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EXAMINE THE CONDITION OF OUR NATION'S BRIDGES

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

SEPTEMBER 20, 2007

Printed for the use of the Committee on Environment and Public Works



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ONE HUNDRED TENTH CONGRESS
FIRST SESSION

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[1]Note: During the 110th Congress, Senator Craig Thomas, of Wyoming, passed away on June 4, 2007. Senator John Barrasso, of Wyoming, joined the committee on July 10, 2007.

C O N T E N T S

Page

SEPTEMBER 20, 2007

OPENING STATEMENTS

Boxer, Hon. Barbara, U.S. Senator from the State of California 11
Inhofe, Hon. James M., U.S. Senator from the State of Oklahoma 12
Lieberman, Hon. Joseph I., U.S. Senator from the State of Connecticut 14
Isakson, Hon. Johnny, U.S. Senator from the State of Georgia 15
Carper, Hon. Thomas R., U.S. Senator from the State of Delaware 16
Barrasso, Hon. John, U.S. Senator from the State of Wyoming 18
Lautenberg, Hon. Frank R., U.S. Senator from the State of New Jersey 18
Alexander, Hon. Lamar, U.S. Senator from the State of Tennessee 19
Sanders, Hon. Bernie R., U.S. Senator from the State of Vermont 21
Bond, Hon. Christopher, U.S. Senator from the State of Missouri 105
Whitehouse, Hon. Sheldon, U.S. Senator from the State of Rhode Island 105

WITNESSES

Klobuchar, Hon. Amy, U.S. Senator from the State of Minnesota 2
Prepared statement 4
Coleman, Hon. Norm, U.S. Senator from the State of Minnesota 6
Prepared statement 9
Peters, Hon. Mary E., U.S. Department of Transportation 22
Prepared statement 24
Responses to additional questions from:
Senator Boxer 29
Senator Cardin 29
Senator Lieberman 30
Senator Inhofe 32
Scovel, Calvin L. III, Inspector General, U.S. Department of Transportation ... 34
Prepared statement 37
Responses to additional questions from:
Senator Cardin 55
Senator Lieberman 56
Senator Inhofe 56
Steudle, Kirk T., Director and CEO, Michigan Department of Transportation on Behalf of the American Association of State Highway and Transportation Officials 73
Prepared statement 75
Responses to additional questions from:
Senator Cardin 87
Senator Lieberman 88
Herrmann, Andrew, P.E., Managing Partner, Hardesty and Hanover, on Behalf of the American Society of Civil Engineers 90
Prepared statement 92
Responses to additional questions from:
Senator Cardin 97
Senator Lieberman 98
Senator Inhofe 99

ADDITIONAL MATERIAL

Statements:
Frevert, Larry W., P.E., President, American Public Works Association 106

Page

—Continued
The Associated General Contractors of America 108
Letter, Brassard, Trini, Special Projects Manager, State of Vermont Operations Division, Vermont Agency of Transportation 111
Map, Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Structurally Deficient Bridges on the National Highway System Georgia 112
Chart, Bridge Condition Rating Categories 113

EXAMINE THE CONDITION OF OUR NATION'S BRIDGES

THURSDAY, SEPTEMBER 20, 2007

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

The full committee met, pursuant to notice, at 10 a.m. in room 406, Senate Dirksen Building, the Hon. Barbara Boxer (chairman of the committee) presiding.

Present: Senators Boxer, Inhofe, Lieberman, Carper, Lautenberg, Cardin, Sanders, Klobuchar, Warner, Isakson, Vitter, Craig, Alexander, Bond, and Barrasso.

Also present, Senator Coleman.

Senator BOXER. The meeting shall come to order. I welcome you all here.

What we are going to do, Senator Inhofe and I have discussed this, is we are going to do something a little different. Because we have this business meeting, we need 10, and we are up to 9. So as soon as we get the tenth, we will just pause for a moment from our very important hearing and get the business meeting over with. I don't think there is anything controversial in it. It is just a question of going through the motions.

What I would like to do because this hearing is so important and I so appreciate everyone being here, we are going to look at the condition of our Nation's bridges. Of course, for those who may not know this, it includes the overpasses as well. The highway overpasses are included in the definition of bridges.

Because during the evening rush hour on August 1st, the I–35 West bridge in Minneapolis collapsed, sending dozens of cars into the Mississippi River, we all focused and prayed for that tragedy to cause minimal loss of life. Sadly, 13 people lost their lives, but it did serve as an urgent wake-up call to us that we cannot neglect our Nation's infrastructure.

Senator Klobuchar has been talking to me since the minute that happened to have this type of hearing, and we are very pleased that she and Senator Coleman are here.

Rather than call on all of us first, I thought I would do something a little different and ask Senator Klobuchar to give her opening remarks, then Senator Coleman. At that point, we will continue in the regular order.

So, Senator Klobuchar.

STATEMENT OF HON. AMY KLOBUCHAR, U.S. SENATOR FROM THE STATE OF MINNESOTA

Senator KLOBUCHAR. Well, thank you, Chairman Boxer and thank you, Senator Coleman, for joining us today and thank you for holding this important hearing.

The horrific collapse of the I–35W bridge has provoked concern among all Americans, not just Minnesotans, that the bridges they drive across each day may not be safe.

As I said the day after our bridge collapsed, in America, a bridge just shouldn't fall down especially not an eight-lane interstate highway, especially not one of the most heavily traveled bridges in the State, especially not at the rush hour in the heart of a major metropolitan area, but the I–35W bridge in Minneapolis did fall down on August 1st.

From what we know so far, this wasn't a bridge over troubled waters. It was a troubled bridge over waters.

I can't even begin to count the many times that my husband, my daughter and I drove across the I–35W bridge. That bridge was not just in back yard. It was in my front yard. It was eight blocks from our house.

It was one of the most heavily traveled bridges in our State. An estimated 140,000 vehicles crossed that bridge every day, and our State's economy loses an estimated $400,000 in revenue each day the bridge cannot be used.

When I watched what unfolded that night, I was shocked and horrified. But on that evening and in the days that followed, the whole world watched as our State came together. I was proud to be a Minnesotan. We saw true heroes in the face of unimaginable circumstances.

We saw an off-duty Minneapolis firefighter who grabbed her life jacket and was among the first at the scene. Tethered to a yellow life rope in the midst of broken concrete and tangled rebar, she swam from car to car, searching for survivors.

We saw that school bus perched precariously on the fallen bridge deck. I call it the miracle bus. Inside were dozens of kids from a local neighborhood who had been on a swimming field trip. Their bus was crossing the bridge when it dropped. Thanks to the quick action of responsible adults and the kids themselves, they all survived.

Now, with the perspective of over a month, we can begin to look at this catastrophe and what can we take away. First, we must get to the bottom of this tragedy and why this enormous bridge fell down into the Mississippi River, killing 13 people and injuring 123. It didn't happen because of an earthquake or a barge collision. Something went terribly wrong, and we need to get the answers.

As a former prosecutor, I know we must wait until all the evidence is in before we reach a verdict. We will need to be patient as the investigation continues. It will take time, but we need to know.

Second, the emergency response to the bridge collapse demonstrated an impressive level of preparedness that should be a model for the Nation. So many more people could have died. You can never feel good about a tragedy like this, but I feel good about

our police officers, our firefighters, our paramedics and our other first responders.

Third, we need to move ahead to build a new safe bridge. Although the recovery and rebuilding efforts have only just begun, fast action in Washington has already helped pave the way. In just 3 days, Senator Coleman and I worked together in the Senate to secure $250,000 million in emergency bridge reconstruction funding. Representative Oberstar led the way in the House.

Approval of this funding came with remarkable speed and bipartisan action. Capitol Hill veterans tell me it was a rare feat aided by the unity among Minnesota's elected leaders across the political spectrum.

Finally, America needs to come to grips with broader questions about our deteriorating infrastructure. Although we do not yet know the causes of the I–35W bridge collapse, this disaster has shocked Americans into a realization of how important it is to invest in safe, sound infrastructure. Unfortunately, it has taken a disaster to put the issue of infrastructure investment squarely on the national agenda. We must take steps to make sure no other bridge falls down like this in Minnesota or anywhere else in the Nation.

I would also like to thank Secretary Peters for her efforts in the immediate aftermath of the bridge collapse. The early relief of the Department provided help to Minnesota and with the money that we appropriated last week with the Klobuchar amendment to the transportation bill, Minnesota now has the initial funds to begin the rebuilding process.

When the new bridge is completed, I know it will serve as model of structural integrity and engineering for years to come.

A critical investment in maintenance and major reconstruction of our Nation's transportation infrastructure, especially our bridges, is needed. As this map shows, of the almost 600,000 bridges listed in the National Bridge Inventory, roughly 12 percent are classified as structural deficient. That is almost 74,000 bridges.

Now, what does structurally deficient mean? When inspectors evaluate a bridge, they examine the bridge's deck, the superstructure and the substructure. Each of these components are ranked on a scale of zero to nine, with zero being failed and nine being excellent. If the deck, superstructure or substructure is given a four or less, the bridge is classified as structurally deficient.

We have actually sent around for each Senator a map of their State with the number of structurally deficient bridges in their State. As my colleagues can see, a rating of four or less includes corrosion or movement of key support beams or advanced cracking and deterioration in the bridge foundation.

In June 2006, the I–35W bridge's superstructure, meaning the physical condition of all structural members, was rated at a four. The bridge's deck was rated five. The substructure, comprised of the piers, the footings and other components, was rated a six.

The Minnesota Department of Transportation was in the process of completing their 2007 inspection when the bridge collapsed.

As today's panelists will be able to tell us, there are plenty of bridges throughout the Country with worse inspection records than the I–35W bridge. When almost 12 percent of all the American

bridges are in need of serious repair, it is time to act. When the Highway Trust Fund is projected to go into deficit in Fiscal Year 2009, there is a serious funding problem.

When we are building new bridges and not properly maintaining the ones we already have, there is a problem with our priorities. When the American people question the integrity of the bridges they cross each and every day, it is a national embarrassment.

Put all of this together, and it is a call for action. It underlines the fact that my colleagues and I on this Committee, which has been entrusted with the responsibility of building and maintaining our infrastructure, have a lot of work ahead of us.

With that in mind, I look forward to hearing from the panelists and working with my EPW colleagues to get this work done so that we ensure our national transportation system has the confidence of the American people as well as being the envy of the rest of the world.

Thank you, Madam Chairman.

[The prepared statement of Senator Klobuchar follows:]

STATEMENT OF HON. AMY KLOBUCHAR, U.S. SENATOR FROM THE STATE OF MINNESOTA

Thank you Chairman Boxer for holding this important hearing.

The horrific collapse of the 1–35W Bridge has provoked concern among all Americans—not just Minnesotans—that the bridges they drive across each day just may not be safe.

As I said the day after the bridge collapse: In America, a bridge should not fall down. Especially not an eight-lane interstate highway . . . Especially not one of the most heavily traveled bridges in the state . . . Especially not at rush hour in the heart of a major metropolitan area.

But the I–35W Bridge in Minneapolis did fall down on August 1.

I can't even begin to count how many times that my husband, my daughter, and I drove across the I–35W Bridge.

That bridge was not just in my backyard; it was actually in my front yard. It was only eight blocks away from my from door. It was one of the most heavily traveled bridges in our State; an estimated 140,000 vehicles crossed that bridge every day, and our slates economy loses an estimated $400,000 in revenue each day the bridge cannot be used.

When I watched what unfolded that night. I was shocked and horrified. But on that evening and in the days that followed, the whole world watched as our state came together. I was proud to be a Minnesotan.

We saw true heroes in the face of unimaginable circumstances.

We saw off-duty Minneapolis firefighter Shanna Hanson, who grabbed her life jacket and was among the first at the scene. Tethered to a yellow life rope, in the midst of broken concrete and tangled rebar she swam from car to car searching for survivors.

We saw that school bus perched precariously on the fallen bridge deck. I call it the Miracle Bus. Inside were dozens of kids from a very poor neighborhood who had been on a swimming field trip. Their bus was crossing the bridge when it dropped. Thanks to the quick action of responsible adults and the kids themselves, they all survived.

Now, with the perspective of a few weeks' time, what can we begin to take away from this catastrophe?

First, we must get to the bottom of why this enormous bridge suddenly fell down into the Mississippi River.

It didn't happen because of an earthquake or a barge collision. Something went terribly wrong and we need to get answers.

Past inspection reports show that the bridges condition had been a subject of growing concern for many years. This wasn't a bridge over troubled waters; it was a troubled bridge over the water.

Still, as a former prosecutor, I know we must wait until all the facts and evidence are in before we reach a verdict. We will need to be patient as the investigation continues. It will take time but we need to know.

Second, the emergency response to the bridge collapse demonstrated an impressive level of preparedness that should be a model for the notion.

You can never feel good about a tragedy like this. But I feel good about our police officers, firefighters, paramedics and other first responders.

As Hennepin County Attorney for eight years, I remember meeting with the sheriff, police chief and other officials as we planned and practiced disaster preparedness drills. We learned the lessons from 9/11.

Even though no one ever imagined a major bridge would collapse, the results of all that planning and preparation were evident on the night of August 1. It saved lives.

Third, we need to move ahead to build a new, safe bridge.

Although the recovery and rebuilding efforts have only just begun, fast action in Washington has already helped pave the way.

In just three days, Senator Coleman and I worked together in the Senate to secure $250 million in emergency bridge reconstruction finding. Representative Jim Oberstar led the way in the House.

Approval of this funding came with remarkable speed and bipartisanship. Capitol Hill veterans tell me it was a rare feat, aided by the unity among Minnesota's elected leaders across the political spectrum.

Finally, America needs to come to grips with broader questions about our deteriorating infrastructure.

Although we do not yet know the exact causes for the I-35W bridge collapse, this disaster has shocked Americans into a realization of how important it is to invest in safe, sound infrastructure.

Unfortunately, it has taken a disaster to put the issue of infrastructure investment squarely on the national agenda. We must take steps to make sure no other bridge falls down likes this, in Minnesota or anywhere else in our nation.

But sadly, it did collapse. It wasn't sturdy enough to hold: Sherry Engebretsen, Artemio Trinidad-Mena, Julia Blackhawk, Patrick Holmes, Peter Hausmann, Greg Jolstad, Scott Sathers, Christina Sacorafas, Sadity and Hanah Sahal, or Vera Peck and Richard Chit the 13 people who lost their lives or any of the other 123 people injured, when the bridge collapsed.

It was an unforgettable tragedy; but it was not unimaginable.

The tragic collapse of the I–35W Bridge was caused by our neglect, and Mute collapses will only be prevented by our diligence.

So on behalf of all Minneaotan's—I thank Senator Boxer for holding this hearing. I look forward to working with you, and all of my EPW colleagues as we move forward to strengthen our national infrastructure—and prevent another tragic event from happening.

I would also like to thank Secretary Peters for her efforts in the immediate aftermath of the bridge collapse. The early relief the Department provided helped Minnesota:

- increase transit options to serve commuters;
- set up detours to restore traffic flow;
- clear structural debris; and
- begin to lay the general groundwork for rebuilding.

And with the money that we appropriated last week with the Kobucher-Coleman Amendment to the Transportation Bill, Minnesota now has the initial funds to begin the rebuilding process.

When the new bridge is completed, 1 know it will serve as a model of structural integrity and engineering for years to come.

A critical investment in maintenance and major reconstruction of our nation's transportation infrastructure—especially our bridges—is needed.

As this map shows, of the almost 600,000 bridges listed in the National Bridge Inventory roughly, 12% are classified as structurally deficient. That is almost 74,000 bridges.

- Total Bridges in U.S.: Almost 600,000
- Structurally Deficient Bridges: 73,784
- Estimated Cost to fix all Bridges: $65 Billion

What does "structurally deficient" mean?

When inspectors evaluate a bridge they examine the bridges deck, superstructure, and substructure. Each of these components are ranked on a scale of 0 to 9, with 0 being "failed" and 9 being "excellent." If the deck, superstructure, or substructure is given a 4 or less, the bridge is classified as "structurally deficient".

As my colleagues can see, a rating of 4 or less includes corrosion or movement of key support beams, or advanced cracking and deterioration in the bridges foundation.

In June of 2006, the I–35W Bridge's superstructure—meaning the physical conditions of all structural members—was rated at a 4. The bridge's deck was rated 5, and the substructure, comprised of the piers, abutments, footings and other components, was rated a 6.

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As today's panelist will be able to tell us—there are plenty of bridges throughout the country with worst Inspection records than the I–35W Bridge.

When almost 12% of all American bridges are in need of serious repair—it is time to act.

When the Highway Trust Fund is projected to go into deficit in FY09—there is a serious fulling problem.

When we are building new bridges, and not properly maintaining the ones we already have, there is a problem with our priorities.

And when the American people question the integrity of the bridges they cross each and every day—it is a national embarrassment.

Put all of this together, it is a call for action.

It underlines the fact that my colleagues and I on this Committee—which has been entrusted with the responsibility of building and maintaining our infrastructure—have a lot of work ahead of us.

With that in mind, I look forward to hearing from the panelists and working with my EPW colleagues to get this work done; so that we ensure our national transportation system has the confidence of the American people, as well as being the envy of the rest of world.

Thank you Madame Chairman.

Senator BOXER. Thank you, Senator Klobuchar. I really want to thank you for your leadership because what you have done is beyond the collapse of one bridge. You have looked at the Nation.

We all have these in front of us for our States, and it is shocking to see—I am sure each of our States—the problems that we do face and why this hearing is important and, more importantly, what follows it.

Following what we said before, we are going to take a brief moment here to do our business meeting, and I would call that business meeting to order. Any opening statements will be placed in the record.

[Whereupon, at 10:13 a.m., the committee proceeded to other business.]

Senator BOXER. We will continue, after the eloquent statement of our colleague from Minnesota, with Senator Coleman from Minnesota.

We welcome you, sir.

STATEMENT OF HON. NORM COLEMAN, U.S. SENATOR FROM THE STATE OF MINNESOTA

Senator COLEMAN. Thank you, Madam Chairman, Senator Inhofe and members of the Committee, for the opportunity to testify this morning.

I often feel like an honorary member of this critical Committee because of the vision I share with so many of you about the importance of national infrastructure from Senator Carper's and Senator Voinovich's National Infrastructure Improvement Act, which Senator Klobuchar and I proudly co-sponsor, to the bipartisan work on the Water Resources Development Act that we all worked so hard to pass. It feels good to sit before a group of Senators who truly understand the significance of a viable infrastructure network.

I thank you and your staffs for all of your assistance and support in the wake of our tragic bridge collapse, and I appreciate the opportunity to discuss this topic with you today.

I would also like to thank my friend, Secretary Mary Peters who is seated behind me, for participating in this hearing today. The response from the Secretary and her entire Department to the collapse of the I–35W bridge is something that the people of the Twin Cities and all of Minnesota will remember for years to come. I will outline these efforts in greater detail in my testimony, but I wanted to begin by recognizing the Secretary's exemplary efforts and thanking her for her tireless service.

I would also want to say a brief word about the true meaning of bipartisanship in the Senate which is often embodied in our response to great tragedy, in particular, my friend and colleague from Minnesota, Senator Amy Klobuchar, whom I have the pleasure of testifying alongside today, continues to demonstrate the value of working with both sides of the aisle to best serve our State.

If my colleague doesn't mind, I would recite a quote she had in a local paper back home this week where she said, "I thought the Senate was going to be more partisan like you see on TV."

Thankfully, because of the efforts of Senator Klobuchar and her staff, real life in the Senate is much cooperative than most of the punditry would have us believe. I thank her for her continued efforts to do the best by the people of Minnesota.

Madam Chairman, most of us in the North Star State will never forget the tragic event that befell our largest city on 8/1 of this year. Just after 6 p.m. on that day, the main transportation artery in the heart of Minneapolis, the Interstate 35W bridge fell into the Mississippi River, as the Chairman noted, killing 13 people and injuring more than 100 others.

The images that began to appear on national news within minutes of the collapse are still too difficult to describe with words, and the panoramic photograph in front of the dais here only begins to outline the magnitude of this disaster's impact on the Twin Cities and the entire region.

As I mentioned on the Senate floor, when Senator Klobuchar returned from surveying the damage of the bridge collapse firsthand with Secretary Peters on the day after the tragedy, this area of the Mississippi River is one of Minnesota's most historic. It was here that Father Louis Hennepin named the Falls of St. Anthony pictured behind me, upstream from the wreckage.

You can also see from here, Charles Pillsbury's flour mills that sprang up along these falls, defining an era of growth in our State and earning Minneapolis the title of the Mill City. Closer yet, you can see the Guthrie Theater, something showing the new generation of growth in this historic corridor.

These structures, these falls and this river include so much of our State's history and identity, sitting on the headwaters of North America's greatest waterway. This is truly the heart of the Heartland. So, as I said on August 2d on the Senate floor, Madam Chairman, when the bridge fell, part of Minnesota's identity fell with it.

Within 60 hours of the bridge's collapse, we in the U.S. Senate took decisive action. Senator Klobuchar has detailed the speed of the Federal response, the speed of the response in terms of funding. While we still need to work to see this funding across the President's desk, to say that congressional response to this tragedy has been excellent would be an incredible understatement.

The response of our local officials has also been equally commendable. I would be remiss if I failed to acknowledge the skill, coordination and courage of those responding to the scene of this horrific event.

Madam Chair, I was Mayor of St. Paul, Minnesota, on 9/11, and I remember on 9/11 the inability. I didn't know how many hospital beds we had available in our community. We did not have the ability at that time for State and local law enforcement to communicate with other counties and other jurisdictions.

So, we learned from 9/11, if there is a lesson to go out to local units of government, training makes a difference. All the preparation we did post 9/11, training, training, training made a difference.

The Secretary and Senator Klobuchar saw that morning when we arrived and we came upon the scene of the mayor, the Governor, the local first responders discussing what they needed to do next. As an ex-mayor, I watched it, and it was seamless. So training made a tremendous difference.

We saw also the local response of the folks on the scene, and Senator Klobuchar also talked a little bit about that.

The reality is that when the disaster struck, people ran toward the danger. They ran toward the school bus that was perched precariously. If it had been a foot and a half over to the right, it would have gone. It fell, I think, 20 feet. It would have fallen much further. There would have been great death and destruction. The miracle bus, as Senator Klobuchar talked about it.

People ran toward the disaster. So the response to the collapse, I believe, has been successful.

The question before this Committee today is how do we ensure that something like this tragedy never happens again anywhere in our Nation. We need to maintain a bridge program that establishes the most fundamental element of our transportation network, and that is safety.

We realize the challenge is great. Terms like structurally deficient and functionally obsolete have become everyday language for most Americas in the last 2 months. We have over 150,000 bridges in this Country that fit one of those two categories with a great many of them included in the national highway system.

It is our responsibility as legislators to thoughtfully and carefully craft a strategy to improve our bridge program. We need to look at all the options, but I think it is important that we start by analyzing the shortfalls of our current program. To this end, in my capacity as Ranking Member of the Permanent Subcommittee on Investigations, I have joined my Chairman, Senator Carl Levin, in asking the Government Accountability Office to conduct a full review of our national bridge program. The GAO has not conducted a study of this program since 1991, and they agree that the time is now for this careful and thorough examination.

Madam Chairman, I would like to have entered into the record a copy of the letter.

[The referenced material was not available at time of print.]

Senator COLEMAN. In the letter, we lay out three specific objections for the GAO to inspect in their investigation. First, we have asked that they measure our effectiveness and maintenance, prioritizing, investing in needed bridge repairs. Second, we have re-

quested they research into the States' use of Federal funds and whether they have been prioritized toward necessary bridge projects. Finally, we have tasked GAO with inspection of Federal funding for bridges, including the effects of earmarks, DOT formula grants and the frequently cited equity provision.

I look forward to working with members of the Committee to engage GAO as their review moves forward, and I hope their findings can be a valuable asset to this Committee as we deal with the issue in the months to come.

We have many challenges before us, but I believe, Madam Chair, that we can succeed in our attempts to better our infrastructure. We should start by making our bridges safe for generations to come.

I thank you once for having me, giving me this opportunity to come before the Committee today.

[The prepared statement of Senator Coleman follows:]

STATEMENT OF HON. NORM COLEMAN, U.S. SENATOR FROM THE STATE OF MINNESOTA

Thank you Madam Chairman, Senator Inhofe, and members of the committee for the opportunity to testify this morning. I often feel like I am an honorary member of this critical committee because of the vision 1 share with so many of you on the importance of national infrastructure. From Senator Carper and Senator Voinovich's National Infrastructure Improvement Act that Senator Klobuchar and I proudly cosponsored, to the bipartisan work on the Water Resources Development Act that we have all worked so hard to pass, it feels good to sit before a group of Senators who truly understand the significance of a viable infrastructure network. I thank you and your staffs for all of your assistance and support in the wake of our tragic bridge collapse, and I appreciate the opportunity to discuss this topic with you today.

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As I mentioned on the Senate floor when Senator Klobuchar and I returned from surveying the damage of the bridge collapse firsthand with Secretary Peters on the day after the tragedy, this area of the Mississippi River is one of Minnesota's most historic. It was here that Father Louis Hennepin named the falls of St. Anthony, pictured behind me upstream from the wreckage. You can also see Cadwallader Washburn's and Charles Pillsbury's flour mills that sprang up along these falls defining an era of growth in our state and earning Minneapolis the title of "The Mill City." Closer yet, you see the Guthrie theater, showing the new generation of growth on this historic corridor. These structures, these falls, and this river include

so much of our state's history and identity, sitting on the headwaters of North America's greatest waterway. This is truly the heart of the heartland.

So as 1 said on August second on the Senate floor, Madam Chairman, when this bridge fell, part of our Minnesota identity fell with it.

