us before you leave. I would like to look at that.

Mr. DUCKER. I will definitely leave it here. There are real chokepoints.

Senator BLUNT. Mr. Leathers, same concept.

Mr. LEATHERS. Well, I concur. I mean, I think when you think about a national highway system that represents 5 percent of the road miles in America but carries 93 percent of truck vehicle mile traveled, we've got some work to do on that infrastructure. But to the intermodal point, we do business and work with everybody at this table on a daily—or a monthly, if not daily, basis.

I think what you will find is that freight transportation is becoming increasingly complex, people want everything tomorrow, and we can't allow ourselves or our organizations to be petty about what mode it moves. Our expectation is to find and be mode-neutral, find a way to get it to them most efficiently.

And so where the investment dollars are needed is in these intermodal connected facilities, these bottlenecks that have been identified clearly by the American Transportation Research Institute. And some of those are highway-specific. Some of those are truck-centric. Many are not. Many are intermodal hubs where we're all interacting together.

And so I think if we're able to be mode-neutral on those investment dollars and put them where the pain is, we can go a long way in a short time with releasing some of this congestion that's out there tearing up the American public's cars. I mean, one of the estimates has average damage to a vehicle today at \$523 a year in just road damage wear and tear. That's avoidable expenses if we get after funding.

And I agree with Mr. Ducker that it's an "and" proposition. There's not a single silver bullet. But we need to explore all options. We certainly have preferences of some over others. And simply stated, our preference for fuel tax is just that it has the highest percentage of dollars raised going to the actual fund versus being diverted to administration of the actual collection activity itself.

Senator BLUNT. Thank you. I'm out of time. I may have a couple of questions to submit for the record, Mr. Pelliccio, to you and others on that same topic. So thank you.

Mr. PELLICCIO. Thank you, Senator.

The CHAIRMAN. Senator Blumenthal.

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

Senator BLUMENTHAL. Thank you, Madam Chair.

I'd like to ask each of you, how far away do you think driverless trucks are? I assume that it's in years, not months.

Mr. LEATHERS. I guess I'll start. Obviously, technology is evolving very rapidly. What we like about it is that we get the safety benefits in the short term. I think we're a long, long way away from true driverless trucks going down America's roadways and hauling 80,000 pounds of gross vehicle weight without a driver in the cab.

Planes have been able to take off and land for a long time. None of us got here today in a pilotless plane. I think these professional men and women do many other tasks other than just driving, and the anticipation and professionalism they bring to the job can't be underestimated.

Senator BLUMENTHAL. So maybe I misheard. A long ways away?

Mr. LEATHERS. So I believe, and if you speak to some of the autonomous companies themselves, there's rhetoric around 5 to 10 years from being able to reliably go from exit to exit, which means you'd still have a driver in the cab even then. I believe those estimates may prove to be optimistic. But we need to embrace their endeavors because from their endeavors, we receive today collision mitigation technology, lane departure technology, lots of benefits that our drivers are able to enjoy, and more importantly, the motoring public is able to be made safer.

Senator BLUMENTHAL. Mr. Fritz?

Mr. FRITZ. Senator Blumenthal, I'll leave the timing question to my trucking expert panelist partners. But one thing that I would add to the discussion is there is not a lot of conversation about the necessary infrastructure that's not truck-based that would enable true autonomous vehicles traveling around the country. They need well-defined lanes. They need lots of communication infrastructure.

And in your mind's eye, you think about the roads that you travel on, that you see trucks on. Do all of them have excellent lane designation? Are they all uniform? Do they have excellent signage? Do they have excellent signal? So there's a lot of infrastructure that goes into enabling a nationwide network of autonomous vehicles—

Senator BLUMENTHAL. And we're nowhere near that.

Mr. FRITZ. Not very close.

Senator BLUMENTHAL. Mr. Drucker—Ducker, I'm sorry.

