AMERICA'S INFRASTRUCTURE: TODAY'S GAPS, TOMORROW'S OPPORTUNITIES, AND THE NEED FOR FEDERAL INVESTMENT

HEARING

BEFORE THE

COMMITTEE ON THE BUDGET
HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

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AMERICA'S INFRASTRUCTURE: TODAY'S GAPS, TOMORROW'S OPPORTUNITIES, AND THE NEED FOR FEDERAL INVESTMENT

WEDNESDAY, SEPTEMBER 25, 2019

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE BUDGET,
Washington, D.C.

The Committee met, pursuant to notice, at 10:02 a.m., in Room 210, Cannon House Office Building, Hon. John A. Yarmuth, [Chairman of the Committee] presiding.

Present: Representatives Yarmuth, Moulton, Khanna, Panetta, Horsford, Jackson Lee, Omar, Sires, Peters; Womack, Johnson, Woodall, Smith, Flores, Norman, Roy, Timmons, Crenshaw, Hern, and Burchett.

Chairman YARMUTH. The hearing will come to order.

Good morning, and welcome to the Budget Committee Committee's hearing on "America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment."

I want to welcome our witnesses here with us today. This morning we will be hearing from:

Ms. Carol Ellinger Haddock, Director of Houston Public Works for the city of Houston, testifying on behalf of the American Society of Civil Engineers;

Mr. Christopher Coes, Vice President of Land Use and Development for Smart Growth America;

Mr. Adie Tomer, Metropolitan Policy Program Fellow at The Brookings Institution; and

Dr. Richard Geddes, Professor and Director of the Cornell Program in Infrastructure Policy at Cornell University, and Visiting Scholar at the American Enterprise Institute.

I will now yield myself five minutes for an opening statement.

With each passing day our nation's infrastructure becomes more inadequate for today's demands and increasingly more dangerous for American families. If we as a Congress want to prepare our economy and our nation for a rapidly changing future, we must dramatically improve and modernize our infrastructure.

A strong economy depends on strong infrastructure to function effectively. Unfortunately, according to the American Society of Civil Engineers' 2017 Infrastructure Report Card, our overall infrastructure grade is a D+, meaning that it is in poor condition and at risk.

Our roads are crumbling. Tens of thousands of bridges are structurally deficient, and roadway congestion continues to sap our time and productivity.

Many rural communities are still cut off from broadband access and are unable to benefit from advancements like telehealth services.

As severe weather becomes more frequent, cities and communities along our rivers and in coastal areas are put in danger by levees that might not withstand the next large storm. I know in my district on the Ohio River, we are currently relying on water pumps that are more than 100 years old.

But it is not just Americans living near our waterways that are at risk. Our entire country is paying the price. Current infrastructure gaps are anticipated to cost the United States $3.9 trillion in GDP and 2.5 million jobs by 2025 due to lost productivity.

Failing infrastructure will cause U.S. businesses to become less efficient, raising the cost of doing business and forcing those costs onto consumers.

From 2016 to 2025, American households are expected to lose on average $3,400 in income every year due to infrastructure deficiencies. Despite all of these costs, federal infrastructure spending has been on the decline and has failed to come anywhere close to meeting growing needs.

If we want American businesses and workers to succeed, we need to start investing in bold structural changes that will strengthen our economy and prepare us for the future. Instead we just squandered $1.9 trillion on the Republican tax law that overwhelmingly benefitted the wealthy and did nothing to improve our nation's economy or prepare us for the future.

If we had invested anywhere close to that amount in our nation's infrastructure instead, the impact would have been transformative. That is because in the short term, every one dollar invested in improving our infrastructure systems boosts economic output by $1.50 or more, making it a powerful economic stimulus.

In the long term, investing in core infrastructure like transportation, transit, and utilities will boost economic productivity and increase economic growth by simplifying supply chains, lowering shipping costs, and reducing roadway congestion.

This growth will not only strengthen our nation's fiscal outlook. It will also spur increases in employment and wages for years to come. Since more than 75 percent of infrastructure jobs are focused on operations rather than construction, many of these jobs will provide long-term stability for working families across the country.

The economic case for investing in infrastructure is clear, but the public health aspect alone should compel us to act. As shocking as it still is, we have water systems that are poisoning our families. Lead pipes in Flint, Michigan, created a water crisis that caught national headlines and highlighted a shameful failure of government.

But it is not an isolated case. Just look at Newark, New Jersey; Portland, Oregon; Pittsburgh, Pennsylvania; Providence, Rhode Island. All have issues with lead contamination in their drinking water, and they are not the only ones.

How is it that in the wealthiest country in the world it is easier for a millionaire to get a tax cut than for hundreds of thousands of families to get safe drinking water?

Our nation's infrastructure bill is overdue, and it is already costing us our health, our safety, and our economic potential. These are investments that at one point or another we will have to make if we care about the wellbeing of our communities and want to remain competitive in the global marketplace.

By investing now, we can modernize our infrastructure and incorporate new technologies and greater resilience into our plans. We can address sustainability and public health needs while growing our economy and creating good jobs.

This is not a should do. It is a must do. So I look forward to hearing from our witnesses on infrastructure's role in the strong economy and how federal investment can provide opportunities for both short and long-term economic growth while preparing our nation for the future.

I now yield to the Ranking Member, Mr. Womack, for his opening statement.

[The prepared statement of Chairman Yarmuth follows:]

Chairman John Yarmuth
America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment
Opening Statement
September 25, 2019

With each passing day, our nation's infrastructure becomes more inadequate for today's demands and increasingly more dangerous for American families. If we, as a Congress, want to prepare our economy and our nation for a rapidly changing future, we must dramatically improve and modernize our infrastructure.

A strong economy depends on strong infrastructure to function effectively. Unfortunately, according to the American Society of Civil Engineers' 2017 Infrastructure Report Card, our overall infrastructure grade is a D+, meaning that it's in poor condition and at risk. Our roads are crumbling, tens of thousands of bridges are structurally deficient, and roadway congestion continues to sap our time and productivity. Many rural communities are still cut off from broadband access and are unable to benefit from advancements like telehealth services. As severe weather becomes more frequent, cities and communities along our rivers and in coastal areas are put in danger by levees that might not withstand the next major storm. I know that in my district on the Ohio river, we are currently relying on water pumps that are more than 100 years old.

But it's not just Americans living near our waterways that are at risk, our entire country is paying the price. Current infrastructure gaps are anticipated to cost the United States $3.9 trillion in GDP and 2.5 million in jobs by 2025 due to lost productivity. Failing infrastructure will cause U.S. businesses to become less efficient, raising the cost of doing business and forcing those costs onto consumers. From 2016 to 2025, American households are expected to lose, on average, $3,400 in income every year due to infrastructure deficiencies. Despite all these costs, federal infrastructure spending has been on the decline and has failed to come anywhere close to meeting growing needs.

If we want American businesses and workers to succeed, we need to start investing in bold structural changes. That will strengthen our economy and prepare us for the future. Instead, we just squandered $1.9 trillion on the Republican tax law that overwhelmingly benefited the wealthy and did nothing to improve our nation's economy or prepare us for the future.

If we had invested anywhere close to that amount in our nation's infrastructure instead, the impact would have been transformative. That's because, in the short term, every $1 invested in improving our infrastructure systems boosts economic output by $1.50 or more, making it a powerful economic stimulus. In the long term, investing in core infrastructure like transportation, transit, and utilities will boost economic productivity and increase economic growth by simplifying supply chains, lowering shipping costs, and reducing roadway congestion. This

growth will not only strengthen our nation's fiscal outlook, it will also spur increases in employment and wages for years to come. Since more than 75 percent of infrastructure jobs are focused on operation rather than construction, many of these jobs will provide long-term stability for working families across the country.

The economic case for investing in infrastructure is clear, but the public health aspect alone should compel us to act. As shocking as it still is, we have water systems that are poisoning our families. Lead pipes in Flint, Michigan created a water crisis that caught national headlines and highlighted a shameful failure of government, but it is not an isolated case. Just look at Newark, NJ; Portland, Oregon; Pittsburgh, Pennsylvania; Providence, Rhode Island –all have issues with lead contaminating their drinking water and they aren't the only ones. How is it that in the wealthiest country in the world, it's easier for a millionaire to get a tax cut than for hundreds of thousands of families to get safe drinking water?

Our nation's infrastructure bill is overdue, and it's already costing us our health, our safety, and our economic potential. These are investments that, at one point or another, we *will* have to make if we care about the well-being of our communities and want to remain competitive in the global marketplace.

By investing now, we can modernize our infrastructure and incorporate new technologies and greater resilience into our plans. We can address sustainability and public health needs, while growing our economy and creating good jobs. This isn't a should do, it's a must do.

So I look forward to hearing from our witnesses on infrastructure's role in a strong economy, and how federal investment can provide opportunities for both short- and long-term economic growth while preparing our nation for the future.

Mr. WOMACK. I thank the Chairman and thanks to the panel of witnesses that we have today. Chairman Yarmuth, thanks for holding this very important hearing.

From the post roads outlined in the text of the Constitution to the development of the transcontinental railroad, from the creation of the interstate highway system to the evolution of our electric grid, Americans have continually shown that we are a nation of builders. Infrastructure is part of the core foundation that has created and moved the America we all know.

Today you would be hard-pressed not to see the overwhelming impact infrastructure has on our lives. An extensive network of roads, airports, railroads, public transit systems, and waterways is vital to the mobility and the strength of families, businesses, and our economy.

As we move forward in the 21st century, it is imperative that our infrastructure keep pace with the people and nation it supports.

Thankfully, infrastructure has historically been a priority for both parties. This bipartisan spirit has served our country well, and it will be important as we work to rebuild and renew.

There will, of course, be challenges. While the federal government has a vital role to play, empowering state and local authorities to lead on this issue is fundamentally important.

On this Committee alone, our members represent 36 distinct congressional districts, encompassing nearly 27 million Americans, all of whom have different priorities. A rural district in Arkansas might need increased highway lanes for long haul trucks. A more condensed, populated district might be focused on public transportation.

This reality is critical for us to recognize as we prioritize scarce federal dollars on the Budget Committee. We have to rethink how we plan, how we fund, and how we build infrastructure. Smart and strategic investments will not only strengthen communities and boost the economy, but also ensure responsible use of taxpayer dollars.

My home state of Arkansas is a leader in innovative approaches to infrastructure, learning through partnerships with states such as Missouri to obtain funding to complete the critical Bella Vista bypass or the communities of Northwest Arkansas pooling resources to create and maintain Northwest Regional Airport, the State's Airport of the Year, or Governor Hutchinson's Highway Funding Plan.

The message is clear. Infrastructure cannot be built and maintained without continued state and local investment.

But it is not just about funding. Government red tape and burdensome permitting regulations have also throttled progress. In Dr. Geddes' written testimony, he explained that these bureaucratic processes take on average over five years to complete, with some of those decisions taking more than two decades.

While it is important to ensure we protect the environment, we must do so in a way that makes these important projects feasible. We will hear today that a highway project may require ten different federal agencies considering 16 separate permitting decisions to obtain approval.

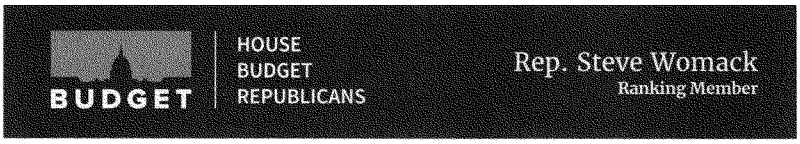
When I was mayor of Rogers, Arkansas, I wanted to work with partners who understood the needs of my city. That is what Washington should be doing: listening, not mandating. We do not need roadblocks or unnecessary directives. What we need is a federal government that acts as a strategic partner, one that bolsters states' efforts, not hinder them.

Infrastructure investment will transform and modernize our systems to support American families, create jobs, make U.S. industry more competitive, all while unleashing economic opportunities.

Mr. Chairman, I want to thank you again for holding this very important hearing, and I look forward to hearing from our esteemed panel about how we can do just that.

And I yield back.

[The prepared statement of Steve Womack follows:]



Ranking Member Steve Womack (R-AR) Opening Remarks at Hearing Entitled: America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment

As Prepared For Delivery:

Thank you, Chairman Yarmuth, for holding this important hearing.

From the post roads outlined in the text of the Constitution to the development of the Transcontinental Railroad; from the creation of the interstate highway system to the evolution of our electric grid, Americans have continually shown that we are a nation of builders. Infrastructure is part of the core foundation that has created and moved the America we all know.

Today, you would be hard-pressed not to see the overwhelming impact infrastructure has on our lives. An extensive network of roads, airports, railroads, public transit systems, and waterways is vital to the mobility and strength of families, businesses, and our economy. As we move forward in the 21st century, it is imperative that our infrastructure keep pace with the people and nation it supports.

Thankfully, infrastructure has historically been a priority for both parties. This bipartisan spirit has served our country well – and it will be important as we work to rebuild and renew.

There will, of course, be challenges. While the federal government has a vital role to play, empowering state and local authorities to lead on this issue is fundamentally important. On this Committee alone, our members represent 36 distinct congressional districts, encompassing nearly 27 million Americans – all of whom have different priorities. While an Arkansas district might need increased highway lanes for long-haul trucks, a Texas district might be focused on public transportation.

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Infrastructure investment will transform and modernize our systems to support American families, create jobs, make U.S. industry more competitive, all while unleashing economic opportunity.

So Mr. Chairman, I thank you for holding this important hearing and look forward to hearing from our esteemed panel about how we can do just that.

Mr. YARMUTH. I thank the Ranking Member for his opening statement.

In the interest of time, if any other Members have opening statements, you may submit those statements in writing for the record.

Once again, I'd like to thank our witnesses for being here this morning. The Committee has received your written statements, and they will be made part of the formal hearing record.

Now, you will each have five minutes to give your oral remarks. Ms. Haddock, you may begin when you are ready.

STATEMENT OF CAROL ELLINGER HADDOCK, P.E., M.ASCE, DIRECTOR, HOUSTON PUBLIC WORKS, ON BEHALF OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS; CHRISTOPHER A. COES, VICE PRESIDENT OF LAND USE AND DEVELOPMENT, SMART GROWTH AMERICA; ADIE TOMER, FELLOW, METROPOLITAN POLICY PROGRAM, THE BROOKINGS INSTITUTION; AND R. RICHARD GEDDES, Ph.D., PROFESSOR AND DIRECTOR OF THE CORNELL PROGRAM IN INFRASTRUCTURE POLICY, CORNELL UNIVERSITY, AND VISITING SCHOLAR, AMERICAN ENTERPRISE INSTITUTE

STATEMENT OF CAROL ELLINGER HADDOCK, P.E., M.ASCE

Ms. HADDOCK. Good morning. My name is Carol Haddock.

Chairman Yarmuth, Ranking Member Womack, and Members of the Budget Committee, thank you for inviting me today to participate in this important discussion on the need to invest in our nation's infrastructure.

As I said, my name is Carol Haddock, and I currently serve on the Board of Direction of the American Society of Civil Engineers. I am also a licensed professional engineer in the state of Texas.

ASCE is the nation's oldest national engineering society and represents over 150,000 civil engineers who serve as the stewards of infrastructure here in the United States and around the globe.

In my professional life, I serve as the Director of Houston Public Works, a department that is responsible for Houston's public streets, drainage water, wastewater infrastructure for over 2.3 million Houstonians.

In Houston, we are still in recovery from Hurricane Harvey and are already facing more challenges from the recent weather events, including severe flood damage just this last week. In three days, remnants of tropical storm Imelda dumped more than 30 inches of rain in the Greater Houston Area, making it our most significant storm since Harvey.

We are flood weary. We have faced four 500-year flood events in the past four years alone. Our already vulnerable infrastructure simply cannot bounce back without major reinvestment.

While state and local governments have certainly stepped up to the challenge, I will start by saying that there is, indeed, a federal government vital role to play in developing and funding a comprehensive solution. Our Founding Fathers recognized that for reliable interstate commerce, you need reliable infrastructure.

Every four years since 1998, ASCE has evaluated our nation's infrastructure to provide a comprehensive look at current conditions

across 16 categories and assess if we are prepared for the future. We assign letter grades just like you received in school.

In our 2017 infrastructure report card, our nation's cumulative grade was a D+. That is not a grade I would be proud of.

Decades ago, even centuries in some cases, we laid the groundwork for our complex system of roads, bridges, water systems, and electrical grids that connect and power our communities. And just like the roof on our home, when we neglect to maintain it for a while, our systems are showing real wear and tear. They have sprung leaks, worn down, and they have become less reliable.

It has been clear to the engineering community and it is becoming even more clear to the greater public that the U.S. has only been paying about half of its infrastructure bill. Between 2016 and 2025, the investment gap total across the 16 infrastructure sectors has projected just over $2 trillion.

Failing to close that gap risks rising costs, failing business productivity, decreased GDP, lost jobs, and ultimately reduced disposable income for every American family. If these issues are not addressed, poor infrastructure can cost each American family $3,400 a year, or $9 a day, in personal disposable income. That is money out of our pockets going to car repairs, gas, and time wasted in traffic.

This expense is really a hidden tax that we are all paying when the federal government kicks the can down the road.

That number reflects a gradual degradation over time, hard to discern, but I will tell you coming from Houston these numbers seem conservative.

The opportunity to modernize our infrastructure systems must be done right. We must prepare for the future by utilizing new approaches, materials, and technologies to ensure that our infrastructure is more resilient and sustainable to extend the life of our existing infrastructure when possible, to expedite repairs and replacement, and to promote cost savings.

My career has been in the water sector, and I am continuously amazed by what my peers are doing to push the envelope of what is possible. New methods and technologies allow plants to treat more wastewater, often discharging the cleaner product back to the environment, turn waste into energy and help communities to better manage precious water supplies through reuse.

It is an exciting time to bring our infrastructure into the 21st century if we finally give it the attention and funding it deserves. However, if we were to achieve lasting progress, the federal government must provide that critical leadership to increase investment from all levels of government and the private sector.

To address these needs our infrastructure investment must increase from the current 2.5 percent to 3.5 percent of the GDP by 2025. To get the most return on our investments, ASCE believes that project costs must be considered over the entire lifespan, not just design and construction, but especially operations and maintenance.

We also believe that federal investment should not replace but rather leverage state, local, and private infrastructure investments.

We must ensure that infrastructure owners and operators charge and that Americans are willing to pay rates and fees that reflect

the true cost of using, maintaining, and modernizing all infrastructure, including our water, wastewater, transportation, and energy.

At a minimum, this Congress must address these federal infrastructure priorities. Fix the Highway Trust Fund. The federal government has always been a leader in strengthening our surface transportation network. ASCE is on record as supporting a 25 cent increase in motor fuel tax.

In addition to fixing the Highway Trust Fund, we face a looming crisis with the FAST Act rescission. A $7.6 billion annual reduction will impact all 50 states if nothing is done.

Other things Congress must address this year are to eliminate the cap on the passenger facility charge at airports and ensure that all funds in the Harbor Maintenance Trust Fund are used for their intended purpose. Currently there are $9 billion in unappropriated funds.

ASCE thanks the Committee for holding this hearing on a topic that affects the quality of life, economic prosperity, and livelihood of every American. I look forward to answering your questions.

[The prepared statement of Carol Ellinger Haddock follows:]

AMERICAN SOCIETY OF CIVIL ENGINEERS

Washington Office
25 Massachusetts Avenue NW
Suite 500
Washington, D.C. 20001
(202) 789-7850
Web: http://www.asce.org

America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment

Wednesday, September 25, 2019

Committee on the Budget

U.S. House of Representatives

Ms. Carol Haddock P.E., F.ASCE

Director of Houston Public Works

City of Houston

Houston, TX

Member, Board of Direction

American Society of Civil Engineers

Introduction

Chairman Yarmuth, Ranking Member Womack, and Members of the Budget Committee, thank you for inviting me today for this important discussion. My name is Carol Ellinger Haddock, P.E., and I am the Director of Houston Public Works. The Public Works department is responsible for the planning, operation, maintenance, construction management and design engineering of Houston's public infrastructure, including streets, storm drainage, water and wastewater, as well as permitting and inspection of development for more than 2.3 million Houstonians. In this role, I am also engaged in recovery from Hurricane Harvey as well as multiple significant floods in the previous two years, including a 500-year flood event just last week as Tropical Storm Imelda passed through Houston. Houston is committed to Build It Forward, in order to rebuild a more resilient community ready to withstand the next disaster but we need continued federal investments to move us further toward that goal.

I previously served as a legislative fellow on the U.S. Senate Committee on Environment and Public Works and as a project manager for the Harris County Flood Control District. I am a licensed Professional Engineer with a Bachelor of Science in Civil Engineering from Rice University and a Master of Arts in Public Administration from the University of Houston.

I am appearing today on behalf of the more than 150,000 members of the American Society of Civil Engineers (ASCE) for which I serve as a member of the Board of Direction. Founded in 1852, ASCE is the nation's oldest national engineering society representing the civil engineering professionals who serve as stewards of infrastructure here in the U.S. and around the globe.

ASCE appreciates the opportunity to discuss the impact our nation's crumbling infrastructure has on the economy and the benefits that can be gained by addressing these issues. We also thank the U.S. House Committee on the Budget for examining the economic impact of the current state of our infrastructure systems and the need for strong renewed federal involvement. ASCE is eager to work with Congress to find ways to further improve the state of our nation's infrastructure.

America's infrastructure includes highways, streets, public buildings, mass transportation facilities, resource recovery facilities, air transport facilities, water systems, waste facilities, dams, levees, ports and waterways, and other public and private facilities. Although taken for granted, the nation's infrastructure is vital to the nation's public health and welfare. It is also the foundation on which our national economy, global competitiveness, and quality of life depends.

Infrastructure connects the nation's businesses, communities, and people driving our economy and improving our quality of life. For the U.S. economy to thrive, we need a first class infrastructure system - transport systems that move people and goods sustainably, efficiently, and affordably by land, water, and air; energy transmission systems that deliver clean, reliable, low-cost power from a robust range of sources; and water systems that reliably and safely drive industrial processes as well as the daily functions of our communities. Yet today, our infrastructure systems are failing to keep pace with current and expanding needs, while investment in infrastructure falters. ASCE's *2017 Infrastructure Report Card* rated the overall condition of the nation's infrastructure a cumulative grade of "D+," with an investment gap of $2 trillion.

If we are to achieve lasting progress for our infrastructure, the federal government must provide critical leadership and commit to not only financing infrastructure programs, but to funding them. Congress must do its part to enact long-term solutions, make regular appropriations, and maintain scheduled reauthorizations for the Water Resources Development Act, the Fixing America's Surface Transportation Act, and the myriad of other pieces of legislation that sustain our infrastructure. Further, all levels of government and the private sector must do its part to increase investment in order to restore America's world-class infrastructure.

Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future

In 2016, ASCE released *Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future*[1]. This economic study analyzed the impact of current infrastructure investment trends on America's GDP, jobs, personal income, and businesses. The *Failure to Act* report found that over the next 10 years, surface transportation networks, which includes roads, bridges, transit, and commuter rail face an investment gap of $1.1 trillion. Airports require an additional $42 billion to close the funding gap, and inland waterways and ports need $15 billion.

In total, ASCE's 2017 *Infrastructure Report Card* shows that the U.S. has only been paying about half of its infrastructure bill. Between 2016 and 2025, the investment gap totals just over $2 trillion. Failing to close that gap risks rising costs, falling business productivity, plummeting GDP, lost jobs, and ultimately, reduced disposable income for every American family. Over the next 10 years, infrastructure will continue to degrade, resulting in a loss of 2.5 million jobs, $3.9 trillion in GDP, and $7 trillion in lost business sales by 2025. In addition, poor infrastructure will cost each American family $3,400 a year, which is $9 a day, in personal disposable income. That's money we're spending on unexpected car repairs and lost productivity as we sit in traffic and wait for the train.

Our infrastructure challenges are significant, but solvable. By spending an additional $200 million each year for 10 years, we can close the investment gap. That additional funding should come from all levels of government –federal, state, and local – as well as the private sector.

Providing adequate investment for our infrastructure now will have profound economic benefits. Improved infrastructure will spur economic activity that will benefit America's public safety, health and welfare, as well as the GDP, jobs, personal income, and businesses.

ASCE's *2017 Infrastructure Report Card*

Every four years, ASCE publishes the Infrastructure Report Card, which grades 16 major infrastructure categories using a simple "A" to "F" school report card format. It is through this format that ASCE educates the public on the current state of our nation's infrastructure system.

Bridges

The nation has 616,087 bridges, and in 2018 47,052, or 7.6%, of our nation's bridges were

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[1] Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future. (2016) www.asce.org/failuretoact

structurally deficient, meaning they require significant maintenance, rehabilitation, or replacement. In that same year, there were on average 178 million trips across a structurally deficient bridge each day. While the number of bridges in poor condition and considered structurally deficient is decreasing, ridership over America's bridges is increasing and puts our bridge users in potential risk. The most recent estimate puts the nation's backlog of bridge rehabilitation needs at approximately $171 billion. ASCE's *2017 Infrastructure Report Card* gave our nation's bridges a "C+."

Roads

With over four million miles of roads across the U.S.— 15 lane interstates to residential streets— roads are among the most visible and familiar forms of infrastructure. In 2018, U.S. roads carried people and goods over 3.2 trillion miles. After a slight dip during the 2008 recession, Americans are driving more, and vehicles miles traveled is at an average growth rate of 1.1% annually over the 20 years through 2037.

Despite the high use and demand, the nation's roads are often crowded, frequently in poor condition, chronically underfunded, and are growing more dangerous. More than two out of every five miles of the nation's urban interstates are congested, and traffic delays cost the country $170 billion in wasted time and fuel in 2017. One out of every five miles of highway pavement is in poor condition and our roads have a significant and increasing backlog of rehabilitation needs. After years of decline, driving on unsafe roads has led to 36,750 fatalities on our nation's roads in 2018. ASCE's *2017 Infrastructure Report Card* gave our nation's roads a "D."

Transit

Transit in America is growing and is adding new lines and systems every year. Yet, the symptoms of overdue maintenance and underinvestment have never been clearer. Despite increasing demand, the nation's transit systems have been chronically underfunded, resulting in aging infrastructure and a $90 billion rehabilitation backlog. While some communities are experiencing a transit boom, many Americans still have inadequate access to public transit. ASCE's *2017 Infrastructure Report Card* gave our nation's transit system a "D-."

Drinking Water and Wastewater

Well-maintained public drinking water and wastewater infrastructure systems are critical for public health, and safety and economic success, as well as clean water and aquifers. Despite increased efficiency methods and sustainable practices, there is a growing gap between the capital needed to maintain drinking water and wastewater infrastructure and the actual investments made. By 2025, the investment gap for drinking water and wastewater infrastructure systems is estimated to be $105 billion. According to the American Water Works Association, $1 trillion will be needed to maintain and expand drinking water service demands during the next 25 years. ASCE's *2017 Infrastructure Report Card* gave the nation's drinking water infrastructure a grade of "D," and the nation's wastewater infrastructure did not fare much better with a grade of "D+."

Dams and Levees

Our nation's 91,468 dams and over 30,000 miles of levees are critical components of risk reduction and protecting communities, critical infrastructure, and trillions of dollars in property. However, an estimated $80 billion is needed in the next 10 years to maintain and improve the nation's levees,

while the Association of State Dam Safety Officials estimates the cost of rehabilitating our nation's federal and non-federal dams to exceed $70 billion, which includes the U.S. Army Corps of Engineers' (USACE) estimate that more than $25 billion will be required to address dam deficiencies for Corps-owned dams. At the current rate of investment, these repairs would take over 50 years to complete. ASCE's *2017 Infrastructure Report Card* gave our nation's dams and levees each a grade of "D."

Inland Waterways

The USACE operates and maintains a vast network of 25,000 miles of inland waterways and 239 locks that support half a million jobs, deliver more than 600 million tons of cargo annually, and serve as the nation's connection to inland and ocean ports and international markets. Barge transport is the most fuel-efficient mode of the transportation of goods; however, with a majority of locks and dams reaching well beyond their 50-year design life—requiring frequent shutdowns for maintenance and repairs, nearly half of all vessels traveling through our inland waterways experience delays. ASCE's *2017 Infrastructure Report Card* gave our nation's inland waterways a grade of "D."

Public Parks

A vast network of infrastructure supports more than seven billion outdoor recreational outings. Americans enjoy park and recreation facilities maintained by entities at all levels of government. At the federal level, the National Park Service, U.S. Forest Service, and USACE are the main providers of park facilities. States and localities provide the bulk of park and recreational facilities that seven in 10 Americans use on a regular basis. National forests and grasslands capture and filter drinking water for 180 million people. America's parks and public lands also support industries such as lodging, restaurants and bars, grocery and convenience stores, and gas stations. Despite the popularity of our public parks, there has been chronic underinvestment. Currently, the National Park Service deferred maintenance is $11.9 billion. ASCE's *2017 Infrastructure Report Card* gave our nation's parks a "D+."

The City of Houston

The City of Houston, like most cities across the United States, has made significant investments in the existing infrastructure. However, this comes after decades of underinvestment in maintenance and repairs on infrastructure that was not designed to accommodate Houston's level of growth. Houston is not alone in this challenge.

When asked about Houston's greatest challenges, Hurricane Harvey and the widespread flooding along the Texas coast comes to mind. Our location in the Gulf Coast Plain and our significant annual rainfall, even without tropical systems, makes flooding our primary natural disaster. We have been and remain of the communities with the highest losses paid through the National Flood Insurance Program. We do need significant investment in infrastructure to mitigate existing risks associated with extreme weather and minimize the threat of flooding.

Houston understands the need for local investment in infrastructure and has, over the past decade, made significant strides toward that end. Houstonians have voted for and then re-affirmed a dedicated revenue source for local drainage on streets – Build Houston Forward (formerly known

as ReBuild Houston). This dedicated revenue source includes:

- a drainage charge assessed at the parcel level,
- a portion of the local ad valorem (property tax) increment that historically has been dedicated to streets and drainage,
- creation of a stormwater impact fee, and
- the existing local sales tax increment for transit that is allocated back to cities for local transit infrastructure.