Within 60 hours of the bridge's collapse, we in the United States Senate took decisive action. We committed the necessary federal resources to rebuild this structure and to rebuild it quickly. The actions we took in this body before recess set out a blueprint for the future of the I–35W bridge and the entire Twin Cities region. We provided authorization for emergency finding, $55 million of which was sent by Secretary Peters to the Minnesota Department of Transportation almost immediately to begin reconstruction of the bridge. We provided immediate assistance in transit funding including $5 million to assist the Twin Cities in their most immediate transportation needs including detours and temporary busing. And other federal resources from Navy dive teams to regional transportation administrators from the U.S. Department of Transportation—including Federal Highway Administrator Rick Capka—have descended on the Twin Cities to assist in recovery and rebuilding.

Last week we took an additional step, providing $195 million in emergency funding for the bridge to ensure that the Minnesota Department of Transportation has the resources they need to proceed with clean up and construction. In speaking with representatives of MNDOT, we understand that without this funding, rebuilding this critical artery could halt as early as October, thwarting the otherwise amazing progress we are making in recovery from this horrible tragedy. While we still need to work to see this funding across the President's desk, to say that Congressional response to this tragedy has been excellent would he an incredible understatement.

The response of our local officials has been equally commendable. I would be remiss if I failed to acknowledge the skill, coordination, and courage of those responding on the scene of this horrific event. Madam Chairman, I was the mayor of St. Paul, Minneapolis' twin city and proud neighbor, when we experienced the tragedy that will define our era—the attacks of 9/11. I remember the challenges we had with communication, with logistics, and with overall preparedness. We couldn't get the Ramsey County Police Department to talk to the Hennepin County Police Department. Minneapolis, St. Paul and the State of Minnesota learned the lessons of preparation that day and set out to ensure that if any major emergency should happen again, that we would be ready You always hope that day never comes, but on August first it came for Minneapolis.

Governor Tim Pawlenty, Mayor R.T. Rybak, the Hennepin County Sheriff's office, local firefighters, first responders, and hundreds of Twin Cities residents responded in a manner which those of us who witnessed will carry with us forever. Madam Chairman, Senator Klobuchar and I saw the living definition of heroism and leadership that day.

We saw and heard stories of bystanders linking arms to pull victims from submerged automobiles. Rescue divers braving the dangerous current of the Mississippi to reach vehicles beneath the shredded of concrete and jagged steel. And the faces of Moms and Dads reunited with their children after their miraculous escape from a trapped school bus. These images will reverberate across our state for years to come, and we owe all of those who contributed to these stories of survival our eternal gratitude.

But while the emergency response to the I–35W bridge collapse has been successful, the question before this committee today is how we ensure that something like this tragedy never happens again anywhere in our nation. We need to maintain a bridge program that establishes the most fundamental element of our transportation network: safety.

We realize the challenge is great. Terms like "structurally deficient" and 'functionally obsolete" have become everyday language for most Americans in the last two months. We have over 150,000 bridges in this country that fit one of those two categories, with a great many of them included in the National Highway System.

It is our responsibility as legislators to thoughtfully and carefully craft a strategy to improve our bridge program. We need to look at all options, but I think it is important that we start by analyzing the shortfalls of our current program.

To this end, in my capacity as Ranking Member of the Permanent Subcommittee on Investigations, I have joined my Chairman Senator Carl Levin in asking the Government Accountability Office to conduct a full review of our national bridge program. The GAO has not conducted a study of this program since 1991, and they agree that the time is now for this careful and thorough examination.

We have laid out three specific objectives for GAO to inspect in their investigation: First, we have asked that they measure our effectiveness in maintenance, prioritizing, and investing in needed bridge repairs. Second, we have requested their research into states' use of federal funds and whether they have been prioritized to-

ward necessary bridge projects. Finally, we have tasked GAO with inspection of federal funding for bridges including the effects of earmarks, DOT formula grants, and the frequently cited "equity provision." I look forward to working with members of the committee to engage GAO as their review moves forward, and I hope their findings can be a valuable asset to this committee as you deal with this issue in the months to come. We know we have challenges in front of us Madam Chairman, but it certainly isn't the first time. I'd like to conclude my remarks this morning by reminding my colleagues of another time in our history when we faced what seemed like an insurmountable challenge to our nation's infrastructure.

In 1859, the year before he became president, Abraham Lincoln traveled the country. One of his stops was Omaha. On August 13, 1859, he was staying in the famous Pacific Hotel in Council Bluffs, Iowa across the River. He came to give a campaign speech, but he had more on his mind. He gathered there with the top railroad people to ask them a question: What was the best route from Omaha to the Pacific Ocean?

As they stood on the front porch of the hotel, Grenville Dodge, the most knowledgeable railroad engineer in the country, pointed Northwest, the path of the Platte River. Lincoln made a decision that day. Nine and a half years later, the golden spike was driven, and for the first time in history a railroad spanned an entire continent.

We, too, can succeed in our attempts to better our infrastructure. We should start by making our bridges safe for generations to come. I thank you once again for having me before the committee today.

Senator BOXER. Thank you very much, Senator. We don't plan to ask you any questions, I don't believe, unless someone has a question.

What I plan to do now is just ask members to keep opening statements, and that includes myself and Senator Inhofe, to 3 minutes because we have such important people to come before us, plus we will have some votes in the near future here.

By the way, colleagues, thank you so much for being here for the business meeting, so we can get the business of the Committee done. Thank you.

Thank you, Senator Bond.

Senator BOND. Thank you, Madam Chair.

Senator BOXER. I will start my 3 minutes.

OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

It shouldn't take a tragedy like the one in Minneapolis to remind us that safety of our bridges, highways and other infrastructure is a matter of life and death.

Half of all the bridges in this Country were built before 1964—think about it—and the average age of a bridge in the National Bridge Inventory is 43 years old. This means we need to make significant investments in our bridges just to retain them at safe, functioning levels followed by even larger investments over the next 20 to 30 years to completely replace our aging bridges.

In August, I went to California and held a field briefing in Sacramento, our State's capital, to discuss the condition of our bridges with our officials. The amazing thing about California voters is they voted in a $20 billion bond measure to deal with infrastructure, but they cannot do this alone. The problem is way, way too big.

Following the bridge collapse in Minnesota, I am sure a lot of my colleagues here today have asked officials in their own States for information on the condition of the bridges at home.

I want to show you a pie chart here in my remaining time. I have just a couple of things to show you.

Here is the story. There are approximately 600,000 bridges. Approximately 72,000 are structurally deficient, and 81,000 are functionally obsolete. So the total deficient bridges is 153,000 or, actually to round it up, 154,000. These are the facts, and we can't stick our heads in the sand and wish it away or say, oh, we can do this if we just got our priorities straight.

The fact is this needs attention. No great Country can remain great if its infrastructure cannot keep up with its growth and also its infrastructure cannot keep up with its economy and its infrastructure is unsafe. This picture that is in front of us here is a stark reminder of that.

I also wanted to just give you one more chart, and then I am done with my statement. I will turn it over to Senator Inhofe.

This is a statement by the U.S. Department of Transportation. They estimate that $65.2 billion could be invested immediately in a cost-beneficial fashion to replace or otherwise address current existing bridge deficiencies, and that is the U.S. Department of Transportation 2006 Status of the Nation's Highways, Bridges and Transit Conditions and Performance Report to the Congress.

We have had our wakeup call. Now it is up to us. We have been warned. I hope that this Committee in the most bipartisan fashion will respond just as we did with the WRDA bill which is coming, finally, to the Senate on Monday.

Senator BOXER. Senator Inhofe.

Senator INHOFE. Thank you, Madam Chairman.

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

I am going to be even briefer because several of us have to leave at 11. So I am going to make sure we have a chance to ask Mary Peters a couple questions.

Let me just say this. I agree with the comments you made in the sense of urgency that came by the tragedy in Minnesota, but I am a little bit concerned by all the rush to the call for dramatic increases in the amount of money we spend on bridges. I appreciate that may be a natural response, but I would suggest that the Committee, our Committee as Committee of jurisdiction on this issue, needs to look at the entire picture.

When we went through our transportation reauthorization, here I am ranked as the most conservative member and yet I am still critical that we didn't spend more money on the transportation bill. That amount of money only maintained what we have today, and so other priorities are really important.

I have to say that certainly I am probably as sensitive as anyone on this Committee because the 2006 Report on Structurally Deficient and Functionally Obsolete Bridges ranked Oklahoma at No. 1. We have more than any other State. It is huge, a huge problem there. So we want to respond to it.

I would say this, as Secretary Peters knows, that I–40 is exactly about the same age and same structural design is this bridge that we are looking at up here, that we are seeing the picture of. I am very much concerned about that.

I would say also you rushed to help us on the I–40 thing on the other side of the State when we had the barge incident, and I appreciate that.

So let me just say, Madam Chairman, that I will put the rest of my statement in the record and hope we can move on with these things.

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Thank you Madame Chairman. I am pleased that you have called this hearing to examine the state of our Nation's bridge infrastructure. As I'm sure you remember, I suggested back in February that we hold a hearing on the Emergency Relief Program because of the funding and how the eligibility works.

The catastrophic failure of the I–35 bridge in Minnesota was a tragedy for the families of the 13 victims as well as the people of Minnesota, and I hope a wake-up call for all of us. Our infrastructure is crumbling and we cannot afford to ignore it. We have been enjoying investments made 50 years ago and have not been giving enough attention to replacement, or even adequate maintenance, of the very infrastructure that has fueled unprecedented economic prosperity. As I have stated many times, the primary responsibility of government is to provide for the defense of the country and infrastructure. We have done an inadequate job maintaining and expanding our infrastructure.

I do have one concern that I would like to put on the table. Following the tragedy in Minnesota, many have rushed to call for dramatic increases in the amount of money we spend on bridges. While I appreciate that may be a natural response, I would suggest that as the committee of jurisdiction on this issue, we need to look at the entire picture before we make decisions on how to spend additional scarce resources. Please do not misunderstand me, I am not saying that we do not need to devote more resources to bridges. In fact my home state leads the nation in structurally deficient and functionally obsolete bridges. If anyone understands the need for increased attention on bridges, I do. But I believe when we examine the state of our infrastructure in its entirety, we will find that it is not just bridges but everything that needs attention. The investment needs for aging bridges are staggering, but we cannot let this overshadow the overwhelming needs on all aspects of our nations highways.

Additionally, I am concerned about the potential impact on repairing our aging infrastructure if the Chairman's proposals on climate change were to become law. The production of cement produces a lot of CO_2 emissions. A tight Cap and Trade program, such as the Boxer/Sanders Bill, will force most of our American cement production to go overseas, where their environmental procedures are not as good as ours. This will result not only in higher CO_2 emissions world-wide, but also higher costs for cement here in the U.S. and supply delays. This will mean our highway dollars will be stretched even thinner.

SAFETEA provided $22 billion for the Highway Bridge program, and added the ability for states to use bridge funding on preventative maintenance. As we consider higher funding for bridges, we cannot forget that is only part of the solution. We also need to examine further programmatic changes that will improve our nations bridges and ensure that we get the most for our limited dollars.

So, Madame Chairman, I hope this will be just one of many oversight hearings in the next year on the state of infrastructure and what needs to be done to address it. Reauthorization of SAFETEA is coming up quickly and if we are going to be prepared, we must start today.

I want to welcome our witnesses today and thank them for taking time out of their schedules to share with us their thoughts. I am anxious to hear from the two Senators from Minnesota. Their insight, and perhaps frustrations, into how resources were pulled together to respond to the disaster will be most instructive to the committee. My own experience following bridge failure is that you are never too prepared and I know we can all benefit from what you learned.

It is always a pleasure to hear from Secretary Peters. I know from personal experience that you are a critical partner in a disaster. So, thank you for coming and I am looking forward to your testimony.

It is my hope that from both Secretary Peters and the Inspector General, Calvin Scovel, we will learn exactly what the classifications of structurally deficient and

functionally obsolete does and does not mean and how the current program is designed to encourage states to address bridge maintenance and replacement.

Finally, we will be hearing the state perspective from the Director of the Michigan DOT, Kirk Steudle and the nuts and bolts, so to speak, of building and maintaining bridges from Mark Hermann on behalf of the American Society of Civil Engineers.

Again, thank you to all of our witnesses and I look forward to hearing what you have to say.

Senator BOXER. Absolutely.

Let us see. Do I have a list of order or arrival? If I don't have such a list, we will just start with Senator Lieberman.

OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Senator LIEBERMAN. Thanks very much, Madam Chairman.

My sympathy, I suppose I would say, to Senator Klobuchar and Senator Coleman. I know how they feel.

I remember in 1983, as some of you may remember, the Mianus River bridge on Interstate 95 near Greenwich, Connecticut, collapsed and three people were killed, three people were seriously injured but by fate, a twist of fate, we were fortunate this collapse happened sometime after midnight. So there were relatively few people on the bridge, but it could have been devastating if it had happened as it did in Minnesota at a busier hour.

I will put my statement in the record.

I just want to say very briefly that we have a problem, and I think what we really have to figure out how to do is to prioritize. We have a large number of bridges that are denoted now under the current system as structurally deficient. Within that, I know there is a rating system, and those rated under the 50 percent have special urgency to them. We have to react to that with a sense of urgency.

In Connecticut, we have a number of bridges denoted as structurally deficient, but we have 12 bridges that are really in the urgent category, and a lot of people go over those bridges every day. We have to figure out, Governor Rell has put together State pot of money which she is prepared to invest in fixing those 12 bridges, but she needs Federal help to make it happen.

I think we have to both identify the problem, figure out a system for prioritizing and then guarantee that there is a Federal funding stream to match the State effort to make this happen. This is a matter of necessity and isn't at all partisan as we see by the bipartisan response of our colleagues from Minnesota.

So I thank you, Madam Chair and Senator Inhofe, for initiating this hearing, not just going on after this tragedy, because if we don't act with a sense of urgency, this tragedy is going to be repeated and none of us want that to happen.

Thank you.

[The prepared statement of Senator Lieberman follows:]

STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Thank you, Madam Chairman.

And thank you for holding this important hearing on the safety of our nation's bridges. I want to begin by extending my sympathy to the families who lost loved ones in the tragic Minneapolis bridge collapse last month. This awful event illus-

trates the need for strong federal leadership in the maintenance and repair of our transportation infrastructure.

Some may recall the tragedy that happened in 1983, in my home state of Connecticut, when a 100-foot section of the Minaus Bridge on Interstate 95 near Greenwich, Connecticut failed, killing three people and seriously injuring three others. Fortunately, this incident happened in the very early morning and not at the height of traffic as it did in Minneapolis.

The National Transportation Safety Board determined that water damage, due to drainage problems, was the cause of that collapse. At that time, Connecticut only had 12 engineers to inspect over 3000 bridges.

12% of our nation's 600,000 public road bridges are classified as structurally deficient. I understand this number has decreased considerably since 1990, but we must not forget that our infrastructure—just like all of us—continues to age. With the majority of the nation's bridges constructed prior to 1964 and over 90% of the average daily traffic crossing over interstate bridges, we need to increase our vigilance and maintenance to prevent this type of tragedy from happening again.

Legislation such as the National Infrastructure Improvement Act, introduced by Senator Carper, which I was proud to co-sponsor, is a step toward ensuring the safety of our bridges. It establishes a national commission to assess the current condition of our nation's infrastructure, the expenditures needed to maintain to it, and potential methods to finance these improvements and repair.

The legislation also requires an examination of the impact of deferred maintenance on structurally deficient bridges. This is a question that needs immediate attention. While only 4.2% of Connecticut's bridges are classified as structurally deficient; Connecticut is ranked 17th amongst all states for the total average daily traffic that crosses theses structures placing approximately 2.6 million travelers in potential harm every day in Connecticut. If we continue to delay repairs for structurally deficient bridges, we may be treading on dangerous territory.

Funding the repair of our nation's bridges is a contentious issue. According to the Department of Transportation, it would take $65 billion to replace or otherwise address existing bridge deficiencies across the country.

In comparison, the federal government spent $75 billion for both highways and bridges in FY 2005. Clearly, we must add to that figure if we want to comprehensively address the widespread structural deficiencies that exist. I hope we will hear testimony today about how we can determine which bridges require immediate attention and repair.

Strong federal leadership will be needed to maintain the critical network of highways and bridges which are vital to our economy. This Committee will play a central role in creating those policies. I commend the leadership Senator Klobuchar and Senator Coleman have shown in the wake of the Minneapolis bridge collapse and I look forward to working with them and the other members of this Committee as we begin to evaluate the state of our transportation policies and work toward the reauthorization of the federal highway bill next year.

Thank you, Madame Chairman.

Senator BOXER. Thank you so much.

Senator ISAKSON. Thank you, Madam Chairman. I would ask my entire statement be submitted for the record.

OPENING STATEMENT OF HON. JOHNNY ISAKSON, U.S. SENATOR FROM THE STATE OF GEORGIA

I want to congratulate Secretary Peters on the outstanding job and the outstanding response in this terrible tragedy, and I think Senator Klobuchar and Senator Coleman have been exemplary in the way they have worked together in the Senate in response to this tragedy.

As for myself, immediately I looked to my State when this happened. We have 9,000 bridges in Georgia; 1,100 of them rated structurally deficient; 1,700, functionally obsolete, which is not necessarily a safety issue but is a consideration. It is about $2.5 billion price tag.

We have two bridges that are the deck truss systems, one of them on Highway 53, one of the most traveled bridges over Lake

Lanier which is the largest reservoir east of the Mississippi River. So I think it is very appropriate that we have this hearing today.

I think our departments of transportation are doing, in everything I can tell, an excellent job in the States of doing the inspections and looking for problems to correct them before they come. The problem is the volume. In Georgia, we have 9,000 bridges, an average age of 36 years old.

I think it is very appropriate that this Committee today look to creative solutions from a standpoint of finance as well as any recommendations the Secretary might have with regard to engineering so that hopefully a tragedy like this will never happen again.

Thank you, Madam Chairman.

Senator BOXER. Thank you for your eloquent statement, Senator.

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

Senator CARPER. Thank you, Madam Chair. I thank you and Senator Inhofe for holding the hearing.

To Senator Klobuchar and Senator Coleman, thank you for suggesting that we do so. I want to echo the comments of Senator Isakson, how refreshing it is to hear the bipartisan way that the two of you have approached this issue in your home State, this tragedy.

I believe it is essential as others have said this before, and I am sure others will say it after me. It is essential that we look at what is working in the Federal bridge program and, more importantly, what is not working in light of the tragedy that occurred in Minneapolis.

As is the case with other types of infrastructure, it is often easier, maybe more popular to fund new roads and bridges than to maintain what we already have. Just think about this. When funding for a new project is freed up, newspapers write about it. There are ribbon-cuttings. TV crews show up to record it all. People like us show up to be on TV, and most everyone is excited about the new service.

On the other hand, when maintenance is scheduled, lanes are narrowed or closed, detours are sometimes necessary and temporary inconvenience to commuters and travelers is likely, people like us don't show up and take credit for the inconvenience it has caused. In fact, the inconvenience and resulting traffic tieups are often the focus of the media and the community rather than the good that flows out of that maintenance work.

About $4.3 billion is allocated to the highway bridge program each year for the replacement and rehabilitation of bridges. Sometimes this money is transferred to other road programs or, worse, not spent at all. It would be interesting for us to look at our respective States to see how much is actually transferred, Federal dollars that are transferred out of the bridge work, that can be funded legally, can be transferred legally to other transportation needs.

I think in our State, we transferred about a year ago $28,000. I think in one State, the largest State that is represented here, they transferred in the same $120 million. I am sure there are different levels between different States, and each State has its own priority, but that is a lot of money.

I think this raises questions, all this in its entirety raises questions about our priorities. Clearly, there are major demands for additional roads and bridges to meet the needs and growing needs throughout our Country.

We have to keep in mind that when we are unable to build new bridges, at worst, people are inconvenienced. When we fail to maintain our existing bridges, people can die.

I am happy to say that Delaware's bridge program is among the best in the Nation. Less than 3 percent of our bridges are structurally deficient and, of those, more than half are actually roadways that go over pipes, that most people wouldn't recognize as a bridge. Anyway, we have put a lot of emphasis on this and we are proud of the work that our Delaware Department of Transportation has done. None of our bridges that are deficient are on the national highway system.

The U.S. Department of Transportation says that the average annual cost to simply maintain the highways and bridges at the current level for the next 20 years is—get this—$78.8 billion per year—$78.8 billion. That is not my number. That is the number from the U.S. Department of Transportation.

At the same time, a report from the Texas Transportation Institute points out that traffic tieups cost the average traveler in the urban areas about 38 hours of their lives per year. That is not just transit time, commuting time. That is 38 hours per year where they are not going anywhere. They are just sitting in their car, truck or van.

For areas like Washington, DC, to fix the problem, the region will need to build some additional 218 mile lanes. That is staggering even if it is possible and it probably isn't.

My friend, Senator Coleman, mentioned this in his remarks. My friend and our colleague, George Voinovich and I have called for the creation of a commission to look at the current State of our infrastructure and our need for additional investments and the factors that impact these needs. The commission would make recommendations to the next President and to the next Congress about the resources and policy changes needed to address all of these needs by 2009.

Here, in this Senate, we passed that bill, the National Infrastructure Improvement Act of 2007. We passed it unanimously. We did so last month. I thank my colleagues for doing that.

I hope the Senate will act expeditiously so that we can take a serious and comprehensive look at this important issue.

This hearing is a good first step, Madam Chair, in looking at the State of our infrastructure, particularly our bridges, but we all know that we need to do more than just hold a hearing. We have to take serious look at our spending priorities and funding needs for all infrastructure, not just bridges but levees and water treatment, wastewater treatment and on and on, and not just in the wake of catastrophes like Hurricane Katrina and the collapse of I–35 West.

After we have taken that serious look, we need to get started.

I will close with this word. One of my friends has a church in Wilmington, Madam Chair. He likes to say to his congregation: It

doesn't matter how high we jump up in church. The important thing is what we do when our feet hit the ground.

On the heels of this tragedy, it is not a church, it is not a synagogue, but we are jumping high. The key is what are we going to do when our feet hit the ground.

Senator BOXER. Thank you very much.

I wanted to say that Senator Lautenberg, 2 days ago, held a hearing on the State revolving fund under water quality infrastructure. So we are moving on a lot of fronts, water, certainly WRDA, and we are going to move forward in every way that we can with the help of this Committee and the bipartisan support.

Senator Barrasso.

Senator BARRASSO. Thank you very much, Madam Chairman.

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

I appreciate the opportunity to be here and to comment on this very important topic. Congratulations to Senator Klobuchar as well Senator Coleman for their fine work in a bipartisan way in the interest of all of the folks, not just of Minnesota but also America.

Madam Chairman, I had been the Chair of the Transportation Committee in the State of Wyoming just prior to my selection to serve in the U.S. Senate, and we talked frequently about the issues, as Senator Carper, of bridges and highways. Our Wyoming Department of Transportation has estimated we could spend $3.5 billion in current dollars just to bring our bridges and highways up to good condition.

I agree with Senator Inhofe. We have to be able to prioritize the best way to do that.

While bridges are certainly an important, critical component of our own State's infrastructure in Wyoming, really our No. 1 priority in terms of safety is maintaining Interstate 80 in regard to the interState system which runs the whole length of the State, starting with the ports in San Francisco and Los Angeles, all the way across to Chicago and beyond for trucks as well as passenger cars across America. So while bridges are important, it is the entire, as Senator Carper said, the highways and the bridges.

One size doesn't always fit all in rural States, and we see that certainly in Wyoming. So we need some flexibility and appropriate prioritization, as Senator Inhofe has said.

I appreciate your holding this important hearing today. I look forward to working with you on the issue of bridges but also highways as we best prioritize these for all of our citizens.

Thank you.

Senator BOXER. Certainly, and in 2009 we have to write a new transportation bill. So 2008 is going to be used to debate these very questions, and we have a very serious job ahead of us.

Senator Lautenberg, again thank you for your work on the water infrastructure, and we recognize you.

OPENING STATEMENT OF HON. FRANK LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Thank you. Thank you very much, Madam Chairman, and we thank you for energizing this Committee. It isn't

the Energy Committee, but this Committee has plenty of energy, and we thank you for your leadership there.

We look at the tragedy that befell Minnesota, Minneapolis, and listen to our colleagues and our sympathies go out to the families that lost loved ones and that are still suffering from those who were injured in recovery.

But each one of us has a State that we know where the same kind of problems exist. In my State, 34 percent of our bridges are structurally deficient, and we shouldn't wait for another bridge collapse to get going on what we have to do to fix whatever we can with the priority of the most dangerous first regardless of what formulas say.

We have to look at what could happen in our own States, realize what it does not only to the terrible loss of life, injury, et cetera, but what it does to the economy. This situation cries out for help from the President of the United States.

Repairing our bridges will cost nearly $10 billion a year for the next 20 years according to the American Society of Civil Engineers, and it is time that we reordered our priorities. The President recommends that we spend $3 billion a week in Iraq and tells us to prepare ourselves for a giant supplemental as well.

Well, if you ask the American people where they think the importance of our spending is, they will tell you: Protect our families at home. Protect our economies at home. Protect our lives at home and, Mr. President, step up to this.

When the transportation bill was proposed, the word came out from the White House. Rather repetitious, it said too much money, we are going to veto it. Then the President stood within a few days after the collapse and challenged the Congress to produce a bill that would give the Government the money to get on with fixing the bridges but that under a veto threat.

There is a great deal of confusion here, but I think it is time for us to put our money where our bridges are.

Thank you very much.

Senator BOXER. Thank you, Senator, very much.

Senator Alexander.

OPENING STATEMENT OF HON. LAMAR ALEXANDER, U.S. SENATOR FROM THE STATE OF TENNESSEE

Senator ALEXANDER. Thank you, Madam Chairman. Thanks to you and Senator Inhofe for doing this.