Mr. DUCKER. Yes, sir, Senator. Thank you for the opportunity to comment. You said, is it months or is it years? And it is years away from that. But I do believe we should embrace the technology. These driver-assisted systems—

Senator BLUMENTHAL. But when you say "years"—and I'm not holding you to your estimate—I don't think you're under oath. In the Judiciary Committee, we swear every witness in, but not here.

Mr. DUCKER. Yes.

[Laughter.]

Senator BLUMENTHAL. So I'm looking for, as a complete layman in this area, 5 to 10 years. It's not 5 to 10 decades, I assume. But I will just say as a layman and as a driver, I have some severe ap-

prehension about the idea of driverless trucks. And so I'm looking for just a general estimate.

Mr. DUCKER. Well, I think Derek stated it quite well. We have one of the most modern fleet of aircraft available in the world today, and we still have a pilot behind the wheel of that airplane. And so I think total autonomy is years and years away. I think you can get to a situation where you have platooning, and that quite possibly is a driver-assisted system that would—is safer. The reaction time on those, one-tenth of a second compared to a second for human interaction.

So I think you will progress over time, but I think we should embrace it in order to improve the overall freight transportation network. And certainly I think a driver's job, to the shortage problem, would be enhanced greatly with these automated systems over the course of time, not, as some have stated, replace the driving job. I don't believe that's going to happen anytime soon.

Senator BLUMENTHAL. Thank you. I'm happy to let you off the hook because I'm about to run out of time, Mr. Pelliccio, but please answer if you—

Mr. PELLICCIO. Senator, our paradigm is different. Four and five thousand mile networks as opposed to four and five hundred acres. Technology plays a very important part for safety and productivity in our operations, and automation in many cases is much closer to being a bigger part of our operation in the future. But it is a different paradigm, but it plays a critical role.

Senator BLUMENTHAL. Well, I just want to make the point that last year the National Highway Traffic Safety Administration issued guidance, only guidance, for automated passenger vehicles, also known as driverless cars. Later this year, the Federal Motor Carrier Safety Administration, the agency that oversees the trucking industry, is expected to issue similar guidance as to driverless trucks.

And I believe, going especially to Mr. Fritz's point—and I agree wholeheartedly—that there is a need for real rules of the road, literally rules of the road, if we are ever to change the current model of how trucks are driven, in other words, without human beings driving them. Someone has to drive them.

And even with drones—and we're just developing the rules of the road for drones, and a lot of it's being done at the state level, as I know from my own state of Connecticut—there still have to be drivers. They are automated to the extent they're up in the air without someone actually in them, but someone is actually driving them in the sense of determining where they go. So I appreciate your answers because I think they illuminate the work still to be done apart from the technology because even with the best technology, you're still going to need rules, and I hesitate to use that program regulation, but you're going to need regulation. This is an area where regulation is going to be important. So thank you for your testimony.

Thanks, Madam Chair.

The CHAIRMAN. Thank you.

Senator Booker.

Senator BOOKER. Thank you very much, Chairman.

So, Mr. Pelliccio, thank you very much for being here and representing the great state of New Jersey.

Mr. PELLICCIO. Thank you, Senator.

Senator BOOKER. Do you feel some Jersey pride right now?

Mr. PELLICCIO. I do. Thank you.

Senator BOOKER. I'm grateful for that, sir. I'm really grateful for that.

Mr. PELLICCIO. All right. Maybe we can have dinner in Newark.

Senator BOOKER. And listen to some Bruce Springsteen at the same time.

Mr. PELLICCIO. All right. We'll do that.

Senator BOOKER. Good.

[Laughter.]

Senator BOOKER. So you talked about the importance of these grants that we've been applying to really—I was pleased one of the first things we were able to get done as a Senator, was get a TIGER grant for the port area. But can you help me understand why these competitive grants are important as opposed to just giving money through the states in accordance to sort of the freight formula? Can you sort of—are there ways that we can improve these programs? Do you have any ideas or thoughts on that?