The combined funding from these sources supports more than $50 million annually in operations and nearly $200 million in capital projects that address both stormwater drainage and local transportation needs. Flood control in Houston has taken bold strides by regulating to the 500-year flood standard. This will help limit risks faced by new infrastructure, including homes.

The Harris County Flood Control District (HCFCD) serves as the primary local sponsor for the U.S. Army Corps of Engineer's projects that implement flood risk reduction in the Houston area. Separately funded through County property taxes, HCFCD provides the local match for significant USACE project only major waterways – Brays, Greens, Hunting, Sims and White Oak Bayous all have active federal projects with tangible flood risk reduction benefits.

However, we also need investment in our transportation network – roads, transit, freight and passenger rail, airports, and seaports.

The Houston Airport System serves nearly 60 million passengers each year, with more than 10 million travelers. There are nearly 200 non-stop destinations. The airports are continuously adapting and expanding to changes in aircraft security needs and passenger expectations. However, extreme weather events impact his critical infrastructure. During Tropical Storm Imelda, the airfield at the Bush Intercontinental Airport was operational, but flight operations were impacted when roadways into and out of the airport were impassable.

The Port of Houston remains one of the top three U.S. ports for foreign and domestic waterborne tonnage and foreign cargo value and serves more than two-thirds of the U.S. Gulf Coast container traffic. Maintaining the navigation depth requires a significant and on-going federal investment. Impacts to the Houston Ship Channel not only impact the Houston area and Texas region, but have a significant impact to the nation's refining capacity.

Houston is vitally served by the nation's Interstate Highway System. This system not only serves the commuting needs of nearly 7 million residents of the Greater Houston area, it serves as a primary freight trucking corridor out of Mexico, and for the freight entering the U.S. through the Port of Houston. Significant tonnage is moved from Houston in all directions using both truck and rail.

At the regional level, there is also an integrated toll road system serving the greater Houston area. These systems are operated by two separate toll road authorities. Significant funding has been set aside by the State of Texas to address both transportation and stormwater infrastructure. However, there are still more identified needs throughout the state than available funding.

Water and wastewater infrastructure systems, primarily supported by rates paid by users, are some of the most underfunded infrastructure nationwide. Even though the City of Houston has an annual budget of more than $1 billion for operations and nearly $400 million for capital investments, the backlog for decades of underinvestment is daunting. Correspondingly, rate increases can have significant impacts to a customer-base that has a large percentage of low-to-moderate income ratepayers.

The City of Houston is currently in the final phases of executing a Wastewater Consent Decree with the Environmental Protection Agency and the Texas Commission on Environmental Quality focused on an aging wastewater system. The efforts are estimated at approximately $2 billion above what had been planned for in the next fifteen years.

The City is also actively constructing a 320 MGD drinking water treatment plant expansion that will serve the City of Houston and four regional water authorities. This $1.8 billion expansion will be brought on-line in increments in 2022 and 2025. Additionally, the City's existing plants, some of which date back to the mid-1950's, will require significant reinvestment in the coming decades.

The City of Houston relies heavily on the availability of the State Revolving Funds to implement these water and wastewater projects. Continued federal investment in these programs is critical to local water and wastewater infrastructure projects.

The infrastructure investment needs in the Houston region are similar in scope and impact to most cities throughout the country. Funding is required at all levels or the investment gap will continue to grow with the corresponding negative impact on the economy and the public health, safety, and welfare.

Solutions to Address our Infrastructure Needs

Failing to close this economic infrastructure investment gap brings serious national consequences.

Our nation is at a crossroads. Deteriorating infrastructure impedes our ability to compete in the thriving global economy, and improvements are necessary to ensure our country is built for the future. While we have made some progress, reversing the trajectory after decades of underinvestment requires transformative action from Congress, states, infrastructure owners, and the American people. However, there are solutions to fixing our national infrastructure deficit.

If the U.S. is serious about achieving an economy fit for the 21st century, we must take specific steps, starting with increased, long-term, consistent infrastructure investment. Delaying such investment only escalates the costs and risks of our economy. To close the $2 trillion 10-year investment gap and compete against growing economies, we must increase investment from all levels of government and the private sector from 2.5 percent to 3.5 percent of GDP by 2025.

ASCE believes that there are solutions to our infrastructure crisis. These solutions do require further investment by government at all levels and by the private sector. However, money alone will not solve our programs. We must use our resources wisely. Specifically:

- We must make investments that provide substantial, long-term benefits to the public and the economy.

- We must ensure that the cost of a project over its entire life span – including designing, building, operating, and maintaining the infrastructure – is taken into account.
  - ASCE supports the appropriate use of Life-Cycle Cost Analysis (LCCA) principles in the planning and design processes to evaluate the total cost of projects. ASCE believes that Congress should require all projects greater than $5 million that receive federal funding use LCCA and develop a plan for funding the project, including its maintenance and operation, until the end of its service life. The analysis should include life-cycle cost associated with planning, funding, design, construction, operation, maintenance, and decommissioning of projects. The analysis should also include impacts associated with innovation, resiliency and sustainability as well as regulatory, environmental, safety, and other costs reasonably anticipated during the life of the project, whether borne by the project owner or other stakeholders. Overall life-cycle costs are one of the more most significant considerations in evaluating project alternatives during the planning and design of infrastructure.
  - ASCE has embarked on an initiative to ask civil engineers from all backgrounds and at every career stage to implement performance-based standards, resilience, innovation and LCCA in all projects.

- We must build projects that are sustainable and resilient. Resilience is critically important to the overall health of our nation's infrastructure network. This goal can be achieved by:
  - Developing active community resilience programs for severe weather and seismic events to establish communications systems and recovery plans to reduce impacts on the local economy, quality of life, and environment;
  - Considering emerging technologies and shifting social and economic trends – such as autonomous vehicles, distributed power generation and storage, and larger ships – when building new infrastructure, to assure long term utility;
  - Improving land use planning at the local level to consider the function of existing and new infrastructure, the balance between the built and natural environments, and population trends in communities of all sizes, now and into the future; and
  - Supporting research and development into innovative new materials, technologies, and processes to modernize and extend the life of infrastructure, expedite repairs or replacement, and promote cost savings
  - Building infrastructure that is designed to meet future needs and withstand future hazards often comes with a higher initial price. However, it is a worthwhile investment that pays for itself down the road. In January 2019, the National Institute of Building Sciences (NIBS) issued the Natural Hazard Mitigation Saves: 2018 Interim Report. The 2018 Interim Report highlights the significant savings that result from implementing mitigation strategies found in up-to-date building codes, in terms of safety, and the prevention of property loss and disruption of day-to-day life. The Institute's project team looked at the results of 23 years of federally funded mitigation grants provided by the Federal Emergency Management Agency (FEMA), U.S. Economic Development Administration (EDA) and U.S. Department of Housing and Urban Development

(HUD) and found mitigation funding can save the nation $6 in future disaster costs, for every $1 spent on hazard mitigation.

- By becoming a more resilient nation, we can ensure our infrastructure is built for the future and our nation's limited federal resources are spent wisely, with mitigation and preparedness in mind. Therefore, we urge Congress to support and include resiliency goals in all infrastructure related legislation to ensure we are preparing for the future and limiting our long-term costs. Houston, and each of the cities making significant investments during recover from natural disasters, urge Congress to make these investments in a way to minimize future economic, environmental, and social risk.

- We must ensure that Federal investment leverages state, local, and private investment. In recent years, state legislatures have worked diligently to increase funding on infrastructure projects. At least 13 states have enacted legislation regarding the use of "life-cycle cost analysis," which generally includes design strategies, activity timing, and agency, user and life-cycle costs. 31 of the 50 states have raised or reformed their motor fuel taxes during the past decade which includes indexing their gas taxes to inflation or other economic benchmarks, enabling regular increases to preserve the tax's real value. With transportation hurdles cleared, legislatures then turn their attention to topics like drinking water, dam safety, and flood mitigation. Going beyond the legislature, the public has recognized the need to invest in infrastructure by supporting infrastructure measures at the ballot boxes. These initiatives, referendum, and propositions cover a broad range of civil engineering interests from costal restoration to preserving gas tax revenue in "lockboxes" to approving general issues bonds for wastewater and drinking water infrastructure. In 2018, The Eno Center for Transportation estimated the 250 transportation ballot measures spread across 25 states alone totaled over $55 billion in potential investment.

- We must put the "trust" back into "trust funds." Dedicated public funding sources on the local, state, and federal levels need to be consistently and sufficiently funded from user-generated fees, with infrastructure trust funds never used to pay for or offset other parts of a budget.

- We must Fix the Highway Trust Fund by raising the federal motor fuel tax. To ensure long-term, sustainable funding for the federal surface transportation program the current user fee – 18.4 cents per gallon on gasoline and 24.4 cents per gallon on diesel fuel – must be raised by at least 25 cents per gallon and tied to inflation to restore its purchasing power, fill the funding deficit, and ensure reliable funding for the future.

- Our nation's water resources systems are crucial to our nation's economy, public safety, and the preservation and enhancement of our environmental resources. Our levees, dams, inland waterways, and ports protect hundreds of communities, support millions of American jobs, and generate trillions of dollars of economic activity. However, many of these infrastructure assets have reached the end of their design life, and the investment gap must be closed if we hope to both repair and modernize our water resources systems to be competitive in the 21st century; that is why ASCE supports biennial reauthorization of the Water Resources Development Act (WRDA).

- We must authorize programs to improve specific categories of deficient infrastructure and support that commitment by fully funding them in an expedient, prioritized manner.

- We must ensure that infrastructure owners and operators charge, and Americans must be willing to pay, rates and fees that reflect the true cost of using, maintaining, and improving all infrastructure, including our water, waste, transportation, and energy services.

- We must consider emerging technologies and shifting social and economic trends – such as autonomous vehicles, distributed power generation and storage, and larger ships – when building new infrastructure, to assure long-term utility.

- We must improve land use planning at the local level to consider the function of existing and new infrastructure, the balance between the built and natural environments, and population trends in communities of all sizes, now and into the future.

- We must support research and development into innovative new materials, technologies, and processes to modernize and extend the life of infrastructure, expedite repairs or replacement, and promote cost savings.

Conclusion: A 21st Century Vision for America's Infrastructure

ASCE thanks the Committee for holding this hearing on a topic that affects the quality of life and livelihood of every American.

During the 20th Century, the federal government led the way in building our nation's greatest infrastructure systems. From the Works Progress Administration projects completed during the Great Depression to the creation of the Interstate Highway System in the 1950s and 1960s, the 20th Century is remembered as a time when Americans took pride in building a strong and lasting infrastructure foundation.

In the 21st century, ASCE would like to see a renewed commitment building on and enhancing that legacy. An America that thrives because of high quality infrastructure. Infrastructure is the foundation that connects the nation's businesses, communities, and people – driving our economy and improving our quality of life. For the U.S. economy to be the most competitive, we must have a first-class infrastructure system.

We must commit today to make our vision of the future a reality – an American infrastructure system that is the source of our prosperity. ASCE and its 150,000 members look forward to working with the House Committee on the Budget to improve America's infrastructure so that every family, community, and business can thrive.

Mr. YARMUTH. I thank you for your testimony And I now recognize Mr. Coes for five minutes.

STATEMENT OF CHRISTOPHER A. COES

Mr. COES. Good morning, Chairman Yarmuth, Ranking Member Womack, and Members of this Committee. Thank you for the opportunity to testify today on the need for federal investment in infrastructure to create communities of the future.

I am Christopher Coes, Vice President at Smart Growth America, where I work with over 300 real estate development and investors across the country who are investing in American cities and small towns today.

America's crumbling infrastructure is hurting our economy, our environment, and our quality of life. The need for federal infrastructure investment has never been greater.

However, how we invest is more important than our level of investment. Currently our land use and transportation policies have promoted subsidized sprawl, which has become too expensive and unsustainable at a time when we must be focusing on rehabbing and fixing the current system to meet the new challenges of the 21st century.

According to a recent 2019 Smart Growth report, office, retail, and multifamily built-in walkable communities have achieved over 75 percent price premiums over their non-walkable competitors. Whether it is in Louisville, Kentucky; West Jefferson, North Carolina; or within the Boston Metro, we are constantly seeing communities take the lead and embracing a smarter investment strategy in walkable, pedestrian friendly, and sometimes transit oriented investments to achieve higher economic and social returns.

While investments in transportation and mobility options are critical, unfortunately, it is not sufficient. In SGA's core values, why American companies are moving downtown, we have learned that Fortune 500 companies, start-ups, manufacturers are moving to communities that have a great quality of life for their employees. This includes transportation options, but employees are also attracted to places and locations with vibrant neighborhoods that feature affordable housing options, restaurants, nightlife, and other amenities that really require walking distance or a short drive.

Unfortunately, there is a widening gap between American cities and small towns that have the right infrastructure mix, the right housing mix, and amenities and those that do not.

When identifying areas ripe for opportunity fund investments, we discovered that only 2 percent of all the opportunity zones met the market demand for walkabout places and locations that have reliable access to job markets.

This means over 20 million Americans living in opportunity zones today for the last several decades have been forced to spend more than half of their household income on housing and transportation, thus limiting their ability to save, invest in themselves, or support local businesses, which is what we do in real estate.

Thinking about housing and transportation together reflects how people actually live, and it is critical to understand the enormous up front infrastructure cost barrier to neighborhood revitalization and attracting new private investment in our communities today.

Now is the time for federal investment in holistic neighborhood retrofit policies that encourages greater private investment in infrastructure, that promotes mixed use development, and encourages mixed income and affordable housing when possible.

This is why Locus is working with several members of the House Ways and Means Committee to create new incentives to support neighborhood rehab projects that include public infrastructure costs beyond those associated with specific buildings, while rewarding those projects that include attainable housing.

To make communities investment ready, federal investment has to go beyond just roads, bridges, and transit, but it has to be about modernizing our schools, brownfields, our water infrastructure, and rural broadband.

Additionally, as climate change intensifies, federal investment must ensure our communities are more effective in being economic and fiscally resilient and maintaining mitigation to those effects.

Lastly, federal infrastructure investment should be based on a national vision that in America no matter where you live or who you are, you can enjoy living in a place that is healthy, prosperous, and resilient. This vision will require new lines of and new forms of partnerships between the federal government and the private sector in order to also shift the current infrastructure paradigm focused on a handout to a way out.

If we do this, I believe we can help communities become more vibrant and resilient while ensuring future investments address and not exasperate the historic inequities that we find in rural America, communities of color, and low wealth communities.

In closing, I would like to thank the Committee for this opportunity to speak on the need for a smarter federal infrastructure investment strategy and sharing our ideas of how the private sector could be a partner to achieve that.

Thank you.

[The prepared statement of Christopher A. Coes follows:]

Testimony of Christopher A. Coes Vice President, Smart Growth America
to the
U.S. House Budget Committee

Hearing on America's Infrastructure: Today's Gap, Tomorrow's Opportunity, and the need for Federal Investment

September 25, 2019

Introduction

Chairman Yarmuth, Ranking Member Womack and Members of the House Budget Committee, thank you for the opportunity to testify today.

I am Christopher Coes, Vice President of Land Use and Development at Smart Growth America and head a number of Smart Growth America's real estate programs, including LOCUS: Responsible Real Estate Developers and Investors, the National Brownfields Coalition, Form-Based Codes Institute, and Transit-Oriented Development (TOD) Finance and Advisors, Inc., a for-profit subsidiary of Smart Growth America which provides infrastructure and development consulting services to transit agencies and real estate companies.

Smart Growth America (SGA) empowers communities through technical assistance, advocacy, and thought leadership to create livable places, healthy people and shared prosperity.

I thank the Committee for holding this hearing to discuss the need for Federal investment in smart transportation and infrastructure to create communities of opportunity prepared for the 21st Century.

Changes in market demand require smart transportation investments

Smart Growth is an approach of land and economic development that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods, and inclusive community engagement. As North Dakota Governor Doug Burgum has stated, [smart growth strategies] is about "investing in restoring and rebuilding the neighborhoods, downtowns, and main street communities we already have. When we fully utilize our existing infrastructure, we reduce government spending and help create the environment needed for businesses to compete, grow and prosper."

Developers, transit agencies, and communities understand the enormous economic and fiscal benefits of proper investment in smart growth infrastructure development. According to a recent National Association of Realtors survey, Americans favor walkable, mixed-use neighborhoods, with 56 percent of respondents preferring smart growth neighborhoods over neighborhoods that require more driving between home, work, and recreation.

Quality of life, economic prosperity, and climate resiliency are directly related to investments in smart transportation. Whether in urban, suburban or rural markets, there is pent-up demand for walkable communities with great amenities and a sense of place. In addition, Smart Growth America has produced several reports that identify the importance of infrastructure investment

when it comes to mitigating the effects of climate change or supporting the nation's most rural communities.

When communities prioritize multiple transportation options and align state and local incentives, they become what we call in real estate, *investment-ready communities* and we see examples of this in communities large and small. According to Foot Traffic Ahead, a 2019 Smart Growth America report, in the country's 30 largest metro areas, communities with multiple transportation options including walking and biking have a competitive premium over non-walkable neighborhoods. For instance, the Boston metropolitan area, which ranks in the top 5 metropolitan areas in this report, holds an 83 percent real estate premium due to its development of walkable and transit-oriented infrastructure and a 74 percent GDP per capita "premium" over the lowest-ranked city in the report. The case study of Boston speaks to the economic growth that can be supported should cities achieve federal investment in smart transportation development, as well as the challenges of meeting the pent up demand for walkable, mixed-use development.

In Louisville, KY, the city is investing over $29 million to transform Dixie Highway–Louisville's busiest commercial corridor that is most dangerous for pedestrians–into a vibrant, pedestrian-friendly corridor. This initiative was made possible due to federal TIGER grants that provided needed dollars for new sidewalks and improved crosswalks as well as new buses and enhanced stops to accommodate bus rapid transit, with lanes designated for buses only. Together, Mayor Greg Fischer believes these improvements will "transform Dixie Highway and make it safer for drivers and pedestrians" while making the commercial corridor more attractive for private investment. The Mayor is right. Already, Louisville has been able to attract millions in new private investments along the corridor and has seen significant improvement in pedestrian and motorist access for the areas surrounding the new BRT.

In West Jefferson, a small town in North Carolina sought to make strategic improvements to the streetscape along three blocks of its historic downtown, with most of the upgrading being done along Jefferson Avenue. To calm traffic and create a safer environment for pedestrians, West Jefferson added signalized intersections, diagonal parking, curb extensions and street furniture. At only $300,000, these updates changed the feeling of downtown and significantly reduced the number of crashes and injuries reported in an area that was once known to be the state's most dangerous. In addition, local leaders have cited the improvement to aid in bringing new businesses with 55 new jobs and $500,000 worth of investment to Jefferson Ave.

Similarly, in Grandview, Missouri, the city invested $5 million to reinvigorate its Main Street by improving the quality of the environment for pedestrians along a corridor of several blocks. After the completion of the first phase of the project, foot traffic in the area increased by 900% and the bicyclist ridership increased by 40 percent, all while the number of crashes decreased by 90 percent. Since the conclusion of the fourth and final phase in 2016, the city has seen remarkable economic and social growth. Grandview's initial $5 million investment saw a return of more than $375 million. In addition, Grandview saw a population increase for the first time since 1980.

Hamburg, New York is another community that saw great improvements to the quality of life and movement of its residents through focused investment in its downtown. Route 62 runs through Hamburg's downtown and the city was aiming to make it an attractive place for people to "linger." In collaboration with the New York State Department of Transportation, Hamburg residents were directly involved in the visioning and design process to identify their goals for downtown. With a $23 million investment, two roundabouts, bicycle lanes, curb extensions, street trees, and marked pedestrian crossings were installed in downtown Hamburg. In the year after the completion of the project, there as a 66 percent decrease in crashes on Route 62. Route 62 can now serve as a gathering place for a variety of activities including music festivals or soapbox derby.

Lastly, the city of Cleveland has invested over $200 million along seven miles of Euclid Ave to create its first bike lane, repair sidewalks, add streetlights and bus shelters, and plant 1,500 trees. This roadway transformation, in conjunction with the unveiling of the city's bus rapid transit line called the Healthline, has increased ridership by 61 percent while crashes and injuries decreased by 24 and 25 percent. Today, the Regional Transit Authority estimates that the $200 million invested in its HealthLine has generated over $9.5 billion in new private investment and has created hundreds of new jobs.

Neighborhood retrofits attract new companies, talent and the jobs of the future

While investment in transportation infrastructure is necessary for communities to capitalize on these opportunities, it is not sufficient. In SGA's *Core Values: Why American Companies are Moving Downtown report*, we learned companies—from Fortune 500 titans to lean startups to independent manufacturers—are moving to communities with great quality of life for their employees. This includes transportation options, but employees are also attracted to places with vibrant neighborhoods that feature affordable housing options, restaurants, nightlife, and other amenities within walking distance.

Attracted to the walkability, talent pool, collaborative opportunities, and downtown corporate culture, major industries (manufacturing, finance, retail and wholesale trade, and educational services) have begun to expand their offices into attractive downtown and Main Street locations. These companies are not just moving to the largest metro areas, but rather to the areas with infrastructure that supports ease of movement through multiple modes of transportation. Communities who invest in affordable transportation options or retrofit their suburban town centers or along their main streets are first in class to attract new jobs and industries and have the long term capacity to support these businesses while they grow their client and employee base.

Unfortunately, there is an increasing gap between American cities and towns that have the right infrastructure and those that don't. This is made evident through Smart Growth America's research on Opportunity Zones (OZs). When identifying areas of potential for business investment, only 2% of OZs contained the type of infrastructure needed to meet the market demand for employment in walkable places with affordable housing and transportation options and easy and reliable access to global markets. This leaves 98% of OZs struggling to attract new

investment due to their inadequate infrastructure and mobility options and run the risk of becoming dead zones now and into the future.

Opportunity Zones highlight the need to think about the revitalization of our neighborhoods holistically. The average Opportunity Zone resident spends between 53 to 65 percent of their household income on housing and transportation thus limiting an individual's ability to either save, invest in themselves or support local small businesses.

Thinking about housing and transportation together reflects how people live and is critical to neighborhood revitalization. Smart Growth America believes that the time is now for federal investment in holistic neighborhood rehabilitation that encourages greater private investment in infrastructure, promotes mixed-use development and encourages mixed-income and affordable housing. To that end, we are developing the Revitalizing Economies, Housing and Businesses (REHAB) Act with several Members of the House Ways & Means Committee.

Under the REHAB Act, the historic credit would not change, but a new credit would be created to support non-historic rehabilitation projects. This credit would broaden eligible expenditures to include redevelopment and public infrastructure costs beyond those associated with a specific building (like street improvements and stormwater infrastructure); it would make residential buildings eligible for the credit, and it would reward projects that include attainable housing. Overall, credit would be applied to an entire redevelopment project instead of just an individual building, including adjacent new construction and infrastructure, bringing a more holistic approach to current practice.

To make communities investment-ready, federal investment has to go beyond just roads and bridges and public transportation. It is imperative that the federal investments also include brownfields, water management, and broadband access which are critical infrastructure for communities of opportunity.

Need for federal investment in brownfield remediation

Revitalizing our existing communities also requires addressing brownfield remediation. In the United States, there are more than 500,000 brownfield sites that present ample opportunities for economic growth. Brownfields are regarded as a developmental advantage as it allows developers to build upon existing infrastructure. This is aided by brownfields often being in close proximity to transit or other community services. With property value increases between 5 to 15 percent and an $18 return for every federal dollar spent, brownfield redevelopment has proven itself to be effective in growing the local economy. Developers see the potential and communities advocate for their repurposing, but efforts are hindered by the upfront costs of remediating the sites.

As the home for the National Brownfields Coalition, we have seen firsthand the transformation that occurs from federal investment in Brownfields. In Little Rock, Arkansas, EPA funding has been leveraged to support a variety of projects including the Heifer International Center and

Global Village education complex in the city's downtown. In this instance, the EPA grant-supported site assessments and the clean-up of a former brownfield site that had been used for various forms of intensive industrial activities for more than a century. Now Heifer International is home to a "green" office building that serves as their headquarters and a wetland ecosystem to increase downtown greenspace.

These federal brownfield grants are critical for revitalization of communities, but without greater federal investments, too many communities will be without needed resources to properly remediate their vacant properties and will likely sit neglected as a symbol of missed opportunity.

Reconnecting rural America through broadband

The construction of a modern infrastructure grid should bear an emphasis on fixed and mobile broadband access. In the United States, rural communities and their economic development opportunities hinge on—and are burdened by—their poor access to broadband internet. As of 2016, 30 percent of rural residents lack access to mobile broadband. For businesses to thrive, they need reliable connection speeds. Without the internet, anchor institutions struggle to manage information and provide public services. Rural communities may be suffering from farmland erosion or the decline of manufacturing industries, but broadband plays a large role in strengthening their economy. We see this in Zanesville, Ohio, which is working to reclaim its roots as gateway city through arts and small business development. We see it in Williamson, West Virginia where broadband provided the foundation for the construction of the Williamson Health and Wellness Center which has helped to attract further investment and create high-paying jobs.

In communities like Thomasville, GA, and its surrounding rural areas, banding together to create regional authority has proven effective in bringing broadband to thousands of residents and businesses. Neglected by private providers and unable to access high-speed internet service, local businesses, schools, hospitals, and eventually residents saw a need for improved broadband access. Together, they initiated Community Network Services (CNS) to provide telecommunications and broadband services for those most in need. CNS's current network now covers seven counties over 100 miles with over 400 miles of fiber optic cable and 850 miles of the coaxial plant to build a regional authority: the South Georgia Governmental Regional Services Authority (SGGSA). These are great examples of initiatives that should be supported nationally as a way to ensure rural communities no longer have digital dirt roads.

Investment in water infrastructure

Similar to brownfield sites and rural broadband, the United States is underperforming when it comes to investing in its existing water infrastructure. Aging sewers and storm drains are putting stress on the nation's ability to supply and treat water. It is in the nation's best interests to increase funding that is set aside to replace and maintain water infrastructure. However, maintenance should not be the only goal. The age of the pipes and sewers are not the only source of stress when it comes to the water supply. Our nation's sprawling land-use pattern has resulted in untold acres of impervious paved surfaces, stormwater management concerns, and a system for water

treatment that forces water long distances from its source of origin. Smart growth development, in the application, can aid in solving these water supply concerns. Walkable communities cause less pollution into bodies of water from rain. Green Infrastructure in the form of green roofs, rain gardens, and tree plantings protects water quality. The current regulatory framework and land use do not support a sustainable system for water treatment and management. The health risk associated with poorly treated water and clogged piping networks should be reason enough to adopt new standards.

Infrastructure should become more climate-resilient

Natural disasters have affected thousands of businesses and communities across the United States causing devastation, displacement, and costing states billions to rebuild. As climate change intensifies, states have a stake in ensuring their infrastructure is effective in mitigating the effects. Investments made to ensure climate resilient infrastructure is a contribution to the long-term economic and social well-being of American communities. The funding and construction of roads, utilities, and water systems is a critical step towards resiliency.

Smart Growth America's report *Building Resilient States: Profiles in Action* showcases the work done by Kinston, North Carolina to strengthen the resiliency of their infrastructure. Having experienced several hurricanes, specifically one in 1999 rendered their drainage basin useless and caused significant damage to more than 75 percent of homes in the floodplain, Kinston is a high-risk zone for natural disasters. In partnership with FEMA, Kinston completed a comprehensive risk assessment to identify how its environment and infrastructure are at risk. The risk assessment led to reforming land-use practices in Kinston. Residents were relocated to entirely within the city limits to exact more oversight over water control, the floodplain was redeveloped into a forested open space, and hurricane panels were manufactured for Kinston's homes using federal funding. In the mid-2000s, Kinston adopted the Kinston-Lenoir Green Infrastructure Plan that supported the creation of community amenities such as recreation and hub areas with connections to greenways that enable varied modes of transportation.

Conclusion

I would like to thank the committee for the opportunity to speak on the topic of the need for smart federal transportation and infrastructure investment to meet the needs and challenges of the 21st century. The investment in smart transportation often serves as a catalyst for community growth. Improved ground transportation infrastructure is transformative as it radically changes communities and the lives of those who operate within them. Smart transportation can give rise to a flourishing local economy that supports multi-modal transportation and new commercial development.

Mr. YARMUTH. I thank you for your statement.

And now, Mr. Tomer, you are recognized for five minutes.

STATEMENT OF ADIE TOMER

Mr. TOMER. Good morning, Chairman Yarmuth, Ranking Member Womack, and Members of the Committee. I appreciate the invitation to appear before you today.

It was obviously really easy to prepare for this speech after such a slow news day yesterday. So thank you for the timing, too.

[Laughter.]

Mr. TOMER. I want to thank you for tackling such an essential topic, the future of American infrastructure and the federal policy frameworks that manage and invest in those networks.

I want to spend my time this morning focusing on some of the broader themes that are in my written testimony. The past few years have been a really dynamic time for the topic of infrastructure reform. Seemingly all at once in major newspapers that do not normally cover the topic, we are hearing a growing consensus about the need to support infrastructure modernization through congressional action. That is a really positive development.

Infrastructure is an essential enabler of economic growth, whether serving as a platform for industrial innovation, fostering social opportunity, or protecting the natural environment.

Simply put, effective infrastructure policies drive national success, and with these calls for infrastructure reform, Congress gets a truly once in a generation opportunity to physically shape the future of our country. But what does genuine reform look like?

And I genuinely mean that question. What outcomes does Congress hope to achieve?

I respectfully submit to all of you that the primary answer cannot be spend more. The conversation cannot start with the amount of money we are going to invest.

It is true that some of our infrastructure systems require capacity expansions, significant upgrades, digital modernization, and that more spending is typically warranted.