I have three quick points about money which is what the Senator from New Jersey was talking about.

One, I would be interested to hear what Secretary Peters has to say about what Missouri is doing, and we ought to watch it because they have a plan to do all their structurally deficient bridges within 5 years in a way that avoids the inefficiencies of annual Federal funding but apparently costs about the same. So they are going to get done in 5 years what otherwise would take 20 years, and if that works and if it is true and there are no holes in it, we ought to make sure we don't stand in the way of it. It allows States to do that.

I won't go into detail about it now, but I would be very interested in what the Federal authorities have to say, that Missouri would

do its plan by using one-third of its Federal transportation funds over the next 5 years to pay for repairing all of its structurally deficient bridges. If it is good for Missouri, it might be good for other States as well.

The second place to get the money is to remember that States have the ability to raise money to build bridges. When I was Governor, we doubled the gas tax in order for three big road programs and built some roads that the Federal Government usually helps pay for. We did it so we could recruit the auto industry, and now we have a third of our manufacturing jobs are auto jobs. So States have the capacity to fix bridges as well as the Federal Government.

As far as money goes, the President can't appropriate any money. The Congress is the appropriator of money.

Finally, I think we should look to see where we divert money from the Highway Trust Fund that ought to be going for roads and bridges and make sure we know what that amount is. This would be a good time to highlight that. Senator Carper mentioned that. We should know exactly what that dollar figure is and how far it would go to help do this before we raise further funds.

Thank you very much.

Just to say, Tennessee only has 6 percent of its bridges structurally deficient, but we have 1,200 bridges that are structurally deficient. So we may have more bridges per person than any State in terms of number although we don't have the most. We have a low percentage of structurally deficient bridges.

Senator BOXER. Senator, I just wanted to ask you a question. At first, you said Missouri was going to fix their bridges with no Federal funds, and then you said they are going to use their Federal funds.

Senator ALEXANDER. I am sorry. If I said that, I was wrong.

Missouri's plan is the legislature has approved offering for bid a contract to fix all their structurally deficient bridges, which are 800 bridges, over 5 years. Some private contractor would win that award, and Missouri would then reserve, it estimates, about one-third of its Federal funds, Federal transportation funds over that 5 years, pay for those bridges at the end of the 5-years. The contractor would also have a responsibility for 25 years of maintenance.

So if I said that, I misspoke.

Senator BOXER. Yes, you did, and I thought, wow, I never heard of a State telling us not to give money for bridges.

Senator ALEXANDER. No. They would use one-third of their money, but the advantage might be, if it works out the way they hope, is that they get it done in 5 years instead of 20 years.

Senator BOXER. In other words, you want us to look at flexibility to the States.

Senator ALEXANDER. Yes, and we might learn something from Missouri about how to get this done in 5 years across the County instead of twenty.

Senator BOXER. We might. Yes, it is a very attractive idea.

Senator Sanders.

Senator SANDERS. Thank you, Madam Chair, and thanks for holding this important hearing.

OPENING STATEMENT OF HON. BERNIE SANDERS, U.S. SENATOR FROM THE STATE OF VERMONT

I think Senator Alexander is right. I think you have 50 States in this Country. Some of them are innovative, and I think we should steal every good idea that we can.

I speak not just as Vermont's Senator but also as a former mayor, and I know that I speak for people all over this Country who understand that we have enormous infrastructural needs.

Madam Chair, it is important not just to segregate each particular part of the infrastructure. For example, we should also be talking about rail and the need for massive investments in upgrading our rail system in order to get large trucks, in many cases, off of our roads, off of our bridges because these huge trucks lead to the deterioration of our bridges and our roads. So I would hope that when we talk about infrastructure and the $1.7 trillion in need, we look at it in a comprehensive manner.

I think the $64 dollar question here, unfortunately, which is going to be a lot more than $64, is how we raise the money that we need. I guess the Administration is talking about toll roads. Count me in as somebody strongly opposed to that as a regressive form of taxation. In rural States like Vermont, we have people who make $20,000, $25,000 a year, traveling 100 miles to and from work, and I will not support them paying more in tolls.

I think Senator Lautenberg is more appropriate in addressing where we might be able to get some of this enormous amount of money, and I think it speaks to not giving tax breaks to billionaires and not fighting an unnecessary war.

The bottom line here is we are doing a disservice to our kids and our children when we simply delay investing in infrastructure. The reason that mayors and Governors look the other way is not because they don't know what is going on. It is that infrastructure is enormously expensive.

As Senator Carper indicated before, it makes a lot of sense to do maintenance rather than allow your infrastructure to collapse and then you repair it. That is just dumb. It is like letting your car fall apart, your teeth fall apart.

Maintenance makes sense, but mayors and Governors are not doing maintenance because they lack funding. We need to address this very difficult problem. It ain't going to be easy, and there will be differences, but we need to raise hundreds and hundreds of billions of dollars in a secure way so that cities, counties, towns, States know that they can go forward, build and maintain their infrastructure, not just bridges, wastewater systems, water plants, dams. We have enormous needs.

I conclude simply by saying that when we do that, Madam Chair, you know what else we do? We then create a whole lot of good paying jobs in this Country. It makes a lot of sense to me to go forward in that way.

Thank you.

[The prepared statement of Senator Sanders follows:]

STATEMENT OF HON. BERNIE SANDERS, U.S. SENATOR FROM THE STATE OF VERMONT

As we consider the General Services Administration resolutions, I would like to thank the chair for her strong leadership and all of the hard work she does for this committee on this and many other important issues. Thank you.

The Derby Line Port of Entry project will expand an already existing border station.

This is very important to Vermont and the region as a critical gateway for commerce and travel and to ensure border security.

Before we vote on the GSA resolutions, there is a point with the financing that must be clarified between GSA and the Vermont Agency of Transportation.

The Vermont Agency of Transportation has notified GSA that it does not agree with the financing that GSA has stated in the prospectus for the Derby Line Port of Entry. GSA has miscalculated the funding it will receive from the state of Vermont and the matching funding that is required for the Derby Line Port of Entry project. A letter from the Vermont Agency of Transportation to GSA explains this matter in detail. I ask that the letter be entered into the record. [See page 111.]

I support the position that the Vermont Agency of Transportation takes in its letters and I ask that the chair and the committee to support its position. I hope that this matter can be worked out in a timely manner with the General Services Administration.

Thank you for your time and consideration on this important matter.

Senator BOXER. Thank you so much, Senator.

I was sorry that Senator Warner had to leave, but we are happy to see that the Hon. Mary E. Peters, Secretary of Transportation—please come forward—and the Hon. Calvin Scovel, Inspector General, U.S. Department of Transportation.

Secretary Peters, we will put your whole statement in the record. If you could possibly finish in about 5 minutes, that would be good. We are looking for an overview here, and then we will move on to our second panel. So, welcome.

STATEMENT OF HON. MARY E. PETERS, SECRETARY, U.S. DEPARTMENT OF TRANSPORTATION

Ms. PETERS. Chairman Boxer, Ranking Member Inhofe and members of the Committee, thank you for the opportunity to be here with you today.

Accompanying me is Bud Wright who is the Executive Director of the Federal Highway Administration in the seat behind me.

America, as was discussed earlier, was stunned on the evening of August 1, 2007, when the I–35W bridge over the Mississippi River in Minneapolis collapsed. Numerous vehicles were on the bridge at the time and, tragically, there were 13 fatalities and 123 persons injured.

On behalf of the President, I would like to personally extend our deepest sympathy to the loved ones of those who died and to the injured.

I also want to note that in my four visits to Minneapolis, the first being the morning after the collapse with Senator Klobuchar, Senator Coleman and Congressman Ellison, I have been very impressed and very inspired by the local response and the many very dedicated public servants from all levels of government to this terrible tragedy.

We don't yet know why the I–35 bridge failed, and our Department is working very closely with the National Transportation Safety Board as it continues its investigation to determine the cause or the causes. In the interim, we are taking steps to make sure that America's infrastructure is safe.

I have issued two advisories to States in response to what we have learned so far, asking States to reinspect their steel truss arch bridges and that they be mindful of added weight that construction projects and maintenance projects may place upon bridges, and I have asked our Department's Inspector General, Cal Scovel, who you will also hear from this morning, to conduct a very rigorous assessment of the Federal Aid Bridge Program and the National Bridge Inspection Standards. I have asked him to look at the relationship between the inspection of bridges, the ratings and then how money is spent or prioritized for those bridges.

In the aftermath of this tragedy, some are calling for renewed focus on our Nation's highway infrastructure. I agree with such calls and applaud people including Minnesota Senators Klobuchar and Coleman and other members of this Committee who are truly thinking about the long term viability of the Nation's transportation system. It is imperative, however, that when determining what our future transportation system should look like, we actually focus on the right problem.

Since 1994, the percentage of the Nation's bridges classified as structurally deficient has improved from almost 19 percent to 12 percent. While we can and must do more to improve the quality of our Nation's infrastructure, it would be both irresponsible and inaccurate to say that the Nation's transportation system is anything but safe.

Some say we are not spending enough on highways, roads and bridges. Other data suggest this argument couldn't be further from the truth. Federal Highway estimates that it would cost approximately $40 billion a year to maintain the physical condition of our Nation's highways and bridges and another $60 billion a year to substantially improve that physical condition.

In 2005, government at all levels spent far more, nearly $153 billion on highways and bridges, including over $75 billion in capital investment to rehabilitate highways and bridges and to improve their operational performance.

Under-investment is not causing the network to underperform. Our failure to correctly prioritize transportation investments is.

The answer is not to spend more. It is to spend more wisely. Increasing Federal gas taxes and spending would likely do little, if anything, to address either the quality or the performance of our roads. Instead, we need a more basic change in how we analyze competing spending options and to manage existing systems much more efficiently.

The gas tax also does little to directly address the growing cost of congestion and system unreliability. Indeed, the Government Accountability Office recently released a report arguing that gas taxes are fundamentally incapable of balancing supply and demand during heavily congested periods.

Finally, it makes no sense to raise the gas tax at a time when we are rightfully exploring every conceivable mechanism to increase energy independence, to promote fuel economy in automobiles, to stimulate the development of alternative and renewable fuels and to reduce emissions. We should be encouraging States, States like California, States like Minnesota, to explore alter-

natives to petroleum-based taxes, not expand the Country's reliance on them by increasing the gas tax.

The I–35W bridge collapse was both a tragedy and, as has been said by our Chairwoman, a wakeup call to the Country. Our Nation's economic future is tied in large part to the safety and the reliability of our transportation infrastructure. However, before we reach the conclusion that additional Federal spending and taxes is the right path, we must—we owe it to the American people—to critically examine how we establish spending priorities today with the money already sent to Washington by hardworking Americans.

Madam Chairman, members of the Committee, I look forward to working with you to address these priorities and would be pleased to answer any questions that you may have.

Thank you.

[The prepared statement of Secretary Peters follows:]

STATEMENT OF THE HON. MARY E. PETERS, SECRETARY OF TRANSPORTATION

Chairman Boxer, Ranking Member Inhofe, and Members of the Committee, I am honored to be here today. Accompanying me is Frederick G. (Bud) Wright, Executive Director of the Federal Highway Administration.

America was stunned on the evening of August 1, 2007, when the Interstate 35 West (I–35W) bridge over the Mississippi River in Minneapolis, Minnesota, collapsed. Numerous vehicles were on the bridge at the time and there were 13 fatalities and 123 people injured. We extend our deepest sympathy to the loved ones of those who died and to the injured.

We do not yet know why the I–35W bridge failed. Something went terribly wrong. Bridges should not fail, and no one who is using them responsibly should be hurt because of an infrastructure failure. Our Department is working closely with the National Transportation Safety Board (NTSB) as it continues its investigation to determine the cause or causes of this failure. In the interim, we are taking every step to ensure that America's infrastructure is safe. I have issued two advisories to States in response to what we have learned so far, asking that States re-inspect their steel deck truss bridges and that they be mindful of the added weight construction projects may bring to bear on bridges.

Immediately upon learning of the collapse, at the direction of President Bush, I deployed a team, led by Federal Highway Administrator J. Richard Capka, to coordinate the Federal response on-site in Minneapolis. The morning of August 2, I was at the scene with them. The DOT team, including the continuous on-site support of the FHWA Minnesota Division Office and Deputy Federal Transit Administrator Sherry Little, is providing expertise in bridge engineering and construction, environmental assessments and planning, transit programs, and Federal contracting, to assist State and local officials in the recovery, debris removal, temporary traffic rerouting, and restoration of transportation services. This team is also working with the State to expedite the process for reconstructing the bridge. Administrator Capka continues to visit with officials in Minneapolis to ensure that progress is being made.

Federal support has included a quick release of $5 million in Emergency Relief Federal-aid Highway funding to the State of Minnesota to initiate recovery operations. Those funds were made available the day after the disaster to help restore the traffic flow, to clear the debris, to set up detours, and to begin the repair work.

President Bush signed legislation on August 6 authorizing $250 million for the replacement of the bridge. The legislation also made available $5 million to reimburse Minneapolis for increased transit operations to serve commuters until highway traffic service is restored on the bridge. Fifty million dollars in Emergency Relief funds were released on August 9 to ensure the State's recovery efforts can proceed without delay. As the State completes the assessment of the total damage and the ultimate cost to replace this bridge, we stand ready to ensure that appropriate funding is made available to replace it. Indeed, with Congress' assistance, we are committed to making funds available to the State as they are needed to ensure that the bridge is rebuilt as quickly as possible.

While not part of the emergency response funding, we have also provided an additional $13.2 million in immediately available transit funds in connection with our

announcement of Minneapolis as an "Urban Partner" under our Congestion Initiative, a broad initiative for managing surface transportation in the Minneapolis area.

The I–35W bridge over the Mississippi River in Minneapolis originally opened in November 1967 and became one of the critical facilities in a vital commercial and commuting corridor. The bridge was an 8-lane, steel deck truss structure that rose 64 feet above the river before its collapse. The main span extended to 456 feet to avoid putting piers in the water, which would have impeded river navigation. As of the 2004 count, an estimated 141,000 vehicles traveled per day on the bridge.

FHWA is assisting the NTSB as they conduct a thorough investigation, which includes a structural analysis of the bridge. Within days of the collapse, development of a computer model based upon the original design drawings for the bridge began at FHWA's Turner Fairbank Highway Research Center in McLean, Virginia. This model can run simulations to determine the effect on the bridge of removing or weakening certain elements to recreate, virtually, the actual condition of the bridge just prior to and during its collapse.

By finding elements that, if weakened or removed, result in a bridge failure similar to the actual bridge failure, the investigators' work is considerably shortened. While examination of the physical members of the bridge being recovered from the site provide the best evidence of why the bridge collapsed, the analytical model allows the evaluation of multiple scenarios which can then be validated against the physical evidence. This work is expected to take several months and my forensic experts have been on site continuously since the day after the collapse providing their expertise and assistance. We need to fully understand what happened so we can take every possible step to ensure that such a tragedy does not happen again. Data collected at the scene, with the help of the Federal Bureau of Investigation's 3–D laser scanning device, are being used to assist in the investigation.

On August 2, the day after the collapse, I requested that the DOT Inspector General conduct a rigorous assessment of the Federal-aid bridge program and the National Bridge Inspection Standards (NBIS). The NBIS, in place since the early 1970s, generally requires safety inspections at least every two years for all highway bridges in excess of 20 feet in total length on public roads. Safety is enhanced through hands-on inspections and rating of components, such as the deck, superstructure, and substructure, and the use of non-destructive evaluation methods, and other advanced technologies. The composition and condition information is collected in the national bridge inventory (NBI) database, maintained by FHWA.

The I–35W bridge has been inspected annually by the Minnesota Department of Transportation (MNDOT). The most recent inspection was begun by MNDOT on May 2, 2007. No imminent dangers were observed and MNDOT planned to continue inspecting the bridge in the fall following completion of construction work on the bridge.

Federal, State, and local transportation agencies consider the inspection of our nearly 600,000 bridges to be of vital importance and invest significant funds in bridge inspection activities each year. We strive to ensure that the quality of our bridge inspection program is maintained at the highest level and that our funds are utilized as effectively as possible. The Inspector General will be monitoring all of the investigations into the collapse and reviewing our inspection program to decide and advise us what short- and long-term actions we may need to take to improve the program. Although we will have to wait for the NTSB's report before we can conclude if the inspection program played any role in this collapse, we must have a top-to-bottom review to make sure that everything is being done to keep this kind of tragedy from occurring again.

In the aftermath of this tragedy, a necessary national conversation has begun concerning the state of the Nation's bridges and highways and the financial model used to build, maintain and operate them. It is important to understand that, while we must do a better job of improving the Nation's transportation systems, we do not have a broad transportation infrastructure "safety" crisis. We agree that the condition of our infrastructure requires on-going attention, but I want to emphasize that we will not allow the public safety to be put at risk. We would limit the use of a bridge or close a bridge rather than let the public safety be put at risk.

Since 1994, the percentage of the Nation's bridges that are classified as "structurally deficient" has declined from 18.7% to 12.0%. The term "structurally deficient" is a technical engineering term used to classify bridges according to serviceability, safety, and essentiality for public use. The fact that a bridge is classified as "structurally deficient" does not mean that it is unsafe for use by the public. Since 1995 the percentage of travel taking place on roads that are considered "good" has increased from 39.8% to 44.2%. Overall, approximately 85% of travel takes place on pavement that is considered "acceptable."

FHWA estimates that if we pursued a cost beneficial investment strategy, it would cost approximately $40 billion a year to maintain the physical condition of our Nation's highways and bridges and approximately $60 billion a year to substantially improve the physical condition of current roads and bridges. In 2005, Federal, State, and local governments together made over $75 billion in capital investment to rehabilitate highways and bridges in the U.S. and improve their operational performance. If we include operational, administrative, and debt service costs in addition to capital investments, the U.S. spent nearly $153 billion on highways and bridges in 2005.

These infrastructure quality numbers should and can be improved with more targeted investment strategies, but it is inaccurate to conclude that the Nation's transportation infrastructure is unsafe. We have quality control systems that provide surveillance over the design and construction of bridges. We have quality control systems that oversee the operations and use of our bridges. And we have quality control over inspections of bridges to keep track of the attention that a bridge will require to stay in safe operation. These systems have been developed over the course of many decades and are the products of the best professional judgment of many experts. We will ensure that any findings and lessons that come out of the investigation into the I–35W bridge collapse are quickly learned and appropriate corrective actions are institutionalized to prevent any future occurrence.

A more accurate description of our current and broader problem is that we have an increasingly flawed investment model and a system performance crisis. Many are calling for a renewed national focus on our Nation's highway infrastructure. And while I agree that our infrastructure models need to be reexamined, it is imperative that we actually focus on the right problem.

When faced with an underperforming division, the response of any credible business organization is to assess the cause of underperformance and to implement policies and practices intended to reverse performance declines. In my assessment, the underperformance in the highway sector is fundamental, not incremental. In other words, increases in Federal taxes and spending would likely do little, if anything, without a more basic change in how we analyze competing spending options and manage existing systems more efficiently.

Because tax revenues are deposited into a centralized Federal trust fund and reallocated on the basis of political compromise, major decisions on how to prioritize investments—and thus spend money—are made without consideration of underlying economic or safety merits. The degree to which one capital investment generates more returns than a competing investment is the most basic question asked in virtually every other capital intensive sector of the economy. Yet, when it comes to some of our largest and most critical investments we make as a Nation—highways and bridges—there is virtually no analysis of this question. There is no clearer evidence of this failure to prioritize spending than the disturbing evolution of the Federal highway program. This program has seen politically-designated projects grow from a handful in the surface transportation bill enacted in the early 1980s to more than 6,000 enacted in SAFETEA–LU. The cost of these earmarks totaled $23 billion—a truly staggering figure.

The real cost of these earmarks is much higher. Looking at a sample of various recent earmarks, we found that the Federal earmark amounts themselves comprised on average only 10% of the total project cost. Because of this, State departments of transportation will typically either delay the earmarked project indefinitely or reallocate resources from higher priorities to fill the funding gap. In addition, earmarks present extra administrative burdens for States that must dedicate scarce personnel resources to managing lower priority projects that are subject to earmarking. In short, earmarks ripple through the entire Federal-aid program structure.

In addition to earmarks, there are more than 40 special purpose programs that provide funding for projects that may or may not be a State or local priority. The statewide and metropolitan planning processes are comprehensive and inclusive, and a proliferation of categorical programs further reduces State and local ability to best use available funds to meet the priorities identified through those processes. As a former State DOT director, I have had first-hand experience with the difficulties created when Washington mandates override State priorities.

While many of these investments may have worthy purposes, virtually no comparative economic analysis is conducted to support these spending decisions. No business could survive for any meaningful period of time utilizing a similar investment strategy. Not surprisingly, new economic literature reveals that the returns on our highway investments have plummeted into the low single digits in recent years.

The Department is working with States to encourage them to regularly use benefit cost analysis (BCA) when making project selection decisions. Currently, approximately 20 States make some use of BCA, while 6 States use the technique regularly. The Government Accountability Office (GAO) recently conducted two studies to identify the key processes for surface transportation infrastructure planning and decisionmaking, with a particular emphasis on the role of economic analysis methods and the factors that affect the use of such methods.

These studies are Highway and Transit Investments: Options for Improving Information on Projects' Benefits and Costs and Increasing Accountability for Results (GAO–05–172); and Surface Transportation: Many Factors Affect Investment Decisions (GAO–04744). The former report noted that "the increased use of economic analytical tools, such as benefit-cost analysis, could improve the information available to decision makers and, ultimately lead to better-informed transportation investment decision making" (GAO–05–172, p. 6).

Among other reasons, GAO cited "political concerns" for why BCA is not more widely utilized in U.S. public sector surface transportation decisionmaking. GAO observed that a project may be important for a particular interest group or constituency even though it is not efficient from an economic standpoint. At a minimum, BCA would provide additional transparency to decisions that are less cost-beneficial. Ideally, BCA would actually begin to prevent inefficient decisions from being made in the first place.

GAO also noted that BCA results are rarely reviewed in light of actual project outcomes. In other words, not only is BCA underutilized in the project planning process, but it is also rarely utilized to assess the efficacy of previous investments. This is in stark contrast to typical capital investment models employed in the private sector. It is important that Congress and the Department work together to establish far more productive means to ensure that scarce resources are flowing to projects that benefit the public the most. BCA is likely to be one of our most effective tools to advance that objective.

Moreover, since Federal transportation funding levels are not linked to specific performance-related goals and outcomes, the public has rightfully lost confidence in the ability of traditional approaches to deliver. Performance-based management can help establish and maintain accountability. As former Washington State DOT Secretary Doug MacDonald noted, "transportation agencies need to demonstrate to taxpayers that they get a dollar's worth of value for a dollar's worth of tax." The use of performance measures, by helping to identify weaknesses as well as strengths, can improve the transportation project selection process and the delivery of transportation services.

In addition to an insufficient performance and cost-benefit focus, the current gas tax-dependent model does virtually nothing to directly address the growing costs of congestion and system unreliability. Indirect taxes on gasoline, diesel fuel, motor vehicles, tires, property and consumer products—the dominant means of raising revenues for transportation—are levied regardless of when and where a driver uses a highway. This leads to a misperception that highways are "free," which in turn encourages overuse and gridlock at precisely the times we need highways the most. Consistent with the views of almost every expert that has looked at the issue, GAO recently released a report arguing that gas taxes are fundamentally incapable of balancing supply and demand for roads during heavily congested periods.

The data simply do not lie in this case. Relying extensively on gas and motor vehicle taxes, virtually every metropolitan area in the U.S. has witnessed an explosion in traffic delays over the last 25 years. Meanwhile, in recent years, the increase in surface transportation funding has significantly outpaced the overall growth of non-defense, non-homeland security Federal discretionary spending. And, since 1991, capital outlays for surface transportation at all levels of government have nearly doubled. Economists have long understood the connection between payment mechanisms and system performance, but technology and administrative complexities limited the ability of policymakers to explore alternatives. Today, those barriers no longer exist.

This is one of the main reasons that our Department has been strongly supporting States that wish to experiment with electronic tolling and congestion pricing. Nationwide, the majority of projects in excess of $500 million currently in development are projected to be financed at least in part with electronic tolls. In the middle of August, we announced Federal grants in excess of $800 million to some of the country's largest cities to fully explore the concept of electronic tolling combined with expanded commuter transit options and deployment of new operational technologies. Nationwide, the trends are encouraging.

We believe that to the extent feasible, users should finance the costs of building, maintaining and operating our country's highways and bridges. It is increasingly

clear that directly charging for road use (similar to the way we charge for electricity, water, and telecommunications services) holds enormous promise to both generate large amounts of revenues for re-investment and to cut congestion. Equally important, however, prices send better signals to State DOTs, planners, and system users as to where capacity expansion is most critical. Prices are not simply about demand management, they are about adding the right supply.

Congestion pricing can also provide substantial environmental and energy benefits, conclusively demonstrated by recent evaluations of cordon-pricing programs in Stockholm and London.

• In London, motor vehicle-related emissions of urban air pollutants declined by 13–15 percent in the year following the introduction of congestion pricing, while fuel consumption and emissions of the greenhouse gas carbon dioxide declined by 16.4 percent.

• In Stockholm, emissions of vehicle-related urban air pollutants declined by 10–14 percent, while fuel consumption and greenhouse gas emissions declined almost 3 percent.

British authorities estimate that 46–87 percent of the reduction in fuel consumption and emissions are attributable to vehicles traveling at higher, steadier, and hence more efficient speeds. Urban air pollutant reductions are particularly valuable, because they reduce emissions inside large urban areas where large populations are exposed to the highest concentrations of pollutants.