Mr. PELLICCIO. You know, Senator, the competitive platform for TIGER and FASTLANE really provides an environment for individual projects, complex multimodal projects, in the case of supply chain, to be able to get on the table and combine both private sector capabilities and dollars with public grants to really accelerate projects, projects that are—we've spoken a lot today about the supply chain and the connectivity of the supply chain—projects that would otherwise be delayed or go unfunded. And you find that very much in the port network.

We know that the FASTLANE grants and the TIGER grants have been oversubscribed significantly. And we understand that. But to me, it's really a leading indicator relative to just how important they are and how many critical projects are out there, fully recognizing that you cannot solve every problem every day.

But if you look at the traditional models, the 80/20 model for federally-funded projects, every project that I've engaged in or at least put on the table had a 70/30 share with private dollars coming in, and significantly reducing the Federal share of those grants.

So I think it puts our best ideas forward. It allows us to rank projects. It's a bottoms-up process that comes from the state and project level, and it's a very, very effective platform.

Senator BOOKER. And I will just emphasize what you said, it's very effective, and, frankly, for those taxpayer dollars invested, there's a huge multiplier effect in terms of economic growth, job opportunities, and the like.

Mr. Leathers or Mr. Ducker, can you just comment on the fact that we're talking about a massive infrastructure investment in this country, and there are different philosophies, let's say, about the ways to do it? Some folks want to do it just from tax breaks to the private sector, which I imagine would mean more tolls. As opposed to direct investment, just doing it through tax breaks, what effect would that have on your industry?

Mr. LEATHERS. Do you want to go first?

Senator BOOKER. D comes before L, so let's go with Ducker.
[Laughter.]

Mr. DUCKER. OK. I think it's going to require a variety of methods, but we have said we believe the most direct method, the quickest method, the easiest to collect, has been the index of fuel tax or vehicle user fees.

Senator BOOKER. Right.

Mr. DUCKER. And so some of the other items that have been stated should be considered as alternatives. That's the most direct—

Senator BOOKER. If I can cut you off, direct payments?

What about you, Mr. Leathers?

Mr. LEATHERS. Well, so similarly. I mean, the fuel tax we think is the easiest, most efficient, cleanest, in terms of administration to get funds into the private place. There's a place for private-public partnerships at certain bottlenecks, but that's a small—

Senator BOOKER. What would tolls do to your—

Mr. LEATHERS. Tolls, we are averse to tolls on existing highways in a very significant way. I mean, these roads are built. We would like to see them repaired and funded through alternative methods. Tolls, in the best case scenario, use 12 to 14 percent of the cost of the toll in the administration of the booth, you know, of the tolling process; worst case, 30 percent. That's an inefficient use of funds. Just the administration of it alone.

Senator BOOKER. They create bottlenecks, environmental issues—

Mr. LEATHERS. They create bottlenecks. They create environmental issues.

Senator BOOKER. So real quick, you mentioned a lot about the technology from automated cars.

Mr. LEATHERS. Yes.

Senator BOOKER. This is one way that we should be pursuing for safety, right? Because there's a lot of, let's just say, electronic logging devices, crash-avoidance technologies. These are things that you realize that we should be deploying more in the industry, correct?

Mr. LEATHERS. We are 100 percent supportive of electronic logging devices. We are placing, as I mentioned earlier, \$980 million of CAPEX in the last 2 years in integrated safety technologies. We believe the dollar in the investments there—nothing we do is worth getting hurt or hurting others, obviously, but there's an investment, there's a return on investment in these safety dollars and these integrated systems.

Senator BOOKER. OK. So speaking, Mr. Fritz—I didn't want to leave you out here, and it's good to see you here, I'm grateful that you are—when it comes to truck size and weight, we have a very complex intermodal industry. Every aspect, trucks, air, all of that is integrated into one. I just want to ask you, most people don't think about what impact increasing truck size and weight would have on the rail industry. Can you tell me what impact it would have on your industry really quickly if you can?