It is also true that federal spending levels as a share of GDP are less than decades past. But the amount we spend on infrastructure should not be the primary reason to motivate reform. Spending is not an outcome. Spending is an output.

Our problem actually is waywardness. When the nation gets a collective feeling that we need to reform policy frameworks, whether it is healthcare, education, infrastructure, when we can all sense something is amiss, it is a telltale sign that our current policy frameworks are not delivering outcomes we want.

That collective feeling is not about spending. It is about a deeper set of collective failures, and this is the exact state of infrastructure policy, especially at the federal level. A lack of clarity around exactly what we want to achieve.

Consider what motivated the federal policy frameworks that we all follow today. Their authors crafted policies that responded to the challenges of their time, issues like connecting cities across state lines, delivering telephone and cable lines, and stopping sewage dumping into our rivers and streams.

If you were to start from scratch today and write a fresh set of national objectives, a set of concepts that could bring prosperity to all people, for business success, genuine stewardship of our natural environment, is that the list you would write?

Do you feel like we lack city-to-city connectivity in this country right now? Are there not enough telephone cables in our communities anymore?

The truth is we have long outgrown these objectives, much of it due to our own prior success. The federal government and their public and private partners built out the networks we dreamed up on paper.

But today we have new challenges, ones just as serious as our predecessors. Income and wealth inequality have skyrocketed to levels we have not seen since the Gilded Age. Digitalization is rapidly reshaping entire industries in the regions where businesses call home. The climate is undergoing changes we cannot afford financially to ignore. And finally, local fiscal capacity is stressed in the face of regional economic divergence.

I respectfully submit that our conversation should start here, with a frank debate about the outcomes we want to achieve. Congress and your partners and the general public have a truly special opportunity. We can define these new outcomes, a new set of goals, and reorient our policies to achieve them.

I recognize this is not easy work. Current legislation is just sitting there, staring all of us in the face, and the shortest path is to edit it along the margins.

From a political perspective, that is a sensible move, but it will not directly attack those same challenges, nor will it magically bring new outcomes to the fore. For that we have to be openminded and consider entirely new approaches.

So what do I mean? Here are just a few short examples. If transportation is steadily damaging our climate mores here, if the loss of open land is leading to longer commute times and higher infrastructure bills, is it time for the federal government to seek a more hands-on approach to land use policy?

If inequality is a sizable issue and people cannot even afford basic services, should we develop an affordability lens to how we structure infrastructure policy?

If economic competitiveness is lagging, if we want more entrepreneurialism and well prepared workers, and we are not leveraging all the data that is out there, should we enact a robust digitalization program?

Developing and building consensus around clear outcomes can serve as jumpstart to the reform conversations we all want to have. But this all starts with a fresh perspective.

If we want to maximize value from the infrastructure networks we have already built and strategically prioritize the networks we will build in the future, we need to escape the path dependencies we have built for ourselves and adopt a new set of economic, social, and environmental goals.

Thank you for your time today.

[The prepared statement of Adie Tomer follows:]

BROOKINGS

QUALITY. INDEPENDENCE. IMPACT.

Testimony Submitted to
U.S. House of Representatives
Committee on the Budget

"America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment"

September 25, 2019

Adie Tomer
Fellow
Brookings Institution
Metropolitan Policy Program

Good morning Chairman Yarmuth, Ranking Member Womack, and Members of the Committee. I appreciate the invitation to appear before you today. I also want to thank you for tackling this essential topic: the future of American infrastructure and the federal policy frameworks that manage and invest in those networks.

The past few years have been a dynamic time for the topic of infrastructure reform. Seemingly all at once, there is a growing consensus around the need to support infrastructure modernization through Congressional action. This is an important development. Infrastructure is an essential enabler of economic growth, whether serving as a platform for industrial innovation, fostering social opportunity and connectivity, or protecting the natural environment. Simply put, effective infrastructure policies drive national success.

Amid these calls for infrastructure reform, Congress faces a once-in-a-generation opportunity to physically shape the future of the country. To do so, you all must ask yourselves: what does genuine reform look like? What outcomes should it hope to achieve?

I respectfully submit that the primary answer cannot not be "spend more." It's true that some of our infrastructure systems require capacity expansions and significant upgrades, but the amount we spend on infrastructure should not be the primary reason to motivate reform. Nor is the amount of federal infrastructure spending a direct corollary to economic, social, or environmental success. Spending is not an outcome.

To enact genuine reform, we must be willing to revisit the fundamental goals we hope to achieve. We also must execute an honest assessment of whether our current policy frameworks share those objectives.

I respectfully submit they do not. The authors of our legacy frameworks responded to challenges of their time—issues like connecting cities across state lines, delivering telephone and cable service, and stopping sewage dumping. Those frameworks were never designed to address today's challenges: the most extreme income and wealth inequality since the Gilded Age, broadband as an economy-wide platform, or the existential pressures of climate change.

The country needs federal infrastructure reform because it is time to develop and enact new frameworks that respond to today's challenges. If we want to maximize value from the infrastructure networks we've already built and strategically prioritize the networks we will build in the future, we need to escape the path dependencies we've built for ourselves and adopt a new set of economic, social, and environmental goals. We must be willing to question the short- and long-term viability of our existing frameworks—and be willing to start from scratch where it's necessary.

Outmoded and Outdated Frameworks

Across the country, we can see evidence of a new, digitalized industrial era. Businesses are rapidly turning to new machinery and computing equipment, including new forms of artificial intelligence to inform their business practices. The American workforce is digitalizing just as quickly, acquiring a new set of skills to fill an increasingly complex range of occupations. Our daily lives now run on digital platforms, from communication, to shopping, to entertainment.

Evan as this digital transformation accelerates, today's federal infrastructure frameworks are still designed to respond to challenges of an analog industrial age.

Our transportation frameworks are legacies of an era focused on ***building intercity connectivity*** using the newest technologies of the twentieth century. Congress spent nearly two decades designing a framework that would bring limited-access highways to every corner of the country. Over six decades since the landmark 1956 Federal Aid Highway Act, the National Highway System now carries 55% of all vehicle miles traveled on just 9% of all national lane miles.[1] Rapid innovation in the aviation sector led to design of the national air traffic control system, which promoted safe and frequent travel between our locally-owned airports. As a result, the U.S. aviation industry boomed: from 1975 to 2017 alone, commercial aviation passengers grew at a rate 6 times faster than population growth.[2]

As America rapidly suburbanized—and it became clear just how many households would own vehicles—those same federal surface transportation dollars flowed to ***connections within cities*** and their metropolitan areas. Highway dollars helped develop land on the urban fringe, unlocking demand for single-family housing and promising short drives back to old city centers. The federal government began supporting large-scale transit investments—starting with Atlanta, San Francisco, and Washington, DC—focused primarily on connecting suburbs to cities.

[1] Source: 2017 Highway Statistics, Federal Highway Administration.
[2] Source: 2018 National Transportation Statistics, Bureau of Transportation Statistics.

The twentieth century also brought a new kind of climate insecurity: the overwhelming ***pollution of our water resources***. In response, Congress passed the Clean Water and Safe Drinking Water Acts to protect and improve the environmental quality of our water systems and drive investment in state and local water infrastructure. By 1976, annual grant program appropriations exceeded $30 billion in inflation-adjusted terms.[3] However, construction grant programs for clean water were phased out in the 1980s—replaced by revolving loan funds—and it wasn't until the 1990s that we even had sizable federal support for drinking water. Investment needs, in turn, have increasingly fallen to states and localities.

But it's also important to consider what infrastructure opportunities our twentieth century policies did not address to the full extent possible.

First, ***digitalization*** was still a techno-futurist fantasy in the twentieth century. It would have been difficult for mid-century policymakers to predict the sheer scale of digital data in today's world—and its logarithmic rise in terms of creation and distribution.[4] Still, telecommunications policy architecture primarily focuses on delivering phone and television service to households and businesses. As a result, we have a patchwork approach to broadband policy without a clear imperative on the federal government's role to prepare workers for a digital future or how to ensure every household can afford and use a personal broadband connection.

Second, current federal policies do not consistently or proactively expand the full range of opportunities the ***infrastructure workforce*** can provide. For generations, politicians used construction jobs as a lever to attract support for infrastructure bills, including President George H.W. Bush's support for the 1991 Intermodal Surface Transportation Efficiency Act and President Barack Obama's support for the 2009 American Recovery and Reinvestment Act. However, 77% of infrastructure workers are employed in long-term positions related to operation, management, and governance. There is still an opportunity to recruit, train, and retain millions of workers as part of a sector-wide strategy, aimed at supporting infrastructure career pathways that offer competitive pay and portable skills.

Finally, today's infrastructure policies do not reflect the scale of the ***climate imperative***. While annual news makes clear just how disruptive and destructive climate change will be for essentially every community across the country, our current policy frameworks either take an antiquated approach or are simply absent. For example, the Congestion Mitigation and Air Quality program, one of the largest surface transportation programs, continues to fund highway expansions. Likewise, there is still far too little guidance to local governments that may want to finance more resilient infrastructure to better manage flooding and other stormwater concerns. And these are just two brief examples.

The foundations of the policy frameworks we have today, designed decades ago, are outdated. And because their foundations were meant to pursue a different set of objectives, the foundations also are outmoded.

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[3] Congressional Research Service, "Funding for EPA Water Infrastructure: A Fact Sheet", 2019.
[4] McKinsey Global Institute, "The Age of Analytics: Competing in a Data-Driven World", 2016.

To set the country on a path towards industrial competitiveness, equitable opportunity, and climate security, the country needs a revised set of infrastructure policy frameworks, ones that act directly in support of 21st century national goals. Fortunately, that is the exact opportunity facing this Committee and your colleagues across both Congressional Chambers.

Connecting National Outcomes to Infrastructure Needs

Too often, infrastructure debates narrowly focus on the limitations of specific infrastructure systems: congested highways, water main breaks, slow broadband speeds. While these challenges are real and deserve attention, addressing them does not necessarily reflect the goals of infrastructure networks. Infrastructure is not an end in itself—infrastructure should serve a broader set of shared outcomes.

As the country considers a new approach to infrastructure policy, the federal government should start by clearly defining the economic, social, and environmental outcomes it wants those frameworks to address.

Existentially, there is no more pressing need than ***addressing climate insecurity***. The Department of Defense designates climate change as a significant security threat facing the country, and Department leadership continues to make this declaration during a period of global political instability.[5] It's not hard to understand why. We're already witnessing more frequent flooding in coastal and inland markets, more extreme storms and droughts, more warming just about everywhere—and these are just the leading indicators of our climate instability. Much of this can be connected to our transportation system, where pollution levels are still rising and now represent 29% of national greenhouse gas emissions.[6]

Climate insecurity has quickly become the ultimate tragedy of the commons, where seemingly benign individual actions add up to heightened risk factors for us all. The federal government is uniquely positioned to internalize all these costs and redirect behavior in climate-sensitive ways. This certainly includes the aggressive pursuit of cleaner energy generation and cleaner fuel consumption, areas where conversation efforts are already ongoing. We must also add land use to that list, since one locality's interest in developing open space can negatively impact a far larger geographic space. National data bears this out, with the average metropolitan neighborhood's population density actually dropping at a time of overall population growth.[7] Managing how much natural land we convert to a built environment—and the density of that built land—is essential to manage our climate impacts.

Income and wealth inequality represent another significant threat to American opportunity, and a topic this Committee discussed in detail just last week. While many of our older generations remember the shared economic gains of the post-War era, median household incomes only

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[5] For one instance, see: United States Department of Defense, "Report on Effects of a Changing Climate to the Department of Defense", January 2019.

[6] Source: Energy Information Administration. Available online at https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions [accessed September 2019].

[7] Paul Krugman, "Density", *New York Times*, April 16, 2013.

exceeded 1999 levels in 2016, based on inflation-adjusted data.[8] Interrelated, wealth-building increasingly concentrates among a select group. For example, the top 1% of households owned 29%—or over $25 trillion—of household wealth in 2016, while the middle class owned just $18 trillion.[9] Consumer spending, labor market outcomes, and savings rates are just a slice of the impacts such inequality introduces.

Stalled real wage growth and a lack of a financial safety net means many of our households face an inequitable infrastructure reality. Housing affordability is a challenge in metropolitan areas of all kinds, not just a select group of large coastal markets, and especially pronounced in central cities.[10] Transportation is the number two household expense after shelter, primarily driven by vehicle costs.[11] Water and broadband prices are frequently found to be a barrier to adopting these essential services. To put these challenges in perspective, the combined cost of housing, transportation, and other infrastructure services often exceeds the total after-tax income of the bottom 20% of households by income.[12] Our built environment is deepening our inequality.

Industrial competitiveness is always a national concern, and one where infrastructure can either unlock or restrict business growth. As it stands, our transportation frameworks are well-attuned to this need, with formula highway funding bringing high-speed roadway access to most places. But where our current frameworks fall short is around digitalization and workforce access. To remain competitive in the digital age, American industries need access to a highly-skilled workforce, genuine digital security, and fast and reliable telecommunications networks—all areas where the federal government directly supports business.

National infrastructure reform should address these competitiveness drivers head-on. There are still millions of Americans who both do not have basic digital skills, do not have direct access to computing equipment, and do not have private access to a broadband connection.[13] From rural communities to central city neighborhoods, many people still do not have access to wired broadband at the speeds modern business requires, putting every business at a disadvantage in these areas.[14] Lengthy commutes—combined with the affordability issues raised above—often

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[8] Source: U.S. Census Bureau

[9] Isabel V. Sawhill and Christopher Pulliam, "Six facts about wealth in the United States" (Washington, DC: Brookings Institution, 2019). Available online at https://www.brookings.edu/blog/up-front/2019/06/25/six-facts-about-wealth-in-the-united-states/ [accessed September 2019].

[10] Cecile Murray and Jenny Schuetz, "Housing in the US is too expensive, too cheap, and just right. It depends on where you live" (Washington, DC: Brookings Institution, 2018). Available online at https://www.brookings.edu/research/housing-in-the-u-s-is-too-expensive-too-cheap-and-just-right-it-depends-on-where-you-live/ [accessed September 2019].

[11] Source: Bureau of Labor Statistics, Consumer Expenditure Surveys, 2019.

[12] Adie Tomer, "Can people afford American infrastructure?" (Washington, DC: Brookings Institution, 2018). Available online at https://www.brookings.edu/blog/the-avenue/2018/05/09/can-people-afford-american-infrastructure/ [accessed September 2019].

[13] For a primer on digital inclusion and 2018 statistics, see: Doug Kinkoph, "Five Digital Inclusion Trends in the United States", National Telecommunications Information Administration. Available online at https://www.ntia.doc.gov/blog/2018/five-digital-inclusion-trends-united-states [accessed September 2019].

[14] Adie Tomer, Elizabeth Kneebone, and Ranjitha Shivaram, "Signs of digital distress: Mapping broadband availability and subscription in American neighborhoods" (Washington, DC: Brookings Institution, 2017). Available online at https://www.brookings.edu/research/signs-of-digital-distress-mapping-broadband-availability/ [accessed September 2019].

mean employers struggle to retain workers who either live far away from the job site or cannot access a private vehicle.[15]

Finally, ***regional economic divergence and fiscal health*** are emerging challenges across the country. Much like household inequality, the past decade has seen metropolitan areas with more than one million residents account for 72% of national employment growth, indicating the heightened economic momentum in a relatively small set of places.[16] A similar phenomenon exists within communities as well. Even in more prosperous metropolitan areas, certain independent cities and older suburbs have seen their populations and industrial levels fall, displaced by growth in other places within their metropolitan area. Meanwhile, across the country, municipalities' general fund spending is rising faster than revenue growth, a risk-filled pattern.[17]

Whether at the metropolitan or municipal level, slow-growth and shrinking communities can lead to a vicious cycle when it comes to maintaining essential infrastructure. Without a stable revenue base, local leaders often must make difficult decisions, including delayed maintenance or more drastic service changes. Flint's recent water experience is a perfect example of this phenomenon, where a long-run fiscal shortfall contributed to a public water failure. Fiscal shortfalls in one jurisdiction can also impact entire metropolitan areas, like the example of pothole-stricken roads inflicting vehicle damage on all who use the roads. As the major owners of public infrastructure—including most roads, water authorities, airports, and seaports—it's in the country's best interest to help local governments maintain essential physical services.

In summary, these national outcomes are no different from what this Committee may raise as motivating factors around other policy debates. Due to the sheer visual quality of infrastructure—to sit in traffic, to watch a water main break—it can be easy to focus strictly on the physical assets themselves. We must look beyond than those visual cues.

Adopting New Federal Infrastructure Objectives

As this Committee and your colleagues debate the future of federal infrastructure policy, I urge you to think creatively. Congress should be willing to start from scratch—at least in terms of legislative design—and only keep current policies that directly respond to a new set of modernized objectives.

While it's beyond the scope of this hearing to outline every component of a comprehensive infrastructure reform package, I respectfully submit a range of evolutionary ideas, bucketed around broader national goals the federal government should pursue. The ideas are new, but the

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[15] For one example, see: Laura Ducceschi and Erin Mierzwa, "The Role of Transportation in Fostering Economic Mobility in Northeastern Pennsylvania" (Federal Reserve Bank of Philadelphia, 2017).

[16] Clara Hendrickson, Mark Muro, and William A. Galston, "Countering the geography of discontent: Strategies for left-behind places" (Washington, DC: Brookings Institution, 2018). Available online at https://www.brookings.edu/research/countering-the-geography-of-discontent-strategies-for-left-behind-places/ [accessed September 2019].

[17] Christiana McFarland and Michael A. Pagano, "City Fiscal Conditions – 2018" (Washington, DC: National League of Cities, 2018). Available online at https://www.nlc.org/sites/default/files/2018-09/City%20Fiscal%20Conditions%202018_WEB.pdf [accessed September 2019].

concept is direct: organizing our policy frameworks around shared concepts can inspire entirely new approaches to infrastructure policy.

Environmental Resiliency

- **National Land Value Tax and Impact Fee:** Traditionally, local governments manage land use and the federal government primarily stays out of the way. However, in an era of climate insecurity, income inequality, and local fiscal diversion, the federal government has a strong case to take a more active approach to land use in metropolitan areas. A federal land value tax and impact fee could serve as twin policies to directly steer land uses towards more resilient ends, with the added benefit of promoting more affordable housing and greater transportation choice. A national impact fee would dissuade development in greenfields and other low-density locations, steering development towards places where infrastructure already exists, effectively promoting physical proximity. Meanwhile, a land value tax would incentivize more development in places with flourishing economies, effectively giving rise to more housing and commercial density in the places that need it. While the taxes would steer development, the revenues they raise could be reinvested in infrastructure to promote a state-of-good repair and targeted expansions.

- **Resilience Marketplace:** Recent climate impacts have laid bare the extreme financial costs for communities without adequate defenses against unpredictable weather. To promote more resilient investment, the federal government could establish a new institutional framework that can drive alternative project delivery and financing while increasing overall investment in more resilient infrastructure.[18] Starting with stormwater infrastructure, various federal agencies should collaborate with the private sector—including financiers and ratings agencies—to better define the environmental and economic benefits of resilient infrastructure, develop technical understanding and capacity around new financing tools, and identify the appropriate governing bodies to promote scale.

- **Comprehensive Electric Vehicle Framework:** Considering transportation's role in rising greenhouse gas emissions, there is a growing consensus among the general public and automakers that vehicle electrification is essential to mitigate climate change's worst impacts. And with the average trip distance exceeding 10 miles, many households will feel stuck in their cars.[19] While automakers are already charting a course of action, the federal government can adopt a comprehensive framework to further accelerate the transition. This should include: sizable investment in battery- and materials-related research and development (including a high risk tolerance); cash incentives for electric vehicle purchases and older vehicle trade-in's, both among households and businesses

[18] For more information, see: Joseph Kane and Adie Tomer, "Creating a new marketplace for resilient infrastructure investment" (Washington, DC: Brookings Institution, 2019). Available online at https://www.brookings.edu/research/creating-a-new-marketplace-for-resilient-infrastructure-investment/ [accessed September 2019].

[19] Source: 2017 National Household Travel Survey, U.S. Department of Transportation.

like port operators; expansive public charging infrastructure; and workforce programming around digital transportation.

Affordability

- **National Infrastructure Identification Card:** Federal programs like the Supplemental Nutrition Assistance Program already prove the value of using a centralized system to deploy benefits to those most in need. Likewise, transportation, broadband, and traditional utilities already have experience using common identification systems—ranging from public transportation cards to credit identification—to serve their customers. A national infrastructure identification program would be a method to unite all infrastructure services under one common payment system, a development underway in a wide range of countries.[20] The new system could help distribute means-tested benefits, allowing progressive pricing and a data trail to adjust federal support to local infrastructure providers. It also could use anonymized and encrypted design, promoting trust among all residents in an era of heightened political and data security concerns. This system could also connect to other services, from libraries to publicly-supported housing.

- **Customer Assistance Programs:** No one should lose their job or fail to provide for their children because they can't afford essential infrastructure services. Using lessons from the water sector and its customer assistance programming, the federal government can better quantify and define what affordable infrastructure rates even mean at a regional level. This could lead to more customized assistance strategies, including affordability testing across transportation, water, electricity, and broadband services. An expert commission, appointed by Congress and/or the President, should regularly update these assistance rates to promote affordability, provider solvency, and a broad pursuit of national economic opportunity.

- **Transportation Pricing:** As it stands, transportation offers unclear price signals to consumers and uses disconnected revenue streams to cover public expenses. This is especially true of driving, where there is no way to connect price signals to aggregate demand for the roadways at any given time. The digital age, especially GPS technology and mobile computing, make it possible to install national transportation pricing, starting with a specific set of pilots. Combined with prior bullets in this section, the ability to offer means-tested pricing and using the revenues to reinvest in shared alternatives can reduce the transportation cost burden for our most disadvantaged households while promoting free-flowing traffic on our highest-demand roadways.

Economic Competitiveness

- **Infrastructure Sector Partnership:** Preparing workers for long-term infrastructure career pathways demands additional federal funding, flexibility, and support for work-based learning opportunities that cut across multiple infrastructure sectors. In addition to

[20] For more information, see: USAID, "Identity in a Digital Age: Infrastructure for Inclusive Development", 2017. Available online at https://www.usaid.gov/digital-development/digital-id/report [accessed September 2019].

apprenticeships and the creation of more portable, stackable credentials, there should be a new national strategy and network around infrastructure sector partnerships. Forging stronger employer, educational, community, and labor connections around the entire infrastructure sector could boost programmatic coordination and more comprehensive skills mapping. Similar efforts in the past, including the National Network for the Transportation Workforce by the U.S. Department of Transportation, have provided some guidance in this way. However, multiple agencies, from EPA to USDA to DOE, should come together to share expertise and lead around these issues.

- **Digital Literacy and Skills Program:** In the digital age, the digital skills shared across all households will always serve as a ceiling on the country's economic potential. To help address the continued gap in even basic digital literacy, the federal government should adopt a program suite to reach our most digitally-disconnected neighborhoods. This would include sustained funding for trusted local nonprofits to host training classes, financial support for computing equipment, and active development with peers in the Departments of Education and Labor to develop lifetime learning curricula.

- **Economic Level-Setting:** Public agencies related to the built environment, from transportation to land use to housing, tend to measure performance strictly through the lens of their established expertise. However, to bring a greater degree of economic acumen to those agencies, they require new kinds of frameworks to translate national and regional economic goals into the geographies where they already measure built environment performance. Based on a recent collaborative Brookings pilot in the Portland–Vancouver–Hillsboro, OR-WA metropolitan area, there is an opportunity to build a scalable approach to mapping local economic and built environment data.[21] This approach could eventually inform Comprehensive Economic Development Strategies, long-range planning, and other areas from housing to local financing incentives.

Agency Redesign

- **Department of the Built Environment:** Any largescale infrastructure reform should not treat agency design as static, either. Current agency and department designations reflect a kind of physicality, whether it be different transportation modes or even housing versus transportation. However, there is a United States and global model around multiagency consolidation. A new "Department of the Built Environment" could bundle USDOT, HUD, and parts of EPA and Commerce to organize federal executive branch activities around common outcomes. This setup could maintain specific technical expertise around current staffing structures, but use a more integrated management level to promote shared values and goals.

These concepts represent a part of a comprehensive infrastructure reform effort. I did not list other ideas like Complete Streets, Dig Once, more direct federal support for resilient water

[21] For more information, see: Adie Tomer, Ranjitha Shivaram, and Annibel Rice, "Announcing the Economic Value Atlas: A new approach to regional transportation and land use planning" (Washington, DC: Brookings Institution, 2019). Available online at https://www.brookings.edu/research/announcing-the-economic-value-atlas-a-new-approach-to-regional-transportation-and-land-use-planning/ [accessed September 2019].

improvements, high speed rail investments, or a whole range of concepts that I personally support and could fit directly under these banners. An outcomes-driven framework provides a flexible platform to include a whole range of new and old ideas—and it ensures those policy concepts work towards a common set of goals.

Conclusion

Over the next few years, infrastructure reform represents a profound opportunity to shape America's physical landscape for multiple generations. But I want to repeat a point I made at the onset: simply spending more money without reconsidering what outcomes we want to achieve would be a missed opportunity.

Congress should see setting national, shared outcomes both as a pathway to address our infrastructure needs and as a much-needed chance to reset how we approach infrastructure in the first place. Our economic, social, and environmental challenges are immense, but our country has the resources to meet them. With sustained commitment to a reform effort and an open-minded, outcome-driven approach, I'm confident Congress can deliver infrastructure reform that will support a more inclusive, competitive, and resilient country in the decades to come.

The author would like to thank Joseph Kane and Lara Fishbane for help with preparing this testimony.

The views expressed in this testimony are those of the author alone and do not necessarily represent those of the staff, officers, or trustees of The Brookings Institution.

Mr. YARMUTH. Thank you very much for your statement.

And now, Dr. Geddes, you are recognized for five minutes.

STATEMENT OF R. RICHARD GEDDES, PH.D.

Dr. GEDDES. Thank you.

Chairman Yarmuth, Ranking Member Womack, and distinguished Members of the Committee, thank you very much for the opportunity to appear today before the Committee on the topic of America's infrastructure.

My name is Rick Geddes. I am a professor in the Department of Policy Analysis and Management at Cornell and founding Director of the Cornell Program in Infrastructure Policy.

I am also a Visiting Scholar at the American Enterprise Institute.

I want to make several key points during my oral remarks. First, the United States faces severe challenges in the funding, financing, and permitting of its heavy civil and social infrastructure. Although funding and financing of infrastructure are related, they are conceptually distinct. The main challenge the United States faces today is inadequate funding of infrastructure, which refers to the underlying dollars needed to pay for it.

Declining revenue from the federal gas and diesel tax is devolving responsibility for funding to state and local governments by default.

Second, the United States can adopt innovative approaches used successfully in many other countries to help state and local governments fund and finance their infrastructure. Those include encouraging more private involvement through public-private partnerships, encouraging greater funding on their own through value capture, and creating an asset recycling program.

Finally, I urge Congress to address the exceedingly long time periods required to get projects permitted in the United States.

Regarding funding for infrastructure, taxes on gas and diesel fuel, which provided a reliable funding source for decades, are now under stress. They are typically not indexed to inflation at the state or federal level, and they generate less revenue as drivers shift into more fuel efficient vehicles and some vehicles that do not use fossil fuels at all.

That is putting a strain on state transportation budgets at a time when infrastructure is aging and in need of expensive repairs and upgrades. I suggest several key reforms to help state and local asset owners operate and maintain the nation's infrastructure.

The first is to encourage state and locals to engage in value capture. Value capture is the concept that infrastructure assets that have been maintained in the same way for decades can generate more value through innovative approaches to management and release enormous latent value in those assets.

One simple example is to move the location of the salt sheds along highways that may have been in the same place for decades. The value of that real estate that the sheds are on may have gone up over time. You can move the shed to a lower valued parcel and then lease or sell the real estate that the shed was on before. That is one example.

Another example which requires federal action is to allow states to develop interstate highway rest stops. Section 111 of Title 23 of the United States Code prohibits states from including shops and restaurants and other commercial activity at hundreds of highway rest stops, which is a restriction going back to the 1950s.

If states had the option of developing those rest stops, they could concession out the food, concession out shops, and they could gain new funding for infrastructure via those concession fees.

The question is how to incentivize such value capture through a comprehensive program. I here suggest Congress follow the successful example of Australia, which created an asset recycling program a number of years ago. Under this program, the federal government of Australia gave state and local asset owners a bonus, 15 percent in the Australian case for every dollar they raised via value capture in the program.

Critically, the program is called asset recycling because the newly raised funds from the program are always plowed back into the infrastructure owned by that same jurisdiction. That is, they do not go into some other use.

In Australia, each dollar spent in the 15 percent bonus generated roughly five times that amount in funds released to the new value created by the program.

I also recommend a set of reforms to encourage greater state and local use of public-private partnerships, or PPPs. PPPs can leverage private capital, expertise, and other benefits that help scarce transportation and infrastructure dollars go as far as possible.

Many other countries, including Canada, Spain, France, and Australia, are decades ahead of the United States in PPP use. There are several key reforms that would help incentivize PPP use in the United States.

First, lift or eliminate the current $15 billion cap on private activity bonds, or PABs, which level the cost of capital playing field between the private sector capital and the public sector capital.

Second, private activity bonds should be approved for use on all public purpose infrastructure, including water projects, energy projects, and not just transportation projects.

Third, Congress should encourage the creation of state and regional PPP units. PPP units are quasi-governmental entities that help state and local governments complete PPPs that are in the public interest.

I will just close out by saying that infrastructure delivery at all levels is hurt by very slow environmental permitting. I believe that that permitting process could be assisted through the one federal decision concept which would create a lead agency in the permitting process, set a target of two years, and the permitting would go through the agencies concurrently and not sequentially in order to expedite that process.