More than 40 percent of the vehicle miles traveled in the United States are driven in the 85 largest urban areas, and likely more than half of gasoline and diesel fuel consumption. Potential reductions in fuel consumption and emissions from congestion pricing programs in major urban areas could contribute to achieving our energy, environmental, and public health goals.

While the traveling public's saving of time is the single largest benefit, gasoline savings could also help to offset the cost of tolls, and the potential environmental benefits could yield private and public health dividends.

The current financial model is also contradictory to other critical national policy objectives. As a country, we are rightfully exploring every conceivable mechanism to increase energy independence, promote fuel economy in automobiles, stimulate alternative fuel development, and also to reduce emissions. President Bush has urged Congress to pass laws that will substantially expand our alternative energy capabilities and increase Corporate Average Fuel Economy requirements for automobiles and light trucks. The Federal Government should be strongly encouraging States to explore alternatives to petroleum-based taxes, not expanding the country's reliance upon such taxes.

The current highway and bridge financial model also fails to provide strong incentives for technology development and deployment, particularly when contrasted to other sectors of the economy. It is imperative that we find more effective means to ensure that the rewards of a given advancement—for example, in extended life pavements or more sophisticated traveler information systems—can accrue in part to those firms or individuals that come forward with creative ideas. It is no coincidence that we are seeing a technology boom in markets that have pricing structures that reward innovation. Pricing infrastructure usage more closely to its true costs will not only reduce congestion and more appropriately target resources, it will also provide new incentives for innovation.

Finally, from a Federal investment policy perspective, it is also important to understand that States may simply react to higher Federal spending by reducing their own spending. A 2004 GAO report entitled Federal-Aid Highways: Trends, Effect on State Spending, and Options for Future Program Design looked at this exact issue and found that "significant substitution has occurred and that the rate of grant substitution increased significantly over the past two decades, rising from 18 percent in the early 1980s to about 60 percent during the 1990s—the periods that ISTEA and TEA–21 were in effect." The report also concluded that "the structure of the federal grant system as a whole may encourage substitution."

The I–35W bridge collapse was both a tragedy and a wake-up call to the country. We have a duty to ensure a safe transportation system for all who use it. Moreover, our country's economic future is tied in large part to the safety and reliability of our transportation infrastructure. Before reaching the conclusion that additional Federal spending and taxes are the right approaches, we should critically examine how we establish spending priorities today. We need a data-driven, performance based approach to building and maintaining our Nation's infrastructure assets—a process where we are making decisions based on safety first, economics second, and politics not at all. And we need an underlying framework that is responsive to today's and tomorrow's challenges, not those of the 1950s.

I look forward to working with you and would be pleased to answer any questions you may have.

RESPONSES BY MARY E. PETERS TO ADDITIONAL QUESTIONS FROM SENATOR BOXER

Question 1. During the hearing I expressed concern to Inspector General Scovel about a suggestion, which I heard in California, that the Department of Transportation change the term structurally deficient to something that sounds less alarming. Is the Department of Transportation considering changing the current terminology used to classify bridges? If so, what is the rationale for such a change?

Response. The Department of Transportation is not currently considering changes to the terminology used to classify bridges; however, the Office of Inspector General and the Government Accountability Office are conducting thorough audits of our bridge program. Recommendations resulting from these audits will be carefully considered, including any recommended changes to current terminology that benefit the overall program. It should be noted that two of the technical program terms, structurally deficient and functionally obsolete, appear in 23 U.S.C. 144. These terms originated nearly thirty years ago for utilization by engineers who are closely involved in the administration of the Federal bridge program. Their meaning is well-understood in the bridge engineering community.

Question 2. Please provide a list of bridges on the National Highway System that have been closed or weight limited as a result of inspections that have taken place since the collapse in Minneapolis.

Response. Following the collapse of the I–35W Bridge, the Federal Highway Administration (FHWA) issued an advisory for States to re-inspect all steel deck truss bridges with fracture critical members (FHWA Technical Advisory 5140.27, issued on August 2, 2007). As of Wednesday, October 10, more than 96% of the reevaluations of steel deck truss bridges had been completed. From this national reevaluation, to date only three States have reported findings that required immediate action, and the States have taken appropriate actions to assure the bridges are safe for motorists.

Currently, there are no bridges on the National Highway System that have been closed or had weight limit restrictions imposed as a result of inspections that have taken place since the collapse in Minneapolis.

Question 3. In your oral testimony you mentioned that some 40 programs are diverting funds away from core needs. Has the Department done any analysis of these programs that indicate they should not be supported? Please provide a list of the 40 programs, as well as an explanation for where the Department of Transportation stands on these programs.

Response. Roughly 60% of the funding in the current Federal surface transportation bill is used for formula funds under the highway program that provide States the maximum flexibility to build, maintain and ensure the safety of highways and bridges. These programs include the Interstate Maintenance, National Highway System, the Highway Bridge Program, the Surface Transportation Program, the Highway Safety Improvement Program, the Congestion Mitigation and Air Quality Program and the Equity Bonus Program. The annual average authorized level for these programs under SAFETEA–LU, removing setasides and takedowns, is $30,777 million, or a little more than 60% of the overall SAFETEA–LU annual average authorization level of $50,540 million.

RESPONSES BY MARY E. PETERS TO ADDITIONAL QUESTIONS FROM SENATOR CARDIN

Question 1. Does FHWA have enough bridge engineers in the Division offices? Has the number of engineers changed over the last few years?

Response. We believe that FHWA has enough Division Bridge Engineers and Assistant Division Bridge Engineers in the Division offices. However, all of them have non-bridge related collateral duties that also require their attention.

While the number of Division Bridge Engineers has been stable over the years, the number of Assistant Bridge Engineers has been reduced.

Question 2. As part of their state oversight responsibilities, do the FHWA Division Office bridge engineers primarily conduct desk audits of state programs or do they have a robust field review program? Given the inevitable variability among state programs, how does FHWA assure that national standards are uniformly applied?

Response. Each FHWA Division Bridge Engineer conducts a comprehensive annual review of all areas of his/her corresponding State Department of Transportation's National Bridge Inspection Standards (NBIS) Program, as required by FHWA administrative policy. The annual review covers State overall compliance with the NBIS as well as the quality of bridge inspection. The review normally consists of the following:

- A field review of bridges to compare inspection reports for quality and accuracy;
- Interviews with inspectors and managers to document NBIS procedures; and
- An office review of various reports of data from the inventory to assess compliance with frequencies, posting, and data accuracy.

FHWA assures that national standards are applied uniformly for all State departments of transportation by setting and updating national standards for the proper safety inspection and evaluation of all structures defined as highway bridges located on all public roads. These standards are updated periodically in the NBIS regulation, 23 CFR 650 Subpart C.

BACKGROUND

FHWA Division Bridge Engineers supplement the annual reviews with periodic in-depth review of specific parts of the State bridge program such as inspections of fracture critical members, underwater elements, scour, and movable bridges; inspection support of bridge management; the quality assurance program; follow-up on critical findings and recommendations; and special inspections, for example steel fatigue cracking or post-tensioning corrosion.

The FHWA Resource Center (RC) assists in oversight by: (1) providing expert technical assistance to FHWA Division Offices and their partners; (2) assisting Headquarters program offices in development and deployment of new policies, technologies, and techniques; and (3) taking the lead in deployment of leading edge, market ready technologies. The RC also assists in coordinating and conducting bridge inspection peer reviews and program exchanges, as well as delivering and updating training.

The FHWA Headquarters' oversight responsibilities include issuing bridge inspection policies and guidance; maintaining the National Bridge Inventory; monitoring and updating our array of bridge inspection training courses; collecting, reviewing, and summarizing the Division Office annual reports; and monitoring overall NBIS compliance.

RESPONSES BY MARY E. PETERS TO ADDITIONAL QUESTIONS FROM SENATOR LIEBERMAN

Question 1. Some may remember the tragic collapse of the Mianus bridge in my home state of Connecticut in 1983, in which three people lost their lives. Water build up, due to drainage problems, was eventually determined as the cause of that collapse. At that time in Connecticut, we only had 12 engineers to inspect over 3000 bridges in Connecticut.

We found out, obviously after the fact, that Connecticut simply did not have enough engineers to inspect adequately and routinely all the state's bridges, particularly as these structures start to age and show evidence of wear and tear. In its final report after the Mianus collapse, the National Transportation Safety Board (NTSB) issued this top recommendation: "Improve the quality of review of bridge inspection reports." I am concerned by Inspector General Scovel's findings that FHWA engineers are often stretched thin and cannot spend the bulk of their time on bridge inspections. One FHWA engineer reported he only spent 15% of his time on examining bridges.

Do you agree with Inspector General Scovel's findings in this regard? What can be done to make sure our FHWA engineers have the time to focus on bridge inspection? Do the Division Offices, which exist in every state, need more personnel resources to fulfill their mission? I think this Committee genuinely wants to hear what the Department of Transportation needs to perform its duties comprehensively, so please tell us if you need more resources in this important area.

Response. We agree that FHWA Division Office engineers involved in the bridge program have many responsibilities, including some non-bridge related duties that also require their attention. The challenge is to identify the program areas that require the greatest level of oversight and to devote sufficient resources to those areas. Efficient and effective use of limited time becomes very important. In recent years, FHWA Division Offices have applied risk management practices to assist in targeting oversight resources to the areas of greatest need.

FHWA continually seeks ways to improve our oversight of bridge inspection activities and to develop tools that facilitate this process. Examples include the recent development of standardized National Bridge Inventory data reports that enable our Division Offices to take a data-driven approach to targeting specific areas of the program that may need attention.

Understand that it is the States, local governments, and other bridge-owning agencies who are responsible for actually staffing the inspections of bridges. FHWA's role is to ensure that adequate inspection programs are in place and that Federal inspection standards are followed. Under this arrangement, FHWA employees are effectively monitoring and overseeing the work of thousands of State, local, and other agency bridge inspection personnel.

The ongoing Office of Inspector General and Government Accountability Office audits of the bridge program will likely evaluate the level of FHWA resources dedicated to oversight of the program. We will take action to address any resulting recommendations for adjustments in the resources devoted to bridge inspection program oversight by FHWA.

Question 2. In your written testimony, you admit that "we must do a better job of improving our nation's transportation systems." That being said, you also testified that "we do not have a broad transportation infrastructure safety crisis." The I–35W bridge in Minneapolis was built in 1967, and over half of our bridges in the United States were built before 1964. As the opening statements of my colleagues have outlined, there are well over 6,000 National Highway System bridges that are structurally deficient. With these facts, I'm unsure how you are able to conclude that we do not have a transportation infrastructure safety crisis on our hands. Half of our bridges are close to 50 years old in this country, and we know that a significant number of them are classified as structurally deficient. We don't know how many of those older bridges are operating at 50%, the rating given to the Minneapolis bridge.

Given these facts, do you still think that we do not have a crisis on our hands? Do you recognize the large task ahead of us to rehabilitate the most vulnerable bridges in our country in a timely manner?

Response. It would be hard to overstate the importance of our transportation systems to the economic and social well-being of this Nation. Yes, we must do a better job of improving those transportation systems—that is what good stewardship is all about. It is imperative that we improve the safety of those systems, while reversing the decline in overall transportation system performance that is increasingly imposing costs on American families and businesses.

Recognizing the need for improvement, however, does not mean that we have a transportation infrastructure safety crisis on our hands. Aging of infrastructure is an ongoing process, and requires ongoing attention—it is not something that can be "fixed" by an influx of funds. Billions of dollars each year are devoted to maintaining, rehabilitating, and replacing the infrastructure as needed. For bridges, SAFETEA–LU added systematic preventive maintenance as an eligible use of funds.

Federal, State, and local transportation agencies consider the inspection of our nearly 600,000 bridges to be of vital importance, and invest significant funds in bridge inspection activities each year. Bridges are classified according to serviceability, safety, and essentiality for public use. The fact that a bridge is classified as "structurally deficient" does not mean that it is unsafe for use by the public.

As good stewards of both the safety and the tax dollars of the American people, what we need to do is very carefully examine the criteria used to determine which bridges are repaired or replaced. The C&P report estimates that approximately $8.7 billion will need to be spent annually for the next 20 years by all levels of government to keep the size of the bridge investment backlog from growing. Actual spending in 2004 was $10.5 billion, so we are making progress in reducing the backlog of bridge needs. The percentage of the Nation's bridges that are classified as "structurally deficient" has declined from 18.7% to 12.0% since 1994.

We don't know yet why the I–35W bridge failed. When we do know, we will be able to make informed decisions about appropriate corrective actions to prevent a future occurrence. In addition to monitoring all of the investigations into the collapse, the DOT Inspector General is conducting a rigorous assessment of the Federal-aid bridge program and the National Bridge Inspection Standards and will be advising us on what short-term and long-term actions we may need to take to improve the programs. In the meantime, we are taking every step to ensure that our transportation infrastructure is safe.

Question 3. Of course, the ten-ton elephant in the closet is how the federal government is going to fund a large-scale rehabilitation of our nation's bridges. While I know that a prioritization scheme is needed to identify the structures with the most

eminent and critical need, I do not think we can simply fix the weakest links and ignore the rest with patchwork fixes. After all, the I–35W bridge in Minnesota was listed as structurally deficient since 1990. I know there are different numbers out there for the funding we need, and it may be that we need to wait until the FHWA and the states provide additional data on the costs to finance the repair of structurally deficient bridges. But we might as well start to talk about creating a dedicated funding stream that is available solely for NHS bridge reconstruction initiatives. It is not responsible to talk about solving this problem without figuring out a way to pay for it.

From reading your testimony, Secretary Peters, I know that you are not a supporter—along with the President—of adding one or two pennies temporarily to the gas tax to fund these infrastructure improvements. Instead you advocate electronic tolling and congestion pricing. I understand these ways of generating funds are very important—perhaps even crucial—to the goal of reducing and controlling traffic congestion in the United States. Tolling can also send important signals about where we need to expand capacity. But I am uncertain how congestion pricing in New York, for example, will be used to fund a structurally deficient bridge in Minnesota, for example. Forgive me, but I am just trying to understand the connection between tolling and congestion pricing and raising the required funds for bridge improvements across the nation.

Do you suggest that all NHS bridges should be required to institute tolling, and that part of the proceeds from such tolling will serve as a dedicated source of funding for a national initiative on bridge infrastructure? Can you explain the precise connection between your support of congestion pricing and tolling and the funding needed for comprehensively fixing our nation's deficient bridges? Would tolling quickly generate the $65 million needed to address current and widespread bridge deficiencies in this country? How would tolling ensure that bridges with the most acute problems are addressed first?

Response. A necessary national conversation has begun concerning the state of the Nation's bridges and highways and the financial model used to build, maintain and operate them. As a Nation, we do, indeed, have a problem—one even larger than the "ten-ton elephant." The broader problem is an increasingly flawed investment model and a system performance crisis in transportation.

The transportation policies and programs we have relied on in the past are failing on multiple levels. They are failing to make efficient capital investments and allocate resources based on highest returns to the taxpayer and the customer. They are failing to sufficiently reward innovation and technology development. They are failing to align prices and charges with true costs.

Charging directly for road use holds enormous promise both to generate large amounts of revenue for reinvestment and to cut congestion. The Government Accountability Office recently released a report saying that direct pricing of road use, similar to how people pay for other utilities, holds far more promise in addressing congestion than do traditional gas taxes. And thanks to new technologies that have eliminated the need for toll booths, the concept of road pricing is spreading rapidly around the world. What I advocate is for States to have the full range of options at their disposal to deal with the many challenges facing them. Tolling and congestion pricing are options and, in the right situations, can have dramatic economic, environmental, and societal benefits. But there is no one-size-fits-all solution, and I do not advocate tolling as the only funding option for infrastructure improvements. I would note that use of tolling and congestion pricing where they make the most sense could reduce the demands on traditional funding sources.

The National Surface Transportation Policy and Revenue Study Commission, established by Congress, is examining not only the condition and future needs of the Nation's surface transportation system, but also short- and long-term alternatives to replace or supplement the fuel tax as the principal revenue source to support the Highway Trust Fund over the next 30 years. Our transportation networks need improvement, but the challenge is not to simply spend more and more money. The key is to utilize Federal resources with an eye to the performance improvements that we urgently need. We need innovation and creativity. We should embrace real solutions, such as advanced technology, market-based congestion tools, private sector financing, and flexibility for State and local partners.

RESPONSES BY MARY E. PETERS TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. As I mentioned in my statement, there are several in Congress that seek a tax on CO_2 emissions, such as the Chairman's proposed cap and trade bill. Given that infrastructure material costs, including those that emit CO_2 when pro-

duced like asphalt, cement and steel, have skyrocketed over the last decade, are you concerned that such a proposal would make our existing infrastructure funding crisis even worse?

Response. Climate change requires an integrated response—encompassing environmental stewardship, the security of energy supply, and economic growth and development. Since 2001, the United States Government has invested nearly $18 billion to develop cleaner and more efficient sources of energy.

President Bush's "Twenty In Ten" plan to reduce U.S. gasoline consumption by 20 percent over the next 10 years will help ensure cost-effective new technologies reach the market. With the U.S. Environmental Protection Agency and the U.S. Departments of Energy and Agriculture, the Department is cooperating to develop regulations to cut gasoline consumption and greenhouse gas emissions from motor vehicles. DOT has proposed legislation to reform the passenger car Corporate Average Fuel Economy Program (CAFE). If enacted, together with increasing the fuel economy standard for light trucks, this reform will reduce gasoline consumption by 5 percent by 2017.

At the September Major Economies Meeting on Energy Security and Climate Change, the U.S. committed to work to agree on a new path forward to reduce greenhouse gas emissions in a way that does not undermine economic growth.

Question 2. Visual and other low-tech methods may always have a role in bridge inspection. However, it is my understanding that the Minneapolis bridge was inspected not long before its collapse. While we don't yet know the reason for the collapse, it is clear that critical stress points in many bridges are shielded from view or unattainable for visual inspection. The inspection of connection details, wrapped cables, underwater foundations and other points could benefit from the utilization of high-powered imaging or other modern technologies. Given the decentralized nature of bridge and transportation programs, how does the Department plan to encourage the adoption of more modern inspection methods and technologies? Does the Department have the authority needed, or is legislative language required?

Response. FHWA has developed a multi-faceted approach to encouraging the acceptance and adoption of modern inspection methods and technologies:

- FHWA shares the results of completed research projects, and supports and facilitates technology and innovation deployment, through outreach programs and collaborative efforts with stakeholders ranging from the Transportation Research Board to State departments of transportation.
- The FHWA Resource Center serves as a central location for obtaining highway technology deployment assistance.
- Education and training programs are provided through the FHWA National Highway Institute, and modern methods and technologies are introduced through these training courses.
- Demonstration projects and case studies that provide hard quantitative data can help to tip the scale so that stakeholders are willing to apply innovative technologies to long-standing safety and asset measurement and protection problems.

Through these and other mechanisms, FHWA supports the development and implementation of innovative technology deployment practices and processes throughout the highway community.

Taken together, these activities often encourage broad adoption of highway technologies by increasing stakeholder familiarity with new technologies. However, it is important to recognize that technology deployment is often slowed by residual uncertainties about performance, reliability, installation and maintenance costs; availability of the next generation of the technology; and the need for the necessary technical and physical infrastructure to support the technology in question. Additional legislative language cannot resolve most of these uncertainties.

Question 3. There has been a lot of media attention lately on the infrastructure needs of our nation's bridges. In recognizing that tolling is not the right fit for all states, what innovative solutions can you offer to address these critical needs? Is the Missouri DOT's recent infrastructure financing initiative a model for similarly situated states to follow in addressing their own infrastructure needs and lack of funding?

Response. To provide new sources of investment capital to finance our Nation's transportation infrastructure, SAFETEA–LU expands bonding authority for private activity bonds by adding highway facilities and surface freight transfer facilities as eligible activities for tax exempt facility bonds, up to a national cap of $15 billion.

Within the $15 billion cap, the Department of Transportation has approved a $700 million allocation of authority to issue Private Activity Bonds for the Missouri Safe and Sound Bridge Improvement Project. The allocation will be made available to two shortlisted bidders who are competing for a contract to bring 802 of Mis-

souri's lowest rated bridges up to satisfactory condition by December 2012 and keep them in that condition for at least 25 years. Bidders will compete largely on the basis of the lowest net present value of annual "availability payments" they will accept to carry out the project. Missouri DOT will use Federal-aid formula funds to support the availability payments.

This innovative financing approach will allow Missouri to make the most effective use of its Federal-aid formula funds and complete these much needed bridge improvements more quickly. Other States are examining this approach; we believe this is a useful model for other States to emulate.

Senator BOXER. Thank you.

Senator Warner, I would like to ask you for an opening statement because we were hoping you would do that.

Senator WARNER. Madam Chair, no, it is OK. Thank you.

Senator BOXER. OK.

Sir, welcome.

STATEMENT OF HON. CALVIN L. SCOVEL III, INSPECTOR GENERAL, U.S. DEPARTMENT OF TRANSPORTATION

Mr. SCOVEL. Chairman Boxer, Ranking Member Inhofe and members of the Committee, thank you for the opportunity to testify today on the Federal Highway Administration's National Bridge Inspection Program.

The collapse of the Interstate 35W bridge in Minneapolis has heightened concern about the safety of our bridges nationwide. Along with the President and the Secretary of Transportation, I saw the wreckage firsthand, and I join with you and the Nation in mourning the lives that were lost.

While it is the responsibility of NTSB to determine the probable cause of the Minneapolis collapse, my testimony today will focus on overall bridge safety inspection and is based on work done by our audit and engineering staffs over the past 3 years including a detailed report issued last year. Our work in this area is continuing.

I would like to briefly highlight three major issues. First, Federal oversight of bridge inspections and funding for bridge rehabilitation and replacement are and will remain significant challenges for DOT.

Second, Federal Highways must continue its efforts to develop an approach to bridge oversight that is driven by data and based on risk assessment. This should allow better identification and targeting of those bridges most in need of attention.

Finally, FHWA can take action now, today, that will strengthen the National Bridge Inspection Program.

First, oversight and funding: The safety of our Nation's bridges which has been a high priority issue for 40 years depends upon a complex web of local, State and Federal activities. States are ultimately responsible for the safety of their bridges while FHWA oversees the States and provides expertise and guidance related to inspection, repair and maintenance.

Bridges that are part of the national highway system, and there about 116,000, carry over 70 percent of all bridge traffic nationwide. About 5 percent of these or 6,100 are currently categorized as structurally deficient. The term "structurally deficient" does not necessarily mean dangerous, however, since many bridges in this category can continue to operate safely if they are properly in-

spected and their maximum load limits are correctly calculated and posted.

Our written statement includes a listing by State of the number of structurally deficient bridges in the national highway system.

Congress has long provided States with funding to correct structural deficiencies. In 2006, $21.6 billion was authorized through 2009. However, the need for funding is great. The FHWA report issued in January of this year estimated that about $65 billion could be invested immediately to address current bridge deficiencies.

We will be evaluating funding issues as part of our ongoing comprehensive review of the Agency's oversight of the bridge program.

Second, the importance of a data-driven, risk-based approach: As we reported last year, based on a statistical projection, more than 10 percent of the highway system's structurally deficient bridges may have had inaccurate load ratings. To combat such issues, we recommended that FHWA develop a data-driven, risk-based approach to address bridge problems most in need of attention.

FHWA has initiated specific action to improve oversight of structurally deficient bridges which we commend. These include updating guidance to its engineers in its Bridge Program Manual, implementing new inventory reports intended to identify problem areas in load rating data and promoting greater use of computerized bridge management systems. Yet more is needed.

As these initiatives advance, it is essential that FHWA, as part of its overall risk management process, ensure that its State Division Offices conduct rigorous and thorough assessments of potential risks related to load rating and posting practices. As of September 12, 10 Division Offices had identified load rating and posting practices as a high risk area. The Agency must now quickly follow up and ensure that actions to mitigate these risks are taken without delay.

In addition, FHWA needs to reexamine the responsibilities and time constraints of its Division Office bridge engineers. In many cases, we found that the time that these engineers devote to bridge oversight is limited.

Third, FHWA can immediately take action to strengthen the bridge inspection program. The Agency needs to be more aggressive as it moves forward. The success of its initiatives rests with its 52 Division Offices, and FHWA will have to monitor their progress closely.

Actions that FHWA can begin to take now include:

First, finalize and distribute the revised Bridge Program Manual to Division Offices as soon as possible and ensure that bridge engineers make better use of existing Federal and State data during compliance reviews.

Second, identify and target those structurally deficient bridges most in need of recalculation of load ratings and postings, using a data-driven, risk-based approach.

Third, as directed last February, ensure that division offices conduct rigorous, thorough assessments of potential risks associated with structurally deficient bridges and define how FHWA will respond to identified high priority risks.

Fourth, identify and implement a process to determine the amount of Federal funds expended on structurally deficient bridges.

Finally, our audit work on these issues will continue in a comprehensive way, focusing first on assessing the corrective actions that FHWA has taken in response to our March 2006 report. Second, we will study several aspects of Federal funding for bridge repair including how effectively these funds are being used and what the funds are being used for, and, third, reviewing FHWA's oversight activities for ensuring the safety of National Highway System bridges.

Chairman Boxer, this concludes my statement. I would be happy to respond to questions.

[The prepared statement of Mr. Scovel follows:]

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United States Senate

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FHWA Can Do More in the Short Term to Improve Oversight of Structurally Deficient Bridges

Statement of

The Honorable Calvin L. Scovel III

Inspector General

U.S. Department of Transportation



Chairman Boxer, Ranking Member Inhofe, and Members of the Committee:

Thank you for the opportunity to testify today on the National Bridge Inspection Program, particularly the Federal Highway Administration's (FHWA) oversight of structurally deficient bridges within the National Highway System. This hearing follows closely the collapse on August 1 of the Interstate 35W bridge in Minneapolis, which spanned the Mississippi River. I personally visited the site of this tragedy and saw how cars, buses, trucks, and tons of concrete and twisted metal were sent into the water. Like you, I mourn the lives that were lost. As you know, under the current National Bridge Inspection Program, the states, with oversight by FHWA, are responsible for inspecting bridges on public roads. The primary purpose is to identify and evaluate bridge deficiencies in order to ensure public safety. I will assist the Committee and the Secretary of Transportation in any way I can in determining whether the current program delivers the highest level of bridge safety and, if not, how it can be improved.

