

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

**BEFORE THE  
U.S. SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION  
SUBCOMMITTEE ON SURFACE TRANSPORTATION AND  
MERCHANT MARINE INFRASTRUCTURE, SAFETY, AND SECURITY**

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

**APRIL 4, 2017**

**UNION PACIFIC RAILROAD  
1400 DOUGLAS STREET  
OMAHA, NE 68179**



**BUILDING AMERICA®**

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.

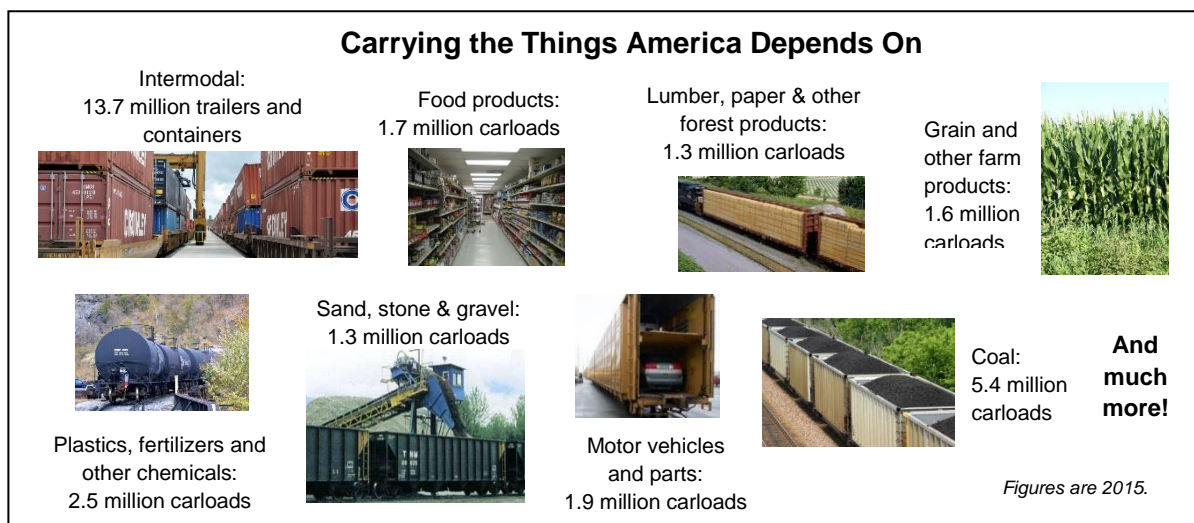


Figure 2

## 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.
- 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.

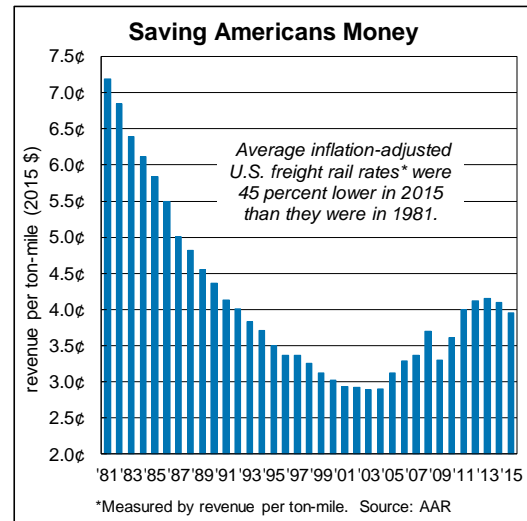


Figure 3

### 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).

Railroads today have lower employee injury rates than most other major industries, including trucking, airlines, agriculture, mining, manufacturing,

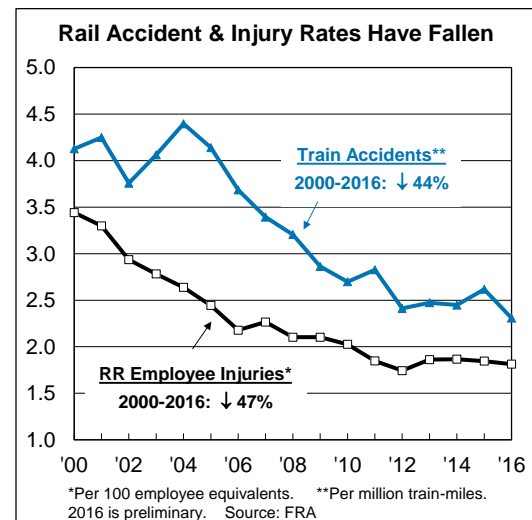


Figure 4

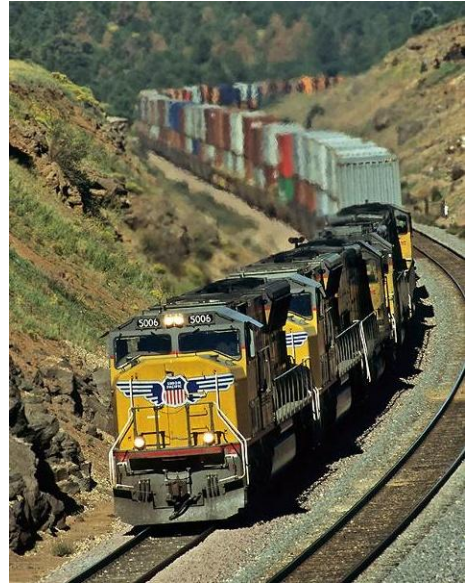
and construction — even lower than food retailers.