Thank you, Mr. Chairman.

[The prepared statement of R. Richard Geddes, Ph.D. follows:]

Statement before the House Committee on the Budget

On

"America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment"

R. Richard Geddes
Visiting Scholar, American Enterprise Institute
Professor, Department of Policy Analysis and Management
and
Founding Director, Cornell Program in Infrastructure Policy
Cornell University

September 25, 2019

Chairman Yarmuth, Ranking Member Womack, distinguished Members of the Committee:

Thank you for the opportunity to submit testimony to the Budget Committee of the U.S. House of Representatives on the topic of America's infrastructure. I am R. Richard Geddes, Professor in the Department of Policy Analysis and Management at Cornell University, Founding Director of the Cornell Program in Infrastructure Policy, and Visiting Scholar at the American Enterprise Institute. I am a member of the Revenue and Finance Committee of the Transportation Research Board. I was also a member of the National Surface Transportation Policy and Revenue Study Commission, which reported its findings to Congress in 2008.

My testimony has five main points:

1. American faces challenges in both the *funding* and the *financing* of its infrastructure. Although those concepts are related, they should be distinguished and addressed separately. The *funding* of U.S. infrastructure is the most pressing concern.
2. Under its current structure, the Highway Trust Fund is not sustainable, for several reasons. The Fund, which has required several general fund bailouts, is projected to experience severe deficits in the future. Responsibility for infrastructure funding will, by default, devolve to the state and local governments that own most transportation infrastructure assets.
3. Absent new large federal revenues, the federal role should be to facilitate the enhanced funding, financing, and permitting of infrastructure by state and local asset owners. Infrastructure delivery can be facilitated by streamlining the National Environmental Policy Act (NEPA) process, for example.
4. New federal policies can assist state and local governments with infrastructure *funding*. Those include relaxing restrictions on tolling and mileage-based user fees as well as encouraging innovative policies such as value capture and asset recycling.
5. New federal policies can also assist state and local governments with infrastructure *financing*. Those include policies to encourage greater use of public-private partnerships, or PPPs. Policies include expanding the cap on, and use of, private activity bonds, as well as the creation of state and regional PPP units. Greater PPP use also provides enhanced investment opportunities for large investors such as public pension funds that do not find traditional tax-exempt investments as appealing.

I discuss each point below.

1. The Unsustainable Structure of the Highway Trust Fund

There is widespread agreement that the United States is spending too little on its infrastructure. The Congressional Budget Office estimated that combined federal, state and local spending on infrastructure was (in current 2019 dollars) $441 billion as of 2017. That was about 2.3 percent of U.S. GDP. It remains well below estimates of the spending needed to keep infrastructure in a state of good repair. The American Society of Civil Engineers estimates that

needs are about $206 billion below expected actual spending for the 2016 to 2025 time period. The main extant tool for funding transportation infrastructure is gas and diesel taxes at both the state and federal level. The federal gas tax, for example, generates between 85 and 90 percent of the revenues flowing into the federal highway trust fund. Although that method provided stable funding for decades, there are several reasons why it has become a less reliable tool.

First, fossil fuel taxes naturally decline as motorists shift into alternative power sources, such as natural gas and electricity. Various policies, such as incentives to purchase electric vehicles, are encouraging that shift. Second, federal fuel taxes (and most state fuel taxes), are not indexed to inflation. The purchasing power of revenue from those taxes declines significantly over time even with modest inflation rates. The federal gas tax, which has not been changed since 1993, has lost about 40 percent of its purchasing power since that time.

Third, vehicle engines that do use fossil fuels are becoming more efficient. Corporate-average fuel economy (CAFÉ) standards encourage increased efficiency. That change however reduces revenue from taxes that depend on the use of fossil fuels.

Those factors are weighing on the Highway Trust Fund. Annual federal gas tax revenues are now about 15 billion less annually than at their 1999 peak. About $140 billion in transfers from general funds have been required since 2008, further weakening the user-pays principle on which the Fund is based. The situation is likely to worsen over time. The Peter G. Peterson Foundation estimates that the Highway Trust Fund will face a cumulative shortfall of about $192 billion between 2019 and 2028.

One obvious solution is to significantly increase federal gas and diesel taxes. That is unappealing from several policy perspectives, however. In addition to revenue instability, fuel taxes have become less equitable over time from both a horizontal and a vertical perspective. Horizontal equity refers to all those consuming a good or service at the same rate paying the same amount. This is a familiar concept, with those consuming electricity, natural gas, or water paying in proportion to their use. It is also the standard way that almost all goods and services are allocated. This approach is often referred to as a user fee or price.

Vertical equity, in contrast, refers to the notion that those with more resources should pay more for a good or service. That principle is reflected in progressive income taxation, for example.

Per-gallon fossil fuel taxes have become less equitable over time using both metrics. Those taxes were reasonably equitable from a horizontal perspective when they were increased in 1956 to fund construction of the Interstate Highway system. At that time, most vehicles of a certain size achieved similar gas mileage. That is, a Buick sedan, a Ford sedan, and a Mercury sedan achieved similar fuel efficiencies. Therefore, a driver of each type paid about the same per smile of road use.

That is no longer the case. Four-door sedans today can obtain wildly different gas mileages. An aging Chevrolet sedan may get very poor mileage (thus paying much in gas taxes per mile), while a new Tesla electric sedan effectively obtains infinite gas mileage (paying nothing in gas taxes per mile). Yet both use the same amount of road space. In sum, technology has reduced gas taxes' vertical equity. Although fuel taxes continue to raise revenue, they are no longer realistically viewed as true user fees.

Similarly, technology has eroded the horizontal equity characteristics of fuel taxes. Although wealthier drivers were never explicitly charged more, higher-income drivers today are more likely to drive all-electric or more fuel efficient vehicles. Conversely, poorer drivers are more likely to driver older, less fuel efficient vehicles, and keep them longer. Those forces have made fuel taxes more regressive over time. It is thus appropriate to explore other funding approaches.

2. Infrastructure Funding versus Infrastructure Financing

It is important to consider carefully alternatives to the traditional fuel-tax approach to infrastructure funding. Before proceeding, infrastructure *funding* should be contrasted clearly with its *financing*. Funding refers to the underlying resources necessary to pay for infrastructure. Those dollars can come from one of three broad sources: (i) some type of rate, fee, or price tied closely to the use of a transportation facility. Examples include tolls and mileage-based user fees; (ii) some type of targeted tax related to use of the infrastructure generally. Tax-increment financing offers one example; and (iii) a broad-based tax that is unrelated to infrastructure use. Raising a state's sales tax to help pay for its transportation infrastructure, or using general fund revenue for infrastructure, offers two examples.

In contrast, *financing* refers to the use of financial tools to help generate the large upfront payments typically needed to design and construct new infrastructure, or renovate aging infrastructure. The United States is lucky to have many such tools at hand, including tax-exempt municipal bonds, taxable corporate bonds, equity investment, TIFIA loans, and state revolving funds, among others. Crucially, successful financing requires that reliable funding first be in place. If not, investment will not be forthcoming.

3. Addressing Asset Owners' Funding Challenges

Given the decline of revenue into the federal Highway Trust Fund, funding responsibility has by default devolved to state and local infrastructure owners. The Interstate Highway system, for example, is largely owned by U.S. states. States are thus responsible for generating the resources necessary for its proper operation and maintenance, and expansion where necessary.

Recognizing this challenge, many states either have implemented or are exploring assorted new revenue sources. Those include raising state-level gas and diesel taxes, raising dedicated sales taxes, implementing mileage-based user fees, and increasing registration fees, or some mix of the above. Arkansas, for example, recently raised its gas tax by 3 cents per gallons, and its

diesel tax by 6 cents per gallon, which would raise about $35 million per year transportation infrastructure. We are now experiencing a "laboratory of federalism" with respect to infrastructure funding methods.

The overall effect of those developments it is to alter fundamentally the federal role in infrastructure funding. This new reality needs to be recognized in federal policy. In the absence of considerable added federal revenue, that role should be to facilitate the ability of state and local governments to raise revenue on their own.

As I have argued elsewhere, the best solution from an economic perspective is network-wide, real time road pricing. That reflects the approach used in many other utilities, such as wholesale electricity pricing and radio-spectrum pricing. However, many political barriers would have to be addressed before it could be implemented for roads.

Barring such major changes, the appropriate federal role is to relax federal barriers to new state and local sources, and to help speed project delivery. Those changes can be viewed as facilitating state and local self-help. I next discuss several policy changes to facilitate that.

4. Federal Policies to Facilitate Added State and Local Funding

There are several ways in which federal policy can assist state and local governments in raising added revenue. Revenue-raising policies can be categorized broadly into user-fee approaches and value capture.

Although a full discussion is outside this testimony's scope, an example helps illustrate increased use of user fees. Many new toll-financed projects are being developed by state and local public-sector agencies, which is a relatively new phenomenon. A primary example is the development of "managed lanes" projects, also known as express toll lanes (ETLs). The earliest version of such projects was the conversion of high-occupancy vehicle (HOV) lanes into high-occupancy or toll (HOT) lanes. Such conversions generate new revenue. Because many expressway corridors lacked HOV lanes that could be converted, however, state departments of transportation began exploring the installation of new tolled lanes via public-private partnerships, or concessions, that would be constructed and operated by a private partner. Examples include the I-495 ETLs on the Washington, DC Beltway in Northern Virginia, and the LBJ and NTE projects in the Dallas/Fort Worth area.

Such projects increase revenue, and thus capacity, without burdening governmental budgets. Federal policy can promote such projects through TIFIA loans, private activity bonds, and expediting environmental permitting, among others.

Still more compelling are the variety of ways federal policy can assist state and local governments in *value capture*. Value capture is the idea that there is tremendous value latent in much of American's infrastructure, which can be released and captured via innovative policies. To offer just one example, there are hundreds of state-owned rest stops on the

Interstate Highway system that states are prevented by law (23 U.S. Code § 111) from developing. That explains why many motorists are dismayed by rest stops that are small and dark at night, offering only bathrooms, vending machines, and a few maps.

Section 111 of Title 23 could be reformed to permit states to develop those rest stops by offering concessions that allow the inclusion of shops and restaurants. States could realize that added value directly via concession fees. Those fees can be recycled directly back into the state's infrastructure.

Similarly, states can realize added value by optimizing real estate use. To again offer an example, state departments of transportation and municipalities may be able to capture added value by moving salt sheds, which occupy large land parcels, to lower-value locations. The public-sector owner captures the released value by leasing or selling the land previously occupied by the shed. Those new revenues can be dedicated to funding new and existing infrastructure.

The key policy question is how value capture should be incentivized. Because they have used traditional management methods for decades, state and local owners are unlikely to undertake extensive value capture programs without strong federal incentives. Federal policy can help in this regard via an *asset-recycling program*. I describe such a program below.

Asset recycling originated in 2014 in Australia as part of the government's Asset Recycling Initiative (ARI). Widely viewed as successful, the A$3.3 billion ARI program incentivized roughly A$23 billion in infrastructure investment. Australia offers the canonical model of how a successful recycling program can operate. Many definitions of asset recycling reflect the Australian experience. Transportation expert Robert Poole defines asset recycling as follows:

> [A] state government leases (for 50 to 99 years) existing infrastructure assets (airports, seaports, toll roads, electric utilities, transmission grids, etc.) to investment funds and pension funds-and uses the proceeds for new, greenfield infrastructure. Thus, the asset value that is liberated from existing infrastructure is recycled into much-needed new infrastructure. The assets that are leased are ones with healthy user-fee revenue streams, while the projects into which the proceeds are invested are ones without such revenues: transit systems, schools, other public buildings, etc.

My definition of asset recycling embraces that approach, but goes further. In a broader asset recycling program, the first step is to inventory all infrastructure assets owned by a particular jurisdiction. Asset owners must know exactly what is under their control. Although this may seem obvious, many infrastructure owners are not fully aware of exactly what they own. In one notable example, after completing a thorough audit, New York City discovered it owned 1,100 vacant lots. Although the discoveries of other jurisdictions are unlikely to be as dramatic, they still stand to reap similar informational benefits from a comprehensive infrastructure audit.

The second step is to assess the approximate market value of those assets. This may require

enlisting the help of experts in the valuation of land, office buildings, parking lots and garages, and other types of infrastructure. A key step in properly managing any asset is to know its true value. This step is also important because the market value of many U.S. infrastructure assets is inherently challenging to assess. Transactions of infrastructure assets are rare, while values can change drastically over time.

The market valuation placed on those assets may surprise many owners. Such market information will not only help guide owners' decisions about proper management but may also give them stronger incentives to undertake proper operation and maintenance of those assets. Even if owners have firm estimates of infrastructure asset values, an external audit has substantial social value.

The third step is to use asset valuation information along with new management techniques to conduct a fresh, thorough analysis of the best way to manage infrastructure assets under a jurisdiction's control. Those improved management techniques should include all options rather than leases only. One is the long-term lease/no-lease PPP-based decision. Other options may include asset sales (e.g. sales of under-utilized parking lots, garages, office buildings, or other real estates), short- and long-term leases, concessions, in-kind asset transfers, and value capture, among other innovative approaches. The best option may also be to do nothing, implying that those assets are currently managed as efficiently as possible.

This step may require extensive objective, outside advice regarding the best mix of options to use in various circumstances. The set of optimal choices is likely to vary across jurisdictions depending on the type of infrastructure, the infrastructure's age, and a variety of other considerations. There is no "one size fits all" solution.

The fourth step is to quickly execute those key operational and managerial changes so as to realize value from all transactions undertaken. This process is likely to generate considerable revenue (e.g. from long-term lease payments or concessions), based on the Australian experience. In that case, the federal government provided a bonus to states for raising funds via asset recycling. A 15 percent bonus was sufficient for enticing Australian states to try this new approach. The United States should rely on a 15 percent bonus as the default unless there is a strong reason to change.

The final step is to determine the best use of the newly raised funds. This is the origin of the term "asset recycling." One common suggestion is to allocate those funds from revenue-generating infrastructure into non-revenue generating infrastructure, as noted above.

5. **Federal Policies to Facilitate Improved State and Local Infrastructure Financing**

Although there are several, one important tool for enhancing state and local infrastructure financing is the public-private partnership, or PPP. PPPs are the key contractual vehicle for incorporating private investment into the provision and operation of transportation infrastructure. A PPP is subject to the standard rules of contracting, with clear performance

standards linked to readily observable metrics.

If properly implemented, such participation through greater PPP use helps address a set of problems that continue to plague America's transportation system. Social benefits of PPPs stem from five main qualities associated with increased private participation:

(i) High-powered, focused incentives to innovate, to seek new revenue, and to better manage costs in a sector where high-powered incentives are socially beneficial
(ii) Business acumen, knowledge, and experience sourced from a global market for infrastructure operators
(iii) Additional capital and highly developed risk-bearing services through access to new debt and equity capital markets
(iv) The utilization of a competitive contracting approach that enforces high-quality service and asset maintenance, and allows the discipline of competition to be harnessed for the public good
(v) Large public investors, such as public pension funds, benefit from the long life cycles offered by equity investment in road, airport, and energy projects. The cash flows generated by those projects also correspond well with the funds' long-dated liabilities. More PPPs are needed to effectuate those investment opportunities.

There are many ways in which greater private participation through PPP concession leases will improve social welfare. Private partners contribute by bringing capital, risk-bearing services, focused incentives, and expertise to the management of existing transportation assets. Substantial investment in technology, upgrades, and renovation may be required, all of which can be supplied through a PPP.

PPPs must be done correctly however, to realize those social benefits. State and local asset owners often lack expertise in concluding and overseeing PPP agreements. Countries around the world have recognized that problem, and have created "PPP units" in response. PPP units are quasi-governmental entities that assist the public sector with pre-project screening, project prioritization, education, and expert advice. PPP units have been established in Australia, Canada, China, Israel, Japan, Egypt, the United Kingdom, and India, among many other countries. They strive to ensure that infrastructure projects attract private participation while promoting the public interest.

PPP units have effectively supported private participation in infrastructure around the world. Because the US lags behind other developed countries in PPP use, the benefits of such units would likely be large if implemented here. Federal infrastructure policy should encourage the creation of state and regional PPP units here.[1]

[1] See Carter B. Casady and R. Richard Geddes, *Private Investment in U.S. Infrastructure: The Role of PPP Units*, Washington, DC: AEI Press, (October 2016), for more details.

Aside from creating PPP units, there are several ways in which federal policy can enhance state and local use of PPPs. Perhaps the most important is to create a "level playing field" for the tax treatment of PPP debt. Although highways and transit PPPs have access to tax-exempt private activity bonds (or PABs, which level the field with tax-exempt municipal debt), those bonds face a $15 billion cap. Many analysts view that cap as overly constraining. It should be lifted or eliminated.

Second, the PPP approach should be encouraged via PABs for all public-purpose infrastructure, including seaports, airports, air-traffic control, water and wastewater treatment, and inland waterways, among many others. Similarly, policies should be adopted to encourage PPPs for both greenfield and brownfield projects.

6. Streamlining Environmental Permitting

The NEPA process is major concern impacting virtually all types of transportation infrastructure. There is widespread agreement that the process requires reform. For example, a highway project may require 10 different federal agencies considering 16 separate permitting decisions to obtain approval. State and local governments often have their own permitting requirements.

That process often leads to delays. Our analysis of data on 1,269 projects indicates that the time from Notice of Intent (or NOI, the formal announcement of intent to prepare an Environmental Impact Statement, or EIS) to Record of Decision (or ROD, the official recording of a Federal agency's decision concerning the proposed action) has increased from about 4 years in 2010 to over 5 presently. Over 7 percent of the projects in our data set were delayed for more than 10 years. Two projects were even delayed for more than 20 years.

One important reform is the adoption of the "One Federal Decision" approach. That approach would establish a lead agency to administer a single EIS and a single ROD. It would ensure that permitting processes were conducted concurrently rather than sequentially. It would also establish a goal of two years after the publication of the NOI for the completion of the environmental review process. Such an approach would help reduce the substantial uncertainties (and thus costs) currently surrounding NEPA project approvals.

Mr. YARMUTH. Thank you for your testimony.

Now we will begin the question and answer section of the hearing. The Ranking Member and I will defer our questions to the end.

So I now recognize the gentleman from Massachusetts, Mr. Moulton, for five minutes.

Mr. MOULTON. Thank you, Mr. Chairman.

Chairman Yarmuth, I ask unanimous consent that the testimony of the American Association of State Highway and Transportation Officials be inserted into the record.

Mr. YARMUTH. Without objection.

[The information follows:]

AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO

TESTIMONY OF THE

American Association of State Highway and Transportation Officials

REGARDING

America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment

BEFORE THE

Committee on the Budget of the United States House of Representatives

ON

September 25, 2019

American Association of State Highway and Transportation Officials
444 North Capitol Street, N.W., Suite 249
Washington, D.C., 20001
202-624-5800
www.transportation.org
info@aashto.org

INTRODUCTION

Chairman Yarmuth, Ranking Member Womack, Vice Chair Moulton, Vice Ranking Member Johnson, and Members of the Committee, thank you for the opportunity to provide AASHTO's perspective on the urgent need to repeal the planned $7.6 billion rescission of highway contract authority on July 1, 2020. AASHTO represents the state departments of transportation (state DOTs) of all 50 states, Washington, DC, and Puerto Rico.

This important repeal will ensure the bipartisan Congressional support for investment in transportation infrastructure is not undermined as surface transportation reauthorization efforts get under way. Over the past four months, Congressional leaders from both sides of the aisle have recognized the need to repeal the rescission. They include the House Transportation and Infrastructure Committee Chairman Peter DeFazio and Ranking Member Sam Graves in their May 8, 2019, letter (Appendix 1) to House leadership and the Senate Environment and Public Works Committee Chairman John Barrasso and Ranking Member Tom Carper in their June 12, 2019, letter (Appendix 2) to Senate leadership. There are also bills introduced in both the Senate and House—S 1992 and HR 3612—that will repeal the FAST Act rescission.

In addition to AASHTO, 40 partner organizations representing a very broad set of infrastructure stakeholders have recently co-signed a letter on September 12, 2019 (Appendix 3) to Congressional leadership urging the repeal of the FAST Act rescission as part of the continuing resolution.

The main points of this testimony are as follows:

- Rescinding unobligated highway contract authority is a budgetary gimmick that impedes the flexibility of state departments of transportation to meet their individual infrastructure needs and disrupts timely delivery of projects.
- The planned FAST Act rescission next summer is already starting to impact project construction, which will delay mobility, quality of life, and economic benefits provided by these projects if unaddressed soon.
- Congress is urged to repeal the $7.6 billion rescission scheduled for July 1, 2020 under the Fixing America's Surface Transportation (FAST) Act as soon as possible.
- Otherwise, the baseline investment level for highway contract authority programs will be reduced by $7.6 billion each year starting in FY 2020 or $75.7 billion over the next ten years.

CONGRESS MUST REPEAL THE $7.6 BILLION FAST ACT RESCISSION AS SOON AS POSSIBLE

Section 1438 of the FAST Act, the current surface transportation authorization, requires a rescission of unobligated contract authority of $7.569 billion on July 1, 2020. The rescission was included in the FAST Act as a budgetary maneuver to purportedly "reset" the budgetary baseline for highway programs to FY 2015 levels.

A rescission reduces the amount of contract authority (or authorized highway funds) from the Highway Trust Fund available to states. Once contract authority is eliminated by rescission, the rescinded funds cannot be spent. The FAST Act requires that the rescission set to take place on July 1, 2020 be applied to each state based on that state's share of remaining unobligated contract authority balances.

Unfortunately, the FAST Act mandates that contract authority administered by directly by states are the only forms of unobligated contract authority subject to the rescission. Federal-aid Highway Programs subject to and those that are exempt from the rescission are as follows.

Federal-aid Highway Programs Subject to the FAST Act Rescission

- Interstate Maintenance
- National Highway Performance Program (excluding $639 million per year outside the annual obligation limitation)
- Surface Transportation Block Grant Program (STBGP) excluding funds suballocated by population
- STBGP Setaside (i.e., Transportation Enhancements/Alternatives)
- Recreational Trails Program
- Congestion Mitigation and Air Quality Improvement Program
- Metropolitan Planning
- National Highway Freight Program
- Highway Bridge Program
- State Planning and Research
- Research Development and Technology Transfer
- Other Programs: Border State Infrastructure, Equity Bonus, Minimum Guarantee, etc.

Federal-aid Highway Programs Exempt from the FAST Act Rescission

- Funding suballocated by population under the Surface Transportation Block Grant Program
- Safety Programs, such as Highway Safety Improvement Program, High-Risk Rural Roads set-aside, and Railway-Highway Grade Crossing Program
- Any allocated (i.e., national programs not apportioned to states) funding not distributed to states by statutory formula such as funding for earmarks, Federal Lands programs, research programs, ferryboats, territorial and Puerto Rico highway programs, TIFIA, emergency relief, discretionary awards, and administrative expenses, among others.

In addition to program exemptions, the FAST Act requires the $7.6 billion in unobligated contract authority must be allocated proportionately across eligible programs.

The rescission effectively results in cuts to highway funding—and potentially delays important project construction—because states lose the flexibility to apply their Federal funding in line with each state and region's investment priorities.

On the next page is the illustrative state-by-state impact of the FAST Act rescission based on the contract authority balances carried by states as of September 30, 2018. By law, the Federal Highway Administration is required to calculate the actual state share based on affected program balances as of September 30, 2019. It is this share for each state as a portion of the nationwide total that will be applied when the rescission takes place on July 1, 2020.

Rescinding unobligated highway contract authority is a budgetary gimmick that impedes the flexibility of state departments of transportation to meet their individual infrastructure needs and disrupts timely delivery of projects. The planned FAST Act rescission next summer is already starting to impact project construction, which will delay mobility, quality of life, and economic benefits provided by these projects if unaddressed soon.

STATE-BY-STATE ILLUSTRATIVE IMPACT OF HIGHWAY TRUST FUND CONTRACT AUTHORITY RESCISSIONS

As of September 30, 2018

Based on highway contract authority rescissions in Section 1438 of Fixing America's Surface Transportation Act (FAST Act).

State	Unobligated CA Balance Subject to FAST Act on 9/30/2018	Percent of National Total	SCHEDULED $7.569B FAST Act Rescission on 7/1/2020*	Estimated Unobligated CA Balance Subject to FAST Act after 7/1/20
ALABAMA	$ 80,206,913	1.0135%	$ 76,710,879	$ 3,496,034
ALASKA	$ 105,299,665	1.3306%	$ 100,709,896	$ 4,589,769
ARIZONA	$ 110,518,439	1.3965%	$ 105,701,196	$ 4,817,243
ARKANSAS	$ 115,978,287	1.4655%	$ 110,923,062	$ 5,055,225
CALIFORNIA	$ 724,824,958	9.1588%	$ 693,231,514	$ 31,593,444
COLORADO	$ 89,822,602	1.1350%	$ 85,907,443	$ 3,915,160
CONNECTICUT	$ 130,592,524	1.6502%	$ 124,900,298	$ 5,692,226
DELAWARE	$ 30,345,155	0.3834%	$ 29,022,480	$ 1,322,675
DIST. OF COL.	$ 47,412,879	0.5991%	$ 45,346,261	$ 2,066,618
FLORIDA	$ 220,706,693	2.7888%	$ 211,086,599	$ 9,620,094
GEORGIA	$ 198,702,145	2.5108%	$ 190,041,178	$ 8,660,967
HAWAII	$ 106,538,746	1.3462%	$ 101,894,969	$ 4,643,778
IDAHO	$ 36,192,311	0.4573%	$ 34,614,772	$ 1,577,539
ILLINOIS	$ 316,989,491	4.0055%	$ 303,172,652	$ 13,816,839
INDIANA	$ 183,598,624	2.3199%	$ 175,595,985	$ 8,002,639
IOWA	$ 57,444,207	0.7259%	$ 54,940,347	$ 2,503,860
KANSAS	$ 117,994,501	1.4910%	$ 112,851,393	$ 5,143,107
KENTUCKY	$ 87,030,239	1.0997%	$ 83,236,792	$ 3,793,447
LOUISIANA	$ 115,887,438	1.4643%	$ 110,836,173	$ 5,051,265
MAINE	$ 48,738,241	0.6159%	$ 46,613,854	$ 2,124,387
MARYLAND	$ 143,451,235	1.8126%	$ 137,198,528	$ 6,252,708
MASSACHUSETTS	$ 162,819,825	2.0574%	$ 155,722,885	$ 7,096,940
MICHIGAN	$ 221,780,342	2.8024%	$ 212,113,450	$ 9,666,892
MINNESOTA	$ 148,689,315	1.8788%	$ 142,208,291	$ 6,481,023
MISSISSIPPI	$ 50,200,074	0.6343%	$ 48,011,969	$ 2,188,105
MISSOURI	$ 274,319,662	3.4663%	$ 262,362,703	$ 11,956,960
MONTANA	$ 69,869,773	0.8829%	$ 66,824,311	$ 3,045,462
NEBRASKA	$ 38,752,981	0.4897%	$ 37,063,828	$ 1,689,153
NEVADA	$ 52,735,138	0.6664%	$ 50,436,536	$ 2,298,603
NEW HAMPSHIRE	$ 36,369,890	0.4596%	$ 34,784,610	$ 1,585,279
NEW JERSEY	$ 430,450,288	5.4391%	$ 411,687,955	$ 18,762,333
NEW MEXICO	$ 46,815,040	0.5916%	$ 44,774,480	$ 2,040,559
NEW YORK	$ 509,124,825	6.4333%	$ 486,933,251	$ 22,191,574
NORTH CAROLINA	$ 141,422,396	1.7870%	$ 135,258,121	$ 6,164,275
NORTH DAKOTA	$ 68,199,810	0.8618%	$ 65,227,138	$ 2,972,672
OHIO	$ 263,512,597	3.3297%	$ 252,026,692	$ 11,485,905
OKLAHOMA	$ 74,298,020	0.9388%	$ 71,059,541	$ 3,238,479
OREGON	$ 56,633,283	0.7156%	$ 54,164,769	$ 2,468,514
PENNSYLVANIA	$ 388,706,142	4.9117%	$ 371,763,340	$ 16,942,802
RHODE ISLAND	$ 40,158,037	0.5074%	$ 38,407,641	$ 1,750,396
SOUTH CAROLINA	$ 144,856,895	1.8304%	$ 138,542,918	$ 6,313,977
SOUTH DAKOTA	$ 12,220,566	0.1544%	$ 11,687,899	$ 532,666
TENNESSEE	$ 142,828,635	1.8048%	$ 136,603,065	$ 6,225,570
TEXAS	$ 764,024,635	9.6541%	$ 730,722,568	$ 33,302,067
UTAH	$ 54,540,355	0.6892%	$ 52,163,067	$ 2,377,288
VERMONT	$ 49,745,385	0.6286%	$ 47,577,099	$ 2,168,286
VIRGINIA	$ 192,187,684	2.4285%	$ 183,810,668	$ 8,377,017
WASHINGTON	$ 117,079,089	1.4794%	$ 111,975,882	$ 5,103,207
WEST VIRGINIA	$ 120,618,961	1.5241%	$ 115,361,459	$ 5,257,502
WISCONSIN	$ 146,893,909	1.8561%	$ 140,491,144	$ 6,402,766
WYOMING	$ 25,821,969	0.3263%	$ 24,696,449	$ 1,125,520
TOTAL	$ 7,913,950,815	100%	$ 7,569,000,000	$ 344,950,815

*FAST Act rescission will be based on balances as of September 30, 2019

APPENDIX 1: LETTER FROM HOUSE TRANSPOTATION AND INFASTRUCTURE COMMITTEE LEADERSHIP TO HOUSE SPEAKER AND MINORITY LEADER

Committee on Transportation and Infrastructure
U.S. House of Representatives

Peter A. DeFazio
Chairman

Washington, DC 20515

Sam Graves, MO
Ranking Member

May 08, 2019

The Honorable Nancy Pelosi
Speaker
House of Representatives
Washington, DC 20515

The Honorable Kevin McCarthy
Republican Leader
House of Representatives
Washington, DC 20515

Dear Speaker Pelosi and Leader McCarthy:

As you begin discussions on a bicameral, bipartisan budget agreement, we write to request that you address two significant budget issues facing our nation's infrastructure.