My testimony today is based on work carried out by our audit and engineering staff concerning bridge safety over the past 3 years. We have also utilized the engineering expertise of the U.S. Army Corps of Engineers. In March 2006, we issued a report on FHWA's oversight of load ratings and postings on structurally deficient bridges on the National Highway System.[1] We have also performed audit work on other bridge issues, including bridges destroyed by Hurricane Katrina, the Zakim Bridge on Boston's Central Artery/Tunnel Project, and the San Francisco–Oakland Bay Bridge. Today, I will discuss our previous work dealing with structurally deficient bridges and make several observations regarding FHWA's actions to address our prior recommendations to improve its oversight of bridges. Specifically:

- Federal oversight of bridge inspections and funding for bridge rehabilitation and replacement constitute significant challenges for the U.S. Department of Transportation (DOT).

- FHWA needs to develop a data-driven, risk-based approach to bridge oversight to better identify and target those structurally deficient bridges most in need of attention.

- Action can be taken now to strengthen the National Bridge Inspection Program and FHWA's oversight.

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[1] OIG Report Number MH–2006–043, "Audit of Oversight of Load Ratings and Postings on Structurally Deficient Bridges on the National Highway System," March 21, 2006. OIG reports are available on our website: www.oig.dot.gov.

Federal Oversight of Bridge Inspections and Funding for Bridge Rehabilitation and Replacement Constitute Significant Challenges for DOT

Federal oversight of bridge inspections and funding of bridge rehabilitation and replacement have been significant challenges for DOT for years. The safety of the Nation's bridges depends upon a complex web of Federal, state, and local activities, including such items as maintenance and rehabilitation, inspections and reviews, and load ratings and postings. While states are ultimately responsible for ensuring that bridges within their jurisdictions are safe, FHWA is responsible for overseeing the states in this effort, and for providing technical expertise and guidance in the execution of bridge inspection, repair and maintenance, and remediation activities.

The National Bridge Inventory comprises data on 599,976 bridges, including 116,086 bridges on the National Highway System, as well as bridges maintained and operated by various state and local entities. Many bridges require enhanced attention: nationwide, almost 80,000 bridges are considered functionally obsolete and nearly 72,500 are structurally deficient. In five states, more than 20 percent of the bridges are considered structurally deficient. The term "structurally deficient" refers to bridges that have major deterioration, cracks, or other deficiencies in their structural components, including decks, girders, or foundations. Regular inspections that check for corrosion, decay, and other signs of deterioration are important tools for ensuring that bridges are safe. In some cases, structurally deficient bridges require repair of structural components, or even closure. But most bridges classified as structurally deficient can continue to serve traffic safely if they are properly inspected, the bridges' maximum load ratings are properly calculated, and, when necessary, the proper maximum weight limits are posted.

Of the National Highway System's bridges, 6,149, or 5.3 percent, are categorized as structurally deficient. National Highway System bridges carry over 70 percent of all bridge traffic. The price of repair or remediation of bridges is high. An FHWA report issued in January of this year estimated that about $65 billion could be invested immediately to address current bridge deficiencies.

Bridge safety emerged as a high-priority issue in the United States in the 1960s. In 1967, corrosion caused the Silver Bridge on the Ohio River between Ohio and West Virginia to collapse, killing 46 people. In 1968, in hopes of avoiding further catastrophes, Congress responded by holding hearings on bridge design, inspection, and maintenance, determining that serious safety concerns and problems of lost investment and replacement costs "elevate bridge inspection and maintenance problems to national priority." In 1971, FHWA issued standards for identifying, inspecting, evaluating, and acting upon bridge deficiencies to ensure

that bridges are safe for the traveling public. However, disaster struck again with further bridge collapses, including those of the Mianus River Bridge in Connecticut in 1983 (with 3 deaths), the Schoharie Creek Bridge in New York in 1987 (10 deaths), the Hatchie River Bridge in Tennessee in 1989 (8 deaths), and the Arroyo Pasajero Bridge (sometimes called Twin Bridges) in California in 1995 (7 deaths). Investigations showed that these collapses were caused at least in part by structural deficiencies created by the elements. The loss of lives, injuries, and significant economic impact resulting from these collapses, as well as the recent Minneapolis bridge collapse, underscore the significance of bridge safety as a major challenge for DOT.

National Bridge Inspection Standards. According to current inspection standards, when bridge inspectors identify deficiencies that pose safety problems, a bridge should either be repaired to correct the deficiencies, posted with signs to restrict the size and weight of vehicles allowed, or, if the deficiencies are serious enough, closed to vehicular traffic.

While FHWA provides oversight of state bridge inspections and programs, the states themselves are responsible for performing the inspections of highway bridges on public roads. However, FHWA has no legal authority to require private bridge owners to inspect and maintain their bridges. Likewise, the inspection standards do not apply to railroad, pedestrian, tribally owned bridges, and federally owned bridges not open to the general public. Nevertheless, FHWA strongly encourages the owners of these bridges to follow the inspection standards.

The inspection standards provide a definition of bridges (greater than 20 feet long) and outline requirements regarding the frequency of inspections, qualifications of inspection personnel, and data to be collected. According to the standards:

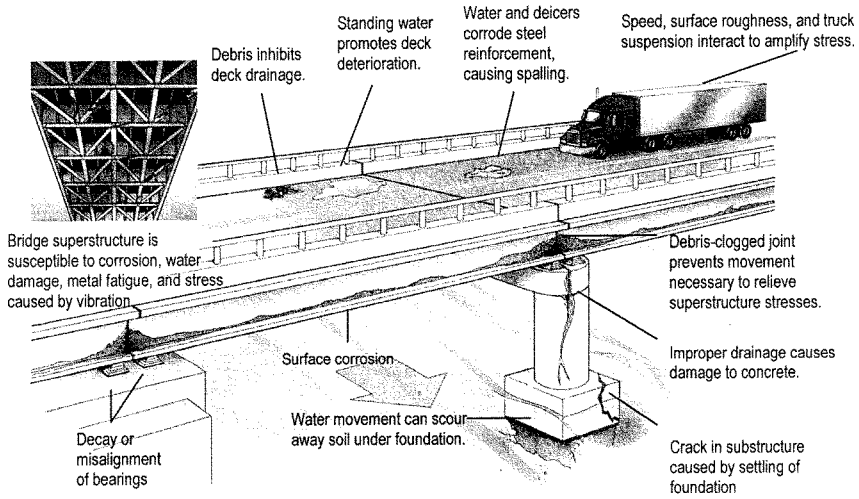
- Most bridges are to be inspected at 2-year intervals.[2]
- Each state is required to have a bridge inspection organization capable of performing inspections, preparing reports, and determining bridge ratings in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards and provisions in the Code of Federal Regulations.
- Each bridge shall be rated as to its safe load-carrying capacity. If the calculated load rating is less than the state's maximum legal load, the bridge must have signs posted as to the maximum permitted load, or be closed.
- The findings and results of bridge inspections, including safe load ratings, shall be recorded by state inspectors on standard paper or electronic forms, and submitted to the National Bridge Inventory.

[2] States determine when more frequent inspections are required based on the specific needs of a bridge.

Each year, FHWA's Office of Bridge Technology collects bridge inventory data from the states for use in updating the National Bridge Inventory. Along with maintaining the inventory of public highway bridges, FHWA is responsible for submitting a biennial report to Congress on the conditions of all bridges in that inventory. FHWA also performs an annual review of each state's bridge inspection program and compliance with inspection standards. Inventory data provide important information on bridge location, age, ownership, and condition.

Structurally Deficient Bridges, Load Ratings, and Postings. A total of 6,149 National Highway System bridges (of the 116,086 National Highway System bridges in the inventory) were classified as structurally deficient as of last month. Figure 1 depicts how a bridge can become structurally deficient.

Figure 1: Water, Salt, Stress, and Corrosion Can Make a Bridge Structurally Deficient



Source: Illustration by Jana Brenning. Copyright Jana Brenning. Reprinted with permission. Illustration first appeared in *Scientific American*, March 1993.

Table 1 shows the top ten states with the highest proportion of structurally deficient bridges on the National Highway System in the United States. Table 2 shows the highest average daily traffic (ADT) traveling over structurally deficient

bridges on the National Highway System. The three attachments to my testimony provide additional details on structurally deficient bridges by state.

Table 1: Ten States[a] with the Highest Proportions of Structurally Deficient Bridges on the National Highway System (NHS)

State	Total Number of NHS Bridges	Total Number of Structurally Deficient NHS Bridges	Percentage of State's NHS Bridges that are Structurally Deficient
Rhode Island	272	55	20.2%
Pennsylvania	3,831	571	14.9%
California	7,467	1,030	13.8%
Vermont	477	56	11.7%
Alaska	389	40	10.3%
Michigan	2,541	261	10.3%
Oklahoma	2,733	280	10.2%
West Virginia	1,137	108	9.5%
Massachusetts	2,020	187	9.3%
Puerto Rico	580	50	8.6%

[a] Includes the District of Columbia and Puerto Rico.

Source: National Bridge Inventory, August 28, 2007.

Table 2: Ten States with the Most Average Daily Traffic (ADT) over Structurally Deficient NHS Bridges

State	Total Number of NHS Structurally Deficient Bridges	Total ADT over NHS Structurally Deficient Bridges (vehicles)
California[a]	1,030	64,470,654
Pennsylvania	571	14,568,954
New York	227	8,923,614
New Jersey	175	7,630,571
Massachusetts	187	7,301,293
Illinois	297	7,226,804
Kentucky	113	6,900,153
Michigan	261	6,432,596
Oklahoma	280	5,034,530
Ohio	178	4,791,339

[a] Two bridges in California had no reported ADT in the National Bridge Inventory.

Source: National Bridge Inventory, August 28, 2007.

Proper reviews of the calculations of a bridge's maximum safe load ratings are important because as a bridge ages, corrosion and decay can decrease its capacity to support vehicles.

The practice of calculating the load rating of structurally deficient bridges and, if necessary, posting signs to keep heavier vehicles from crossing them, serves to protect structurally deficient bridges from powerful stresses caused by loads that exceed a bridge's capacity. The load rating is a calculation of the weight-carrying capacity of the bridge and is critical to its safety. A load rating is performed separately from the bridge inspection, but is based upon design capacities supplemented with data and observations of the bridge's physical condition provided by a bridge inspector. The load rating, expressed in tons, serves as the basis for posting signs noting the vehicle weight limit restriction, which can be referred to more simply as the bridge's maximum weight limit. Some bridges are weakened to the point that signs must be posted to bar vehicles heavier than the calculated maximum load.

Federal Funding for the Nation's Bridges. Congress has long recognized the vital national interest of assisting states in improving the condition of bridges. In 1978, Congress passed legislation authorizing the Highway Bridge Replacement and Rehabilitation Program and the Discretionary Bridge Program to provide states with funds needed to correct structural deficiencies. In 2005, Congress replaced the Highway Bridge Replacement and Rehabilitation Program and the Discretionary Bridge Program with the Highway Bridge Program, and broadened the scope to include systematic preventive maintenance.[3] Overall, a total of $21.6 billion was authorized for the Highway Bridge Program through 2009.

For fiscal year 2007, states were allocated more than $5 billion to be used for bridge construction, repair, and remediation under the Highway Bridge Program. According to FHWA officials, while the agency tracks all Federal bridge funding, its financial management system does not differentiate between spending on structurally deficient bridges and other bridge-related expenditures. As a result, FHWA is unable to tell how much of the funding it provides to the states is actually spent on structurally deficient bridges. FHWA told us that it is working to develop a process to use National Bridge Inventory and financial management systems data to identify the amount of federal funds spent on structurally deficient bridges. As part of our comprehensive audit of FHWA's oversight of the bridge program, we will be evaluating this issue and will report back to the Secretary of Transportation.

[3] Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users, Public Law No. 109-59 (2005).

FHWA Needs to Develop a Data-Driven, Risk-Based Approach to Bridge Oversight to Better Identify and Target Those Structurally Deficient Bridges Most in Need of Attention

Our March 2006 report found that FHWA could improve its oversight of the states to ensure that maximum weight limit calculations and postings are accurate. The need for improved oversight was evidenced by our finding that, based on a statistical projection, the load ratings for as many as 10.5 percent of the structurally deficient bridges on the National Highway System are inaccurate.[4]

To address deficiencies in its oversight, we recommended that FHWA develop a risk-based, data-driven approach with metrics to target the bridge problems most in need of attention. Since last year, FHWA has taken steps to address these deficiencies. In April 2006, for example, FHWA convened a working group to evaluate options and make recommendations for action.[5] Based on the work of this group, FHWA has initiated several specific efforts to improve oversight of structurally deficient bridges, including load ratings and posting. However, more action is needed. In the coming months, we plan to continue our evaluation of these initiatives.

FHWA did not require its Division Offices to analyze bridge inspection data to better identify and target those structurally deficient bridges most in need of load limit recalculation and posting. FHWA's Division Offices in the three states we reviewed in depth in our March 2006 report—Massachusetts, New York, and Texas—did not ensure that the states' bridge load ratings were properly calculated and corresponding postings performed. Our statistical sample showed similar problems nationwide. The FHWA working group identified the agency's risk management process as one way to address our findings:

- For the most recent risk management cycle, FHWA's Associate Administrator for Infrastructure directed Division Offices, in a memorandum dated February 22, 2007, to incorporate an assessment of bridge load rating and posting practices into the evaluation of risk for their program areas. As of September 12, 2007, 47 Division Offices had completed risk assessments. FHWA needs to ensure that all 52 Division Offices comply with the Associate Administrator's directive and complete risk assessments. At least 10 of the risk assessments identified load rating and posting practices as a high risk area.

[4] Derived from a statistical projection based on an analysis of a random sample performed by the U.S. Army Corps of Engineers of 67 bridges drawn from all 50 states, the District of Columbia, and Puerto Rico. The margin of error is +/- 5.3 percent.

[5] The working group included representatives from the Office of Bridge Technology, Division Offices, and the Resource Centers.

FHWA should review all the risk assessments to ensure that they were rigorous and thorough.

- The February 2007 memorandum also directed Division Offices to conduct an in-depth review of bridge load rating and posting practices within the next 3 years as a supplement to the annual compliance review for the National Bridge Inspection Standards. If load rating and posting practices are identified as a high risk area as part of the risk assessment process, Division Offices must conduct an in-depth review within 1 year. Of the 47 Division Offices that completed risk assessments, 13 have already completed in-depth reviews. FHWA should ensure that they were conducted in a rigorous and thorough manner. Furthermore, FHWA needs to ensure that in-depth reviews are conducted within 1 year by Division Offices that identified load rating and posting practices as a high risk area in their risk assessments.

- Upon completion of an in-depth review, according to the February 2007 memorandum, Division Offices must continue to monitor load rating and posting procedures as part of the annual review of compliance with National Bridge Inspection Standards and the annual risk assessment process, and to implement response strategies as warranted.

Going forward, FHWA needs to ensure the effectiveness of these new risk management initiatives:

- As part of FHWA's risk management process, Division Offices are given the latitude to analyze, prioritize, and manage identified risks across their program areas. FHWA needs to take aggressive action to ensure that the Division Offices are conducting a rigorous and thorough assessment of potential risks associated with load rating and posting practices of structurally deficient bridges as part of the risk assessment process. FHWA should also ensure that these evaluations are completed by Division Offices and done in a rigorous and thorough manner.

- Further, FHWA needs to ensure that, if a high-risk area is identified, the Division Office follows up with an in-depth review and conducts it in a timely and rigorous manner. The recent bridge collapse in Minneapolis has increased the urgency of making sure that any potential risks are identified and corrective actions taken expeditiously.

The time that FHWA engineers have available for bridge oversight is limited. An FHWA Division Office exists in every state as well as the District of Columbia and Puerto Rico. Each FHWA Division Office has a bridge engineer, in some cases assisted by additional engineering staff, designated to handle Federal bridge

program oversight responsibilities. In addition, FHWA bridge engineers perform other activities. We found that time constraints restricted bridge engineers' reviews to only a small percentage of the total number of bridges in the state. For example, one FHWA engineer in a large state informed us that he spent only about 15 percent of his time on oversight of the bridge inspection program. The majority of his time was spent providing technical assistance, construction inspection, and in committee meetings, among other tasks. FHWA needs to examine whether bridge engineers are devoting sufficient time and effort to examining the structurally deficient bridges most in need of attention, including those requiring load rating recalculations and postings. Based on the results of this assessment, FHWA should make the necessary resource decisions to strengthen oversight in this area.

FHWA would benefit from an oversight program that makes substantially greater use of data and metrics to target bridge inspections for its compliance reviews. Given the thousands of bridges that FHWA oversees and the limited time its engineers have available, a data-driven approach would help FHWA bridge engineers focus on inspections and compliance reviews. That is, they could address the bridge problems most in need of attention. FHWA has undertaken several initiatives to make greater use of such an approach, although more aggressive action must be taken going forward. Specifically, FHWA has:

- *Modified the Bridge Program Manual*[6] *to provide better guidance to Division Office bridge engineers conducting the annual compliance reviews.* The FHWA Bridge Program Manual has been revised to specifically define FHWA's expectations for the bridge engineers' reviews of load ratings and postings, including defining the minimum level of review. In particular, the revised manual states that bridge engineers should independently review Federal and state bridge data to determine how well load rating policies and procedures are being implemented. The manual is currently under review by FHWA's legal staff in accordance with the Office of Management and Budget's Good Guidance Practices. The manual has been under review since July 24, 2007. It is critical that this manual be finalized and distributed to Division Offices as quickly as possible to ensure that FHWA engineers have the guidance necessary to make greater use of existing bridge data.

- *Implemented new National Bridge Inventory reports that are intended to identify problem areas in load rating data.* The National Bridge Inventory database, which is the official source of nationwide bridge information, contains several reporting tools for data analysis. The database also has a new

[6] The manual is a collection of all of the basic program and technical information needed by FHWA bridge engineers to perform their duties in an efficient and effective manner.

module that allows the generation of eight different standard load rating and posting reports that can, for example, identify bridges that have been reconstructed but that have no updated load rating. Problem areas identified through these reports should be addressed during the annual compliance review. FHWA has proactively distributed these reports to the Division Offices. For example, according to FHWA, its Illinois Division Office has used the reports to resolve data discrepancies with the Illinois Department of Transportation. FHWA is continuing to develop new reports to further enhance its capability to identify problem areas for structurally deficient bridges. FHWA needs to continue to ensure that these reports are actually being used as a tool for identifying and correcting data errors, and not just viewed as a data-collection exercise.

- *Agreed to promote greater use of computerized bridge management systems.* According to FHWA officials, the agency will continue to provide the states with technical assistance and training related to the use of automated bridge management systems. For example, FHWA and AASHTO developed two computerized bridge management programs (Pontis and Virtis) to help states better manage bridge inspections.

  To its credit, FHWA's Office of Asset Management also promised to continue to provide technical and program assistance to other FHWA offices, partners, and customers in the development and implementation of comprehensive bridge management systems. FHWA also maintains a Bridge Management Information Systems Laboratory to identify and analyze causes and trends of deficiencies within the nation's bridge inventory. To fully implement a risk-based, data-driven approach, FHWA must aggressively promote the use of these computer-based resources going forward. We will assess initiatives such as these as we conduct further work on FHWA's National Bridge Inspection Program.

Action Can Be Taken Now to Strengthen the National Bridge Inspection Program and FHWA's Oversight

The bridge collapse in Minneapolis has focused attention on FHWA's oversight of the Nation's bridges and underscores the importance of vigilant oversight of states' efforts to inspect and repair structurally deficient bridges. FHWA must be more aggressive in implementing the initiatives it has already identified as being critical to improving its oversight of structurally deficient bridges, as well as identifying any other needed changes. As we evaluate the National Bridge Inspection Program, we will make recommendations where appropriate to improve the program and how it is implemented by FHWA.

FHWA Needs to Take Aggressive Action Going Forward. The implementation of FHWA's recent initiatives to improve oversight of structurally deficient bridges is the responsibility of its 52 Division Offices. It is too early to tell the extent to which each Division Office has started to implement these new initiatives, or whether they are working effectively. FHWA needs to ensure that it carefully monitors the progress of implementing these initiatives in its Division Offices, systematically evaluates their effectiveness, and shares lessons learned about what is working well or not working well in each state. The Minneapolis bridge collapse increases the urgency of making sure that these new initiatives are being fully implemented in a timely manner and working as intended.

FHWA can take action immediately to improve oversight of the nation's bridges. Specifically, FHWA should:

- Identify and target those structurally deficient bridges most in need of recalculation of load ratings and postings, using a data-driven, risk-based approach.

- Finalize and distribute the revised Bridge Program Manual to the Division Offices as quickly as possible and ensure that FHWA engineers make greater use of existing bridge data as part of the annual compliance review process.

- Ensure that each of the 52 Division Offices conducts rigorous and thorough assessments of any potential risks associated with structurally deficient bridges, as directed in February 2007, and define how it will respond to any specific high-priority risks that Division Offices have identified.

- Identify and implement a process to determine the amount of Federal funds expended on structurally deficient bridges.

We Are Undertaking a Comprehensive Audit of the National Bridge Inspection Program. Shortly after the Minneapolis bridge collapse, the Secretary of Transportation asked us to undertake an audit of the National Bridge Inspection Program. Our work will be separate and distinct from the National Transportation Safety Board's investigation, which will focus specifically on the events and conditions that led to the Minneapolis bridge collapse.

Our audit work will proceed in three concurrent phases, with sequential reporting dates. Specifically, our audit work will focus on the following efforts.

- An assessment of the corrective actions that FHWA has taken to address the recommendations we made in our March 2006 report on structurally deficient bridges. We have already initiated this effort.

- A study of Federal funding provided to states for bridge rehabilitation and repair. We will assess FHWA's management and tracking of such funding, the extent to which states effectively and efficiently use these funds to repair or replace structurally deficient bridges, and whether states are using bridge funding for other purposes.

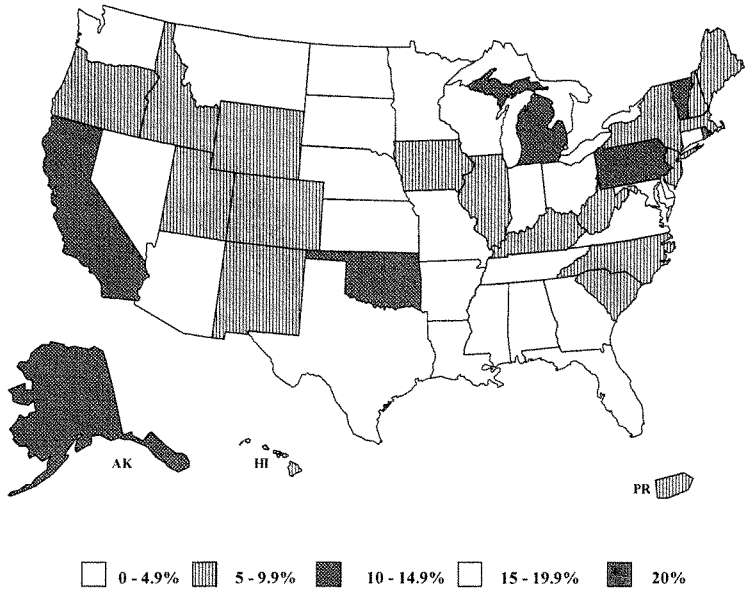
- A comprehensive review of FHWA's oversight activities to ensure the safety of National Highway System bridges across the country.

Going forward, our overall objective is to evaluate FHWA's implementation of the National Bridge Inspection Program and make recommendations for improvement in order to provide assurance that FHWA is doing everything that should be done to ensure bridge safety. We will report back to the Committee and the Secretary of Transportation as we identify additional steps that could be taken to improve the National Bridge Inspection Program.

Chairman Boxer, this concludes my statement. I would be happy to answer any questions that you or other members of the Committee may have at this time.

Attachment 1

Percentage of National Highway System Bridges that Are Structurally Deficient within Each State



Source: National Bridge Inventory, August 28, 2007.

Note: No states are within the 15-19.9 percent range. The state with 20 percent is Rhode Island. For the District of Columbia, which is not shown on the map, the percentage of National Highway System bridges that were structurally deficient is 7.8 percent.