Mr. FRITZ. Yes. Potentially, it would take freight that's traveling on trains and put it back on the highway potentially. Our perspective on increasing truck size and weight is, first, let's make sure user pays for the consumption of what's being consumed today be-

fore we start growing beyond current consumption. And we're agnostic as to exactly how user pays; fuel tax, weight fees, we really don't care.

Senator BOOKER. And then last question, Mr. Leathers, I'm going to treat you as a hostile witness, just yes or no, please. Is it true that you played football for Princeton University?

Mr. LEATHERS. Yes.

Senator BOOKER. And it is true that Princeton University is located in which state, sir?

Mr. LEATHERS. New Jersey.

Senator BOOKER. Thank you very much.

[Laughter.]

The CHAIRMAN. Do you all see what I have to put up with?

[Laughter.]

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

Senator CANTWELL. Thank you, Madam Chair. And thank you and the Ranking Member for holding this important hearing.

I think what I would like to do is see if I can get the witnesses on record about what we need to do to continue our investment in freight mobility and our port infrastructure. I notice that Canada is investing about \$2 billion annually, and while we did a good job in the FAST Act, I don't know that the "skinny budget" has any numbers or anything on this thus far. So I wanted to get a sense from you of what kind of—not a number, but the commitment to continue to make these investments and the notion that the ports aren't really able to do all this landside investment to help us.

Second, about the last mile, we obviously have lots of port railroad infrastructure that is just the last mile. What do we need to do to make sure that we are recognizing this as a key freight mobility issue as well?

So any of the witnesses who want to—

Mr. FRITZ. I'll start and then turn it over. Thank you, Senator Cantwell.

So a two-part question. The first part is, are we investing enough and what should we be investing in our port facilities? I would encourage you all, I just had an opportunity about 3 months ago to go visit a facility in LA, it's called—actually Long Beach—Long Beach Container Terminal, LBCT. The owner of that terminal is in Phase 2 of a three-phase build-out. This particular installation in the port by itself is going to be capable of handling 2 million TEUs by the end of Phase 2 and up to 3 million if it goes through all three phases. And it's a completely automated terminal. That's the kind of investment that the terminals of the future are going to have to be in order to compete globally to attract the freight that wants to move.

Whatever we can do to encourage technology investment like that, automated vehicles onsite, all battery-powered, not much interaction from once the container ship is docked to when the container is on a dray chassis and heading out the dock. As a matter of fact, they've cut in half the amount of time it takes a drayman to pick up a box and leave.

So in the port facilities, there are examples, they do exist, and we can be globally competitive with that kind of investment.

In terms of the last mile, again, we've talked about it several times today, investing in the connectivity between modes is a win for the United States. We are the envy of the world when it comes to our freight network. Anything we can do to help ease bottlenecks and lubricate the system—and that usually needs to happen at interchange points—is a win for the U.S. economy.

Mr. LEATHERS. I would just like to echo some of Mr. Fritz's comments. I think one of the misnomers out of hearings like this, and inevitably comments that come thereafter, are, you know, people thinking truckers, for instance, are looking to keep everything on the highway. The fact of the matter is when we get a bid in from a customer, the first thing we do is look to see what's the best modal solution. And seldom do we touch freight that didn't originate at a port or isn't destined on the other end at a port.

And so putting money into bottlenecks around the country is critically important. And again I'll restate, on occasion, that may be a bottleneck in an urban market like Atlanta or Dallas or a metropolitan area that isn't directly related to a major freight hub as it relates to intermodal. Other cases are clearly identifiably intermodal in nature. But if we focus our efforts on the 14 to 15 largest bottlenecks in this country and really put the medicine where the pain is, we can go a long way toward eliminating the congestion that this industry has been suffering from for a long time.

Senator CANTWELL. So there isn't any magic that says that Canada—that we can be so efficient that we can invest less than they're investing, is there?

Mr. LEATHERS. Not in the current conditions of our infrastructure.