First, we request that any budget agreement repeal the rescission contained in the most recent surface transportation law, the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94). Section 1438 of the FAST Act rescinds approximately $7.6 billion in Federal-aid Highway Program contract authority on July 1, 2020. All 50 states and the District of Columbia will be impacted by the rescission. According to the Federal Highway Administration, States collectively had approximately $7.9 billion in unobligated balances in programs subject to the rescission as of the close of business on September 30, 2018. If the FAST Act rescission of $7.6 billion had been executed on that day, it would have nearly wiped out all remaining contract authority available to States nationwide in those programs.

The amount rescinded from each State, however, will vary. For example, $693 million of the total is projected to come out of California's remaining contract authority, $731 million would be rescinded from Texas, New York would face $487 million in reduced contract authority, and $83 million of the rescission would come from Kentucky. Regardless of the amount rescinded from each state, the rescission will significantly limit the flexibility of all states and impact the ability to plan and execute highway and bridge projects. These projects are necessary in order to grow the U.S. economy, create jobs, and ensure the Nation's global competitiveness. We therefore request that the rescission be repealed as part of any budget agreement.

Second, we ask that you incorporate into any budget agreement a mechanism for full utilization of annual Harbor Maintenance Tax (HMT) collections and access to the remaining balance in the Harbor Maintenance Trust Fund (HMTF) for their intended purpose of maintenance dredging. Enactment of such a provision would immediately improve the infrastructure of our nation's harbors while honoring our Nation's long-term commitment to U.S. shippers and taxpayers, maintaining and improving the competitiveness of U.S. businesses, and creating thousands of additional jobs. H.R. 2440 provides a bipartisan solution through the use of a discretionary cap adjustment to ensure full utilization of the HMTF does not detrimentally affect other programs.

Congress created the HMTF to pay for the operations and maintenance (O&M) needs of the nation's roughly 1,067 harbors and shipping channels under the jurisdiction of the Army Corps of Engineers (Corps). The HMTF is funded by the HMT, which is directly levied against the value of imports and domestic cargo arriving at U.S. ports. The HMT is intended to recover 100% of the O&M costs for federally maintained ports, harbors, and channels. These ports, harbors, and channels account for 80 percent of the total merchandise trade volume for the country, yet are woefully neglected, not because of a lack of federal funding, but due to lack of access to HMTF dollars.

Over the past decades, Congress has appropriated to the Corps far less revenue than has been collected from shippers. As a result, $9.3 billion in already-collected revenue sits unused for its intended purpose – enough to cover the entire maintenance backlog without raising a dime in taxes or borrowing from the Treasury. Consequently, while shippers continue to pay into the HMTF for promised maintenance activities, the Federal Government does not expend the funding to carry out many of those activities. The Transportation and Infrastructure Committee intends to address this inequity and report out H.R. 2440 in a bipartisan manner. However, given that a budget agreement will be looking at discretionary spending on the whole, it would be appropriate to include a discretionary cap adjustment for the HMTF in any such deal. This would be the only such adjustment covered by actual revenues.

We greatly appreciate your time and dedication to addressing these significant infrastructure issues as you begin discussions on the budget and annual appropriations bills. If you have any questions, please call Jill Harrelson of the majority staff at 202-225-4472 or Fred Miller of the minority staff at 202-225-9446.

Sincerely,

Peter A. DeFazio
Chairman

Sam Graves
Ranking Member

Eleanor Holmes Norton
Chair
Subcommittee on Highways and Transit

Rodney Davis
Ranking Member
Subcommittee on Highways and Transit

Grace F. Napolitano
Chairwoman
Subcommittee on Water Resources
and Environment

Bruce Westerman
Ranking Member
Subcommittee on Water Resources
and Environment

CC: John A. Yarmuth, Chairman
Committee on the Budget

Steve Womack, Ranking Member
Committee on the Budget

APPENDIX 2: LETTER TO SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE LEADERSHIP TO SENATE MAJORITY LEADER AND MINORITY LEADER

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

June 12, 2019

The Honorable Mitch McConnell
Majority Leader
United States Senate
Room 320, The Capitol
Washington, DC 20510

The Honorable Chuck Schumer
Minority Leader
United States Senate
Room 221, The Capitol
Washington, DC 20510

Dear Majority Leader McConnell and Minority Leader Schumer:

We are writing to you to request that you address a significant issue facing our nation's infrastructure and economic security.

We are making progress on a bipartisan highway bill. We plan to report the bill out of the Senate Environment and Public Works Committee this summer. Working together, we believe we can pass a landmark reauthorization that funds our collective priorities and protects our communities.

One issue that needs to be addressed before our highway infrastructure bill is likely to be signed into law is Section 1438 of the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94). The provision rescinds $7.6 billion in Federal-aid Highway Program contract authority on July 1, 2020. It is critical that this rescission be repealed in any future budget or spending agreement that the Congress considers before the end of this fiscal year. If it stands, this rescission will impact every state's ability to plan, build and repair needed roads and bridges that are vital to American communities. Failure to address this rescission will cost jobs and needlessly slow our economy.

Your favorable consideration of this request is greatly appreciated.

Sincerely,

John Barrasso, M.D.
Chairman

Thomas R. Carper
Ranking Member

APPENDIX 3: LETTER TO CONGRESSIONAL LEADERSHIP FROM 41 INFRASTRUCTURE GROUPS AND ASSOCIATIONS

September 12, 2019

The Honorable Mitch McConnell, Majority Leader, United States Senate
The Honorable Charles E. Schumer, Minority Leader, United States Senate
The Honorable Nancy Pelosi, Speaker, United States House of Representatives
The Honorable Kevin McCarthy, Minority Leader, United States House of Representatives

Subject: Repealing Highway Contract Authority Rescission in FY 2020 CR

Dear Congressional Leaders:

As Congress continues to work on Fiscal Year 2020 appropriations, if a Continuing Resolution (CR) is necessary for a period of time in order to complete this appropriations process, we urge you to include in any such CR a repeal of the rescission of $7.6 billion in Federal-aid highway contract authority scheduled to occur in July of next year.

Section 1438 of the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94) rescinds $7.6 billion in unobligated Federal-aid highway contract authority on July 1, 2020. All 50 states and the District of Columbia will be hurt by the rescission, including close transportation partners of these states. If allowed to take place, this provision will virtually wipe out all remaining contract authority available to states nationwide in the core highway formula programs subject to the rescission. In addition, the rescission will significantly depress the ten-year budget baseline for surface transportation programs beginning in Fiscal Year 2021, undermining significant bipartisan support in Congress and the Administration for boosting federal infrastructure investment.

While we are disappointed that the repeal of this rescission was not included as part of the recent two-year budget agreement, it is still very important that Congress repeals the impending rescission this month in order to provide stability to federal surface transportation programs. Rescinding highway contract authority impedes the ability of states to meet their individual infrastructure needs and disrupts transportation planning and timely delivery of projects. The planned rescission next summer is already starting to impact project construction, which will delay mobility, quality of life, and economic benefits provided by these projects if unaddressed soon.

The undersigned associations and organizations, representing a diverse group of national associations that support investment in our nation's transportation infrastructure, respectfully request the repeal of $7.6 billion rescission of contract authority as part of any CR considered by Congress this fiscal year.

Sincerely,
Forty-one Transportation Associations and Groups
(Please see next page for the full list.)

American Association of Motor Vehicle Administrators
American Association of State Highway and Transportation Officials
American Automobile Association
American Concrete Pipe Association
American Council of Engineering Companies
American Highway Users Alliance
American Iron and Steel Institute
American Public Transportation Association
American Public Works Association
American Road and Transportation Builders Association
American Society of Civil Engineers
American Traffic Safety Services Association
American Trucking Associations
Associated Equipment Distributors
Associated General Contractors of America
Association of Equipment Manufacturers
Association of Metropolitan Planning Organizations
Association of Pedestrian and Bicycle Professionals
Coalition of Northeastern Governors
Governors Highway Safety Association
Institute of Transportation Engineers
Intelligent Transportation Society of America
International Bridge, Tunnel and Turnpike Association
International Slurry Surfacing Association
Laborers International Union of North America
League of American Bicyclists
National Asphalt Pavement Association
National Association of Counties
National Association of County Engineers
National Association of Regional Councils
National Conference of State Legislatures
National Governors Association
National League of Cities
National Ready Mixed Concrete Association
National Steel Bridge Alliance
National Stone, Sand, and Gravel Association
National Utility Contractors Association
Portland Cement Association
United Brotherhood of Carpenters
United States Chamber of Commerce
United States Conference of Mayors

Mr. MOULTON. I would like to begin by citing two things the Ranking Member said in his opening statement, the first on bipartisanship and the second on differing priorities of districts around the country.

Mr. Ranking Member, if I have it right, you said, "My home state of Arkansas needs increased lanes for long-haul trucks, whereas other more urban communities may need more investment in public transit."

Mr. WOMACK. Correct.

Mr. MOULTON. First, I would like to point out that highways are just as public as public transit. Neither would exist without government investment, and it is the lack of government investment that has gotten us to the embarrassing state of America's infrastructure we know well today.

Second, the Ranking Member is right. The transportation infrastructure investment has historically been a bipartisan priority, and it must be going forward.

In recent years, however, even this topic has become partisan, with the conservative billionaires and the Koch family running campaigns in urban areas against transit initiatives because they negatively impact the car and oil economy.

Third and closely related, we need to start making infrastructure investment decisions based on facts, on real numbers, and truly understanding the long-term costs and benefits and the impacts these transportation and infrastructure investments have on other parts of our lives, on public health, on community health, on economic development and economic opportunity.

I will use one example. Virginia has recognized that one of the best ways to deal with the congestion caused by long-haul trucks on our highways, which the Ranking Member cited as an issue in Arkansas, is to invest in railways, something the federal government has scarcely done since the 19th century.

One single train can easily carry 300 trucks, and for those of us who support a free market approach to transportation, we ought not only subsidize highways when rail is safer, more efficient and better for the environment. Let's invest in both and give the market a level playing field.

Likewise investing in traditional transit in urban areas is not always the right answer either. Modern transit systems in Japan look almost nothing like the old fashioned diesel commuter trains my home state government of Massachusetts wants to buy more of as we speak.

So let's make sure we are making investments not based on the status quo, not simply repairing our roads and bridges as we always hear, but truly making smart, fact-based, busy savvy investments in 21st century infrastructure after examining all alternatives on the table.

Little Rock is two and a half hours from Chicago in all weather, with no delays, and a nearly perfect safety record, by high speed rail at Chinese speeds, which is something that every developed country in the world is investing in, except the United States.

So let's have a fresh perspective, as Mr. Tomer said, and have a broader conversation.

Mr. Coes, I would like to begin with you. Earlier this year I worked with Professor Linda Bilmes from Harvard Kennedy School to examine the budgetary and non-budgetary costs of the road economy. She found that in Massachusetts direct budgetary spending on roads is nearly $6 billion per year and indirect annual cost, including accidents, congestion, carbon emissions, pollution, and injuries total approximately $20 billion.

Now, this does not include the full economic cost of the road economy, which are estimated at about $150 billion more.

Mr. Coes, how can we improve funding decisions to examine the full impact of different modes of transportation?

Mr. COES. A great question, Congressman. There are a number of strategies. We would recommend that at the federal level, but particularly at the state level working with MBTA, also with some of your local partners, one of the first strategies that we find across the country is that many jurisdictions, also here at U.S. DOT, do not do physical impact analysis on those infrastructure projects.

So I would, one, emphasize the need for every time we spend a new dollar on infrastructure that we have a full, comprehensive review of not only the, as my colleague to my right suggested, just on the design-build, but also the net impact on surrounding communities.

One of the second elements I would say is something we have been doing for a number of communities across the country, is scenario planning. As we are thinking about new infrastructure investments, we actually provide a connection between the transportation investment and the land use and the wholesale impact.

And that actually provides a much better picture of both knowing the tax revenue implications, but also the fiscal impacts on local revenue.

But those are just two simple strategies that both U.S. DOT as well as State DOT should be incorporating to cover the full cost of those investments.

Mr. MOULTON. And I would just close by saying that sounds really smart, and we just need to make sure we do it in an efficient way, like Dr. Geddes recommends, so that we do not just have a lot of bureaucracy, but we can truly understand the full economic cost of these decisions.

Thank you, Mr. Chairman.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from Missouri, Mr. Smith, for five minutes.

Mr. SMITH. Thank you, Mr. Chairman.

I will say it one more time. I say it every time that we are having a hearing in this Committee. It has been 157 days since we were supposed to pass a budget. This Committee has not even presented a budget, and that is the sole purpose of this Committee.

Nancy Pelosi, Speaker Pelosi said that a budget is a statement of your party's values. Yet she refuses to even have one member of her party to file a budget to show the values of her party.

Is her values of her party infrastructure? We are having hearings on it, but they are not filing a budget. I am asking them to file a budget. This is the Budget Committee. So we could discuss a budget.

It has been 157 days since it was supposed to have been passed. Not filed.

If we are going to talk about infrastructure, I think we need to talk about the inequality not of wealth, but the inequality between rural versus urban. That is a huge issue a lot of folks just do not want to look at. But it is a real issue.

I represent 30 counties in Southeast Missouri, everything 20 miles south of the City of St. Louis to about 20 miles east of Springfield, Missouri. We call it the bootheel of Missouri.

Nine of my 30 counties do not have 911 service in their county. You are talking about better roads and bridges, which are needed. My people need to have 911 service. That is about public safety. That is inequality.

The folks in rural Missouri deserve to have the same public safety that the folks in the urban areas have.

The problem is that nine out of those 30 counties do not have 911 service in their county, but guess what. They do not even have cell phone service to call 911 in the counties that we do have 911 providers.

We hear people on the other side talk about 5G, how we need 5G. We need some kind of connectivity in rural America.

And so I think when we are talking about infrastructure, that is the first item in priorities that we need to talk about. There are Americans that have worse cell phone service than the people in the jungles of Colombia. That is a problem.

And so if we actually do not want to leave anyone behind and if we want to care about inequality, look at rural versus urban. It is a real issue, and I challenge anyone on that side of the aisle to stand with me and try to address the rural versus urban divide because it is real. It is absolutely real.

The health and safety of the people in rural America, they should have 911 service. They also should be able to have Internet service. And do you know what? They should be able to have nice highways.

But unfortunately, it is very difficult to build new highways because we also have the national forest, and because of the national forest, there's so many, there's over 70 different environmental procedures you have to go through in order to build a new shoulder, let alone a new lane on a highway in numerous counties in my congressional district because we have part of the national forest.

My people should not be left behind because of government policies or just because it is a zip code that they have lived in. My family has lived in this area for seven generations. It is my home. We were there before Missouri was even a state.

And the opportunity that is with my friends and neighbors should be the same opportunity of anyone that decides to live in a big city.

And so when we are talking infrastructure, Mr. Chairman, that needs to be the front priority about health and safety on infrastructure.

I want to point out we all know Hoover Dam. Hoover Dam took roughly five years to build. That was in the early 1930s, during the Great Depression. You stand on Hoover Dam, and you look over, and you see that big bridge. That bridge was built in the 1980s,

started in the 1980s, but it took almost two and a half decades to build because of the environmental policies and the permitting processes in order to get it.

These are areas that we can transform to help make things happen quicker, most efficient.

With that, Mr. Chairman, I see my time has expired and I yield back.

Mr. YARMUTH. The gentleman's time has expired.

I now yield five minutes to the gentlelady from Minnesota, Ms. Omar. Oh, I am sorry. I am wrong. The gentleman from New Jersey, Mr. Sires.

Mr. SIRES. Thank you, Mr. Chairman.

Well, I come from a very different district than my colleague. Just to give you an idea, I come from a town that is one square mile, and it has got 53,000 people in it, and the town next to it is one and a half square miles, and it has got about 70,000, and then there is Hoboken, New Jersey, which is one square mile, which his another 53,000 people.

Our priority is obviously moving people. We have a very old infrastructure. Many people in that district go to where the jobs are, which is New York. We have every form of transportation you can think of, and the latest one is those little scooters that go around all over Hoboken. Okay?

So we have every kind of infrastructure, and the infrastructure is very old, and obviously, states have to contribute to fixing the infrastructure, but there has to be an assistance to those states.

New Jersey just raised the gas tax 41 cents above what it was because the Transportation Trust Fund was being depleted from poor management and people tapping into the Transportation Trust Fund.

So any kind of money that is ever put on gas has to be a dedicated fund and only be used for transportation. It cannot be a piggybank where people can go in there in any of the states or even the federal and try to take money out of it.

I have been fighting for the Gateway Tunnel, which is a big project in my district. I have also been fighting for the Portal Bridge. The Portal Bridge in my district is 110 years old. It is the lifeline of the Northeast Corridor. It is 110 years old, and when you open it sometimes, it does not lock properly, and they have to use a sledgehammer to put it together.

New Jersey has committed $600 million to fixing this. They cannot do it all alone.

So, Mr. Tomer, when you say that money is not everything, it has to stop. I am wondering do we freeze the money and rethink everything.

I mean, states just cannot do these things by themselves, and mind you, mind you the Gateway Tunnel and the Porter Bridge, we are in a region that generates 20 percent of the GDP of this country, and it is a region that sends money to Washington year in and year out. We are not one of these—well, I do not want to say what my friend calls them, but we do generate a lot of money.

So when you talk about freezing the money given, that we do not need any more money, I cannot agree with you. I mean, in Hous-

ton, obviously, what they went through, they need help and even though Texas is a rich state.

I get it, you know, but they generate also money that comes to Washington. So some of that money has to get back, and believe me, I have been in state government, and I know about regulations. I know about governments and that it is impossible to work with. It took me months just to get a bus stop put in across the street from where I live because New Jersey Transit was not moving fast enough.

So I do get that we have to reform and speed up our permitting, but I just cannot agree with you, Mr. Tomer, that we do not need more money.

You know, we definitely need the assistance of the federal government.

And New Jersey is not just the turnpike. I hate to bring that out to everybody. You know, we are not just the turnpike, but the turnpike is getting very expensive, and 35 percent of the traffic on the turnpike comes from out of state. So when they increase the tolls, I do not mind too much because a lot of other people do contribute to it.

But it just states are just being overburdened with the infrastructure being so old, and they need assistance. It is not that, you know, we just want to throw money at these projects. We need the federal government to step in and assist so people can continue or these regions can continue to send money to the federal government here.

Because when you generate 20 percent of the GDP of this country in a region, I think they deserve a second look when they have an infrastructure project that they need help on.

So I was going to ask you a question, but I talked too much.

Thank you.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from Ohio, Mr. Johnson, for five minutes.

Mr. JOHNSON. Thank you, Mr. Chairman, and thanks to all of the witnesses for being here today.

You know, from that little mule farm I was born and raised on to my 27 years in the Air Force and as a small business owner and then my work in corporate America, here is what I learned.

No matter what the system is, whether it is the human system that we walk around in everyday, our bodies, a transportation network, an IT system, an automobile, about 75 percent of the life cycle cost from cradle to grave of a system is in operations and maintenance.

It is easy to put those systems in place. It is much, much harder to keep them up, and so there is no question that improving our nation's infrastructure will lead to greater economic growth and the development of rural America, and Congress has a responsibility to provide the states certainty so that they can build and maintain infrastructure that our communities need.

Rather than kick the can down the road again, Congress should work together across the aisle collectively, in a bipartisan way, to find a permanent, sustainable solution for the Highway Trust

Fund, and we ought to do it in a way that does not put the burden on those that are the most needy.

Look at rural America. I mean, do not get me wrong. I understand, and I agree that those that use the highway system, they are the ones that need to help pay for it. I get that.

But who are the ones that are the most disproportionately affected by a use tax when we do that? It is those that live in rural America that have to drive 30, 45 minutes to get to work or to the hospital or to the grocery store, to check on Mom and Dad.

So we have got to make sure that we go about this the right way.

Dr. Geddes, you know, I believe Congress should consider a variety of possible solutions, and I have got some ideas of my own, but in your opinion, what are some of the options for providing a permanent funding source for the Highway Trust Fund?

Dr. GEDDES. Yes. So thank you, Congressman.

You know, the Highway Trust Fund was a tremendous benefit to the United States. Federal gas taxes were increased heavily in 1956 to pay for the design and construction of the interstate highway system, and for decades it provided a reliable funding source.

Now we have got vehicles some of which do not burn gasoline at all or fossil fuel, some of which get wildly different——

Mr. JOHNSON. And people in inner cities are not driving that much. They are taking mass transportation or riding bikes to work or walking to work or whatever, right?

Dr. GEDDES. Right, right. One issue with the Highway Trust Fund, of course, is fairness or equity, and back in 1956, we talk about both horizontal and vertical equity, if I may.

Horizontal means if you use something, you pay in proportion. If you use certain kilowatt hours of electricity, you pay in proportion to use, and the Highway Trust Fund was like that back in 1956. The Buick sedan got about the same as a Chevy sedan, et cetera.

But now, of course, technology has changed that, right? Because it is the same four-door sedan, one could be old; one could be electric, and they pay wildly different in the gas tax.

The other is the vertical equity, and that is the notion that wealthier people would pay more, right? And now we have wealthier people who own a Tesla, pay nothing in gas taxes. A poor person or family with a Ford F–150 pickup truck would pay a lot more.

So in both the vertical and horizontal senses of fairness, it seems like the gas tax idea has become weaker over time. So that is why in my testimony and my research, you mentioned it; I am moving towards more user fees.

So most economists like prices or rates or fees, and the idea of allowing state and locals more pricing and tolling is standard. There were pilot programs in that last highway bill to encourage that.

So if we move to a new system, I would very much like it to be a user fee based system, but subject to what you just said about fairness issues, right, so that we are not disproportionately charging poor or urban, whatever the group is, more than the others.

Mr. JOHNSON. Yes, I appreciate that.

Dr. GEDDES. I am sorry. That is my long answer.

Mr. JOHNSON. No, and I appreciate that. You know, I believe any discussion on infrastructure, we talk about the Highway Trust

Fund, but one of the other really critical, important, rural infrastructure issues is broadband and building out broadband.

I know that is not funded out of the Highway Trust Fund, but in rural areas like Eastern and Southeastern Ohio, where most of my district, six and a half hours long, from an hour outside of Cleveland to an hour outside of Cincinnati; most of my district has inadequate broadband service.

In a digital economy, that is a death knell in the coffin of rural communities.

So we have got to work on that, too.

Mr. Chairman, I yield back.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from California, Mr. Peters, for five minutes.

Mr. PETERS. Thank you, Mr. Chairman.

I want to thank the witnesses.

I want to start with a couple of agreements. I want to agree with Mr. Tomer that we ought to fund outcomes, and we ought to identify where we want to go before we start spending money on it.

There is a new move to resurrect earmarks, so-called congressionally directed spending, and that is all about funding projects, projects in your district, and I think even beyond that, some people just think about throwing money at projects without thinking about the results you get.

So I want to endorse your analytics as a way to approach this.

Mr. Smith has gone, my colleague from Missouri, but I think regulatory reform has to be part of this. We should not be throwing away money on permitting that is needless when we know what we want to do.

I mean, I think we can achieve high standards. We should aim for high standards. Sometimes we can do that much more efficiently. We ought not to be imposing extra costs on taxpayers when we do not need to.

I think that is certainly something we should be open to talking about on both sides of the aisle.

Mr. Coes, I wanted to know. You talked about building smarter, denser neighborhoods. What is the federal government's role in that? What do you think that we could do?

I think that is largely a local issue, but how can the federal government provide support and the right incentives for that?

Mr. COES. Well, thank you for that question.

So first and foremost, what we are finding from the private sector market in terms of creating these walkable places whether it is in downtown Thomasville, Georgia, or Bentonville, Arkansas, is that oftentimes to build that mixed use or two-story building, you have to improve the water infrastructure. You have to improve the stormwater infrastructure.

But if you do a real estate deal, oftentimes you cannot generate revenue off that infrastructure in the first couple years. So, what can the federal government do?

Well, actually in the FAST Act, the federal government actually said it will provide low interest loans to local communities and real estate communities who are trying to rehab rural main streets or transit-oriented development.

Now, fortunately, the bureaucracy has now allowed residents or local communities and real estate development communities to actually access those dollars, but by providing low interest loans that have a longer timeline than your traditional capital markets, you can actually finance those rural and main street infrastructure improvements, as well as COD.

Now, the flip side of that is that that is also an opportunity to generate new revenue for the federal government through value capture because the private sector just needs a longer timeline to finance infrastructure.

But because what I mentioned early in our research we are seeing whether it is in Thomasville downtown, whether it is in Louisville along the BRT Dixie Highway where the BRT line is coming in, when you increase density, when you bring people closer to their job, when you bring them closer to their churches, when you bring them closer to their mom and dad, you actually increase the value.

You actually allow people to have more money in their pockets. As a real estate developer, that means we can charge more rent. The land values go up, and guess what. If the federal government was actually a real partner, you could actually take some of those resources and reinvest it back in infrastructure across the country.

Mr. PETERS. Right.

Mr. COES. And right now we are missing a real partner.

Mr. PETERS. So I agree with that. I think that makes sense.

I think the thing that we should do, and this is consistent with the bill I have introduced called Build More Housing Near Transit Act, I do not know if you are familiar with it, but the idea is that the federal government should ask communities in which we invest what are you going to do to make sure that there is ridership on this investment that we are providing for you.

And that supports the idea of building communities closer in, not reproducing, but rather repairing infrastructure that is existing, and I think we should do the same thing with things like investments in what are quintessentially local things like water and sewer.

If we are going to help, we have to expect back results that help us on the budget side and help us achieve our objectives.

I also wanted to say that I do not think it is all about money. I think it is naive to think that there is not a lot of money involved, and I want to just note that the Committee for a Responsible Federal Budget estimates that spending a trillion dollars on infrastructure, if it is debt financed, would actually shrink GDP in the long term because of the effect of debt.

Now, we have gone too long in this room and in this building without talking about how to pay for stuff. We had a tax cut that was tremendously irresponsible, but I think over the last few years the notion of paying for things has kind of gone out of fashion to our detriment, and I think that is wrong.

I wanted to ask Mr. Geddes what you thought along the lines of a vehicle miles traveled fee. Is that, from an economist's perspective, is that the right way to pay for things, given the things like the Tesla?

Dr. GEDDES. Yes. Thank you, Congressman.

Absolutely. So there is a long literature going back decades on BMTs. Out west they call them rucks, road usage. There is different names for road usage charges.

There is also mileage-based user fees, MBUF, and the state of Oregon, as we know, has been an absolute leader in implementing and moving notably instead of the state gas tax, not in addition to. Instead of the state gas tax, they are charging a per mile fee. You know, it is a road usage charge.

To the economist, absolutely in favor of it.

Mr. PETERS. I am out of time.

I also wanted to just mention that a carbon tax with some refunds to deal with underserved areas I think is also something we should be considering here.

And I yield back.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from Texas, Mr. Roy, for five minutes.

Mr. ROY. I thank the Chairman.

I thank all of the witnesses for taking your time out of your busy schedules to be here and to address this body.

I am particularly grateful to see Ms. Haddock here from my home state of Texas. Thank you for making that trip.

I, too, want to echo my colleague from Missouri's comments about the fact that we are sitting here and have not passed a budget. This is the Budget Committee, and it would seem that that would be the basic duty of our Committee to do and for the body to pass a budget. So I think we should try to get back to focus on that.

But I would also point out that as we sit here, and we have been here about an hour, and I do not know; maybe we will be here another hour. We are racking up $100 million of debt per hour in this country. So while we have been sitting there, there is another $100 million of debt racked up.

Next hour, another $100 million of debt, and we just keep ticking along acting like nothing is going on, just moving along from impeachment inquiry to press conference to who knows what will be taking up the time of this august body today besides dealing with the fact that another $100 million of debt has been racked up in an hour.

Now, one of my colleagues suggested, of course, that the significant culprit of this reality is the tax cut two years ago. Apparently, in December of 2017, we were running a surplus. Apparently, the tax cuts that were put in place in December of 2017 are driving the deficits to epic proportions because I do not know. A trillion dollars a year in deficit spending apparently can be made up by a $100 billion of an increased revenue on the back of a tax cut change in policy.

It just strikes me as surreal that we continue to get in this infinite do-loop about talking about a tax cut which is put in place to create economic growth and to put more money in the pockets of those that create jobs.

And we can have a robust debate about what the right tax rates could be, but do not pretend that we did not have a massive deficit in December of 2017, and that we are going to solve it by throwing

a higher tax rate in place, whether it is for businesses or individuals.

We are here to talk about transportation instead of those larger issues, but they are all germane. From my standpoint on transportation, representing Texas and Texas 21, in particular, the I–35 corridor between San Antonio and Austin, Texas is, shall we say, busting at the seams and is going to continue to get worse. And we have got a real problem we are going to have to address there in Central Texas, right?

There is massive growth between Austin and San Antonio. We have got 1,000 people a day moving to the great state of Texas, often seeking refuge from other states that are maybe not quite a prolific in terms of economic growth and have higher regulatory climates. I see it every day.

A woman came up to me the other day in an event in my district saying, "Well, I have got no other place to move to, and I just moved here from California. Can you please keep Texas strong?"

I said, "Well, every time I go to Washington, I am trying to keep Texas strong."

And I guess one of my questions I would have for you, Mr. Geddes. Is there a federal law that prohibits states from being able to do whatever those states want to do for their own infrastructure?

Three-quarters of infrastructure spending is state and local; is that right, give or take?

Dr. GEDDES. Right. I think that number is roughly correct. It might be closer to 80.

Mr. ROY. Right.