Attachment 1

Attachment 2

Structurally Deficient Bridges on the National Highway System (NHS), by State

State	Total Number of NHS Bridges	Total Number of NHS Structurally Deficient Bridges	Percentage of NHS Bridges that are Structurally Deficient
Alabama	2,776	108	3.9%
Alaska	389	40	10.3%
Arizona	2,631	26	1.0%
Arkansas	1,929	43	2.2%
California	7,467	1,030	13.8%
Colorado	2,212	136	6.1%
Connecticut	1,571	66	4.2%
Delaware	250	0	0.0%
District of Columbia	115	9	7.8%
Florida	4,109	22	0.5%
Georgia	2,529	33	1.3%
Hawaii	414	31	7.5%
Idaho	740	41	5.5%
Illinois	3,627	297	8.2%
Indiana	2,447	108	4.4%
Iowa	1,848	122	6.6%
Kansas	2,397	41	1.7%
Kentucky	1,802	113	6.3%
Louisiana	2,676	90	3.4%
Maine	448	28	6.3%
Maryland	1,472	47	3.2%
Massachusetts	2,020	187	9.3%
Michigan	2,541	261	10.3%
Minnesota	1,659	47	2.8%
Mississippi	2,166	32	1.5%
Missouri	2,768	125	4.5%
Montana	1,264	27	2.1%
Nebraska	1,270	39	3.1%
Nevada	788	7	0.9%
New Hampshire	684	46	6.7%
New Jersey	2,503	175	7.0%
New Mexico	1,782	105	5.9%
New York	3,580	227	6.3%
North Carolina	2,638	160	6.1%
North Dakota	528	9	1.7%
Ohio	4,148	178	4.3%
Oklahoma	2,733	280	10.2%
Oregon	1,520	99	6.5%
Pennsylvania	3,831	571	14.9%
Puerto Rico	580	50	8.6%
Rhode Island	272	55	20.2%
South Carolina	1,375	107	7.8%
South Dakota	811	29	3.6%
Tennessee	3,075	74	2.4%
Texas	15,302	184	1.2%

Attachment 2

Attachment 2

State	Total Number of NHS Bridges	Total Number of NHS Structurally Deficient Bridges	Percentage of NHS Bridges that are Structurally Deficient
Utah	1,104	69	6.3%
Vermont	477	56	11.7%
Virginia	3,306	112	3.4%
Washington	2,325	89	3.8%
West Virginia	1,137	108	9.5%
Wisconsin	2,720	102	3.8%
Wyoming	1,330	108	8.1%
Totals	**116,086**	**6,149**	**5.3%**

Source: National Bridge Inventory, August 28, 2007.

Attachment 3

Total Average Daily Traffic (ADT) over Structurally Deficient National Highway System Bridges, by State

State	Total Number of NHS Structurally Deficient Bridges	Total ADT over NHS Structurally Deficient Bridges
Alabama	108	1,843,479
Alaska	40	195,084
Arizona	26	330,523
Arkansas	43	693,481
California	1,030	64,470,654
Colorado	136	3,904,935
Connecticut	66	2,631,506
Delaware	0	0
Dist. of Columbia	9	465,950
Florida	22	826,229
Georgia	33	720,480
Hawaii	31	903,595
Idaho	41	630,490
Illinois	297	7,226,804
Indiana	108	1,893,712
Iowa	122	1,299,190
Kansas	41	493,375
Kentucky	113	6,900,153
Louisiana	90	1,681,910
Maine	28	244,650
Maryland	47	2,508,885
Massachusetts	187	7,301,293
Michigan	261	6,432,596
Minnesota	47	1,698,025
Mississippi	32	217,600
Missouri	125	3,280,648
Montana	27	165,610
Nebraska	39	275,749
Nevada	7	91,221
New Hampshire	46	1,297,756
New Jersey	175	7,630,571
New Mexico	105	961,623
New York	227	8,923,614
North Carolina	160	3,396,600
North Dakota	9	35,555
Ohio	178	4,791,339
Oklahoma	280	5,034,530
Oregon	99	1,223,689
Pennsylvania	571	14,568,954
Puerto Rico	50	2,689,250
Rhode Island	55	2,340,137
South Carolina	107	1,609,250
South Dakota	29	127,840
Tennessee	74	3,178,830
Texas	184	3,391,248

Attachment 3

State	Total Number of NHS Structurally Deficient Bridges	Total ADT over NHS Structurally Deficient Bridges
Utah	69	1,535,767
Vermont	56	428,464
Virginia	112	3,300,043
Washington	89	1,426,717
West Virginia	108	1,287,250
Wisconsin	102	2,220,266
Wyoming	108	255,185
Totals	**6,149**	**190,982,305**

Source: National Bridge Inventory, August 28, 2007.
Note: Two bridges in California had no reported ADT in the National Bridge Inventory

RESPONSES FROM CALVIN L. SCOVEL III, TO ADDITIONAL QUESTIONS FROM SENATOR CARDIN

Question 1. In your testimony you assert that the Federal Highway Administration needs to develop "a data-driven, risk-based approach to bridge oversight." I agree. Are there other programs within DOT that use such a risk-based, data-driven methodology? Are you familiar with efforts in other nations that may use such an approach?

Response. Other modes in the Department have undertaken a data-driven, risk-based approach. For example, our audit results since 1998 have identified the need for the Federal Railroad Administration (FRA) to adopt a data-driven, risk-based approach to assist in targeting inspection and enforcement activities where they are most needed. In response to recommendations for a more data-driven approach in our February 2005 report on FRA's enforcement of railroad safety regulations, FRA launched its National Inspection Plan in May 2005. The Plan is an inspection and allocation program that uses predictive indicators to assist FRA in allocating inspection and enforcement activities within a given region by railroad and by state. We testified in May 2007, that since the plan was implemented in March 2006, it is too soon to tell exactly how effective these measures will be in the long term.

The Federal Aviation Administration (FAA) has made progress in developing a data-driven, risk-based approach through the use of its Air Transportation Oversight System (ATOS). ATOS permits FAA inspectors to proactively use data (e.g., air carrier maintenance problems and past FAA inspections) to assess air carrier systems, determine where inspections should be focused, and shift resources in response to changing conditions, such as financial distress. As of October 18, 2007, FAA had implemented ATOS at 110 air carriers; however, 8 carriers still need to be converted to the new system. FAA plans to complete this transition by the end of calendar year 2007.

Question 2. Could you please tell the Committee what you think is a reasonable timeframe for FHWA to develop such an approach?

Response. This will be a challenging undertaking for FHWA so it is difficult to estimate specific time frames. By way of comparison, the implementation of FAA's Air Transportation Oversight System (ATOS) has taken 9 years thus far. FAA plans to complete this transition by the end of calendar year 2007. One of the challenges has been providing adequate data analysis training to the inspector workforce to facilitate the transition from the traditional oversight approach to effectively using the ATOS approach.

In particular, FHWA's challenge involves implementing an array of new initiatives and a change in FHWA's previous approach to oversight. To its credit, since last year, FHWA has taken steps to address deficiencies we had previously found. In April 2006, for example, FHWA convened a working group to evaluate options and make recommendations for action. Based on the work of this group, FHWA has initiated several specific efforts to improve oversight of load ratings and postings, such as directing Divisions Offices to incorporate an assessment of load rating and posting practices into FHWA's most recent risk management cycle. However, FHWA must be more aggressive in implementing initiatives that it has identified as being critical to improving its oversight of structurally deficient bridges, as well as identifying any other needed changes.

In particular, FHWA needs to ensure the effectiveness of these new risk management initiatives and assess what other actions it could take:

- As part of FHWA's risk management process, Division Offices are given the latitude to analyze, prioritize, and manage identified risks across their program areas. FHWA needs to take aggressive action to ensure that the Division Offices are conducting a rigorous and thorough assessment of potential risks associated with load rating and posting practices of structurally deficient bridges as part of the risk assessment process. FHWA should also ensure that these evaluations are completed by Division Offices and done in a rigorous and thorough manner.
- Further, FHWA needs to ensure that, if a high-risk area is identified, the Division Office follows up with an in-depth review and conducts it in a timely and rigorous manner. The recent bridge collapse in Minneapolis has increased the urgency of making sure that any potential risks are identified and corrective actions taken expeditiously.

Shortly after the August 1, 2007 collapse of the Interstate 35W Bridge, the Secretary of Transportation asked us to undertake an independent review of the National Bridge Inspection Program. As we evaluate the Program, we will make recommendations where appropriate for implementing a data-driven, risk-based approach.

RESPONSE FROM CALVIN L. SCOVEL III, TO AN ADDITIONAL QUESTION FROM SENATOR LIEBERMAN

Question. In your testimony, you argue that the FHWA should identify and target those structurally deficient bridges most in need or improvement and recalculation of load ratings and postings, using a "data-driven and risk based approach." All of the testimony here indicates that we must try to devise some sort of prioritization scheme for bridge and infrastructure repair. Can you provide the Committee with more details about your vision for a prioritization process? In other words, what variables do you think should be included in a risk-based formula? How will the FHWA identify high-priority risks?

Response. Examples of possible variables to consider for identifying bridges most in need of attention include bridges that have not had weight limits posted when warranted and bridges with deteriorating conditions from one inspection to the next, but have not had their load rating calculation updated. We will know more about what variables to include in a data-driven, risk-based approach as we perform our review of the National Bridge Inspection Program. The overall objective of our audit work is to make recommendations for improvement in order to provide assurance that FHWA is doing everything that should be done to ensure bridge safety. As part of this effort, we will conduct a comprehensive review of the National Bridge Inspection Program and develop a better understanding of what variables should be considered when implementing a data-driven, risk-based approach.

RESPONSES FROM CALVIN L. SCOVEL III, TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. There is debate of whether we should give states greater flexibility in allocating resources, or increase the federal control of state programs. Do you think the current level of state flexibility is appropriate? How would the risk assessment model effect state flexibility?

Response. Taking a risk-based approach does not necessarily affect state flexibility or require an increase in Federal control. It simply helps FHWA maximize the time and resources it spends overseeing bridges under the current National Bridge Inspection Program. Prioritizing resources in a risk-based manner is critical given the thousands of bridges that FHWA oversees and the limited time its engineers have available. A data-driven approach would help FHWA bridge engineers address the bridge problem areas most in need of attention. FHWA has undertaken several initiatives to make greater use of such an approach, although more aggressive action must be taken going forward.

We will review the roles and responsibilities of FHWA and the states in the National Bridge Inspection Program as part of our comprehensive review of the Program. Another phase or our audit work involves a study of Federal funding provided to states for bridge rehabilitation and replacement. We will assess FHWA's management and tracking of such funding, the extent to which states effectively and efficiently use these funds to repair or replace deficient bridges, and whether states are using bridge funding for other purposes. We will take the results of these reviews into consideration when formulating any recommendations for improvements.

Question 2. How do we improve the bridge rehabilitation and bridge inspection program to address the immediate needs of our nation's bridges?

Response. Our review of the National Bridge Inspection Program includes several phases. One phase of our audit work will focus on assessing the corrective actions taken by FHWA to address the recommendations made in our March 2006 report related to load ratings and weight postings for structurally deficient bridges. Since last year, FHWA has initiated several specific efforts to improve oversight of structurally deficient bridges, including load ratings and postings. Another phase will involve evaluating FHWA's management of funding related to bridges. For example, we will be evaluating FHWA's efforts to develop a process to use National Bridge Inventory and financial management systems data to identify the amount of federal funds spent on structurally deficient bridges. We also plan to conduct a comprehensive review of the National Bridge Inspection Program. Going forward, we will be make recommendations for improvements in FHWA's oversight of the Nation's bridges as warranted.

However, as noted in the written testimony, there are actions that FHWA can take immediately. FHWA should:

• Identify and target those structurally deficient bridges most in need of recalculation of load ratings and postings, using a data-driven, risk-based approach.

• Finalize and distribute the revised Bridge Program Manual to the Division Offices as quickly as possible and ensure that FHWA engineers make greater use of existing bridge data as part of the annual National Bridge Inspection Standards compliance review process.
• Ensure that each of the 52 Division Offices conduct rigorous and thorough assessments of any potential risks associated with structurally deficient bridges, as directed in February 2007, and define how it will respond to any specific high-priority risks that Division Offices have identified.
• Identify and implement a process to determine the amount of federal funds expended on structurally deficient bridges.

Question 3. Could you offer recommendations on how to improve The Emergency Relief program?

Response. Currently, we are not evaluating the program. Our audit work is focusing specifically on the National Bridge Inspection Program. However, in the aftermath of Hurricane Katrina, we assessed some aspects of FHWA's Emergency Relief program. In our 2006 audit of the Mississippi Department of Transportation's award of selected Hurricane Katrina emergency repair contracts, we recommended that FHWA revise and strengthen its Emergency Relief Manual and related Federal regulations to better assist states in awarding emergency repair contracts. We found that FHWA's Manual and related Federal regulations provide only limited guidance to states that need to award emergency repair highway construction contracts. Specifically, the Manual did not:
• Prioritize each of the contracting methods available to states from the lowest risk (most preferred) to extremely high-risk (least preferred) as follows competitively bid, negotiated, cost-plus and negotiated, lump-sum contracts.
• Identify the risks associated with each contracting method and develop essential criteria that state officials should consider before making emergency repair award decisions.
• Advise states to limit the use of high-risk negotiated, lump-sum contracts and first consider less risky negotiated cost-plus contracts, if competition can not be reasonably developed.
• Advise states of the procurement procedures that should be followed in order for FHWA to consider negotiated contracts eligible for Federal reimbursements.
• Encourage states to use pre-negotiated emergency contracts that would allow state transportation agencies to issue task orders immediately in response to natural disasters and other unexpected occurrences.

In addition, the Manual needs to be strengthened to adequately address the responsibility of FHWA's Division Offices during emergency circumstances. As written, the Manual does not clearly define the role of the Division Offices or describe the steps they will take to assess the reasonableness of negotiated contract prices or review the supporting documentation to justify Federal reimbursements for emergency repairs. Furthermore, the Manual does not describe how FHWA will minimize its participation in negotiated contracts if prices are not deemed reasonable.

Question 4. Recognizing that bridge program money is distributed to states by a formula based on the number and level of bridge repairs needed; do you think that states may be "gaming" the system, to maximize their portion of bridge program money?

Response. We have not performed sufficient audit work to determine whether or to what extent states are "gaming" the system to maximize their portion of the bridge program money. However, in one phase of our audit work we will evaluate FHWA's management of funding related to bridges. For example, we will be evaluating FHWA's efforts to develop a process to use National Bridge Inventory and financial management systems data to identify the amount of federal funds spent on structurally deficient bridges. As part of this effort, we will develop a better understanding of the roles played by FHWA and the states in the allocation of bridge program money and make recommendations for improvements if warranted.

Question 5. What role is the Department of Transportation's Office of Inspector General playing at the site of the I–35W Bridge collapse?

Response. We responded to the I–35W Bridge collapse in a manner similar to when we responded to Hurricane Katrina and the collapse of ceiling panels in a Central Artery/Tunnel Project tunnel. We sent OIG personnel to offer assistance to state and local authorities. For example, on August 2, 2007, the day after the bridge collapse, we sent an investigator to the accident site to make contact with local and Federal authorities.

On August 3, 2007, in response to a request from the Secretary of Transportation, we outlined our planned audit work to review the National Bridge Inspection Pro-

gram. Our work will be separate and distinct from the National Transportation Safety Board's investigation, which will focus specifically on the events and conditions that led to the Minneapolis bridge collapse.

We have also received a request dated October 5, 2007 from Congressman Oberstar, Chairman of the House Transportation and Infrastructure Committee, to review the process used by the Minnesota Department of Transportation (MNDOT) in selecting a winning bid for the contract to rebuild the I–35W Bridge. On September 19, 2007, MNDOT announced that Flatiron Constructors, Inc./Manson Construction, a joint venture, had been selected as the apparent bid winner for the I–35W bridge project. Congressman Oberstar asked that our office provide a briefing on the results of our review no later than 45 days after the date of the request letter.

Question 6. Could you provide any additional details on the status of FHWA's legal review of revisions to the Bridge Program Manual?

Response. FHWA is revising the Bridge Program Manual to provide better guidance to Division Office bridge engineers conducting annual compliance reviews. The FHWA Bridge Program Manual has been revised to specifically define FHWA's expectations for the bridge engineers' reviews of load ratings and postings, including defining the minimum level of review. In particular, the revised manual states that bridge engineers should independently review Federal and state bridge data to determine how well load rating policies and procedures are being implemented.

The Office of Bridge Technology is in the process of forwarding revised chapters of the Manual to FHWA legal staff for review in accordance with the Office of Management and Budget's Good Guidance Practices. This process began in July 2007. It is critical that this manual be finalized and distributed to Division Offices as quickly as possible to ensure that FHWA engineers have the guidance necessary to make greater use of existing bridge data.

Senator BOXER. Thank you so much.

Senator Inhofe has to leave early, so I have agreed that he can open up the questions.

Senator INHOFE. OK, and I will make them quick. I won't use all my time. I only have three questions to start with Secretary Peters.

I didn't read my entire opening statement for the sake of time, but in there I pursued a question I would like to have you give your attention to, and that is there are a lot of proposals right now that are on the table in terms of taxing CO_2 or cap and trades. Given that the infrastructure material—cement, asphalt, steel—they have been skyrocketing in the last decade, are you concerned as to what effect this might have on these materials and it could make the funding crisis even worse?

Ms. PETERS. Senator, that is a very good point.

In fact, one of the advantages of the Missouri program which was talked about a few minutes ago is that we will build today, with today's dollars at costs that are substantially increasing over time, the improvements to those bridges. But, yes, sir, we remain concerned about the rapid escalation of the cost of construction materials and equipment.

Senator INHOFE. I would like just for the record to have you go into some detail on this Missouri thing. I was listening intently to Senator Alexander. I am not really familiar with what they are doing. I think it is something we need to look at.

Mr. Scovel, we talk about the bridge inspection. Of course, I have a major concern here because I said in my opening statement where Oklahoma ranks and we are concerned about that. Do you think that the divisional offices are really equipped to perform in a way that they should perform in accordance with your examination?

Mr. SCOVEL. Sir, if I can look back to our March 2006 report, we found that bridge inspections, the inspections themselves which are

the responsibility of the States, were generally performed adequately, completely and accurately. It was the followup actions, some completed by the States and under the oversight of Federal Highway Administration Division Office bridge engineers, that led us to have concerns.

We started with three individual States. We expanded our survey nationwide, and we concluded that bridge engineers in Division Offices had greatly limited time. In fact, one bridge engineer in one large State stated to us that he had perhaps only 15 percent of his time available to actually supervise the bridge inspection program. That should be a cause for concern, and we have recommended to the Federal Highway Administration that they reassess the prioritization of duties for their bridge engineers.

Senator INHOFE. Well, those recommendations, I think, are very significant. I remember when we started out with three and then you were going to expand that nationwide.

Last, Secretary Peters, you heard Senator Lieberman and several of us talk about prioritizing, and that is a tough one there. Do you have anything further that you did not mention in your opening statement about prioritizing?

I would say that for either one of you but starting with Secretary Peters.

Ms. PETERS. Senator Inhofe, what I would recommend and I think it is the topic of what I have asked the Inspector General to look at very thoroughly is not only the inspection of bridges and when I am talking about bridges specifically but then how the data that is obtained from those inspections is used to prioritize bridge funds and whether or not recission is one of the tools that is used. Bridge funds are taken with a recission or transferred or diverted to other purposes.

I would be interested in saying that those funds could not be diverted until the bridges were brought up to appropriate condition.

Senator INHOFE. That is good.

Any comments on that, Mr. Scovel?

Mr. SCOVEL. Thank you, Senator.

It is a matter of concern, we think. Two items specifically, first, that Federal Highways currently doesn't have a financial management system that can track Federal dollars to be spent on structurally deficient bridges. In response to the tragedy of August 1st and followup questions from my office and the Secretary and many other sources, Federal Highways is in the process of instituting that.

Senator INHOFE. Very good, very good, very good.

Well, just finally, Secretary Peters, judging from the way you performed in your immediate attention in Minnesota and what you did in Oklahoma, you are doing a great job, and I applaud you for it.

Ms. PETERS. Thank you, sir.

Senator INHOFE. Thank you, Madam Chairman.

Senator BOXER. Secretary Peters, I can now publicly thank you for coming to the East Bay area when we had our tragic overpass collapse as a result of a truck—you remember that—crashing in such a way that the fire actually melted the infrastructure, a miracle in terms of the time and so on. But you came out there, and

really I think the State and Federal Government worked together really well and got that up and running. It was again an example of your being very cool in a crisis and very supportive, and I appreciate that.

In your testimony, you stated, we do not have a bridge safety crisis—that is what you said and that is what you wrote—and the Department of Transportation will not put the public at risk because "We would limit the use of a bridge or close a bridge rather than let the public safety be put at risk."

Now the people who traveled across I–35W were put at risk and 13 people died. So what do you tell the American people?

You are making a very clear statement: "We would limit the use of a bridge or close a bridge rather than let the public safety be put at risk."

You didn't do that. So what are your plans? Do you have any plans to close bridges, to limit traffic?

How can you say that everything is rosy when 13 people died? I don't get it.

Ms. PETERS. Chairman Boxer, you make a valid point.

Senator Klobuchar said on the morning after the tragedy occurred, as we stood near the site, that bridges in America should just not fall and they should not.

Every bit of data that we had prior to this tragedy indicated that there was not a safety issue with that bridge. That is precisely why I have asked the Inspector General to very thoroughly look at our bridge inspection program and how that data is used.

Chairman Boxer, as I said, we don't——

Senator BOXER. How was that bridge rated?

Ms. PETERS. That bridge was rated structurally deficient. It was rated an overall four, as Senator Klobuchar indicated earlier, and it was scheduled for——

Senator BOXER. Four out of?

Ms. PETERS [continuing]. Four out of ten. I am sorry, nine, four out of nine.

Senator BOXER. OK.

Ms. PETERS. In any event, Madam Chairman, we don't know what happened there. We have no indication to date that it was lack of inspection or lack of routine maintenance that caused the collapse, but again I do not want to speculate about what happened. We need to know.

Senator BOXER. When do you think we will know?

Ms. PETERS. We will know within a year according to the NTSB, approximately a year. But, as I indicated in my written testimony, I am in close contract with Chairman Rosenker and NTSB and when they have given us data that would indicate that we need to act out an abundance of caution, I have done so.

I have asked States to reinspect all similar bridges to this, and I have also asked States to be sure that if they are doing construction on these bridges to be mindful of the added weight, to calculate the load values, and that is an issue that the Inspector General mentioned. In conducting the inspections, you should also recalculate the load carrying capability of bridges following these inspections, and that is an area that he mentioned that we are putting emphasis on now today as well.

Senator BOXER. As we sit here today, you haven't taken any action to do what you said you would do in your testimony. You said we would limit the use of a bridge or close a bridge rather than let the public safety be put at risk, and up to now you haven't found any bridge at risk so that you have to limit it or close it, is that correct?

Ms. PETERS. Chairman Boxer, I am sorry if I misinterpreted or missaid that. No, that is not correct.

There are bridges today that are load-limited. There are bridges today that have been closed because they did calculate to a point that we felt that we either had to limit the loads.

Senator BOXER. Could you do me a favor? Could you send me a list of the bridges since this horrific tragedy that you have either closed or limited and let me know each bridge? I am very interested to know the action you have taken.

Ms. PETERS. Madam Chairman, some of those bridges may have been closed or load-limited prior.

Senator BOXER. I am talking about since the accident, the tragedy, the collapse.

Ms. PETERS. Will do.

Senator BOXER. As you mentioned in your testimony, the Department of Transportation has estimated that $65 billion could be invested right now in a cost-effective way to repair current bridge deficiency. Where do you suggest we get that funding?

Ms. PETERS. Madam Chairman, that figure came from a report to Congress, the Condition Performance Report, the 2006 report, and it covered, it estimated the investment backlog to be $65.2 billion for all levels of government. This estimate, while it is our most current, is based on data from 2004, stated in 2004 dollars, and both the backlog and the bridge inventory have changed since that time.

I would be happy to get you updated figures as near as we have them.

Madam Chairman, I think what we need to do, as I said in my written testimony and in my oral statement, is we need to reprioritize where we are spending money today. Today, beyond the roughly six core programs that are devoted to highway and bridge use. We have overall some 40 programs where moneys are diverted away from these core needs and perhaps for very meritorious purposes.

Senator BOXER. Could you send the Committee a list?

I am asking you where we are going to find the money. You said $65 billion, not you but your Department found that in a study. I assume you are not attacking your own Department's study. So, if that is accurate, where do we get the funding?

Now the 65 billion is all sources, so it is not all Fed funds. Let us assume it is about 50 percent Fed funds or a little more than that usually. It is about 80–20, wouldn't you say?

Ms. PETERS. Normally speaking, overall funding is about 40 percent Federal and 60 percent State.

Senator BOXER. OK, so 40 percent is what we have to look at. Where would you get it?

You talked about the gas tax. I don't support raising the gas tax, so I don't know who you were aiming that at. But if there is a way

to fix our infrastructure without money, I would like to know what it is short of having a Jimmy Carter-like organization come and get everybody together to do it and even that would require contributions.

I will tell you something about this place that is really extraordinary. To get money for Iraq [snaps fingers] like that. To get money for Iraq's infrastructure [snaps fingers] like that. To get money for our infrastructure, for our people so they don't have to die on a road, oh, well, we really have to just prioritize.

You cannot prioritize your way out of a problem. You cannot prioritize a way for this infrastructure. We need to do it. We are growing. So it is not just a question of a static situation.

You yourself said it costs more. The contractors charge us more because the costs go up.

Therefore, I guess what I need to tell you is that I just hope, I just pray that as a result of the Administration's attitude which appears to be now we can just prioritize our way out of it.

You know someone actually said in my State: Here is the way we get out of this. We just take away structurally deficient. Don't use that term anymore. It scares people.

I would like to ask Mr. Scovel. Is that going to solve our problem if we suddenly say that these bridges are not deficient and we use a new word? Would you support that, sir?

Mr. SCOVEL. I would not support doing away with the term, "structurally deficient." It is a term of art used by bridge engineers and has a very specific meaning to categorize bridges that need special attention.

I think it is confusing and somewhat misleading to the average American citizen who thinks structurally deficient equates to——

Senator BOXER. Structurally deficient.

Mr. SCOVEL. Yes, a bridge on the verge of collapsing and can barely support a bicycle.

Senator BOXER. Well, you are looking at something over there. Structurally deficient? We don't know. Maybe it was caused by something else. We really don't know that. That is true. We will know soon.

But the fact is if somebody tells me my home is structurally deficient, it might or might not be a four, a five, a nine, a one, or a two. It needs to be fixed.

This is America in the 21st Century, so I think we just need to face reality here and not be willing to spend all our money in another country. That is as simple as it gets.