Mr. PELLICCIO. Senator, I would suggest from a port perspective, automation is certainly a critical part of our future, and we are investing in automation on a number of levels across the portfolio. But I think it's an important question because we need to be sure that there are dollars secured for the physical infrastructure that has at times in many cases in our gateway cities has deteriorated. We are putting significant private dollars into these ports now. And we spoke quite a bit about FASTLANE and TIGER grants and other opportunities to work in partnership with the Federal Government to bring the physical infrastructure up. With the widening of the Panama Canal and the shift in manufacturing to Southeast Asia, you'll see more and more—you'll see larger vessels coming to our ports over the next couple of years, and the port infrastructure has to be prepared to handle that.

I can say we're making gains, but there is much more work to do. The fact that we're having this hearing today and ports are at the table. Oftentimes we find ourselves in a different room when we're discussing transportation dollars because we're somewhat isolated and our business is run separately from what the average citizen sees every day on the roads until something goes wrong.

So be assured that technology is important, it is for our future. Available dollars for infrastructure investment in our key ports is critical.

Senator CANTWELL. Thank you. I couldn't have said that better in the context of this is why we wanted the freight policy to begin with. And I think what you're alluding to is that we actually could lose business if we don't keep at this task. We definitely could get in a position where our delivery of products and services could be choosing different routes because of our level of congestion.

Mr. PELLICCIO. Clearly. And I'll leave you with this, Senator. Our exporters are most sensitive to costs in our transportation network and the supply chain for the markets that they will sell to and market to around the world. And our ports are the beginning of the first mile and the beginning of the final mile, and they're in significant need of attention. And we're working hard to get there. There are a lot of good news stories out there, but it's a void that needs to be filled.

Senator CANTWELL. Thank you.

Senator BOOKER. Chairman, can I just—I want to reiterate that point because it was something I saw when I was Mayor, that literally we could be losing business to other countries because of the inadequacies of our ports as they stand today.

Mr. PELLICCIO. No question. And quite honestly, Senator, the transportation logistics and distribution opportunities that exist in our urban cities that serve as gateways for many of these ports are—we haven't spoken about that, but if you look at how cargo moves today and how the Internet has changed, how people buy, the goods, the final mile of goods, is moving closer to the actual consumer, and cargo in ports, consumers have wrapped themselves historically around ports. Our cities have grown from port cities. That infrastructure is critical to the development of the supply chain moving forward.

Senator BOOKER. Thank you. Thank you.

The CHAIRMAN. My thanks to everyone today. I appreciate the comments from the panel.

The hearing record will remain open for 2 weeks, and during that time, Senators are asked to submit any questions for the record. Upon receipt, the witnesses are requested to submit their written answers to the Committee as soon as possible.

Again, thank you to our panel. We are adjourned.

[Whereupon, at 4:07 p.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
DEREK J. LEATHERS

Question 1. Several of my colleagues noted before I had to leave the hearing that as we explore options for modernizing America's infrastructure we will need multiple strategies. However, we cannot understate the critical role of direct Federal funding for infrastructure projects especially in rural communities.

Mr. Leathers, you note in your testimony that freight bottlenecks create costly delays. These bottlenecks are located in both rural and urban areas. How could direct Federal investment in rural areas improve the flow of freight?

Answer. The Department of Transportation (DOT) is projecting that congestion will worsen in both urban and rural areas if investment in highway capacity continues to fall short of needs. Investments in reducing bottlenecks and identifying key freight networks will improve all aspects of freight movement and the economies in rural and urban areas. For instance, the rural economy has a significant stake in an efficient freight transportation system because transportation accounts for a large share of the production costs for goods such as agriculture, mining, and energy products that are the economic foundation of many rural communities. Addressing the capacity needs of rural roads will prevent increases in the costs of freight transportation, making U.S. products more competitive in global markets, and lowering prices for American consumers throughout the Nation for essentials such as food, fuel, and home energy needs. It should be noted that rural highway investment challenges will not be solved by the private sector because the greater density of traffic in urban areas will always be more attractive to investors. Therefore, direct public investment by local, state, and Federal Government agencies is critical to improving the safety and efficiency of rural highways. Werner commends Congress for the significant steps taken in the Fixing America's Surface Transportation (FAST) Act toward ensuring that federal-aid dollars are invested wisely through the creation of the National Highway Freight Program and Nationally Significant Freight and Highway Projects program. These actions and programs will significantly improve the ability of transportation agencies to better focus investment in rural and urban areas.