Dr. GEDDES. But your first point, Congressman, is very salient. There are a lot of restrictions going back to the 1950s and 1960s on how states can use the interstate highway system.

I just pointed out one in my testimony, which is one of my favorites, which Section 111 of Title 23, which restricts the development of highway rest stops. And that is why you drive into a rest stop on a dark night, and it may have bathrooms, a few maps, and some vending machines and that is it.

From an economist's perspective, that is an enormously valuable asset that the state cannot develop because of this old law, and states have asked for permission, I believe, for that to be relaxed.

Mr. ROY. Right.

Dr. GEDDES. And that is a prime example of value capture. You can concession out the restaurants, et cetera, and there were other examples I could give.

Mr. ROY. Well, thank you for that. I am sorry we have such a short time, and another question here that I think is really important.

Some states are donor states. Some states are not, right? Is Texas a donor state?

Dr. GEDDES. I believe it is a donor.

Mr. ROY. Texas is a donor state. Texas is a donor in terms of our gas tax policy.

Dr. GEDDES. I know New York is a donor. My state is a donor.

Mr. ROY. To the tune of about $200 million a year, upwards of a billion dollars depending on how you factor in the total backfill that is coming in from general revenue.

Dr. GEDDES. Right.

Mr. ROY. I would also note that we are spending about a half a billion dollars a year to secure the border of the United States in Texas because this body failed to secure the border.

I am just pointing out that there is a lot that needs to be done, but I am just looking at Texas and saying we would like to get our money back. Thanks.

Mr. YARMUTH. The gentleman's time has expired.

And now I recognize the gentlewoman from Minnesota, Ms. Omar, for five minutes.

Ms. OMAR. Thank you, Chairman and Ranking Member.

Thank you all for coming to chat with us today.

America has a long history of building some of the most impressive infrastructure systems in the world, and investing in these vital networks is part of what makes this country exceptional.

But unfortunately, we are falling behind and have been for several years. Since 2010, China has sent roughly 8 percent of its GDP on infrastructure, and on average, European countries spend the equivalent of 5 percent of their GDP.

But here in the United States, we are only investing about 2.4 percent, and we have been putting off a backlog of maintenance needs that is about an investment of $2 trillion, which makes me think to myself how can a great country like ours continue to be great when we are unwilling to make the kinds of investments that will make us so.

So, Mr. Tomer, in your expert opinion, do you feel like the United States has kept in pace with other developed nations when it comes to this investment string?

Mr. TOMER. Yes, thank you for the question, Representative Omar.

And I am glad you asked, and I also get to correct the record from Congressman Sires' comment in my direction. I do believe we need to spend more. I do not believe we are keeping up with our developed and, frankly, even developing or emerging economies here as well.

The challenge there is making sure we understand exactly what we want to invest in.

So just a very quick metaphor, for anyone who either rents an apartment or owns a home, right, of any size, you could infinitely invest in that property, whether it is art on the walls, changing out your roof, expansions, what have you. We have to make difficult decisions.

So the question is, yes, we clearly need to spend more. We know about the failing grades. We know about water, infrastructure that is not working, a lack of broadband infrastructure in rural and urban neighborhoods.

The question is: how do we pick what we invest in? How do we have vertical collaboration, federal, state, local? And what is the role of the private sector to work alongside the public sector?

So, yes, to invest more. The question is doing it wisely.

Ms. OMAR. And furthermore, how is this country's global competitiveness and long-term growth potential impacted by the backlog we currently have in maintaining the needs of the aging infrastructure network?

Mr. TOMER. Yes, thank you again, Representative.

The world is rapidly digitalizing everywhere. Emerging economies are banking via mobile phones, right? And digitally banked, at that.

Meanwhile the scooters that many of us see in our communities, including right here in Washington, you need a digital bank account to be able to use those. You need a smart phone. You need to know how to use a smart phone.

And I am not trying to pick on any employer. In fact, I think it is a good thing, by the way. To apply for a job at McDonald's you often need to have a digital resume. You need an email address. You need to have a way to be able to submit that resume and then check your email to see, right, what the response is.

We are woefully behind on the levels of digitalization we should have, which when we are truly still either number one or number two, depending on the data, the wealthiest country in aggregate in the world.

So we need a stronger case to digitalize everyone, and that is probably one of the most glaring elements I see in terms of economic competitiveness. Many of our regions and households who live in them and businesses are fully digitalized, but there is still so much more ground to go.

Ms. OMAR. Do any of you have anything to add?

Dr. GEDDES. May I comment, Madam?

Yes, I think it is a wonderful question. One thing I really think we should stress in terms of spending is, again, what we spend it on, and we have been blessed in this country to have a mature transportation system for decades that gives us unprecedented connectivity.

China, of course, is still building it out, right? But what we face is a problem with operation and maintenance, and that gets back to Mr. Johnson's point. The spending really needs to address this deferred maintenance problem that we have in the United States.

We do not need to build another interstate highway system. We need to take care of the one that we have, and I think we need to think carefully about how we can create policies. That is why I stressed public-private partnerships that include operation and maintenance in the contract.

And spending more money on that operation and maintenance to improve those ASCE grades, I think, is the focus.

Ms. OMAR. And deferred maintenance sometimes can be very costly. There was a highway that went down in my home state, Highway 35, and not only were lives lost, but it cost us greatly economically to be able to rebuild that.

Investing in 21st century infrastructure is critically important. It is one thing that I have been talking about, and the investment and the expansion of our broadband should be a priority for all of us.

So thank you all for being here and speaking on that. I yield back.

Mr. YARMUTH. The gentlewoman's time has expired.

I now recognize the gentleman from Tennessee, Mr. Burchett, for five minutes.

Mr. BURCHETT. Thank you, Mr. Chairman, Ranking Member.

The Highway Trust Fund I feel like is in terrible shape, and as a nation, we need to be looking into new ways to fund our nation's infrastructure.

And I apologize. I walked out. This might have been asked 1,000 times, and if it is, this is 1,001, but I would really like to hear what you all have to say.

You know, however, with the rise of these electric vehicles, which I always kind of get a little tickled when somebody says, "I am saving the environment. I am riding a bus," or, "I am riding an electric vehicle."

In Tennessee, you know, it is usually one of those coal-fired plants that puts that electricity out, although our coal-fired plants are doing a lot better than they used to.

Of course, we theorize with these electric vehicles, and they are growing in efficiency in the automobile industry. I feel like it is time to start looking into a new source of funding.

Dr. Geddes, what would be your recommendation for financing our country's infrastructure?

Dr. GEDDES. So thank you, Congressman.

That is one of the big reasons I made a distinction between funding and financing in my testimony. The underlying problem is really funding, which you point to.

Mr. BURCHETT. And you can just call me Tim. When they say "Congressman" up here, I usually just keep walking because I know they are talking to one of these old guys back here.

Dr. GEDDES. Call me Rick.

Mr. BURCHETT. All right, Rick.

Dr. GEDDES. But that is why I am like a broken record. I say VMT fees, VMT fees because if you are driving an electric vehicle——

Mr. BURCHETT. I know what VMT stands for, but Dan Crenshaw beside me does not. So why do you not tell him what it means?

Dr. GEDDES. For Dan's benefit?

Mr. BURCHETT. Yes, sir, for Dan's benefit.

Dr. GEDDES. It is a vehicle miles traveled fee, and it is just a per mile fee, and it is just the same way we charge for electricity or natural gas, per therm or per gallon of water, right? You just charge per mile of road use.

Mr. BURCHETT. Now, I am a gear-head. So what are you going to do? Are you going to put it on the odometer? Is it going to be another one of these electronic devices that you all want to put on something that a lot of the folks in east Tennessee are a little leery of?

Ms. HADDOCK. I have got you. So this is why the state of Oregon is a state we always look to because they have done three pilot projects over a decade to address exactly those questions. How do you do it?

There are different ways that sort of dial in the level of privacy you can have. One, I call it the all you can eat version of using the roads. You pay, I think, a quarterly fee, and they do not monitor anything. They do not monitor your odometer. They do not monitor your location.

There is another one that is a little box about this big. All cars have a USB port now, that monitors your car's speedometer.

Mr. BURCHETT. All your cars do, not all of mine.

Dr. GEDDES. Not in Tennessee?

Mr. BURCHETT. I have got a 1961 International Scout and a 1969——

Dr. GEDDES. I drive an old Chevy, just for the record.

Mr. BURCHETT. All right.

Dr. GEDDES. But the little box on the new car would monitor the speedometer.

If you know what the speedometer of the car is doing, you know how many miles it has traveled. The privacy is perfectly protected.

For maybe younger people who do not seem to care about privacy at all, you can use a gismo like this, and it gets down to the submeter level where your car is, and you can charge based on those movements. That is, you know, maybe the lowest cost per mile, but it is the least private in some sense.

So really states, and California is looking very seriously at this; Minnesota is looking very seriously at this road usage charge or vehicle miles traveled.

What it does, it divorces the use of the road from the fuel the vehicle uses. So you can have an electric vehicle, but everybody uses the same lane mile. You charge for the lane mile rather than the fuel use, and that is why so many policy wonks like me like it.

Mr. BURCHETT. I say a lot, me included, are going to have to die off before we actually buy into that because I can see a lot of pitfalls of that, especially some of my conservative folks.

Of course, we are constantly having to prop up the Highway Trust Fund with other accounts, and I would to start with you, sir, and just real quick before I run out of time. How do you all suggest that we get our spending under control?

Mr. TOMER. I believe firmly in setting up these outcomes that we care about and understanding the revenue streams that are coming in, as well as exactly what you all were just exchanging about. What are those future revenue sources?

You know, relative to other accounts across the federal government, the Highway Trust Fund actually has much more concrete set of barriers, not to mix metaphors.

Mr. BURCHETT. Right. In Tennessee, we manage our money very well. Our legislature balances budget and things like that, but one thing we did not do when they put the gas tax in, they did not put a multiplier in. Now, they have had to go back and bump it up again, and I worry about that.

Of course, you cannot take into account electric vehicles and things like that.

Any of you all? Ma'am?

Okay. That is fine. We are good.

Ms. HADDOCK. And I will say that it is about spending, but it is about how we spend and what we are spending it on. And because we are not spending it on the operations and maintenance, we are spending a lot more in the replacement and repair down the road.

And so if we were making those investments along the way to make sure that the infrastructure we built was staying in the best state of repair. If you do not change your oil, eventually your en-

gine is going to need a lot more work than if you just did that routine maintenance along the way.

So how do we control it? We do that routine, annual, planned, and it needs to be budgeted over years and decades, funding to support the operations and maintenance.

Mr. BURCHETT. I do not yield back any of my time, Mr. Chairman. I apologize.

Thank you for your indulgence, and thank all of you all. This has probably been one of the more informative committees, and this has been one of the more informative meetings in that committee.

Thank you all.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from Georgia, Mr. Woodall, for five minutes.

Mr. WOODALL. Thank you, Mr. Chairman.

And thank you all for being here.

I appreciated, Ms. Haddock, when you said federal funds should be used to leverage, not replace state and local funds.

When we talk about operations and maintenance, in particular, though, if I am going to leverage state and local funds and those states and localities plead poverty because they have a lot of other things they are also working on, I am not casting aspersions on their motives, but just the fact that they do not budget for it.

Then what? Do I go ahead and pay 100 percent of the cost with federal dollars, or do I allow those assets to fall into disrepair facing the larger outlays in the future that you described?

Ms. HADDOCK. So the best way to tackle these moving forward is to make sure that up front we have the agreements. One of the things that in Houston that voters have supported and have been willing to do is to not only have fees, but to raise fees when they are dedicated to the purpose for which they are set up for.

And back in 2010, and we affirmed this past year, our voters actually dedicated a drainage fee specifically to deal with stormwater in the city of Houston, and that money is used for improvements in the infrastructure.

So it has to be a partnership, and it has to be that agreement up front where we as local entities, when we sign onto these things, that we have it dedicated in a way that we cannot override; that we have it in the agreements, and we have it in the legislation. We have it in the agreements moving forward to make sure that does not happen.

There are competitions. We have people that are trying to figure out how to get from paycheck to paycheck to do the things that they need to do.

Mr. WOODALL. And that is in a community where the only thing you have more of than water is tax revenues, right? I mean, Houston is on fire economically in ways that a lot of the rest of the country hopes to achieve.

Mr. Coes, you said, which I appreciated, it is not how we invest. How we invest is more important than how much we invest, though I know how much is important also.

Are there circumstances in aging infrastructure, whether it is in rural America or whether it is in urban America, where retrofitting is more expensive than starting all over again, or is it universally

true that repairing that wastewater facility that has not been maintained in 50 years is superior to building a new community right next door?

Mr. COES. I would say based on our research, traditionally, fiscally, from a fiscal responsibility standpoint, investing in existing communities is cheaper than building new communities.

Generally, in my hometown of Thomasville, Georgia, we had to do that same dilemma. Do we invest in our downtown, which needed a new stormwater system, new source, because we wanted to provide more housing, or do we build more suburban development out closer to 319 towards Tallahassee?

We did a both/and approach, but one of the things we did do in the situation is that we actually forced the developer not to actually just invest in the short-term investment on the project, but actually dedicate revenues long term to actually take the cost of that future infrastructure off the city rolls.

I think unfortunately for too often, the federal government and state governments have not allowed and created that level of framework or partnership to ensure that we are actually capturing the full cost of these infrastructure costs.

Mr. WOODALL. Yes, I think about all of our conversations in suburban America—I represent suburban Atlanta—about mass transit, and I think about what Dallas did, right? You built a brand new line out there, and then you built a brand new community on what was a cornfield yesterday, and now you have built the infrastructure.

Professionals are finding it effective to break new ground instead of rehabbing old ground.

Mr. COES. And largely because, unfortunately, this country has a diversity ecosystem of communities that have been dedicating, who have different assets. But there is a pent-up demand for walkable urban development, and developers are now finding whether it is in South Florida, in California and also in Dallas, where we would take the lead.

If the federal government will not or if the state and local government will not take the lead, we would do it. But unfortunately, that also comes with certain consequences because we will go to locations that have the least resistance.

And this is why I made the point earlier this I not just a conversation about the federal government spending more money on infrastructure. If the local government and state governments are not ensuring that local land use decisions, their local economic development decisions are ensuring that those initial federal assets are being leveraged at the highest cost, you would have more examples of bad infrastructure not being the economic returns that we need.

Mr. WOODALL. I read Mr. Tomer's testimony and Dr. Geddes' testimony, and, yes, we can get Brookings and AEI on the same page. You would think we would be able to get some work done around here.

But the Hoover Dam example we heard earlier is absolutely true. We need to demonstrate to taxpayers they are going to get a rate of return on their investment, and, yes, they get a dollar's worth of value out of a dollar's worth of new taxes.

I agree with Mr. Peters. It is shameful that we are deficit financing the Transportation Trust Fund. That was the lone user fee we had left that was working in this country. If we are going to spend more, we have got to raise more.

But I cannot promise a dollar's worth of value when building a state road. It takes about three and a half years less permitting-wise than building a federal road.

I ask the two of you gentlemen as my time expires. We can get on the same page about deficit financing. We can get on the same page about prioritizing.

Can we get on the same page that whether we solve it a little or solve it a lot, that we have got to deliver projects faster because time is money?

Dr. GEDDES. Yes. Yes, Congressman. So, the one federal decision I think is a terrific step in the right direction where you get the permitting.

So as I note in my written testimony, a number of agencies have to weigh in, getting a number of permits, Clean Water Act, Clean Air Act, Endangered Species Act, et cetera, to get a big project permitted.

But the process can continue concurrently so the agencies are sort of working together through one lead agency. So the key is there is a lead agency, and that that agency sort of has responsibility to shepherd it through the process and, I think, at some point make a decision for the other agencies if they are dragging their feet.

So either permit the project or do not and have a target. I have talked to people in my world. They think this target of two years. Just having the target is a really good thing.

Of course, there are other issues, but I think that is a very good step in the right direction, and I would urge Congress to think carefully about, I guess, extending that. I think the Senate has done something on that, and codifying that in the next reauthorization bill.

It is deplorable really how slow the United States is to get big, important projects delivered, even small projects.

Mr. WOODALL. I thank you.

And I thank you for your indulgence, Mr. Chairman.

Mr. YARMUTH. Absolutely. The gentleman's time has expired.

I now recognize the gentleman from South Carolina, Mr. Norman, for five minutes.

Mr. NORMAN. Thank you, sir.

I want to thank each one of our people at the table.

Let me just reemphasize what Mr. Roy and Mr. Smith said. To not have a budget is inexcusable. For us to be sitting here flying blind, you would not do it in your business. You would not do it in any family budget.

But that is a different discussion for a different day at a different time.

Now, infrastructure. Everybody, Democrat and Republican, will agree infrastructure is important. The question is how do you prioritize it. Is it broadband? Is it roads? Is it bridges?

I was with a bridge manufacturer who makes the equipment that goes under bridges that instructs the pilings, and he said some-

thing that was pretty startling. He said, "What it is going to take, Congressman, is a couple of bridges collapsing, which is going to happen, and then maybe you will prioritize."

Each one of you are educated in different fields. From prioritization, I get that it is our responsibility, but from prioritization, how would you rank each individual thing, and where do we spend the money?

We have more needs. We have got a lot of wants, but we have got a lot of needs.

How would you from where you sit prioritize where we put the money? And God help us if we find out where to pay for it. But where would you put the money?

Ms. HADDOCK. I think it was punted to me first.

So as a civil engineer, we are always going to lean on life safety first, water, wastewater, transportation, you know, flooding. I mean, they are almost all equal, but I will say the water and wastewater are critical not just to the service that we provide people on a daily basis, but to the national health.

Then when you layer in transportation and stormwater on top of that, that is when you begin to get to the national economy. Our commerce relies on that reliable, sustainable infrastructure, and you cannot ignore broadband, communication, all of those things because currently our commerce depends on all of those things.

You know, you cannot run the scooter without the cell phone. Well, that is a simple local example, but the truth of the matter is that even our interstate freight movement, whether it is rail, whether it is in the waterways, whether it is freight on wheels, the communications system that makes all that happen across it is important.

So when you ask me to prioritize, what I would say is that we need to generate funding sources tied to each of the uses that are tied back to the user fees, and so it is not necessarily that we compete one against each other. It is that we marry them up with the appropriate funding sources to make sure that they are all funded and that they are all able to move forward.

Mr. TOMER. That was great. I will add on top of that.

Because so much, and I mean this in a lower case UA, there are so many utilities in the infrastructure sector, and that is a big reason we want the MTPs that provide that kind of utility pricing for transportation. We have natural dynamics to kind of get those user fees aligned.

One of the major challenges we have in the country and what is motivated by comments today is there are what economists would say are uninternalized costs, right? Negative externalities, positive externalities.

That is part of the reason we have, and this body is so perfect for it, right, to come together and figure out, well, what are our shared priorities, right?

What does it mean to have affordability for everyone in any district, right, to get to work no matter how long the drive might be?

What is that worth it to us?

We have to start putting a price on that on top of the actual infrastructure itself. Combined, that is how you get to the right kind of model of how we then prioritize what we need.

We can bring some financial accountability here, but it is powered by actually our shared values, right, and what matters to us.

Dr. GEDDES. Congressman, can I add a footnote to your footnote?

You know, I wrote a little book on public-private partnerships because I believe in this approach, and other countries are using it. One of the strongest reasons to use public-private partnerships is you get signals from the private sector about project priorities.

In other words, if you bid out a project and the private sector will not touch it, maybe that is telling you something about the viability of that project.

There are reasons to subsidize projects, right, that do not generate enough money from user fees, but it is the issue of project selection, Congressman, and the private sector involvement through a PPP structure which is wrapping these different elements of project delivery together in the big contract really helps with the project selection issue.

So that is just my footnote.

Mr. NORMAN. I thank each one of you, and I appreciate your participation. I yield back.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from California, Mr. Panetta for five minutes.

Mr. PANETTA. Thank you, Mr. Chairman. I appreciate that you are holding this hearing, and obviously, thank you to the Ranking Member as well, as all the witnesses who are here, and your preparation to be here and obviously your work that you have done in order to get to this position. So thank you very much.

I represent the central coast of California, and obviously what I hear from my constituents is infrastructure is needed in that area on a number of projects. Right now we are working on one that deals with a flood plain and dealing with the place called the Pajaro River and the Pajaro River flood plain that it affects.

Now, obviously, Ms. Haddock, if I may address some of my questions to you, I know you are critically aware of the importance of the Army Corps of Engineers and their work on these types of flood control projects.

But I am sure you are also aware that there is a substantial backlog in Corps projects, which does tend to disproportionately impact areas like the areas that surround the Pajaro that are of low socioeconomic backgrounds in those areas.

And so I was wondering, Ms. Haddock, did you do work with completing flood control projects that affected low income communities in Houston?

Ms. HADDOCK. So prior to joining the city of Houston, I did work with the Harris County Flood Control District, and we did partnered projects with the U.S. Army Corps of Engineers throughout the city.

Mr. PANETTA. Exactly.

Ms. HADDOCK. I will say that the current, at the time, which was in the 1990s, into the early 2000s and also even through today, that the processes and equations that we are required to follow to demonstrate a project be implemented or not do depend largely on the value of what is being protected.

Mr. PANETTA. Yes.

Ms. HADDOCK. And when you do that, it does result in low income and lower valued properties being further down the list.

Mr. PANETTA. Understood, and based on those many hurdles that are constantly and consistently put up by a number of agencies, do you have any best practices you can share with us in order to get over those hurdles, especially to protect low income areas like that?

Ms. HADDOCK. So I will say that, first off, I do believe that it is necessary to have a cost-benefit analysis when you look at it because we have to determine that it is a good investment, to begin with.

Mr. PANETTA. Understood.

Ms. HADDOCK. But some of the things that we have done in Houston is take the value of the land out of the equation and convert it to the number of people that are protected versus the value of the things that are protected.

When we're looking at transportation projects, we look at a car equals a bus boarding when we are looking at replacing a roadway.

We are changing the framework that we look at the benefit in the project, to not just be directly tied to pure economics, to allow us to have more flexible ways to prioritize where is the best investment in that.

The other thing is that we have to look very closely at the community itself. The land may be cheaper, but the impact to the community may be greater whenever you bring in larger infrastructure in those areas.

So we have look very carefully to balance those as we look to implement projects.

Mr. PANETTA. Let me ask you something. Obviously, in my area, as you know, which can be known as the salad bowl of the world or berry bowl of the world, depending on which specialty crop you grow, but obviously, what about taking into account certain agriculture and certain agriculture lands that are around these projects as well?

Would that be a recommendation of yours as well?

Ms. HADDOCK. Well, I believe that we need to look at every part of our economy that supports the nation, and so agriculture and the ability to provide in the food supply is important at home.

Mr. PANETTA. Yes. And now look. I mean, obviously in dealing with the Army Corps, as good of work they do, kind of as you alluded to, they can be difficult, and sometimes they can just say no.

That being said, if the Corps is unable to fund a project, but, say, in these types of communities, do you have any recommendation as to where we can turn for funding for assistance with flood mitigation?

And I would open this up to the board.

Ms. HADDOCK. So, I would start off by saying that mitigation has been shown that for every dollar you spend in mitigation, you save $6 in future disaster recovery.

Mr. PANETTA. That is right.

Ms. HADDOCK. And so it is really important that we recognize that that investment in mitigation is not just about that up-front equation; that investment in mitigation is about long-term benefit to our budgets and our spending down the road.

But it is not just about the money either. It is also about the emotional- the toil on people as they go through disasters. In Houston, we are weary of flooding, and to have that repair money come to put us back in the same place where we were before the flood is not necessarily the appropriate place to be spending the money.

We need to invest this recovery money to be more resilient and more sustainable as we move forward, so that next time we are not having to respond in the same way.

But how do you do that up front in a project is one of the things that we face on a daily basis as we look to implement projects.

You really have to have, as my colleagues down here have said, you have to have a plan for where you are going, and then you have to make sure each dollar you invest and each project you implement is working you towards that plan.

Mr. PANETTA. Understood. Thank you for your work, and I look forward to working with the Army Corps of Engineers with that advice.

Thank you, Mr. Chairman. I yield back.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentleman from Texas, Mr. Crenshaw, for five minutes.

Mr. CRENSHAW. Thank you, Mr. Chairman.

Thank you all for being here today on what is a pretty productive discussion, especially to a constituent of mine, Ms. Carol Haddock, who came up from Houston for this hearing.

As Carol is, of course, aware, we have a flooding problem in Houston. In fact, I just got back from my district where we had horrible flooding for the second time that I have been in Congress, which has not been very long.

It is actually part of the reason I got into politics. Hurricane Harvey landed a sucker punch to Houston. One part of my district, Kingwood, is at the bottom of a 2,500 square mile funnel, where all of the watersheds empty into. So it creates a problem: how do you prevent flooding in a place like that?

It is a bit of creative engineering, but a lot of local permitting, county drainage decisions, channel dredging and dam maintenance, all of which are important parts of that equation.

In Houston, federal support has been a blessing and sometimes a curse. We have received plenty of funding, but sometimes that funding is so delayed, like the $4 billion in HUD funding, and we are so weighted down with red tape that funds become inoperable.

So my question for Ms. Haddock, outside of the funding itself, what are your key concerns on being able to deliver improvements and flood mitigation for the city of Houston?

Ms. HADDOCK. Thank you for that question.

That is something we could probably talk about for hours, but the struggle that we have in Houston is a combination of deferred maintenance, existing infrastructure that was not ever envisioned for the type of activities that we are asking it to perform today.

The lake that overflowed, that Kingwood was flooded by, was designed to be a water supply lake without gates or releases for flood control. It was designed for one purpose. It was built for one purpose, and that was not an Army Corps of Engineers design. It was actually the city of Houston was largely involved in that.

But it is one of those things that it is not just the money that is coming today. It is the infrastructure that is in place today that we are having to evaluate and look at.

A lot of times when funding comes to us, the public gets very frustrated that it is not being spent faster, but infrastructure projects take years.

If we have a plan in place and we know where we are going to go, it still can take a year or two to design that infrastructure before we can construct it, and as you said this morning, or just now, in less than two years we have had another event in Houston.

Mr. CRENSHAW. This gets to something else I said about the red tape surrounding that federal funding. Can you speak really briefly to that and how that affects the local level engineers actually receiving that funding?

Ms. HADDOCK. So my experience, and I have been in the flood control arena most of my career, has been that the funding that you see from a major flooding event, that the first infrastructure funding you see is five to 10 years after the event, but that is the first time that it is available for you to put projects in the ground.

We have projects in the ground in Houston that were from Tropical Storm Allison in 2001, that were in place just before Hurricane Ike in 2008, and we are still working with 2015 and 2016.

How can we speed that up? I would say in communities that are capable of dealing with a direct allocation, that if we could directly allocate that funding to the local community so that they can implement it quickly——

Mr. CRENSHAW. If you have a partner like Harris County Flood Control District.

Ms. HADDOCK. Absolutely.

Mr. CRENSHAW. Trustworthy.

I want to shift gears, because we have very little time, to the Houston Ship Channel. Could you talk briefly about the impact of the current proposed widening of the Ship Channel and the impact, the economic impact and engineering impact that would have on Houston?

Ms. HADDOCK. Not just Houston.

Mr. CRENSHAW. The world.

Ms. HADDOCK. On a large portion of the country and the world, absolutely.

So the Houston Ship Channel is one of the largest ports in the country, bringing in foreign and domestic tonnage and dividing that up and spreading it throughout the country, whether it is through rail or wheels or other ways that it distributes out of that.

And so having the Houston Ship Channel widened and deepened to be ready to accept the new larger ships that are available to access the new Panama Canal is not only essential for Houston and Texas. It is actually essential for the United States.

Mr. CRENSHAW. I will end with a discussion on traffic. Houston like many big cities has a real problem with traffic. We could build more highways. Well, actually we cannot build more highways, right? There is no more space for it. Going underground does not seem logical either.

What is the city of Houston doing? Are there any innovative ideas coming up on the issue of reducing traffic and congestion?

Ms. HADDOCK. So some of the discussions that we are having not necessarily on the highways, but on the streets in the city of Houston is that if we are going to widen a roadway, that any additional lanes that would be added would be dedicated solely to high occupancy in transit, that we would not add lanes for single occupancy vehicle cars.

We have also got a robust off-road network of bikeways being built, but you know, that is going to be years before that is built out to a point that it is safe for people to commute long distances. You can commute five to 10 miles easily today.

But we need to look at other ways to add capacity that do not involve us sitting individually in our individual cars driving to our locations. We need to look at alternate ways to bring that additional capacity into our system.

Mr. CRENSHAW. Thank you. I am out of time.

Thank you, Mr. Chairman. Thank you all.

Mr. YARMUTH. The gentleman's time has expired.

I now yield five minutes to the gentleman from Nevada, Mr. Horsford.

Mr. HORSFORD. Thank you, Mr. Chairman, very much.

I have been hearing from my constituents in Nevada that we simply cannot continue to wait until it is too late and too costly for us to fix our crumbling infrastructure. In 2010, Nevada's total population has grown by nearly 300,000 new residents, making Nevada the sixth fastest growing state in the country.

And as our state grows, so does our need to expand our transportation and infrastructure needs. While our roads and bridges need desperate attention, we must also consider our community's broader infrastructure challenges, everything from dams to modernizing our schools.

For example, the American Society of Civil Engineers gave Nevada a D– rating on our dam system.

Additionally, of the 17 school districts throughout Nevada, they all require some level of modernization in our facilities to help prepare students for high tech careers in the future.

I recently met with a group of constituents from White Pine's Main Street Association in the rural part of my district in Northern Nevada, and in that meeting they shared with me the need to update their storm drainage system and the fiber optic lines at the Ely Roadway Rehabilitation Project.

It is a project that is now on hold because of lack of federal funding.

So these are examples of what happens when federal investment is not available. Nevada's infrastructure is not being met, and it is unacceptable.