Senator Barrasso.

Senator BARRASSO. Thank you very much, Madam Chairman.

Secretary Peters, I just got here from the State Senate, but as Chairman of our State Senate Transportation Committee I attended a conference that you had at the White House actually in the Indian Treaty Room in, I think it was, February probably on the U.S. transportation system. We talked a lot about the Highway Trust Fund, some concerns we had in terms of its fiscal viability after 2009 or 2010.

Different States have different needs. I look at that and say to myself, does it make sense to create a stand-alone bridge program when States already have some flexibility to prioritize, whether it

is a bridge replacement or interstate pavement needs, and what is the best way to proceed?

Ms. PETERS. Senator, thank you for your attendance at the conference. I think what that conference highlighted for us are some problems, some systemic and fundamental problems with the way we fund infrastructure in the United States today, and I think that is partially the reason that we do have a backlog of maintenance needs.

As was said earlier, I think Senator Carper said it, I have never seen anyone get misty-eyed cutting a ribbon on a maintenance project. Most people don't even want to show up at a maintenance project at all, and that is part of the problem.

I think what we have to do is diversify the way we are collecting funds to support transportation in the future. The gas tax, while it has served us very well for the last 50 years, I do not, in all honesty, believe it is viable, reliable nor sustainable for the future. So what we need to do is bring in new sources of funding.

I truly believe that we will continue to need a level of public funding, especially for low population, high geographic area States like your State and like others as well. There are some cases where public-private partnerships, tolling or things like that simply will not work. So there has to be a measure of public funding.

But I believe that there is a tremendous opportunity, as California has done, as my home area has done in the Phoenix area and others, to bring new revenues to the table—increment taxes, tax increment financing, taxes like they have in California to bring additional revenues to the table. In some cases, there are developer fees or a variety of ways to do that and to supplement the public funding, but I also believe there is tremendous, tremendous opportunity to track into private sector funding that is available to help us with our infrastructure needs.

Senator BARRASSO. Thank you.

Ms. PETERS. Thank you.

Senator BARRASSO. No further questions, Madam Chairman.

Senator KLOBUCHAR [Presiding]. Senator Carper.

Senator CARPER. Thank you, Chairwoman Klobuchar.

Senator KLOBUCHAR. That sounds nice for the next hour.

[Laughter.]

Senator CARPER. It didn't take you too long to get there either. Eight months and you are running the show.

Secretary Peters, you alluded to my earlier comments. You said that not many people get misty-eyed as a highway repair project or bridge repair project is undertaken.

In my last year as Governor, I was running for the U.S. Senate. My last year as Governor and the year before that, we actually closed I–95 from Wilmington to the Pennsylvania line. We closed initially the northbound lanes, closed for about a month, and then we reopened them and closed the southbound lanes and diverted traffic.

The folks that gathered around were very misty-eyed during that period of time because they thought that any chance I ever had for being elected to the U.S. Senate was being dissipated and that it was going to create such a calamity and traffic catastrophe that they would run me out of the State. As you can tell, it just never

happened. Looking back, it was one of our proudest moments. I am very proud of it.

Another thing that, frankly, people don't get misty-eyed over is when we raise the gas tax. Senator Alexander talked about raising the gas tax and his State is ready for some major transportation improvement projects. It has enabled them to attract a lot of automotive jobs in the auto assembly business.

We raised the gas tax too. I am one who believes whether it is a gas tax or whether it is a user fee or whether it is a toll, roads, highways, bridges, transit, if they are worth having, we have to pay for them.

I think that one of the things we need in order to be competitive in the 21st Century is strong infrastructure, and I also think for us to be strong in the 21st Century we need to pay for things that we believe that we need, so we don't just end up borrowing money from those folks over in China or Japan or South Korea, which is what we are doing these days.

I have a couple of questions I would like to pose to Secretary Peters.

Ms. PETERS. I get the sense that you travel a lot in your job, is that true?

Ms. PETERS. I do, yes.

Senator CARPER. I have a friend who works for a company where he travels a lot too, and I asked him once. I knew his family lived in Connecticut. I said, where do you live, and he said I live in Seat 17B.

My sense is that you probably have some weeks where you feel like you do that too. That is where you live. We appreciate your service. Thanks for coming back to the Administration.

A question really for both you and Mr. Scovel: When a bridge is labeled as structurally deficient, that covers I believe a wide range of conditions. Could you just describe for me that range from the best to the worst conditions, please?

Ms. PETERS. Certainly, I will take the first cut at it and then, Cal, you can get more technical than I probably will.

The ratings, Senator, rate from zero to nine or one to nine, rather in terms of the bridge and with nine being a good bridge, a bridge that is in very, very good condition and, of course, a one being a bridge that is very deficient. If a bridge falls below a rating of four, it is either load-controlled or closed, in many cases, closed.

Bridges begin to show signs of wear almost immediately after they are put into service. So when we say that a bridge is structurally deficient, it ranges somewhere within that criterion, and it means that it needs to be inspected more often. It needs to be repaired frequently. It needs to be monitored very, very closely. It does not mean, as was indicated earlier, that it is unsafe, but it does mean that it requires more attention.

Our Federal Highway Administrator, Rick Capka, used shoes as an example. Perhaps if I use his example, it would make it easier to explain.

Senator CARPER. Another mode of transportation.

Ms. PETERS. Yes, yes. When a pair of shoes is brand new, it is a nine. It is in very good condition.

But as soon as you begin to walk on those shoes, they begin to show some signs of repair or wear, rather, and will eventually need to be resoled or have things done to them in order to keep that pair of shoes wearable over time. They will still be wearable albeit you need to pay attention to them.

If they are functionally obsolete, it means they are out of style. It doesn't mean there is anything wrong with them. It just means they are out of style. They don't meet current standards at all.

Bridges, while categorized either structurally deficient or functionally obsolete, can be very, very serviceable and can be over a period of time, but they do need to be inspected. They do need to be repaired and monitored much more closely.

Senator CARPER. All right, thank you.

Mr. SCOVEL. Thank you, Senator.

Senator CARPER. I don't know if it is possible to improve on that shoe example.

Mr. SCOVEL. I don't think I can top that, and the Secretary gave an excellent response in terms of the rating system.

If I could emphasize just a couple of points, and that is when a bridge is classified as a category four or below, its overall condition is poor. That means it is structurally deficient. That means, as the Secretary said, that additional inspections may be needed. In fact, in Minnesota for the I–35W bridge, that bridge was being inspected on an annual basis as a result of its structurally deficient status.

When that occurs, certain followup steps after those inspections are required, and those are the load rating calculations properly conducted, of course, and repairs, posting to limit the maximum weight of vehicles on the bridge and perhaps even closing if neither of those methods will support safety interests.

Senator CARPER. All right, thank you.

One last quick question if I could, in Congress and in the Administration, we segment governmental programs and duties into different committees and into different departments out of necessity, but sometimes because we do that we fail to see the whole pictures. That is why the Infrastructure Commission that Senator Voinovich and I have introduced along with the support of our colleagues, Senator Klobuchar and Senator Coleman and others, and why we look at all federally funded infrastructure.

Here is my question: By way of example, what is the impact of roads and bridges on our stormwater system?

Is there a way to build road to reduce that impact and that cost? If so, why isn't it standard practice or required by the Federal Government which often has to pay for the impacts of roads and bridges on our stormwater system?

Ms. PETERS. Senator, the impacts are calculated. When looking at improving or building a new road or a new bridge, the impacts on the flows are calculated and taken into consideration. In some cases, retention basins or detention basins are built to accommodate some of the flows or the runoffs.

That is probably exhausting my knowledge on that specific topic, but I would be happy to get our structural engineer back to you on the record.

Senator CARPER. Mr. Scovel, do you want to add anything to that? Thank you.

Mr. SCOVEL. I cannot, sir. We don't have any current work on those subjects.

Senator CARPER. We look forward to your written response and thank you for being here, testifying today. Thank you for your stewardship.

Senator KLOBUCHAR. Senator Alexander.

Senator ALEXANDER. Thank you, Madam Chairman.

Senator KLOBUCHAR. You are welcome.

Senator ALEXANDER. Thank you, Madam Secretary and Mr. Scovel for coming. I wanted to ask you about what Missouri is doing.

Now, as I understand it, Missouri has about 800 bridges that are structurally deficient or functionally obsolete, and it would take about 20 years to bring all those bridges up to date, I am told, or up to standard.

The Missouri Legislature approved a plan in August to let a single bid for all of those to be fixed over a 30-year contract. The bridges have to be repaired in 5 years, but the winning contractor then has to maintain those bridges for another 25 years. The contractor doesn't get paid until all the bridges are fixed. That is after 5 years.

The cost, they estimate, is 400 to 600 million dollars, I am told. The Missouri Legislature believes that they can take about one-third of the Federal transportation dollars Missouri would receive over the next 5 years and pay that bill 5 years from now.

Now if that turns out to be true, that would mean Missouri could fix, repair its structurally deficient or functionally obsolete bridges in 5 years instead of 20. That certainly helps in terms of safety for people who are served.

I would also suspect that it would save a lot of money. You just mentioned the increasing cost of materials. There is the cost of use of four to six hundred million dollars over the 15 years that it doesn't have to wait.

I have some experience in Tennessee with this where we allowed a private contractor to build a building to specification without us interfering with it, and then he gave it. We bought it from him, in effect, got it done in about half the amount of time and a lot less cost.

We have had the same experience at Oak Ridge National Laboratory where the government has allowed it, reluctantly, to have a private company build a building and then basically sell it to the government, according to specification.

What is your thought about the Missouri plan and does it offer any promise for the rest of the Country and are there impediments in the Federal law or procedure that would make it difficult to do?

Ms. PETERS. Senator Alexander, thank you for the question.

The project is called Missouri Safe and Sound Improvement Project and, as you indicate, it has a competition with a single award to bring 802 of Missouri's lowest rated bridges up to satisfactory condition. That would have to occur by December 2012 and then keep them in that condition for at least 25 years. The contractor, as you said, won't be paid until all 802 bridges have been approved, and that again could be up to 5 years out when they do that.

What Missouri did was applied to us for a $600 million allocation of private activity bonds for this program to assist them in paying the successful contractor at the time. They will be paid what is called an availability payment, meaning the money will be paid to them as it is available through Federal and other revenues, to pay the contractor. The award is being based on the lowest cost of availability payment.

We are allowing the State of Missouri to manage their cashflow in a manner that is beneficial to them.

Senator ALEXANDER. Before my time is all up, have you approved what they are doing?

Ms. PETERS. We have, and we think this is a very innovative idea. I am going to check, Senator. I believe that we were able to approve everything they did under existing statute. We may have used the SEP–15 process to move this forward, and I will check on that and get back to you, but I think it is marvelous.

Senator ALEXANDER. It is. The main advantage of this is that they don't have to be penalized by the inefficiency of the U.S. Congress in appropriating money. A big problem for States is that we mess around here and don't appropriate dollars, and they can't let their contracts. Is that right?

So, in this case, they are able to go ahead and fix a price and tell the contractor: Here is the job. Have it done in 5 years. If you do, we will pay you.

Is that the main advantage?

Ms. PETERS. That is correct, and sir, they are using this private activity bond allocation as a line of credit, if you will. So if the Federal dollars aren't available when they need them exactly, they will have the wherewithal to pay the availability payments.

But, at the end of the day, managing their cashflow in this manner, building the projects today or over the next 5 years instead of over the next 20 years can be done so significantly less costly and, as you said, the State then enjoys the improved bridges.

Senator ALEXANDER. Madam Chairman, I would like to ask, if I may, for the Inspector General to comment and then I am finished.

I also would like to ask the Secretary to report back to Chairman Boxer and the Committee about the pluses and the minuses of this because if it turns out to work, the idea that we could fix all of the structurally deficient or functionally obsolete bridges within 5 years or so with one-third of the Federal transportation dollars that we already would spend would be very important for this Committee to know, and I think most taxpayers would like to know it as well.

Ms. PETERS. We will do so.

Senator ALEXANDER. Thank you.

Mr. Inspector General and thank you, Madam Chairman.

Senator LAUTENBERG. Madam Chairman, we are under time constraints here.

Senator KLOBUCHAR. If you could be quick, Inspector General, so that Senator Lautenberg can ask his questions.

Senator ALEXANDER. I will stay and watch your time, Senator Lautenberg, too.

Senator LAUTENBERG. Shall I go ahead and let you continue your questions.

Senator ALEXANDER. All right, I will be glad to do that.

Senator LAUTENBERG. Thank you very much.

Senator ALEXANDER. I will be glad to interrupt you when 5 minutes is up.

Senator KLOBUCHAR. Senator Lautenberg.

Senator LAUTENBERG. The rule is generally that we extend courtesy to one to another when we have a 5-minute time limit. I don't enjoy extending my time and I don't enjoy your extending yours.

Senator ALEXANDER. Madam Chair, his time hasn't started yet.

Senator KLOBUCHAR. Senator Lautenberg, I think Senator Alexander agreed to have the Inspector General answer his question when you have completed your questions, so if you could begin.

Senator LAUTENBERG. Thank you.

Secretary Peters, last week the Senate passed an appropriations bill funding all of your Department's Federal transportation programs including $6 billion in funds for our Nation's bridges and all of the DOT employee salaries. Now, when that bill is sent to the President's desk, are you going to recommend that he signs it?

Ms. PETERS. Senator Lautenberg, I have to look at the bill more thoroughly and analyze it, and we are in the process of doing so right now. We are in the process of finalizing the statement of administrative position, and that position will give you the opinion of the Administration on the overall bill.

Senator LAUTENBERG. How long will that take?

Ms. PETERS. It won't take long, sir. I don't know exactly, but it will not take long.

Senator LAUTENBERG. Madam Secretary, in your statement, there was a digression to discuss ways perhaps of reducing the bridge traffic and that is to support $800 million worth of funds to the Country's largest cities to fully explore the concept of electronic tolling. Does this come as a higher priority than bridge repairs?

Ms. PETERS. Senator, if I may, the conditions of the Nation's infrastructure, the physical condition of the infrastructure has improved slightly over the last decade or so. The actual operation of that infrastructure has declined significantly during that same period of time.

For example, since 1993, we have doubled funding for transportation infrastructure adjusted for inflation. We have seen the condition of our bridges, the condition of our pavement, the ride quality of our pavements all improve albeit slightly but improved during that period of time, but we have seen the system performance, as measured by congestion, significantly decline—decline by an increase of 300 percent in congestion during that same period of time, and that was just validated by the Texas Transportation Institute report that was issued Tuesday of this week.

So, yes, sir, I do think it was a high priority to use those discretionary dollars within the requirements of the statute for every dollar of those funds to award in a competition to five cities, urban partnership agreements to test concepts, innovative concepts for substantially improving the performance of our Nation's infrastructure.

Senator LAUTENBERG. Madam Secretary, though we have a reduction in the number of bridges of concern, are we out of risk?

Ms. PETERS. Senator, I do not believe that we are in danger of a bridge collapsing, but as I said earlier I don't know what happened in Minneapolis. We don't know yet. We will find out, but we are continuing to improve those.

Senator LAUTENBERG. Your statement is that we are out of danger of a bridge collapse.

Ms. PETERS. Sir, I do not believe that America's infrastructure is not safe. I believe America's infrastructure is safe, and I have taken steps in consultation with the NTSB as soon as I knew anything about what happened on the bridge in Minneapolis.

Senator LAUTENBERG. Lord, I hope you are right.

Ms. PETERS. I do so.

Senator LAUTENBERG. In your testimony that we should be taking a risk-based approach to bridge safety, should we revisit the Federal formulas as well to ensure that Federal funds for bridge repairs get to a system of priority perhaps in exchange for the formula structure that is there now?

Ms. PETERS. Senator, I do believe there are many ways we could improve the Federal funding formula and program today. As I mentioned earlier, in speaking to Chairman Boxer, I do believe that bridge funds should not be able to be diverted for other purposes unless a State can demonstrate that they have made or have a plan to make all of their bridges conform to the requirements and to the standards.

Senator LAUTENBERG. Madam Chairman, consistent with the rules, I will finish with this and just note that the record should be kept open for written questions.

Senator KLOBUCHAR. The record will be kept open. Thank you, Senator.

Senator Alexander, you and I discussed the fact you would have another 2 minutes to finish your questions.

Senator ALEXANDER. Thank you.

If Senator Lautenberg is not through, I will be glad to wait until he does finish. I have time.

Senator LAUTENBERG. No, thank you, kind sir.

Senator ALEXANDER. Thank you.

Mr. Inspector General, I just wanted to make sure you had a chance to also comment on the Missouri plan. If it is appropriate for you to do so, when the Secretary reports to the Committee in writing about the strengths and the weaknesses of the plan, its progress, things we should know about it as we think about it in terms of other States, it would be helpful to us also to have your thoughts. Do you have any now?

Mr. SCOVEL. Thank you, Senator.

As the Secretary mentioned, she has asked us to undertake a comprehensive review of the entire bridge program. We are in the process of doing that. One phase of that will include funding, both Federal funding and questions like how effectively and efficiently States are using their funds and the ability of States to flex or divert funds from one program to another.

We have not yet had an opportunity to study in detail the Missouri plan. However, we will do so, and we will be happy to provide information on it to you and the Secretary.

Senator ALEXANDER. Well, that would be a great help.

I am not sure we Senators realize how much problems we cause States and I assume your Agency by not appropriating money on schedule. I hear from our Governor and our contractors in Tennessee that our failure here in Congress to appropriate dollars on schedule creates gross inefficiencies in the ability of the State to spend money wisely.

If it is actually true that by doing what Missouri is doing we could take one-third of the money that we are appropriating, approximately, for Federal transportation purposes and fix every functionally obsolete or structurally deficient bridge, we should know that not just for this purpose but in terms of how we appropriate dollars here because that is a big waste of money. A big waste of Federal dollars. By our lackadaisical approach to the appropriations process, we create such gross inefficiencies in the spending of Federal highway dollars.

So, thank you very much for your testimony.

Thank you, Madam Chairman, for the extra 2 minutes.

Senator KLOBUCHAR. Thank you. Thank you, Senator.

I will take a few questions here myself and then we are going to go on to our next panel.

I want to thank you again, Secretary Peters and Inspector General Scovel, for coming to Minnesota so quickly and for working with us with so much detail about the quick response and the emergency response. As I said that day, bridges shouldn't fall in the middle of America, but when they do fall we have to rebuild them, and I appreciate your work.

I was listening as some of the other Senators were asking you questions, Secretary Peters, about the categorization and the functionally obsolete versus the structurally deficient. You noted, I believe in response to some recent questions, that under four, you close a bridge. Is that correct?

Ms. PETERS. I am sorry, could close a bridge. Let me check with the staff if I could, please, to make sure I answer your question accurately.

Madam Senator and Madam Chairman, two or below would mean that the bridge would have to be closed. A three would mean it would have to be load-controlled, meaning the load limits on it would be adjusted based on what the load capacity would be. A four means that it needs to be monitored more frequently, inspected more frequently, maintained more frequently.

Senator KLOBUCHAR. So the Minnesota bridge was one above having those load limits because we were a four.

Ms. PETERS. That is correct.

Senator KLOBUCHAR. Is that correct?

Ms. PETERS. That is correct.

Senator KLOBUCHAR. Do you know how many are fours versus threes?

Ms. PETERS. I will check and see if staff has that data. If not, we will get back to you on the record.

Senator KLOBUCHAR. I completely understand.

Ms. PETERS. Let us get back to you on the record if I might.

Senator KLOBUCHAR. All right.

You understand my concern here. We all agree that not every structurally deficient bridge has to be fixed immediately but as we

look at those numbers and we think of the word, load, and what that meant in this case. You have already issued some warnings across the Country about looking at the way the loads are balanced on the bridge. Would that be a fair way to say it?

I am just so concerned that we were so close in looking at the system that is place, that we are doing everything we can to warn States and citizens when these bridges are on the verge of collapse.

Ms. PETERS. Senator, as I mentioned, we have taken data that I have received from the NTSB and discussions with the Inspector General and taken some immediate steps such as the advisories that went out, but I drove over that bridge just a few weeks prior. I know your home is in that neighborhood, and many people you know use that bridge. We need to find out what happened, and we are disturbed that we don't know that yet.

Senator KLOBUCHAR. I understand why it would take a while, and we want to do a thorough job.

I do believe that some of the information, and I don't know why this happened or what the cause was, but there was clearly some concern at our department of transportation. There have been a lot of newspaper reports about this, Inspector General, about people trying to work on this and the idea that when they heard a bridge collapse, that many of them thought it was most likely this bridge.

My questions are just about this inspection process and a little more thorough detail if you could give me on that. Is it sometimes just a visual inspection? What is the most refined we can get in terms of inspecting these bridges?

I have had engineers in our State talk to me about can you put sensors in the girders so you can better figure out when there are problems and what can we do to improve this inspection process.

Mr. SCOVEL. We are in the process of examining that. I will note for the record, I am not an engineer by training or education, so I am not personally qualified to speak to these matters. However, from the work of my staff, and we do have resident engineers on our staff, and have worked with the Army Corps of Engineers on prior bridge studies.

They say that there is no substitute for eyes on the bridge. There are some technical aids that can be employed. You mentioned sensors. There are other very high tech methodologies, which the House T&I Committee has explored in a very recent hearing as well, to include seismic methodologies and so forth.

All competent bridge engineers will tell you that what they need to do is walk the bridge themselves sometimes with some seemingly simple or perhaps even seemingly primitive methods. For instance, one that came to my attention recently was simply dragging a chain along the surface of the bridge in order to, by sound, detect differences in steel and deck structure and so forth.

All of those methods put together will enable the bridge engineer to rate the bridge and what follows thereafter is critical. Our report in March 2006 found across the country that the inspections themselves were accurate and complete. Where we found deficiencies, however, were with the load ratings and postings.

A moment ago you were discussing with the Secretary the I–35W situation specifically and its structural deficiency rating of four. In fact, its load rating, I am told, was most recently calculated in De-

cember 1995. We don't know whether that was reexamined. Presumably the condition of the bridge deteriorated at least somewhat in the years after 1995, but I am sure that this is a matter that NTSB will want to examine and I don't want to tread on their territory.

Senator KLOBUCHAR. But as you look at this overall review that you are doing of the inspection process that the Secretary asked you to do, is the load rating part of this, that you are looking at improving that or making changes to that?

Mr. SCOVEL. Absolutely, and I will note and commend Federal Highways already for its attention to this matter. They have instituted a number of processes to include the Bridge Program Manual and more data-driven approaches in order to focus on load ratings and postings. I trust that they are making progress in this area. However, the very first phase of our audit for the Secretary will examine Federal Highways' efforts along these regards.

Senator KLOBUCHAR. As we look at all the structurally deficient bridges, is there a better way to prioritize as you look at this going forward, which bridges should be fixed first? Is that part of what you are going to be looking at?

Mr. SCOVEL. Yes, it will.

Senator KLOBUCHAR. One thing, Secretary Peters, you mentioned was that since 1994 the percentage of our national bridges that are classified as structurally deficient has declined from 18.7 percent to 12 percent. Is that right and what do you believe is the cause of that decline?

Ms. PETERS. I believe the cause of that is both additional funding that has been made available through the last two acts as well as devoting more funding to these specific bridges. That is part of what the Inspector General discussed earlier of a risk-based approach that we have been asking the Federal Highways division offices to undertake over a period of time.

So their attention to this as well as the States having some additional money in the bridge program have allowed that, I believe, to improve and, certainly, we need to stay on top of that in the future.

Senator KLOBUCHAR. Do you think it is going to be possible to keep in that trajectory in the right direction when you are looking at the presumed Fiscal Year 2009 Highway Trust Fund deficit?

Ms. PETERS. Senator Klobuchar, you bring up such a good point, and that is something that I am concerned about. We know that the highway account of the Highway Trust Fund will go into deficit by Fiscal Year 2009. If we don't remedy that in the near term, that will result in a substantial reduction in payments to the States that they will have to use for infrastructure.

I think it is both important that we remedy that in the near term but also that we look at the fundamental failures, the policy failures of the program as it exists today and make changes in the 2009 authorization that will position the program to be viable for the future.

Senator KLOBUCHAR. I appreciate that you are looking at that in a reinventing government way of ways to do better with the money that we have, and I think that is critical. But as we look at this deficit, I also think it is critical that we talk about the funding.

You heard our colleagues up here talking about Senator Alexander and what they are doing in Missouri, other Senators talking about potential bonding programs that we are working on. I know that you have mentioned or maybe members of either party have mentioned toll roads before. Someone told me that is only 5 percent, is that true, of the funding right now.

I just wonder as you see this deficit, no matter how you reprioritize and change these, make this work better, if you do see some need to funding if we have this deficit coming up.

Ms. PETERS. I do. I do believe that we have to increase the overall availability of funds for infrastructure across the broad range in our Country, and certainly my area of expertise is the transportation infrastructure, but I also very much believe that we have to diversity the type of funds that we bring in and move away from almost a total dependence on the gas tax. That is something that I very much look forward to working with you all on during the next year as we approach the next authorization period, about how we can bring varying sources of funding to the table.

It is true that today only about 5 percent of overall funding is provided by the private sector. There is available substantially more money than that, but it won't work, as I said earlier, everywhere. It has to work where there are high volume and high levels of congestion, and we just need to look at diversifying from a variety of sources, not just one or the other.

Senator KLOBUCHAR. Thank you very much, and that is a good segue to our next panel where we are going to talk a little bit more about funding. We have a vote starting at 11:55, but hopefully we can maybe get through the testimony and then come back for questions or at least get through one of our witnesses.

I thank the both of you. If we could call up our two remaining witnesses, Kirk Steudle who is the Director of the Michigan Department of Transportation and then also Mr. Andy Herrmann.

Mr. Steudle, we will start with you. Did I pronounce your name correctly?