Safety improvements extend to hazardous materials too — over 99.99% 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).<sup>1</sup>

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<sup>1</sup> The 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.

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).

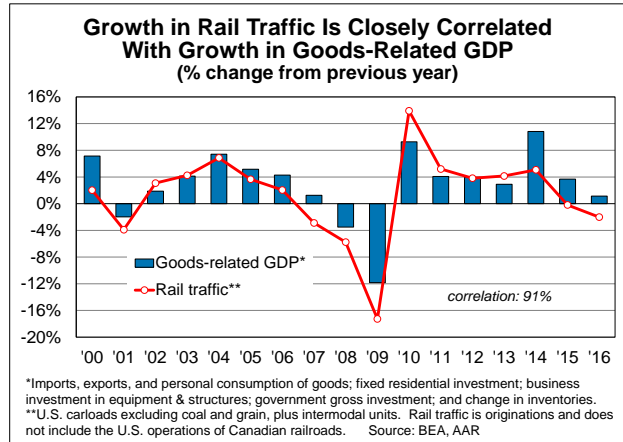


Figure 5

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).

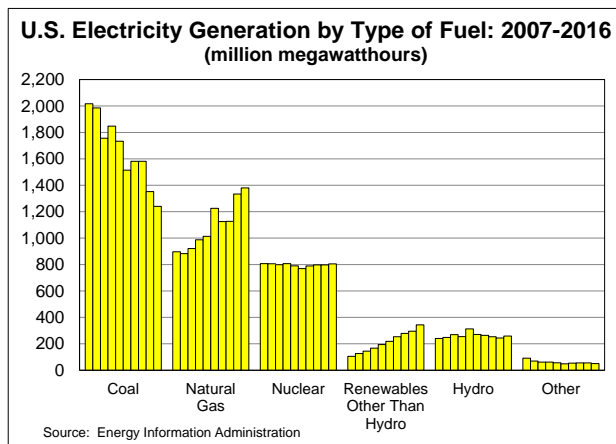


Figure 6

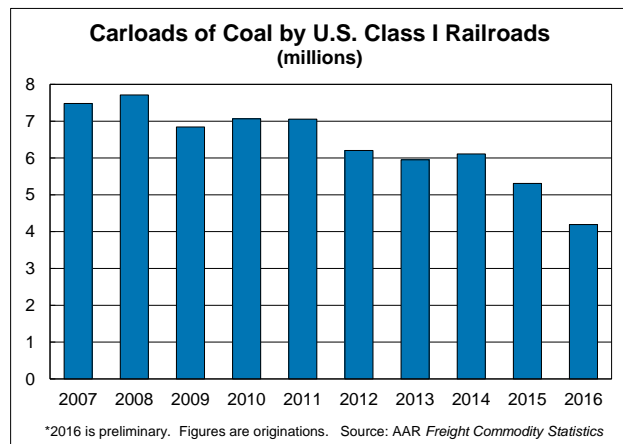


Figure 7

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.

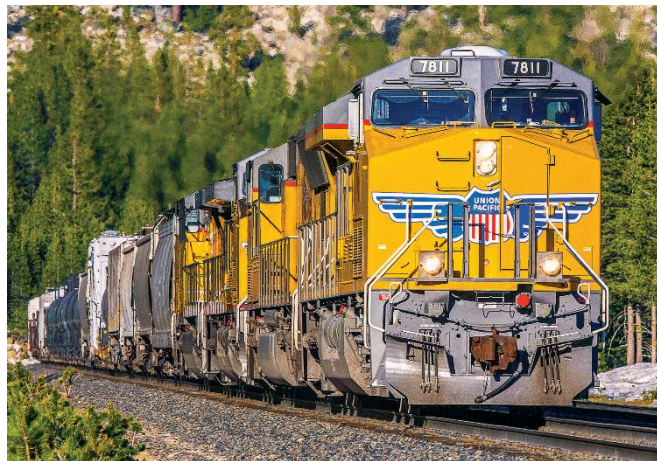
On the other hand, Union Pacific and other railroads are benefiting right now from strong U.S. grain sales, and are working with chemical firms as they build and expand petrochemical facilities in the Gulf Coast and elsewhere in the United States to take advantage of low-priced natural gas used as a 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 commonsense 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 competition<sup>2</sup>, and geographic competition<sup>3</sup> — 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.”<sup>4</sup> Accordingly, at Union Pacific, as at other railroads, new investments will be made only if they are expected to generate

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<sup>2</sup> Substituting 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).

<sup>3</sup> The 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.

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



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 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).

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,

<b>International Trade as a Share of Rail Traffic in 2014</b>			
	<u>Rail</u>	<u>Trade</u>	<u>Trade %</u>
	<u>Total</u>	<u>Share</u>	<u>of Total</u>
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

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.