Question 2. Apprenticeships provide workers an opportunity to stay in the labor market, earn a living wage and pursue a recognized credential. For employers, apprenticeships provide a custom-trained workforce and improved safety outcomes. That's why I introduced the American Apprenticeship Act with Senator Susan Collins to provide funding for tuition assistance programs to help participants in pre-apprenticeship and Registered Apprenticeship programs.

Mr. Leathers, Werner Enterprises started the industry's first Professional Truck Driver Apprenticeship program. Has the apprenticeship program improved recruitment and retention of new drivers? What incentives could be helpful for other companies to start their own apprenticeship program?

Answer. Thank you for placing a priority on introducing legislation with Senator Collins to improve opportunities for workforce development and connecting workers to jobs. Werner has made significant efforts to grow the driver workforce by partnering with the Department of Labor (DOL) and the Department of Veteran Affairs to start the industry's first Professional Truck Driver Apprenticeship program to further invest in the development and training of professional drivers. Werner partners significantly with truck driving training schools to ensure a stable flow of highly trained, professional drivers in a time when the entire industry is facing a significant driver shortage. Werner has a student driver program that provides tuition reimbursement for professional drivers in truck driving training schools. Werner believes incentives should be considered for providing additional Federal funds for driver training programs and removing barriers to students seeking Federal aid to attend truck driving schools. The DOL should be directed to establish truck driving as a national in-demand occupation, which would free up resources devoted to

filling vacant truck driving jobs. It is important to have a legislative and regulatory environment that allows workforce development and job placement opportunities.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
DEREK J. LEATHERS

I understand that excessive wait times during the loading and unloading process are a serious problem in the trucking industry, particularly for small companies who don't have the negotiating power to charge for detention time, which is the time drivers must excessively wait during loading and unloading. Some argue that many truck drivers give away dozens of hours each week waiting for their truck to be loaded or unloaded.

Question 1. Do you perceive excessive wait times during the loading and unloading process as being a problem for the industry?

Answer. Yes, excessive wait times can adversely impact efficiency in trucking operations. Carriers cannot plan for unexpected delays at a customer facility, which means tying up capacity while waiting for the opportunity to load or unload. This has a negative impact on safety, is part of the reason why the industry experiences high driver turnover rates, and raises the cost of shipping goods for consumers as it lowers overall productivity. The trucking industry takes any type of wait time or delay on our ability to move freight in a serious manner. This is a concern that is felt across the entire industry, whether the company is large or small. Our industry aims to service our customers with consistent reliable service that the American economy demands. Due to the ongoing concern of wait times, Congress has instructed that DOT complete an audit of detention time issues through the FAST Act. The audit is currently underway, and the industry is awaiting its findings. It is our hope that the audit will be a catalyst for action, and Congress will have to determine what steps, if any, it should take to protect efficient good movement from excessive wait times.

Question 2. Is the lengthy detention of drivers a problem for your company?

Answer. It is definitely still a challenge for our drivers, however Werner has worked extremely hard to partner with our core base of shippers to create as many drop trailer opportunities as possible to limit and reduce wait times for our drivers. This is one of our top priorities from a freight characteristics perspective as we onboard new freight opportunities. Our goal is to move our customer's goods in a safe and efficient manner. Certainly any lengthy times when our drivers are not moving goods is a concern, because that is an indicator of a lack of productivity. We closely monitor all aspects of our drivers' productivity, whether that be detention time concerns or even delays caused by congestion on our Nation's roadways.