So, Mr. Tomer, you have been involved in efforts to make infrastructure a component of regional planning and economic development. That is most effectively done at the local level as each community's circumstances and needs will be different like the ones in White Pine County.

Are there things that we can and should do at the federal level to help communities and their development efforts?

Mr. TOMER. Yes, thank you for the question, Congressman.

And you know, one of the hardest issues we face in the country, and I apologize if this does not apply directly to your rural constituents that you mentioned, but is a tremendous amount of jurisdictional fragmentation.

We colloquially use the term "city," right? And Las Vegas just I am saying is the largest metropolitan area in Nevada is a perfect example of this, right? We say it casually, but when you go to the strip hotels, you are not in actually Las Vegas, right?

Mr. HORSFORD. The county.

Mr. TOMER. Right. So this level of fragmentation causes immense amount of challenges, not just on the transportation front, but also the water and even sometimes telecom.

And the answers here are complicated, but there is no question that our original founding documents were not intended—I think in my mind of like a place like Boston, right, you know, where they were not imagined to extend beyond those municipal borders.

So the question is: how can the federal government serve as a jumping off point for regional conversations around—and, again, I am not touching schools or other elements that are more complicated, frankly, but transportation systems are inherently regional assets, as are water and other essential infrastructure.

How can we provide a platform for our regional governance to be more aligned with the way we casually term out city names the same way?

Mr. HORSFORD. Thank you.

Nevada also has over 32,000 miles of roadways that require attention. More than 500 bridges in Nevada are over 50 years old and would require approximately $133 million for repairs.

To address congestion in the region, the Interstate 11 plan which would connect Phoenix and Las Vegas, the two metropolitan communities in the United States that currently do not have an interstate, would be developed.

And I am proud to have worked on that both at the state level when I was in the state senate and we made advancements here. But just a couple of weeks ago I had over 150 business people here from the Metro Chamber of Commerce who came to D.C. to remind Congress and the administration that this is an important infrastructure project that will enhance the economies of the communities along its route, create opportunities for economic development and job creation, and better connect businesses to those new markets.

So what could we be doing for projects like this as we reauthorize the highway trust bill, but also making sure that we have investment for these major types of projects like Interstate 11?

Ms. Haddock, could you speak to that?

Ms. HADDOCK. So you asked a very wide based question there to challenge me on that. What I will say is that, as we are looking at this infrastructure investment, that new infrastructure and renewal of existing infrastructure definitely have to be balanced as we are looking at that, creating those new opportunities for connectivity, creating those new areas where we do not currently have that connectivity. It is absolutely important.

It goes back to the comment earlier. We have to know where we are going. That was not part of the plan. You have made it part

of the plan, and now we have to invest in that and continue to move those things forward.

But we also have to be willing to invest in the operations and maintenance beyond the initial construction if we are going to continue to improve our infrastructure throughout this country.

Mr. HORSFORD. Thank you so much.

I know my time has expired. It is a very important issue, Mr. Chairman, and I look forward to working with you under your leadership to advance these priorities.

Mr. YARMUTH. The gentleman's time has expired.

I now recognize the gentlewoman from Texas, Ms. Jackson Lee, for five minutes.

Ms. JACKSON LEE. Mr. Chairman and to the Ranking Member, let me thank you so very much for this particular hearing.

Just about five days ago, the city of Houston experienced what I know many of our citizens, Harris County, and in the surrounding counties feared that they might be facing Hurricane Harvey again.

The reason, of course, is because of our particular topography. Certainly Members of Congress tried to make their way home as quickly as possible, but as I was getting reports, I was seeing the fear in my constituents in particular because Imelda would come. It started and then it started and stopped and started again.

And I think the greatest damage was done in the subsequent downpour that I am told by my local officials, some 43 inches were scattered throughout the region, and I know there is still standing water.

We live every day with the crucialness of the need, in spite of our outstanding residents that include Carol, if I may call her a dear friend, thank her for her leadership along with all the other witnesses, but we live in a state of crisis in jurisdictions and topographies like Florida along the southeast coast.

As Dorian made her way up, I had just spoken to the leadership in the Bahamas. They are still suffering.

So I think that we need to really pull up our pants legs, if we will, and pull up the pants and really get back to the business of investing in infrastructure, and I know that we have a sincere problem because in the 19th century, and as we move forward into the 20th century, the 19th century was in the early stages of the railroad, but in the 20th century we can find that we did more investment in infrastructure than we have been able to document in the 21st century.

Certainly the 21st century sounds like a margin terminology, but here we are talking about the gaps in funding.

So I want to pose some questions. First of all, go directly through to the point of concern, and that is the decline in federal, state, and local investment in infrastructure over the last two decades.

If you would share what you think the reason is for that, and in your pithy answer because I have a follow-up and I see the clock is ticking, Carol, why do we not start with you?

You know, are there structural issues, such as private collection processes, overlapping jurisdictions with the federal government?

What do we think has contributed to that trend because the overall population of the United States is being impacted negatively?

Ms. HADDOCK. So I will start by saying that many of the fees that are generated and in many cases the property taxes that back the investment in our infrastructure have been relatively flat. I mean, we have talked about the gas tax not being indexed and has not been raised since 1993. If you adjust that for inflation, we see a 40 percent reduction in actual buying power.

So a lot of that reduction in investment has been directly attributable to the revenues and the funding going into it not growing with the costs of infrastructure investment. So that has been it on some cases.

You asked about the problems of overlapping jurisdictions between state, federal, and local. I would say even within local, the comment earlier about Nevada.

You know, in Houston you know that we have over 27 different cities just in Harris County that are overlapping those jurisdictions. And so we are all working within that. We are all working within the fees that we have available to us.

The state of Texas has made more money available recently. That is a little bit different than some of the trends that we are seeing nationwide, but that is still not addressing the fact that——

Ms. JACKSON LEE. My time is going. So let me thank you for a very thorough answer.

Let me as Mr. Coes and let me see if you can also, Mr. Tomer, fit in.

First of all, there should be smart infrastructure, and it should be environmentally responsive to the needs of those communities.

Would you respond to that?

And let me put on your mind we have a project in Texas, I–45. It is important, but it is abusive to minority and impoverished communities. I am fighting it. I want it to be an effective infrastructure project, but I want it to embrace the neighborhoods.

Would you respond to how those can match together, if you would?

Mr. COES. Thank you for that, Congresswoman.

If we are honest, the legacy of U.S. infrastructure spending has been tied to race, and we are literally digging ourselves out of that ugly legacy, and we cannot afford to not retrofit these neighborhoods that have been either disconnected from opportunities through roads or through even rail infrastructure, and one of the biggest challenges and to my comments earlier is that federal investment has to be a leader because it was federal investment that started.

Mr. TOMER. Yes, I will just say very quickly, you know, Houston has a massive measure coming up in November to invest in itself. The, you know, ballot measures around transportation and also economic development pass at basically a three-quarter rate across the country, and it is really effectively higher than that because often when you lose, you come back with a better one and they win.

That kind of gets back to our shared point here of locally you know what you are getting. You know how you are investing your future. That is the same call we have here at the Congress, right? Outline what our future growth pattern is and how you can build that partnership.

Ms. JACKSON LEE. Mr. Chairman, you have been very kind, and the Ranking Member, and all I would say is that this is our business, and we need to get engaged in this business to help our local leaders here, but also to help the American people.

I yield back. Thank you.

Mr. YARMUTH. The gentlewoman's time has expired.

Now I yield five minutes to the gentleman from California, Mr. Khanna.

Mr. KHANNA. Thank you, Mr. Chairman. Thank you for your leadership in convening this hearing to highlight the importance of infrastructure.

I was encouraged by the comments of Representative Johnson, who brought up rural broadband and the need for an investment in rural broadband in this country.

China is spending $22 billion to hook up 98 percent of its country on high speed Internet, and the estimates I have seen is $40 billion would get high speed Internet access, affordable high speed Internet access to every American.

Is there any reason that we should not just do this as a nation to be competitive in the 21st century on a bipartisan basis?

Mr. Tomer, since you are nodding, maybe we could start with you and then have everyone else chime in.

Mr. TOMER. The dangers of body language.

Does not that Chinese example you cited sound like investment in the future to everyone in this room today?

You know, that is what we are looking for in infrastructure. There is absolutely a massively impactful consensus to be built in both chambers of Congress, across both partisan lines on how this can benefit. It is a rural challenge. It is an urban challenge. Right?

Even in Silicon Valley, there are those who live without broadband, and for those of us who are parents in the room, we know how much our classrooms are digitalizing. What happens to those students who go home, even if they have digital access in their schools, again, whether in a rural or urban classroom and they cannot connect to the Internet?

We are putting ourselves at a structurally speaking economic disadvantage in the future because those are our future workers. Those are our future entrepreneurs.

So absolutely I hope we can make this investment.

Mr. KHANNA. Anyone else want to comment? Dr. Geddes.

Dr. GEDDES. If I may, yes. Thanks, Congressman. I would like to comment.

I totally agree, and it is interesting to look at the way China is doing that. You know, the question for all of this is how do you pay for it. It is all about funding. Delivery PPPs are important, but it all about the underlying money.

One of the policy issues I would like to get on the table is the notion of tax increment financing, which is a technique the Chinese have used, in some ways other communities. Places in Boston are using it, and it is the idea that the infrastructure increases the value of the property that the infrastructure is installed in and you capture some of the increased value through a tax. It is a portion of that, and you bond against the increased tax revenue to install the infrastructure to begin with, basically moving that value that

the infrastructure creates in the future into the present, bond against it to install the infrastructure. It works.

So I would urge Congress to think about look at what other countries are doing. Look at what some cities in the United States are doing. Expand on that. Encourage other localities to do it because it really is all about the funding.

Mr. KHANNA. Thank you, Dr. Geddes.

My final question is about economic growth. The President, I disagree with a lot of things. One of the things he does is market. Four percent economic growth he sold his tax plan as. Now we are barely at a 2 percent economic growth, but no one is asking what happened to the 4 percent that we were promised.

The reality is the American Society of Civil Engineers, as Ms. Ellinger knows, has projected that a $2 trillion infrastructure budget would create 5 percent economic growth. 5 percent.

Starting with you, Ms. Ellinger, my question is: do you believe that infrastructure investment would actually achieve more economic growth than the President's tax cuts and the President's tax policy?

Ms. HADDOCK. So, I am going to dance around that question a little bit. What I do know is that investment in infrastructure will have a direct positive impact to the economy, short-term and long-term, through the jobs that are created thorough design and construction, but more importantly, through the 75 percent of the overall cost of infrastructure that go into long-term operations and maintenance jobs.

It is direct. It is tangible, and it is long lasting. So ASCE absolutely believes and supports that investment in infrastructure is investment in this country.

Mr. KHANNA. Mr. Coes?

Mr. COES. I would say that, while I agree with my colleague, there is such a thing as bad infrastructure investments and that if we are to continue to do the same thing we have been doing for the last 20 years, we will stay where we are, which is at 2 percent growth.

Mr. KHANNA. Any other comments?

Mr. TOMER. Yes. I am happy to say on the record a tax cut can be absolutely supercharging for growth. That tax cut was not structured for long-term growth, and we saw that due to corporate stock buybacks as optional. You know, example number one.

So, you know, cutting taxes can absolutely be something on the table, and exactly to Christopher's point, you know, making sure that we structure infrastructure investment can lead to long-run returns, but we need to make sure that we are designing those effectively as well.

Dr. GEDDES. If I may, Congressman, so I want to echo the point it is possible to have bad infrastructure investment. It is how do you invest, and you know, some projects can be enormously socially valuable and others not so, which is why, you know, we advocate rigorous benefit-cost analysis for all the projects. So targeting is key.

Mr. YARMUTH. The gentleman's time has expired.

I now yield 10 minutes to the Ranking Member, Mr. Womack.

Mr. WOMACK. I thank you very much, and a very enlightening panel today.

First of all, I wish my friends on the other side would just quit demonizing the Tax Cuts and Jobs Act. It creates millions of jobs. It has raised wages in a lot of areas. It has created lots of opportunity for people that needed that opportunity, and I just do not think it should be the piñata that it has become because it is an easily attacked sort of program.

And I do not necessarily believe that the Tax Cuts and Jobs Act by itself is what our economy needs. It needs a lot of things, and we have done a lot of those things. I think tax cuts are important, but I also think reg. reform is important, and we have done a lot of reg. reform, which I think helps stimulate the economy.

But I am not going to get too far down that road because I have got some other things I want to look at.

But on the subject of taxes, I mean, we have all pretty much said that we have got to, even though I think you, Mr. Tomer, said not just throw more money at the problem, but in everything that we are talking about today, we need to throw more money at the problem.

And we know that the Highway Trust Fund is part of the issue. In 1993, the last time it was raised, it was not indexed for inflation, buying power with that kind of money, and we have got cars getting better mileage.

But here we are advocating now doing something with the Highway Trust Fund which is going to be a tax increase on the lower and middle class, disproportionate to the high income people.

It was said earlier. If somebody has a Tesla, they do not really pay it, but somebody that drives as, I think somebody said, a Ford F–150. I am not picking——

Dr. GEDDES. An old F–150.

Mr. WOMACK. An old one pays disproportionately more for those increases.

So I do not know where that sweet spot is going to be, but I would like to just kind of throw a question out for the panel. You graded the infrastructure at a D-plus. I think that is how you characterized it. Do not let me put words in your mouth.

Can you grade America on its ability to plan for the future?

And so as a backdrop to my question, let me just tell you when I was a mayor for 12 years, I operated under a philosophy with all of my staff that we were going to do things based on what we called the "mayor after next" philosophy. That we were going to build things where we could today, not to benefit the near term, but to serve the interests for a generation from now.

How are we doing in America on planning for the future, maybe the generation after next?

Ms. HADDOCK. The generation after next. So you started your question with do we have the ability, and that answer is absolutely, I believe we have the ability. The question is do we have the courage.

We have not planned for the generation after next today, and I do believe that our predecessors did, and that much of the infrastructure that is wearing out today is infrastructure that was planned for the generation after next.

And so your question for me is really one that all of us have responsibility in addressing. Part of it is we have to have a consistent, reliable, and dependable source of funds so that we can plan for the future. That involves all of us. It involves federal, state, local, private, and that it is beyond a year or two, that it is beyond even five years.

Planning in my world is 50 to 100 years. We are planning water supplies. We are planning water infrastructure for 100 years from now.

But the one thing that we also have to consider when we are planning is we do not know what the next change in technology or the next change in things that are coming down the road. If we planned for transportation based on 1950s vehicles, we would not be building the right infrastructure today for the generation after next.

Mr. WOMACK. Can I throw a prospect at you?

Ms. HADDOCK. Absolutely.

Mr. WOMACK. In terms of looking down the road. This is hard for people to imagine. What about vertical takeoff—in terms of mobility, people moving around?

We are about to see, and in fact, we are seeing it today, where drones are delivering someone's prescription or package that they bought online. What about the ability to move people? Are we thinking long term about those kinds of things?

That is generation after next kind of stuff.

Ms. HADDOCK. So I will take a point of personal privilege and say that the American Society of Civil Engineers is asking ourselves those questions right now, and we have invested financially and we have invested our personnel resources in developing a future world vision, one that is a virtual world based on real world data, on real projections forward as to what a future world might look like.

And we have looked at one that is an island, dealing with water. We are building those out as we go. We will be rolling the first one out this fall on what it looks like to live with and in water.

Mr. WOMACK. I know this, that it is important that we deal with today. I also think we have got to spend a little time in thought looking out to the future as to what the long-term needs are going to be.

But we do have the today needs, and that is where we are back to. So I want to bring us back to the present. What is the right mix of federal and state and local P3 involvement in terms of the mix of leveraging precious resources?

And I want to come back to resources here in a minute, but what is that right mix? Should we have formula dollars set aside so that the whole country benefits with a slice off for competitive stuff so that if a local community wanted to put more skin in the game, then they would score, if you will, and qualify?

Mr. COES. At Smart Growth America, through our Transportation for America campaign, we believe that you should have a mixture, but we should have key priorities for each of those buckets.

For example, the formula dollars, we believe, should be dedicated for repair. After you have reached a certain level of service, then

you should be able to use those formula dollars to do expansion and other innovative activities.

Also, we have seen what happens when you have competitive grant programs which allow metropolitan areas, local cities, who may be the State DOTs like the TIGER Program to have access and actually allow major innovation.

So having an all of the above priority, but attach specific priorities to each of those buckets is very essential to make this work.

Mr. WOMACK. Dr. Geddes, I want to ask you a quick question about reforms to the whole regulatory process. We have already established, and it is pretty much without debate, that the regulatory process in building infrastructure no matter what it is, water and sewer, or roads and bridges, does add layers of cost.

What reforms, if you can be kind of specific, two or three things? What would be the top two or three things we could do right now to help lower those costs and shorten that time frame to go from, as we say in the military, flash to bang?

Dr. GEDDES. Yes. So, again, I support this notion of one federal decision where there is a lead agency that has responsibility for shepherding that project through the process, and then there are many different agencies that have to be involved in permitting a big project, and that lead agency would help it occur concurrently rather than sequentially, which has drawn out the process, and also putting a time limit. Either make a decision to permit the project or not.

And I think the lead federal agency model, one federal decision is one term that is being used, is a good way to do it.

And then I understand just having a target, just saying whatever the number of years is, two, three years, you know, probably at most, but certain ten years to permit a project is absurd, and it is really hurting the country.

I think I know the Senate has done some work on this. So I would urge that.

But could I circle back to your earlier——

Mr. WOMACK. Absolutely.

Dr. GEDDES.——comment about the federal role? Because it is something that concerns me in my work on policy analysis in infrastructure.

People forget who the owners of the infrastructure are. Ownership matters. The federal government actually owns relatively little infrastructure. The entire interstate highway system is owned by the states. Cities own a ton of infrastructure.

So they are the ones ultimately who have the responsibility of doing the O&M, the operations and maintenance. I think the federal role is changing more to facilitating state and local government doing the best they can to take care of it, but also using innovative, using the latest technology.

As we all know, the technology of infrastructure is changing at breakneck speed. We need to encourage state and local governments to adopt that technology more quickly, but also make every dollar of funding that they have go as far as possible, and that is a public-private partnership in my view and why I totally encourage that.

And I think the federal government should do more to encourage PPP use.

Mr. WOMACK. Mr. Tomer, before he began to answer that last question of mine, I thought I saw a light bulb come on. Did you have a comment that you wanted to make?

Mr. TOMER. Yes. I will try to be really quick.

I love transportation. It is my area I focus the most, but we cannot forget these other sectors are there, too. So when you talk about the right mix, you know, in particular this body moved back on funds for local water infrastructure in the 1980s, right? Do we want to bring those back is a question.

You know, we are talking a lot about broadband today. You know, Representative Khanna and Representative Smith represent vastly different kinds of places in terms of their economic fundamentals. Both mentioned broadband, right?

But what does that mean when typically the private sector delivers that right now, but we know it is not reaching every community?

So talking about that mix, it really depends which one you are talking about, and I actually think, you know, to conclude really quickly, I think Dr. Geddes said it well. Because the ownership is state, local, and private, what are the incentives for scalability that makes sense for the federal government?

What is that future competitiveness that you all care about and how can you incentivize that as local action?

Those can be really good North Stars here.

Mr. WOMACK. My final question, and I know I have gone a little bit over, but I want to come back to Ms. Haddock for just a minute because she said something in her testimony that I think kind of got lost on this audience today, and I want to credit her for mentioning it.

It is not in your prepared remarks. You talked about a rescission, a rescission that is going to happen beginning in October of 2020, that last year the FAST Act, $7.5 billion.

Sometimes Congress can get its own way, can it not?

So I will give you just a few seconds to elaborate.

Ms. HADDOCK. So right now if no action is taken, there will be a $7.6 billion annual loss to transportation funding for 10 years that will impact all 50 states. It will impact every DOT throughout the nation.

And ASCE and many of our partners are specifically asking that the Congress take action to eliminate the rescission, to make sure that it is not rescinded and make sure that we do, indeed, keep that funding in transportation.

I agree with my colleagues here, for the right projects, for the right investments, but to keep that funding in place. Do not allow that funding to go away.

Mr. WOMACK. Thank you. And thanks to the panel.

Mr. Chairman, I just want to congratulate you on having a really good panel. You know, it is kind of nice to be able to finally come into this meeting room and engage a panel where we are not all at each other's throats and that there is pretty much universal agreement on some of the larger issues that we have.

And it must be bipartisan, and if we are going to be successful in its outcome, it will have to be in a bipartisan way.

And I thank you for the time this morning.

Mr. YARMUTH. The gentleman is perfectly welcome. Thank you for the discussion.

I yield myself now 10 minutes for my questions.

And I will start by saying I am not going to debate the tax cut either, but I do want to respond to many of my colleagues who at every hearing mention the fact that we have not passed the budget.

In fact, we do have a congressional budget in place. It was the Bipartisan Budget Act of 2019, which established reasonable discretionary limits and the usual controls on other spending and revenues, and 65 of my Republican colleagues voted for it.

And we also have passed appropriations bills for 96 percent of the total discretionary budget. So we certainly, I think, have indicated to the public what our values are in the majority.

I love where this discussion went. My stock speech when I am speaking at home begins with my assessment that we are at a very interesting juncture in our history where our past is catching up with us and the future has gotten here faster than we anticipated.

And in areas such as infrastructure and race relations, immigration policy, our past is catching up with us, and on the other hand, climate change is happening and having an impact far sooner than we thought. Artificial intelligence is here far sooner than we thought, and a lot of technological changes are here before we thought they were.

Self-driving vehicles, I remember when I got here and somebody mentioned a self-driving vehicle and do we need to start thinking about policies for that, and they said, "Oh, that is 25 or 30 years away," and of course, it is already here.

So I always say we have a real significant problem in Congress because at our optimum efficiency, we move at 10 miles an hour. I would argue that with Mitch McConnell, my Senator, and in charge of the Senate it is two miles an hour, but anyway, very slowly, and the world is moving at 100 miles an hour.

So how do we make policy that can possibly accommodate the pace of change? And I have often said we need futurists in Congress so that we can start making policy or at least discussing policy in a way that is done in the context of knowing what is about to happen or having a sense of what is likely to happen in the near future.

We generally make policy as if nothing is going to change, and that is, I think, the danger of the way that a lot of people look at infrastructure spending, and this panel, of course, is fully aware of the changes that are impacting what we do.

And I also use the example of high speed rail. My Vice Chairman here talked about high speed rail, and there are a lot of people who think we ought to be investing in it, but then we have self-driving vehicles, which mean most likely in 20 years we will have self-driving vehicles that can go 200 miles an hour, in which case who is going to take a high speed train? Because you can get there faster, just someone in your car and taking off.

That does not mean we should not consider making investments in high speed rail, but it also means that 30 years from now it may look like the dumbest money we ever spent.

And I think about that and your comment, Ranking Member, about vertical takeoffs. It is still science fiction, but I saw a video the other day of somebody who is in a flying vehicle, and who knows how long that will take to impact what we do.

So I am really interested, Ms. Haddock, in getting hold of your projects, your forecasts, because I think that is something that the Congress could well utilize.

I do not have too many questions because you all have been sitting here a long time, and several people have asked the ones I wanted to talk to.

But, Mr. Coes, you referenced Louisville in your testimony, and one of the things that is very special about that project, in Louisville and the southwestern part of the community, which for my entire life, which is now getting up there pretty long, basically isolated a huge portion of the population in our county from the rest of the community because it was virtually impossible for them to conveniently get to downtown to share all of the amenities that we share, to get to parks, to get to and so forth.

That was one of the items that we mentioned in making the case for the TIGER grant, which is facilitating this project, that it was not just economics. This was very much a cultural and sociological impact that it was going to have.

And I think about things like the health impact of transportation. I hear constantly from people who have such a hard time getting to their doctor, to the hospital, to get their checkups, to get their dialysis, whatever it happens to be.

And then on the job and employment front, however many people have the very, very difficult time taking a job because of transportation.

And we have a decent bus system in my community, but not a great one, and I was astounded to hear the other day about somebody who is an ex-felon being reintroduced into society, very much employable, has a job, working his way back, and he takes a bus two and a half hours every day to and from. Five hours he spends on a bus, and he lives 20 miles from his place of employment.

So there are so many aspects of this subject that I am glad we are talking about it.

I just want a quick question, and I am going to yield some time to the Vice Chairman.

When we are talking about kind of the rehabilitation aspect of infrastructure, so we have 600,000 bridges that are in need of repair and $2 trillion to catch up, how some of your revenue suggestions apply to those things. I mean, it is hard to put a toll on a bridge that has been there for 50 years and you are fixing.

What are the options for providing that kind of funding?

Dr. GEDDES. Yes, Congressman. So that is one of the main reasons why I stressed the asset recycling and value capture aspects in my testimony, because, you know, it is very difficult politically to toll a currently free facility. It is possible if you add a lane, if you add capacity, to have tolled new capacity, but existing capacity, it is very hard.

But, of course, these bridges are old, and they need a lot of operation and maintenance. So if you structure an asset recycling program that focuses on generating value from the existing infrastructure, which has been managed in a certain way for decades, and where new techniques, whether it is lease; it does not have to be a sale. It could be selling an old parking garage or a parking lot.

Just doing the inventory, there is kind of a famous example. New York city did an audit and discovered that the city owned 1,100 vacant lots in the city. Now, that is just inefficient use of the asset.

And then, of course, the next step is to figure out what is the best use, right? So an asset recycling program includes all of those things. The key word, recycling, means taking those resources, keeping them within that governmental entity, but putting them back into the infrastructure that needs it the most.

So if it is an old bridge that the ASCE tells us is in trouble, get that bridge properly operated and maintained.

So my proposals really are about generating as much funding, squeezing as much funding as you can out of existing infrastructure with new and innovative management techniques.

Mr. YARMUTH. I thank you for that, and I yield the rest of my time to the Vice Chairman.

Mr. MOULTON. Thank you, Mr. Chairman.

Mr. Coes, I just wanted to go back to you quickly. "Foot Traffic Ahead, 2019" was released in June that demonstrates a link between socially equitable communities, walkability of neighborhoods, successful, affordable transit options.

Denver has invested $5.5 billion in light rail, commuter rail, bus traffic, transit. They are ranked as the second most walkable metro area in the U.S.

Boston has an 83 percent real estate premium, generally, and a 74 percent GDP per capita premium over the lowest ranked city in the foot traffic index.

So what are these links among accessibility of transit, walkability, and economic opportunity development?

Mr. COES. Thank you for that question, Congressman.

Here is the reality we have learned in the real estate industry. We are in a fierce global competition for talent. Talent has a specific location it wants to be in today, and it is an environment that allows them to interact with each other, to be able to actually walk down H Street and actually have drinks during H Street Festival while actually coming up with the idea and not have to do it with a car.

Maybe a car is involved. Unfortunately, in America, we have very few locations both in our rural areas and also our major urban cores that actually meet that market demand, and what we are seeing both here in the United States but across the globe, that those who are higher educated, those who are looking for opportunity are gravitating to cities that have these options.

Unfortunately, in your case, in Boston metropolitan, it is that because we have few places, the rents of those places are going so high, they cannot keep up with the market demand and are actually pushing the residents who have been there for so long, the businesses that have been there so long out into environments that

actually causes them to spend more money on transportation, therefore creating a cycle of poverty that they cannot get out of.

Mr. MOULTON. So a great example is, and when this has happened in Manhattan, a lot of people moved to Brooklyn. The City of Lynn I represent is exactly the same distance by train from downtown Boston as Brooklyn is from downtown Manhattan, but there is one train an hour. You can imagine the seven-train.

Mr. COES. Right.

Mr. MOULTON. If just one of the lines to Brooklyn ran once an hour. So that does not work so well.

And, incidentally, Mr. Chairman, this kind of gets at the issue, the hypothetical issue you raised with high speed rail.

High speed rail has a whole bunch of benefits well beyond just the fact that you can get from Place A to Place B. It influences the kinds of communities that develop around it, and it has major capacity advantages over cars, even if they could go 200 miles per hour, which would be a little challenging, given that the interstate system was designed for 65.

But this is why, I think, that we have to get into more of this, and I am running out of time, but, Dr. Geddes, I saw you nodding your head there, too.

Anything to add on this point?

Dr. GEDDES. Well, in general, and Congressman Yarmuth's point is well about looking to the future, and I urge us to do that in the strongest possible terms.

And just as an indication of, you know, what I think is the future, I formed a 501(c)(3) nonprofit with a couple of colleagues to do research on the hyperloop, right? People say, "Oh, it is crazy," or whatever.

But the high speed rail is pushing a column of air in front of this train. It is old technology. There are innovations going on in this sector that are astounding and occurring much faster than we think.

So if we are thinking ahead, I would urge Congress to put more money into research on those sorts of technologies.

Mr. MOULTON. I agree.

Dr. GEDDES. I remember a couple of years ago people said, "You are crazy."

Mr. MOULTON. I totally agree with you. I do think you should talk to the Japanese about Maglev because they are a little ahead of us.

Dr. GEDDES. Okay. But you get my point.

Mr. MOULTON. Yes, yes. I agree.

Dr. GEDDES. We should leapfrog on that technology.

Mr. YARMUTH. I would love to yield time to the Ranking Member.

Mr. WOMACK. I know this hearing is about to come to an end. I meant to ask a question of Dr. Geddes earlier.

You talked very briefly about tax increment financing. Why are we not seeing more TIF work?

And maybe there is around the country; certainly not in our state, and the problem in our state is that we have a uniform rate of taxation on property tax, and the first 25 mils or whatever goes into the education pool. So the ability to bond projects is limited by the remaining property tax.

So why do we not see more?

Dr. GEDDES. That is a great question, Congressman.

To Mr. Moulton's point, I was at a meeting in Boston where Boston has used different types. There are all of these flavors of tax increment financing that I, frankly, do not fully understand, but Boston communities have used it to increase transit access in Boston in a very successful way.

Now, to your question, Congressmen, why have not other communities? I think so much is education. It is just about understanding a new delivery technique.

I love the state and local infrastructure asset owners that I deal with all the time, but there is a traditional way of delivering projects in the United States that involves tax exempt municipal bonds. It involves what is called design-bid-build bidding process that I do not have time to get into.

But I think a lot of it is just getting these ideas out there, getting education, and then just putting the policies in place that facilitate this.

I think tax increment financing could be used much more extensively, has been used in Boston and other cities, and is being used around the world to fund the infrastructure. So the key is it is a funding technique.

So I am not sure I have a full answer for you.

Mr. WOMACK. Thank you.

Mr. YARMUTH. Well, I thank the Ranking Member for that contribution.

And I want to remind all of the members, all three of us who are here, that if we have any questions, we can submit them in writing to the witnesses, and they would respond within seven days. And with that, I want to thank the witnesses again. It has been a very stimulating discussion and hearing, and I thank you for your time and your wisdom.

And without objection, this hearing is adjourned.

[Whereupon, at 12:26 p.m., the Committee was adjourned.]

SHEILA JACKSON LEE
18TH DISTRICT, TEXAS

WASHINGTON OFFICE:
2160 Rayburn House Office Building
Washington, DC 20515
(202) 225-3816

DISTRICT OFFICE:
1919 SMITH STREET, SUITE 1180
THE GEORGE "MICKEY" LELAND FEDERAL BUILDING
HOUSTON, TX 77002
(713) 655-0050

ACRES HOME OFFICE:
6719 WEST MONTGOMERY, SUITE 204
HOUSTON, TX 77019
(713) 691-4882

HEIGHTS OFFICE:
420 WEST 19TH STREET
HOUSTON, TX 77008
(713) 861-4070

FIFTH WARD OFFICE:
4300 LYONS AVENUE, SUITE 200
HOUSTON, TX 77020
(713) 227-7740

Congress of the United States
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Washington, DC 20515

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HEARING STATEMENT:
"AMERICA'S INFRASTRUCTURE:
TODAY'S GAPS, TOMORROW'S OPPORTUNITIES,
AND THE NEED FOR FEDERAL INVESTMENT"

COMMITTEE ON THE BUDGET
210 CANNON
SEPTEMBER 25, 2019
10:00 A.M.

- Thank you Chairman Yarmuth and Ranking Member Womack for convening this hearing on America's infrastructure and the gaps we face today, the challenges of tomorrow, and the need for federal investments to remain competitive and prosperous in the 21st century.

- Let me welcome our witnesses:

  Carol Ellinger Haddock, P.E., M.ASCE, Director, Houston Public Works

Christopher A. Coes, Vice President of Land Use and Development, Smart Growth America

Adie Tomer, Fellow at the Metropolitan Policy Program, Brookings Institution

R. Richard Geddes, Ph.D., Professor and Director of the Cornell Program in Infrastructure Policy, Cornell University; and Visiting Scholar, American Enterprise Institute – *(Republican Witness)*

- Thank you for being here and sharing your expertise with this Committee.

- Mr. Chairman, as point of personal pride and privilege, let me say that Ms. Haddock is a good friend of mine and hails from my home city of Houston where she is responsible for overseeing the planning, operation, maintenance, construction management and design engineering of Houston's water, wastewater, storm drainage, and road infrastructure.

- Ms. Haddock is very knowledgeable about ASCE's work on the economic costs of insufficient infrastructure investment and the resulting lost economic productivity and activity.

- She brings real-world experience as a practicing civil engineer and director of a major city public infrastructure program.

- Ms. Haddock is extremely knowledgeable about surface transportation and water systems and disaster recovery and resilience.

- Mr. Chairman, this hearing could not be more timely because the inadequate state of America's infrastructure is one of the most pressing issues of our time.

- In 1796, Congress provided a land grant to Ebenezer Zane to build a road from Wheeling (then-Virginia, now West Virginia) through Ohio to Kentucky. A portion of that road eventually became part of the National Road that ran from the Potomac River nearly to the Mississippi.

- Portions of US 40 and Interstate 70 still follow that route today.

- In 1802, Congress began an effort to provide states with a portion of the receipts from the sale of federal land within their territory in order to finance roads.

- Through the 19th Century, the federal government helped develop other forms of infrastructure.

- The canal system that helped bring trade and develop land west of the Appalachian Mountains was a product of states, the private sector, and the federal government.

- For example, the Chesapeake and Ohio Canal was built by a private company under a charter passed by Congress that allowed it to build and operate the canal on federal land.

- Later in the century, the transcontinental railroads were financed in large part through grants of federal land.

- Western Union built the transcontinental telegraph under a Post Office contract.

- The current highway system has its origins in the Federal-Aid Highway Act of 1916.

- The Federal role in infrastructure development expanded in the New Deal era with efforts to build dams and reservoirs throughout the country and to provide electricity to rural America.

- The post-War era saw funding for the Interstate Highway System, aid for airport construction and the air traffic control system.

- The 1970s saw a significant increase in federal investment in clean water infrastructure and in transit.

- More recently, federal funds and research played a critical role in the creation of the Internet and in expanding broadband access to rural areas, following in the footsteps of rural electrification.

- The American Society of Civil Engineers (ASCE) publishes a report card every four years that assesses the state of U.S. infrastructure.

- The most recent 2017 Infrastructure Report Card concludes that America's cumulative infrastructure grade is "D+", the same as four years prior despite some incremental progress.

- The Report Card covers 16 infrastructure categories across transportation, water, energy, waste, and other systems, although not telecommunication and broadband.

- The assessment considers criteria such as capacity to meet current and future demand, physical condition, public safety, and resilience, as well as current funding level compared to estimated funding need.

- Much of U.S. infrastructure is past its originally planned useful life, and underinvestment has led to a backlog of needs, even as the U.S. population has more than doubled since the 1960s, when many of the country's major infrastructure systems were designed.

- To restore this infrastructure to a grade of "B" (meaning "good, adequate for now"), ASCE estimates that an additional $2.1 trillion (in 2015 dollars) above the current funding levels will be necessary from 2016 to 2025.

- Of this, surface transportation has the largest funding gap ($1.1 trillion), followed by schools ($380 billion), water infrastructure ($229 billion), and energy ($177 billion).

- As the Report Card states, "The U.S. has only been paying half of its infrastructure bill for some time and failing to close that gap risks rising costs, falling business productivity, plummeting GDP, lost jobs, and ultimately, reduced disposable income for every American family."

- Failure to close the infrastructure investment gap and restore U.S. infrastructure to good condition by 2025 would result in $3.9 trillion in cumulative losses to GDP (in inflation-adjusted 2015 dollars), $7.0 trillion in lost business sales, and 2.5 million lost American jobs.

- As a result, each $1 in additional public infrastructure funding would generate a net benefit of $2.70 in avoided economic losses.

- The losses to business stem from: increased costs of production and supply chain components, declining exports due to increased transportation costs, increased costs of business travel, and declining consumer spending.

- The impacts on households include fewer jobs; lower incomes due to a restructuring of the economy from technology/export sectors to lower paying and less productive services needed to address problems caused by poor infrastructure; and more income diverted to transportation, electricity, and water/wastewater costs.

- The World Economic Forum's Global Competitiveness Report 2018 ranks the U.S. as 9th worldwide in infrastructure, behind Japan, Germany, France, and others.

- European countries spend, on average, the equivalent of 5 percent of GDP on building and maintaining their infrastructure, while the United States spends 2.4 percent.

- Infrastructure investment offers significant economic benefits, in both the long- and the short-term.

- In the short term, infrastructure investments can have a significant impact by boosting demand.

- Analysis suggests that a dollar of infrastructure spending can increase economic output by $1.50 or more.

- The multiplier effect can be larger in times of recession and if the increased spending is deficit-financed.

- The positive effects on demand are less in a stronger economy when both the spending and borrowing can draw resources away from other economic activity instead of tapping into underutilized capacity.

- These factors make infrastructure investment an appealing option for economic stimulus during a recession, particularly if the spending is focused on projects where work can begin or increase quickly.

- In the long-run, infrastructure spending can enhance the productive capacity of the economy, primarily by helping individuals and businesses to more efficiently produce and sell goods and services.

- I look forward to hearing from our witness.

- Thank you, I yield back the remainder of my time.

Committee on the Budget

America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment

(9.25.19)

Questions for the Record

Submitted by Congresswoman DeLauro

1) ***Infrastructure Bank:*** If we are serious about growing good paying jobs that cannot be outsourced or exported, we need to pursue clear, comprehensive infrastructure policy that faces the reality of the problem. In addition to robust public investment that should not only fix our current infrastructure state, but to be enough to invest in new projects to bring our infrastructure system into the 21st century, we need to supplement other federal programs to leverage public and private investment for meritorious infrastructure projects of national or regional significance. We could do that by establishing a National Infrastructure Bank, which I have been advocating for since 1994. It would function as a government-owned corporation and provide financing for high priority projects, including projects that go beyond surface transportation, such as energy and telecommunications projects. In terms of return, the goal is to provide strong financing that creates certainty and sustainability for all kinds of projects, from ones that impact individual neighborhoods to ones that carry national importance. Mr. Coes, in addition to a serious public investment in our nation's infrastructure, how important is it to have sustainable financing mechanisms to ensure our infrastructure system is not short-changed in the long-term?

2) ***Beyond Surface Transportation:*** In addition to transportation projects such as highways, bridges, transit, airports high speed rail, waterways, ports, and harbors, we need a serious investment in drinking water and wastewater systems, energy and telecommunication projects to address every facet of Americans lives. Yet, most of our federal infrastructure spending is targeted towards surface transportation. Ms. Haddock, are there other areas of infrastructure that you think are neglected and deserve equal or greater attention?

3) ***Rescission:*** The surface transportation reauthorization, known as the FAST ACT, includes a $7.6 billion rescission of Highway funding in FY 2020. All 50 states and the District of Columbia will be impacted by the rescission, along with many other transportation stakeholders. Rescinding unobligated highway contract authority impedes the flexibility of state departments of transportation to meet their individual infrastructure needs and disrupts timely delivery of projects. Mr. Coes and Mr. Tomer, if we're all in agreement that we must invest in infrastructure, how would taking away $7.6 billion away from various state projects make sense?

4) ***Discretionary funding:*** As a senior Member of the Appropriations Committee, we have the opportunity to improve the lives of all communities and create millions of jobs in the process by making adequate annual public investments needed for our local communities' infrastructure. This summer, the House passed a spending bill for next year that provides $86.6 billion for the Department of Transportation, which is $167 million above last year's level and $3.7 billion above the President's request. The funding includes:

    - $1 billion for **National Infrastructure Investments (TIGER)**, $100 million above the 2019 enacted level and equal to the President's budget request.
    - $17.7 billion for the **Federal Aviation Administration (FAA)**, $267 million above the 2019 enacted level and $614 above the President's budget request.
    - $48.9 billion for the **Federal Highway Administration**, $404 million below the 2019 enacted level and $1.7 billion above the President's budget request.
    - $3 billion for the **Federal Railroad Administration**, $96 million above the 2019 enacted level and $877 million above the President's budget request.
    - $2 billion for **Amtrak**, $50 million above the 2019 enacted level and $1.1 billion above the President's budget request. That includes $700 million for **Northeast Corridor Grants**, $50 million above the 2019 enacted level and $375 million above the President's budget request.
    - $13.5 billion for the **Federal Transit Administration**, $60 million above the 2019 enacted level and $1.1 billion above the President's budget request.

At the same time, the President's Budget for 2020 is woefully inadequate for non-defense discretionary, including a $5.9 billion cut for the Department of Transportation, shortchanging rail, transit, and highway investment. Mr. Tomer, can you give us some insight as to how important discretionary funding is for our nation's infrastructure? How does it affect state projects?

Committee on the Budget

America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment

(9.25.19)

Responses to

Questions for the Record

Submitted by Congresswoman DeLauro

1) ***Infrastructure Bank***: If we are serious about growing good paying jobs that cannot be outsourced or exported, we need to pursue clear, comprehensive infrastructure policy that faces the reality of the problem. In addition to robust public investment that should not only fix our current infrastructure state, but to be enough to invest in new projects to bring our infrastructure system into the 21st century, we need to supplement other federal programs to leverage public and private investment for meritorious infrastructure projects of national or regional significance. We could do that by establishing a National Infrastructure Bank, which I have been advocating for since 1994. It would function as a government-owned corporation and provide financing for high priority projects, including projects that go beyond surface transportation, such as energy and telecommunications projects. In terms of return, the goal is to provide strong financing that creates certainty and sustainability for all kinds of projects, from ones that impact individual neighborhoods to ones that carry national importance. Mr. Coes, in addition to a serious public investment in our nation's infrastructure, how important is it to have sustainable financing mechanisms to ensure our infrastructure system is not shortchanged in the long-term?

Carol Haddock Response*: While this question was directed Mr. Coes, the following response is also provided for the record.*

Partnerships between public agencies – federal, state, and local – and private companies are an increasingly popular infrastructure financing policy tool. As public budgets continue to be squeezed; public-private partnerships (P3s) allow planners and policymakers more breathing room to invest. P3s can be an effective financing mechanism through tools such as municipal and private activity bonds, private tolls, or asset recycling. These partnerships can then take many forms including Operation and Maintenance P3s, Design-Build P3s, Design-Build-Operate P3s, and Design-Build-Operate-Transfer P3s.

Although there are positive financing opportunities provided by P3s, they do not replace the need for public funding of infrastructure projects and are not a one-size-fits-all model. There are no standard criteria for awarding and implementing P3s and many financiers are unattracted by the return on investment, which can lead to investment not based on need but on financial return. Additionally, each state's laws on P3 investment vary, ranging from no authorizing legislation to allowing for P3s in infrastructure investment.

P3s, which include infrastructure banks, are a tool in the toolbox to fund infrastructure investments and are not, nor should be, the only option. All levels of government and the private sector must share in increasing infrastructure investment. Moreover, federal participation must be at the center of investment if we are to restore America's world-class infrastructure.

2) **Beyond Surface *Transportation***: In addition to transportation projects such as highways, bridges, transit, airports high speed rail, waterways, ports, and harbors, we need a serious investment in drinking water and wastewater systems, energy and telecommunication projects to address every facet of Americans lives. Yet, most of our federal infrastructure spending is targeted towards surface transportation. Ms. Haddock, are there other areas of infrastructure that you think are neglected and deserve equal or greater attention?

***Carol Haddock Response**:*

The public depends on infrastructure, both publicly and privately owned, to support daily life. Much attention has been paid to funding of transportation infrastructure at the federal level. Transportation infrastructure is highly visible and failures in the system are often visible to the public. However, the infrastructure that is often hidden from view, such as water and wastewater infrastructure, does not receive similar attention.

The most recent version of the American Society of Civil Engineer's (ASCE's) **2017 Infrastructure Report Card**, highlights 16 categories of infrastructure. This view of the nation's infrastructure not only considers the current condition of infrastructure, but also the existing and future funding streams for operations, maintenance, repair and replacement. From this report card, here are several categories deserve similar attention:

Drinking Water and Wastewater – A well-maintained public drinking water and wastewater infrastructure is critical for public health, strong businesses, and clean waters and aquifers. However, funding both capital projects and operations and maintenance (O&M) is difficult because the public often does not appreciate the modern convenience of wastewater and drinking water treatment, making it difficult to convey the need for water rate increases. Furthermore, capital spending has not kept pace with needs. If these trends continue, the funding gap will only widen, resulting in leaking pipes, potential pollution from wastewater plants, and increases in the cost of O&M.

Aviation – U.S. airports serve more than two million passengers every day. The aviation industry is marked by technologically advanced and economically efficient aircraft, however, the associated infrastructure of airports and air traffic control systems is not keeping up. Congestion at airports is growing; it is expected that 24 of the top 30 major airports may soon experience "Thanksgiving-peak traffic volume" at least one day every week. With a federally mandated cap on how much airports can charge passengers for facility expansion and renovation, airports struggle to keep up with investment needs, creating a $42 billion funding gap between 2016 and 2025.

Dams - Dams provide vital service and protection to our communities and economy. The average age of the 90,580 dams in the country is 56 years. As our population grows and development continues, the overall number of high-hazard potential dams is increasing, with the number climbing to nearly 15,500 in 2016. Due to the lack of investment, the number of deficient high-hazard potential dams has also climbed to an estimated 2,170 or more. It is estimated that it will require an investment of nearly $45 billion to repair aging, yet critical, high-hazard potential dams.

Levees - A nationwide network of 30,000 documented miles of levees protects communities, critical infrastructure, and valuable property, with levees in the U.S. Army Corps of Engineers Levee Safety Program protecting over 300 colleges and universities, 30 professional sports

venues, 100 breweries, and an estimated $1.3 trillion in property. As development continues to encroach in floodplains along rivers and coastal areas, an estimated $80 billion is needed in the next 10 years to maintain and improve the nation's system of levees. In 2014 Congress passed the Water Resources Reform and Development Act, which expanded the levee safety program nationwide, but the program has not yet received any funding.

Energy - Much of the U.S. energy system predates the turn of the 21st century. Most electric transmission and distribution lines were constructed in the 1950s and 1960s with a 50-year life expectancy, and the more than 640,000 miles of high-voltage transmission lines in the lower 48 states' power grids are at full capacity. Energy infrastructure is undergoing increased investment to ensure long-term capacity and sustainability; in 2015, 40% of additional power generation came from natural gas and renewable systems. Without greater attention to aging equipment, capacity bottlenecks, and increased demand, as well as increasing storm and climate impacts, Americans will likely experience longer and more frequent power interruptions.

Hazardous Waste - Over 18,000 sites and an associated 22 million acres of land are related to the primary hazardous waste programs that comprise much of the nation's hazardous waste infrastructure, and more than half of the U.S. population lives within three miles of a hazardous waste site. The current capacity of the nation's hazardous waste infrastructure is generally adequate, owing in no small measure to significant improvements in managing materials through recycling and reuse, rather than disposal. There have also been significant improvements in remediation technologies, resulting in faster and less resource-intensive cleanup approaches.

Parks - A vast network of infrastructure goes into supporting more than seven billion outdoor recreational outings. Americans enjoy park and recreation facilities maintained by entities at all levels of government. At the federal level, the National Park Service, U.S. Forest Service, and U.S. Army Corps of Engineers are the main providers of park facilities. States and localities provide the bulk of park and recreational facilities that seven in 10 Americans use on a regular basis. National forests and grasslands capture and filter drinking water for 180 million people. America's parks and public lands also support industries such as lodging, restaurants and bars, grocery and convenience stores, and gas stations.

Public Schools - Every school day, nearly 50 million K-12 students and 6 million adults occupy close to 100,000 public school buildings on an estimated two million acres of land. While state and local governments make significant investment in public K-12 schools infrastructure and schools play important civic, educational, and public safety roles in communities, the nation continues to underinvest in school facilities, leaving an estimated $38 billion annual gap. As a result, 24% of public school buildings were rated as being in fair or poor condition. While there have been a number of insightful reports in recent years, state and local governments are plagued by a lack of comprehensive data on public school infrastructure as they seek to fund, plan, construct, and maintain quality school facilities.

Solid Waste - Overall management of municipal solid waste (MSW) across America is currently in fair condition. In many cases the transport and disposal of MSW is self-funding and managed by the private sector, and therefore is sufficiently funded. Americans annually generate about 258 million tons of MSW of which approximately 53% is deposited in landfills – a share that has plateaued in recent years. Currently, 35% of MSW is recycled and 13% is combusted for energy production. There is a need to change the way we think of how solid waste is generated,

managed, and potentially used as a resource. We need to recognize that what is routinely discarded may in fact be a reusable resource.

Stormwater – Though not a category in the *2017 Infrastructure Report Card*, it will be added as a new category in the *2021 Infrastructure Report Card*. As recent events in Houston show, the existing infrastructure cannot keep pace with the more intense rainfall events being experienced and the continued population growth that continues to put more people potentially in harm's way. The ability to adequately address and manage stormwater is a continuing problem and needs to be addressed. Stormwater runoff is the only major source of water pollution that is increasing in many parts of the United States. Urban runoff is an issue affecting our nation's economy, communities, and environment. In order to meet the rising challenge of stormwater pollution, source control must be improved and the function of stormwater infrastructure must be enhanced.

3) ***Rescission***: The surface transportation reauthorization, known as the FAST ACT, includes a $7.6 billion rescission of Highway funding in FY 2020. All 50 states and the District of Columbia will be impacted by the rescission, along with many other transportation stakeholders. Rescinding unobligated highway contract authority impedes the flexibility of state departments of transportation to meet their individual infrastructure needs and disrupts timely delivery of projects. Mr. Coes and Mr. Tomer, if we're all in agreement that we must invest in infrastructure, how would taking away $7.6 billion away from various state projects make sense?

***Carol Haddock Response**: While this question was directed Mr. Coes and Mr. Tomer, the following response is also provided for the record.*

As Congress continues to debate funding levels for FY2020, ASCE strongly urges Congress to repeal the $7.6 billion recession to ensure our nation has the revenue needed to ensure our roads and bridges are fit for the 21st century. If the recession takes effect, each state including the District of Columbia will be negatively impacted by virtually wiping out all remaining contract authority available in core highway formula programs. States could ultimately lose the flexibility to apply their federal funding to be in line with their investment priorities, leading to further underinvestment across our state departments of transportation. Also starting in Fiscal Year (FY) 2021, there will be a decrease in the current 10-year budget baseline for surface transportation programs and therefore undermine efforts by Congress to boost investment in our surface transportation infrastructure.

4) Discretionary funding: As a senior Member of the Appropriations Committee, we have the opportunity to improve the lives of all communities and create millions of jobs in the process by making adequate annual public investments needed for our local communities' infrastructure. This summer, the House passed a spending bill for next year that provides $86.6 billion for the Department of Transportation, which is $167 million above last year's level and $3.7 billion above the President's request. The funding includes:
    - $1 billion for National Infrastructure Investments (TIGER), $100 million above the 2019 enacted level and equal to the President's budget request.
    - $17.7 billion for the Federal Aviation Administration (FAA), $267 million above the 2019 enacted level and $614 above the President's budget request.

- $48.9 billion for the Federal Highway Administration, $404 million below the 2019 enacted level and $1.7 billion above the President's budget request.
- $3 billion for the Federal Railroad Administration, $96 million above the 2019 enacted level and $877 million above the President's budget request.
- $2 billion for Amtrak, $50 million above the 2019 enacted level and $1.1 billion above the President's budget request. That includes $700 million for Northeast Corridor Grants, $50 million above the 2019 enacted level and $375 million above the President's budget request.
- $13.5 billion for the Federal Transit Administration, $60 million above the 2019 enacted level and $1.1 billion above the President's budget request.

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1152 15th Street NW Suite 450
Washington, DC 20005
202-207-3355

www.locusdevelopers.org

October 17, 2019

The Honorable John Yarmuth
Chairman
House Budget Committee
204-E Cannon House Office Building
Washington, DC 20510

The Honorable Steve Womack
Ranking Member
Washington, DC 20510

Dear Chairman Yarmuth and Ranking Member Womack:

Thank you for providing the opportunity to respond to additional questions following the Committee's September 25, 2019 hearing entitled "America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the need for Federal Investment."

I am enclosing my response to the questions for the hearing record. I appreciate the opportunity to testify before the Committee on this important issue.

Sincerely,

Christopher A. Coes
Vice President of Land Use and Development, Smart Growth America
Executive Director, LOCUS: Responsible Real Estate Developers and Investors

Attachment

cc: Congresswoman Rosa DeLauro

Smart Growth America
Improving lives by improving communities

1152 15th Street NW Suite 450
Washington, DC 20005
202-207-3355

www.smartgrowthamerica.org

The Honorable Congresswoman DeLauro:

1) Infrastructure Bank: If we are serious about growing good paying jobs that cannot be outsourced or exported, we need to pursue clear, comprehensive infrastructure policy that faces the reality of the problem. In addition to robust public investment that should not only fix our current infrastructure state, but to be enough to invest in new projects to bring our infrastructure system into the 21st century, we need to supplement other federal programs to leverage public and private investment for meritorious infrastructure projects of national or regional significance. We could do that by establishing a National Infrastructure Bank, which I have been advocating for since 1994. It would function as a government-owned corporation and provide financing for high priority projects, including projects that go beyond surface transportation, such as energy and telecommunications projects. In terms of return, the goal is to provide strong financing that creates certainty and sustainability for all kinds of projects, from ones that impact individual neighborhoods to ones that carry national importance. Mr. Coes, in addition to a serious public investment in our nation's infrastructure, how important is it to have sustainable financing mechanisms to ensure our infrastructure system is not short-changed in the long-term?

The level of investment needed to repair America's deteriorating infrastructure and meet the pent-up demand for walkable communities will not be meet by public dollars alone. A sustainable financing mechanism, particularly a National Infrastructure Bank, is a critical component of a national strategy to addressing America's growing and diverse infrastructure needs. From the private sector perspective, we understand the enormous financial and economic benefits to real estate assets and businesses that are located near public transportation and along major pedestrian friendly economic corridors. A National Infrastructure Bank could help unlock and attract billions of dollars in new private investment in infrastructure through public-private partnerships and value capture strategies that allows the private sector to share the future financial upside to fund smart infrastructure investments.

But like federal infrastructure investment dollars, we believe it's more important how the money is spent than whether it is spent. An infrastructure bank investment strategy and policy that doesn't promote walkable or transit oriented places, would not be sufficient, and would actually do more harm. Therefore, its imperative Congress ensures a future National Infrastructure Bank resources are targeted towards high-value infrastructure investments that 1) supports 21st century infrastructure that support sustainable and walkable communities, 2) deliver long-term benefits in terms of improved efficiency and productivity by reducing costs associated with congestion and environmental damage, 3) leverage private dollars, 4) help ease unemployment and 5) produce long-term gains for the nation's economic future.

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1152 15th Street NW Suite 450
Washington, DC 20005
202-207-3355

www.smartgrowthamerica.org

3) Rescission: The surface transportation reauthorization, known as the FAST ACT, includes a $7.6 billion rescission of Highway funding in FY 2020. All 50 states and the District of Columbia will be impacted by the rescission, along with many other transportation stakeholders. Rescinding unobligated highway contract authority impedes the flexibility of state departments of transportation to meet their individual infrastructure needs and disrupts timely delivery of projects. Mr. Coes and Mr. Tomer, if we're all in agreement that we must invest in infrastructure, how would taking away $7.6 billion away from various state projects make sense?

The need for repairing our roads, bridges and public transportation is at an all-time high, but we also believe the discussion around rescissions is a symptom of a larger problem facing our current federal transportation policy. While the proposed rescissions may result in major cuts to important transportation funding, Congress has no real evidence or guarantees that these funds would be used to fix America's deteriorating transportation infrastructure. According to T4America's 2019 Repair Priorities report, the conditions of our roadways and bridges have not improved despite the fact that Congress has provided significant federal funding for transportation over the last 10 years. Why? Despite the maintenance backlog, states continue to prioritize spending to build new roads over road repair, creating costly new maintenance liabilities in the form of new roads and lane-miles. For example, in Connecticut, spending levels on road expansion are almost as high as road repair despite the Connecticut's significant backlog of roads in poor condition. We recommend that any future transportation infrastructure policy should (1) require that states repair their existing systems before expanding, (2) require project sponsors to demonstrate that they can afford to maintain new roadway capacity projects and (3) guarantee measurable outcomes for American taxpayers with any new funding.

BROOKINGS

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Responses to Questions for the Record
Submitted to
U.S. House of Representatives
Committee on the Budget

"America's Infrastructure: Today's Gaps, Tomorrow's Opportunities, and the Need for Federal Investment"

October 9, 2019

Adie Tomer
Fellow
Brookings Institution
Metropolitan Policy Program

Response to Question 3: Rescission

The $7.6 billion FAST Act-related rescission is primarily—if not entirely—an artifact of Congressional accounting, designed to impact budgetary scoring but apparently divorced from physical construction goals. This distinction raises two separate points to address the given question.

The first is whether state departments of transportation—the primary recipients of the currently-rescinded funding—are including those funding resources within their current short- to medium-term project pipeline. If the answer is yes, then the rescission will demonstratively reduce federally-supported transportation construction in those states, if not overturned. If the intent of the current Congress is to not reduce transportation construction, then the current rescission will not fulfill their aspirations.

The second is what projects the rescinded funding would support in each state. Since the rescinded funding connects to a specific set of programming—per the Federal Highway Administration's documentation[1]—each state will reallocate resources based on overall federal funding reductions, presuming the rescission is not overturned. For example, it's possible that each state will respond to the lower budgetary authority to focus available resources on more essential maintenance projects and reduce capacity expansions. As such, this specific rescission compels this Committee and its peers to debate what transportation projects they would like federal funds to support.

[1] The specific reference document is available online at https://www.fhwa.dot.gov/cfo/fastact_rescission_qa.cfm [accessed October 2019].

Response to Question 4: Discretionary funding

Within the federalist transportation space, federal discretionary project funding catalyzes state and local innovation, while providing long-term flexibility to planning and construction within federally-owned infrastructure assets. As such, federal discretionary spending tends to incentivize long-term investment, leading to sustained productivity gains and other positive economic benefits felt both across the entire country and more acutely felt in specific regions where projects are constructed.

State-level impacts of each discretionary program depend on the program's design, including everything from designated applicants to how state transportation assets connect to federally-owned assets. It's beyond the scope of this format to address every category of federal discretionary program, but the common thread is that infrastructure assets benefit from network effects—the concept that each additional interconnected asset (or project) leads to scaled benefits that positively impact the entire infrastructure network (or what economists call positive externalities). For example, an investment in one airport doesn't simply impact that local community, it delivers benefits to all communities who may want to reach that place. This is especially the case for the Northeast Corridor, which is an essential enabler of the dense passenger movements required to operate domestically- and globally-significant industries, notably finance and insurance. If the Northeast Corridor rail lines—Amtrak and commuter alike—cannot operate, businesses in Texas, Iowa, Oregon, and every other state will feel the impacts.