Question 3. Is this a problem in the industry?

Answer. Yes, it is a challenging issue for the industry.

Question 4. Is this a problem for independent drivers?

Answer. Excessive wait times are a significant problem for all drivers of the industry, whether independent owner-operators or professional drivers of large companies like Werner Enterprises.

Question 5. How should it be addressed?

Answer. There is no easy answer on how to address wait times on a holistic level across the trucking industry due to the diverse nature of operations in the goods movement sector. For example, wait times at our Nation's port facilities may have specific mitigation needs as compared to wait times that drivers experience at a warehouse or traditional shipper. However, the market demands efficiency and it is likely that market forces will eventually solve any obstacles standing in the way of the American consumer. Since this problem is not uniform in nature, we do not see any "one size fits all" solution. The industry will continue to address the problem through agreements between carriers and their customers. The implementation of Electronic Logging Devices will also have a vital impact illustrating the use of time by a driver and will be a tool for collaboration amongst the industry. As DOT continues its audit of detention time, the Agency will hopefully uncover some common trends that the industry and our government partners can address. The research will provide a better understanding of the magnitude and implications of the detention time problem, and any attempts to address it through legislation or regulation would be premature before that research is completed.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TODD YOUNG TO
MICHAEL L. DUCKER

Question 1. Mr. Ducker, revitalizing our Nation's infrastructure is an important part of the agenda for this committee and this administration. As we build infrastructure, it is important that we consider future growth trends and the intermodal needs of tomorrow. I know FedEx spends a tremendous amount of time looking ahead. Indiana is home to one of the largest FedEx transit hubs that employs thousands of Hoosiers. Can you speak to where are you seeing future growth, not just in Indiana but more broadly? Where should Congress be investing not only to repair existing infrastructure needs, but also to efficiently invest in needs ten and twenty years from now?

Answer. We must maximize our existing infrastructure. Our interstate system is now over 60 years of age, and it is in desperate need of updating. We need both short and long term investment.

Short term, we must stop the deterioration of many interstate roads and bridges that have long suffered from neglect. There are over twenty interstate highway projects that are engineered and could move forward now if funding were available. Long term we need a plan to modernize, improve, and expand the entire system.

Freight volumes are projected to increase 45 percent by 2045, and this increase will add pressure to existing freight bottlenecks across the country, further slowing the performance of our highway network and the transportation industry.

One immediate solution to our current infrastructure issues is a Federal increase in the national standard for twin trailers from the current 28 feet to 33 feet. FedEx strongly supports this modernization of equipment standards, which would result in an 18 percent capacity gain without any change to the gross vehicle weight limit. Twin 33-foot trailers would reduce the number of trucks on the road, thereby enhancing safety, decreasing wear and tear on the highways, and reducing fuel consumption and carbon emissions. This common sense solution requires no Federal investment and has near immediate benefits.

We must identify revenue sources for long-term funding for the Highway Trust Fund. As I said in my testimony, in order to avoid over-reliance on a single option, FedEx supports a broad mix of revenue sources, including:

- increasing and indexing fuel taxes;
- a vehicle-miles-driven fee or other direct user-based fee;
- a reduction in the U.S. corporate tax rate; and
- congestion pricing.

In addition to infrastructure investment and equipment modernization, FedEx supports a reduction of unnecessary regulatory burdens, which make it hard for our small and medium-sized business customers to grow. We need appropriate and uniform national regulations that reflect advances in new technology, including the broad adoption of advanced driver assist safety systems for vehicles.

Modernized infrastructure and policies that support innovation will drive efficiency, enhanced safety, technology upgrades, and sustainability improvements, all of which will jumpstart the American economy. The time to act on infrastructure is now.

Question 2. Mr. Ducker, as consumers and businesses buy more and more goods via e-commerce, your resources will be strained. Could you tell me about the various technologies that FedEx and other logistics companies are utilizing to deliver goods to more efficiently and economically serve consumers?

Answer. The boom in e-commerce has changed consumer behavior and increased demands on our Nation's transportation infrastructure. Global growth in e-commerce has changed the retail landscape, and it has also highlighted the importance of a modern infrastructure to keep pace with consumer demand.

We must work together on policy and solutions that will modernize our surface transportation system and drive our economy forward. Infrastructure investment must not be limited to road and bridge improvements. A holistic modern transportation system will combine physical and digital infrastructure enhancements with sound transportation policies, including incentives for improved safety and fuel efficiency. A broad mix of sustainable funding sources for the Highway Trust Fund is essential for long term success.

We must also modernize our equipment standards, which haven't been updated in over 25—35 years. FedEx strongly supports the proposal to increase the national standard for twin trailers from the existing 28 feet to 33 feet, which is a sensible and immediate solution with proven gains in safety, efficiency, capacity and sustainability.

Emerging technologies, such as vehicle-to-vehicle and vehicle-to-infrastructure communication platforms; autonomous vehicles; and platooning show great promise for increased efficiencies and sustainability, but most importantly for increased safety.

FedEx supports more research into artificial intelligence and advanced autonomous technologies and just as important, uniform and reasonable regulatory guidelines to allow these technologies to continue improving efficiency and safety while also addressing our Nation's transportation and infrastructure challenges.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
MICHAEL L. DUCKER

For the last five decades, traffic fatalities on our roads had been declining. However, data recently released by the National Highway Traffic Safety Administration (NHTSA) show that from 2014 to 2015 there was a seven percent increase in traffic fatalities. We know that distractions behind the wheel played a part in this rise. I included a provision in the FAST Act to help more states qualify for Federal grants to fight distracted driving.

Question. Mr. Ducker, what does FedEx do to educate its drivers about the dangers of distracted driving?

Answer. At FedEx, the safety of our employees, our customers and the public is always our first priority. A culture that values "Safety Above All" starts with our Chairman and is engrained throughout all FedEx operating companies and employees.

Prior to any employee taking the wheel of FedEx Freight equipment, he/she must meet a number of minimum requirements, including possession of a current, valid commercial driver's license as well as certain experience and physical requirements. FedEx Freight also conducts an extensive background check including a review of the individual's driving safety record and experience through his/her Motor Vehicle Record and criminal background checks. Additionally, all drivers must successfully complete FedEx Freight's Driver Development Course which involves 364 hours of education and training, including observation rides; video and computer-based education; yard skills development; and 160 hours of on-the-road/behind-the-wheel training. Even experienced commercial driver's license holders hired by FedEx Freight as drivers must complete 156 hours of FedEx Freight's Driver Development Course education and training. The Course includes education and training specifically directed at the dangers of distracted driving, and our company policy also prohibits use of wireless devices while the vehicle is in motion.

All FedEx Freight over-the-road trucks are equipped with the following safety systems, which also assist in reducing the dangers of distracted driving:

- Lane Departure Warning systems;
- Collision Mitigation System with Adaptive Cruise Control;
- Electronic Stability Control; and
- Electronic Speed Limiters.

FedEx Freight trucks are also equipped with telematics systems which include cameras for the detection of safety-related events in order to provide more effective ongoing training and education for our drivers. We advocate for the broad adoption of the most modern and advanced safety systems for the trucking industry.

In our on-boarding and annual recurrent training, we review the dangers of distracted driving and reaffirm our commitment to driving distraction free. Items addressed include the following:

- Cell Phone/Texting—prohibited use while vehicle is in motion
- Eating—prohibited while vehicle is in motion
- Drinking—awareness
- Securement of items in cab—awareness
- Construction zone—heightened awareness
- Smith System 5 Keys—Safe Driver Training
 - Aim high in steering
 - Get the big picture
 - Keep your eyes moving
 - Leave your self an out
 - Make sure they see you

In addition, all company-provided electronic devices lock out while the vehicle is in motion.
Please let me know if you need any additional information.