Mr. STEUDLE. Actually, it is Steudle.

Senator KLOBUCHAR. Steudle, thank you.

Mr. STEUDLE. I have grown up with that pronunciation.

Senator KLOBUCHAR. Believe me, with my name, I have had several mispronunciations. My favorite is what my own relatives say which is Klobutcher.

[Laughter.]

Senator KLOBUCHAR. Mr. Steudle, you are with the Michigan Department of Transportation. You are testifying on behalf of the American Association of State Highway and Transportation Officials. So, please go ahead.

STATEMENT OF KIRK T. STEUDLE, DIRECTOR AND CEO, MICHIGAN DEPARTMENT OF TRANSPORTATION ON BEHALF OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Mr. STEUDLE. Thank you. Madam Chairwoman and Senators, thank you for allowing me the opportunity to testify today regarding the state of our bridges.

As was noted, my name is Kirk Steudle. I am the Director and the Chief Executive Officer of the Michigan Department of Transportation. I also am a professional engineer, and I am here today on behalf of the American Association of State Highway and Transportation Officials, my colleagues across the Country.

First, I would like to express my sympathy to the families who suffered because of the tragic bridge collapse in your back yard. Believe me when I say that as transportation professionals we take a tragedy like this to heart because we know that it could happen. Any of us could be in Minnesota's shoes and having to respond.

Your work was done last week or you started it by voting to increase funding for the Federal Highway Bridge Program by a billion dollars, and we appreciate that. SAFETEA–LU increased funding for the Highway Bridge Program by a modest 6 percent, but the cost for steel, concrete, fuel and asphalt jumped 46 percent from 2003 through 2006.

More funding for bridges clearly is needed, but funding should be combined with long term data-driven management practices to give States the flexibility to maintain their network of bridges. I emphasize that because the rules that govern Federal Highway Bridge Program funding are not compatible with a comprehensive management approach.

Now let me jump right to the recommendations and then come back to some of the whys. Specifically, we suggest that the Federal Highway Bridge Program be revised to allow full expenditure of bridge funds under a comprehensive management approach.

First, eliminate the 10 year rule that prevents State DOTs from using Federal bridge funds on a bridge more than once in 10 years so that they can pursue less expensive repairs that preserve the bridge before it deteriorates.

Second, eliminate the 100 point sufficiency rating and the arbitrary cutoffs for eligibility. If a State has a bridge management program in place, it should be able to use the Federal funds on projects that it identifies as most efficiently preserving the bridge network.

Now, if you need to keep this sufficiency rating, at least give us more flexibility. For example, the formula generates the sufficiency rating does not place much value on deck condition. As a result, States are not allowed to use Federal bridge funds to improve a poor deck if other elements such as the superstructure or substructure are in good condition.

More than a third of my States' 608 structurally deficient are ineligible for Federal bridge funds because they have poor decks, and the deck alone is not able to qualify for the Federal funding. It is kind of like saying you can't spend money to fix the shingles on your roof until the moisture has damaged the drywall or cracked the foundation.

Now here is why we make these recommendations. Many States find the funds so restrictive that they transfer some of their Federal bridge apportionment to other more flexible programs or use apportionment from other programs on bridges. For example, in the past 2 years, Michigan has spent less than 90 percent of our Federal bridge funds not because we weren't investing in bridges but because the rules for those funds were too restrictive.

We set strategic goals for road and bridge preservation. We manage the bridge network by slowing the deterioration of good and fair bridges with capital preventative maintenance, and we have had to look beyond the Federal Highway Bridge Program for funding. MDOT added $75 million annually just for bridge preservation.

We invest $190 million in bridges in the State of Michigan per year. A hundred million of that is Federal funds. Ninety million of that are State funds. So while we turn Federal bridge funds back, we substitute that and add on top of it, State funds.

In fact, most States spend more money on bridges than is provided by the Federal Bridge Program. In 2004, the Federal Bridge Program provided just over $5 billion, but the total investment in bridges that year was well over $10 billion. State and local governments have made up the difference.

More money is definitely needed but so is a new approach. In 1998, Michigan improved just over 100 structurally deficient bridges while at the same time we added 162 bridges to that list. Clearly, fixing the worst bridges first wasn't a winning proposition for us.

We can keep bridges from deteriorating while systematically upgrading those in poor condition. As an example, today, 10 years later, we have completely reversed those numbers. We are improving 145 bridges per year while we only add 86 to that structurally deficient bridge list as well.

So, in conclusion, let me say funding for bridges is a great start, but it is only a start. The rules need to be revised, and we need to remember that bridges don't operate in a vacuum. Many structurally deficient bridges are on major freeways that also need a repair.

Often, we cannot fix the bridges without doing major roadwork as well, and funding for all that roadwork is uncertain. Inflation has eroded our buying power, and the Federal Highway Trust Fund, as has been noted, is expected to have a shortfall of $4.3 billion in 2009.

Additional bridge funding is certainly welcome, but please do not lose sight of the entire transportation funding picture. The same challenge exists for highways, railroads, airports, buses, ports.

Thank you, Madam Chairman, Senators, for bringing this important discussion into the forefront for all of us to consider.

[The prepared statement of Mr. Steudle follows:]

STATEMENT OF KIRK STEUDLE, DIRECTOR, MICHIGAN DEPARTMENT OF TRANSPORTATION AND MEMBER, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Madam Chairwoman, Senators, thank you for allowing me the opportunity to testify today regarding the state of our bridges.

My name is Kirk Steudle, and I am Director and Chief Executive Officer at the Michigan Department of Transportation (MDOT).

First, I'd like to express my sympathy to the families who have suffered because of the tragic collapse of the I–35 W bridge. When a tragedy like this occurs, it ripples across the transportation industry. Believe me when I say that, as transportation professionals, we all take it very much to heart.

The State Departments of Transportation (State DOTs) consider bridge safety and bridge preservation to be one of our highest priorities, and we take this responsibility to preserve the safety and mobility of the traveling public very seriously.

Every state conducts a thorough and continual bridge inspection and rehabilitation program. America's bridges are inspected every two years by trained and cer-

tified bridge inspectors, conditions are carefully monitored, and, where deterioration is observed, corrective actions are taken.

Of the almost 600,000 bridges across the country, roughly 74,000 (or 12.4%) are classified as "structurally deficient." This means that one or more structural conditions requires attention. This may include anything from simple deck repairs to reinforcement of support structures.

Classifying a bridge as "structurally deficient" does not mean that it is unsafe. But it does mean that work is needed. The terminology of "structurally deficient" is not a description of the safety and strength of the bridge, it is a description created for the purpose of allocating federal bridge funds based on need.

Last week, you and your Senate colleagues voted to increase funding for the Highway Bridge Program by $1 billion. While more funding for bridges is clearly needed, that alone will not get us where we need to be. Additional funding should be combined with sound long term data driven bridge management practices.

I emphasize that, because federal road and bridge funding programs have not kept pace with the state of the practice of bridge management, and the rules that govern use of those funds are not always compatible. For example, in the past two years, MDOT spent less than 90 percent of its federal bridge funds, not because we weren't investing in bridges, but because the rules for those funds are too restrictive. They are not compatible with MDOT's asset management approach.

AASHTO recently surveyed its members regarding what, if any, Federal government rules or regulations are standing in the way of states utilizing available federal funding for bridge preservation, maintenance or repair?

The responses received from 35 states and the U.S. Forest Service indicate, in order of magnitude, the concerns:

- Environmental (waterway and other)
- HBP funds are too restrictive
- Environmental (washing)
- Ten-year rule
- Environmental (painting and sanding)
- Historic structure
- Lack of local match
- HBP funds needed for other bridge work
- Inability to program funds from prior years

MICHIGAN'S ASSET MANAGEMENT APPROACH TO BRIDGES

As part of its asset management approach, MDOT inspects its bridges more thoroughly and more often than required by federal law. We set strategic goals for road and bridge preservation. We manage our network of bridges, slowing their deterioration with capital preventive maintenance.

In order to achieve our bridge goals, we had to look outside the Federal Highway Bridge Program. We made the choice to dedicate an additional $75 million annually in state funds, just for bridge preservation.

An asset management approach keeps bridges from deteriorating, and systematically upgrades those in poor condition. In 1998, Michigan had 21 percent poor bridges and we improved just over 100 structurally deficient bridges each year, and added about 162 other bridges a year to that list. Fixing the "worst first" was a losing proposition, because as we focused all our attention on the worst bridges, the other bridges were still deteriorating. We were in a hole we could not easily get out of.

But today, as a result of our data driven asset management choices, we are making progress. We have completely reversed those numbers, improving about 145 bridges a year off the structurally deficient list, and adding only about 86 bridges a year to that list and are now down to 14 percent poor. This is a 30 percent improvement in bridge condition at a time when many of our original interstate bridges were approaching 50 years old.

GREATER FLEXIBILITY NEEDED

Speaking specifically from MDOT's experience, I would like to recommend that you revise the Federal Highway Bridge Program to allow more flexibility for the expenditure of bridge funds using a bridge management system approach. To do this will require some specific changes:

- First, eliminate the "ten year rule" that prevents state DOTs from using federal bridge funds on a bridge more than once in ten years, so they can pursue less expensive preventive maintenance and bridge repairs that preserve the bridge before it deteriorates.

• Second, eliminate the 100 point sufficiency ratings and the arbitrary cutoff points for bridge fund eligibility. If a state has a management program in place, it should be able to use federal funds on the slate of bridge projects it identifies as most efficiently preserving the bridge network.

• If you have to keep the sufficiency rating, at least give us more flexibility. For example, today states are not allowed to use federal bridge funds to improve a structurally deficient bridge deck if other elements, such as superstructure and substructure, are still in good condition. Let me give you a specific Michigan example. We have 608 bridges listed as structurally deficient, 223 are due to the bridges having poor bridge decks—43 are very poor. This is over ⅓ of the list and these are not eligible for highway bridge program funds. From a bridge management standpoint, this simply does not make sense, because a structurally deficient bridge deck actually accelerates the deterioration of other bridge elements. It's like saying you can't spend money to replace the shingles on your leaky roof until the moisture has destroyed the drywall or cracked the foundation.

STATE INVESTMENT EXCEEDS HBP FUNDING

I would like to use this opportunity to dispel a myth. Simply because states do not use Highway Bridge Program apportionments or because states transfer these apportionments to other more flexible Federal programs does not mean we are neglecting our bridges or that we will not make good use of additional bridge funding.

In part for the reasons stated above, many states find the Highway Bridge Program to be so restrictive that they transfer some of there apportionments to other more flexible Federal programs, or simply use apportionments from other Federal programs so that funding can be spent on bridges in an effective manner.

In the past years Michigan has indeed used apportionments from other Federal programs that offer more flexibility, such as Interstate Maintenance, National Highway System, and Surface Transportation Program to repair and maintain our bridges.

Data indicates that states do spend dramatically more money on bridges than is provided under the federal Bridge Program.

• In 2004 the federal Highway Bridge Program provided some $5.1 billion to the states.

• That year, states actually spent $6.6 billion in federal aid for bridge rehabilitation. State and local funding added another $3.9 billion for bridge repairs.

• As the FHWA reports, in 2004, a total of $10.5 billion was invested in bridge improvements by all levels of government.

• This pattern was the case in the years prior to and since 2004.

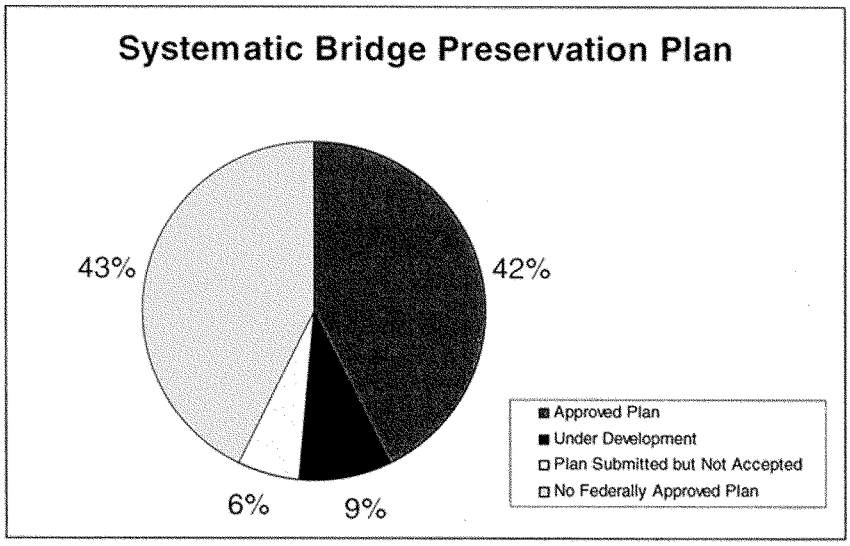
STRUCTURAL DEFICIENCIES DECLINING

The U.S. Department of Transportation reports that states have reduced, by almost half, the number of structurally deficient bridges on the nation's highway system since 1990. In 1990, there were 137,865, and in 2007, there are 72,264. This is a nation wide reduction in structurally deficient bridges from approximately 24 percent to 12 percent—despite the fact that traffic has grown markedly on Interstate and other arterials over the past decade and the fact that the nation's bridges are aging. According to the National Bridge Inventory, 173,000 bridges are more than 50 years old, and 359,000 are 30 to 50 years old. The great preponderance of deficiencies occur on these aging bridges.

The reduction in structural deficiencies nationwide reflects a long-term commitment of the state and federal governments to bridge safety, and we are proud that this progress has been made. The reduction in deficient bridges has even outpaced improvements in congestion, safety, and pavement deficiencies. However, a huge backlog still remains.

Preserving the condition of the nation's bridges also reflects the preventative maintenance programs that have been implemented by the states. The Safe, Accountable, Flexible and Efficient Transportation Equity Act—a Legacy for Users (SAFETEA–LU) requires that states must undertake systematic bridge preservation in order to use HBP funding for preventative maintenance. However, that requirement has been applied inconsistently by federal officials in terms of what is required of the states.

Responding to the AASHTO survey question "Does your state have an FHWA approved systematic preventative maintenance program for bridges?" more than half indicated that such a plan was either approved or under development.



AASHTO Survey, 35 states responding

Note—of the 15 states that stated that they did have a federally approved bridge maintenance plan, three (3) stated that they still used state funds exclusively for bridge maintenance, and four (4) states only use HBP funds for joint replacement and/or bridge painting.

ARE CURRENT BRIDGE FUNDING LEVELS ADEQUATE FOR THE JOB AT HAND?

According to U.S. DOT's 2006 Conditions and Performance Report, the backlog of needed repairs on National Highway System bridges alone total over $32 billion, which includes over $19 billion needed on Interstate Highway System bridges. Structurally deficient bridges on the National Highway System only represent one-tenth of the total number of structurally deficient bridges on the U.S. road network. As wear and tear on our nation's infrastructure continues, it will only continue to increase the needs in coming years.

The Safe, Accountable, Flexible and Efficient Transportation Equity Act—a Legacy for Users increased guaranteed spending levels for transportation by 38 percent over the previous bill. For the Highway Bridge Program, SAFETEA–LU gradually increased annual funding levels for the Highway Bridge Program by a modest 6 percent over the life of the bill (from FY 2005 to FY 2009).

Far outpacing that increased funding have been dramatic increases in materials costs for steel, concrete, fuel, asphalt. States report that prices jumped 46 percent over the years from 2003–2006. In addition, the Conditions and Performance report attributes increases in the "cost to maintain highways" to the rising cost of construction in large urbanized areas due to environmental mitigation and construction strategies (such as night work) intended to reduce the impacts of work zones on users.

Aside from the well-documented dramatic increases in construction costs, there have been equally dramatic increases in traffic, especially heavy trucks, on the nation's major highways. Today, the average mile of Interstate highway carries 10,500 trucks per day. By 2035, that number is expected to more than double to 22,700 trucks per day.

Thus, we are left with a system that has challenges to meet, and a program that does not have enough funding to overcome the current backlog.

In conclusion, let me say that a short-term infusion of funding into the bridge program is a good start, but I strongly encourage you to remember that the same challenges that exist for the bridge program exist for the entire transportation system. They just have not been as visibly and tragically demonstrated.

Bridges are tied to the roads they connect. Many structurally deficient bridges are on major freeways that also need repair. In many cases, we can not just fix the bridge without doing major road work as well.

And funding for that road work is uncertain. Inflation has eroded the buying power of the federal motor fuel tax. The Federal Highway Trust Fund is expected to have a shortfall of $4.3 billion in 2009. As you consider the need for bridge funding, I encourage you not to lose sight of the entire transportation funding picture.

Thank you, Chairwoman Boxer, for bringing this important and necessary debate on the state of our bridges to the forefront.

Attachment A

AASHTO Survey of Subcommittee on Bridges and Structures

On September 6th, States were asked to please respond to the following:

1) What, if any, Federal government rules or regulations are standing in the way of your state utilizing available federal funding for bridge preservation, maintenance or repair? (for example, the "10 year rule", environmental regulations against bridge washing, etc)

2) Does your state have an FHWA approved systematic preventative maintenance program for bridges? If so, please describe briefly.

Responses were received from 35 states and the USDA Forest Service.

SUMMARY

Question 1

Types of Hindrances to using Federal Funding for Bridge Preservation	Percentages of States that Mentioned this Hindrance (of 35 states responding)
Environmental (waterway and other)	31%
HBP fund usage too restrictive	29%
Environmental (washing)	17%
10 year rule	14%
Environmental (painting/sanding)	11%
Historic Structures	11%
Local Match is not available	9%
need HBP money for other projects beside preservation	9%
Not allowed to program funds from prior years	6%

Specific Comments from States:

Some comments on the restrictive nature of funding:

"By only allowing HBRR funds to be used for preservation, maintenance or repair if an approved bridge management system is in place and with the relatively limited state funds are stretched thin just to provide necessary repairs, there is none or almost no monies for preservation or preventative maintenance activities."

"The states are not allowed to program the unobligated funds (apportionments) from prior years in the FTIP even though the funds are still available for expenditure. The states should be allowed to program the carryover unexpended funds (that are still available for expenditure) in the current FTIP. The Bridge Program should be considered a safety program

and therefore the Local match requirement for the Bridge Program needs to be eliminated. Local Agencies find it extremely difficult to come up with the match funds. Bridge funds (apportionments) should be given 100% Obligation Authority (OA) which should be available to the states until expended. Currently some of the earmark programs and High Priority Projects get OA until expended. For all other programs the OA lapse at the end of the federal fiscal year."

"The 10 yr. rule can create a problem for doing projects in phases particularly deck repair for bridge replacement projects which are expected to require substantial capital outlay."

- Funds have to be used for a replacement structure, but if that replacement adds capacity; the added capacity portion has to come from another funding source, i.e., NHS or IM. Today it is rare that a new structure with a life of >50 years is replaced "in kind." Most all have some added capacity needs. It would be beneficial to have this restriction removed.

- Use of BRF/HBP funding is tied to the NBIS rating system which has it's own set of problems. However, for this discussion a structure has to have a poor rating prior to programming a project. This means a structure is already in distress or the programming becomes a numbers game. There is value in assurances that the "worst is fixed first," but state's should be allowed to develop and program bridge work on a system basis with minimal added NBIS criteria.

-BRF/HBP pro-rata share is fixed at an 80/20 percentage without regard for project type. It would be beneficial to increase the federal participation for Interstate Bridges to 90/10 - like it is for IM funding. It would seem reasonable to consider bridge rehabilitation and replacement on the Interstate to be just as maintenance oriented, as are the eligible activities for Interstate Maintenance (IM) funds. Yet an Interstate Bridge being funded with BRF/HBP funds requires a 20% match while the added capacity for the same bridge could be funded with IM revenue at a 10% match.

Comments on Environmental Issues:

-Generally it would be useful to reevaluate the benefit/cost of the multiple environmental requirements and costs to develop an project using federal-aid. Environmental requirements siphon, in this case bridge revenue away from actual construction and maintenance work. While the public at-large have determined that the environment is important, the public also demands a safe transportation infrastructure. When there are more needs that available revenue it seems a reevaluation of priorities and revenue use may be warranted.

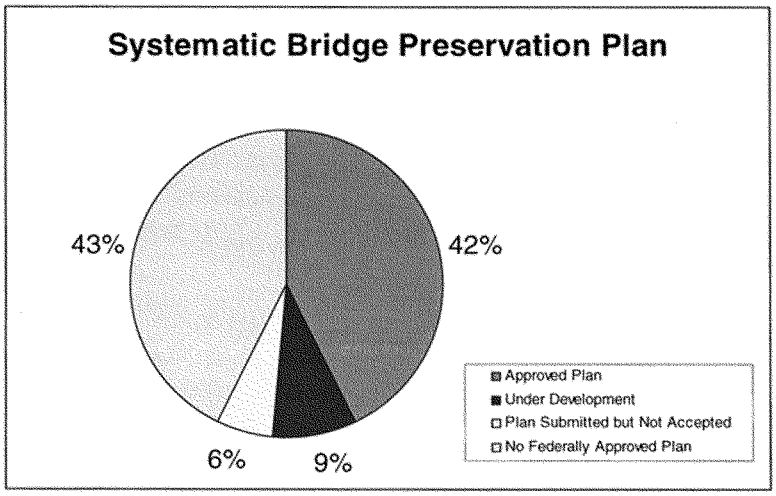
-Bridge washing is highly regulated through the Clean Water Act. It is questionable if these restrictions actually help improve long term water quality in the stream. Bridge painting is another highly regulated maintenance activity from the Clean Air Act and RCRA aspects. It is reasonable to regulate air emissions where there are viable receptors. Thus it would be beneficial to have some graduated compliance regulations where work within a metro area is more regulated than in the middle of 10 square miles of ag. land.

-There can be great difficulties when dealing with bridges that have been designated as historic. Trying to rehab or replace those bridges can be an ordeal, often causing long delays

while trying to get approval for needed work. Many funds are wasted trying to preserve or maintain features which are outdated or even unsafe, such as barriers and parapets.

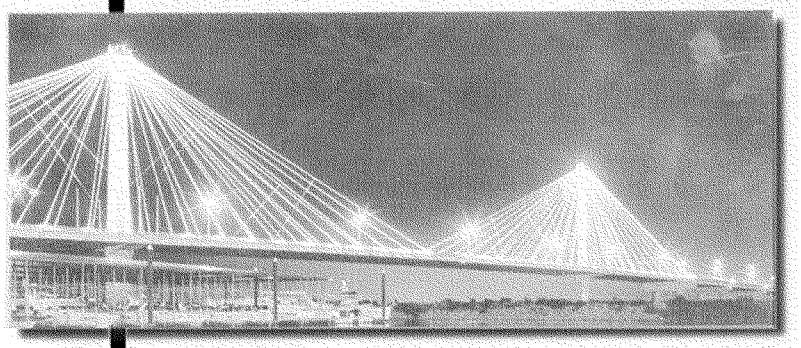
Question 2

Does your state have an FHWA approved systematic preventative maintenance program for bridges? (35 total states responding)



Note - of the 15 states that stated that they did have a federally approved bridge maintenance plan, three (3) stated that they still used state funds exclusively for bridge maintenance, and four (4) states only use HBP funds for joint replacement and/or bridge painting.

Meeting the Needs of America's Bridges



September 2007

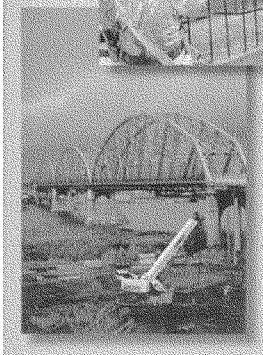
Recent events have prompted nationwide concern about the condition of the more than 590,000 bridges in the United States. The nation's drivers can be reassured that safety is the top priority of transportation officials.

There is no question, however, that the nation's bridges are aging. More than half were built between 10 and 50 years ago, while 163,000 are more than 50 years old, and another 9,900 are more than 100 years old.

In addition, investment in highways and bridges, for many years, has fallen well short of what is needed to keep our system in optimum repair, let alone meet the population's increasing travel demands.

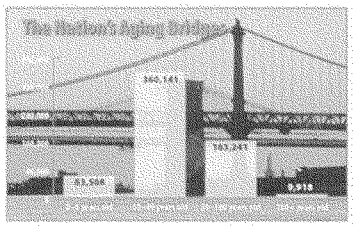
American Association of State Highway and Transportation Officials
AASHTO
The Voice of Transportation





. . . the nation's bridges are aging . . .





As a consequence, a backlog of needs has accumulated, in both highways and bridges, which will require the combined resources of federal, state and local governments and the private sector.

As with any man-made structure, bridge deterioration begins almost as soon as the construction is completed. As states work to repair declining bridges, additional ones show signs of aging. States wage a daily campaign to preserve them in good condition.

The good news is that since 1990 states have reduced, by almost half, the number of structurally deficient bridges on our nation's highways.

Nonetheless, of the almost 600,000 bridges across the country, roughly 74,000 (about 12 percent) are classified as "structurally deficient." This means that one or more structural conditions require attention. This may include anything from simple deck repairs to reinforcement of support structures. Classifying a bridge as "structurally deficient" does not mean that it is unsafe. But it does mean that work is needed.

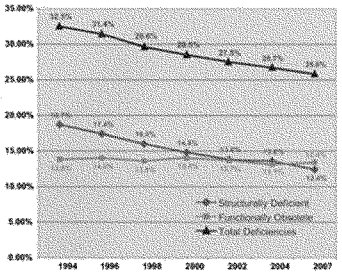
States Invest Aggressively on Bridges

States are investing both state and federal dollars to meet their bridge repair needs, and, in fact, are spending dramatically more money on bridges than is provided under the federal Highway Bridge Program.

- In 2004 the federal Highway Bridge Program provided $5.1 billion to the states.
- States actually spent $6.6 billion in federal aid for bridge rehabilitation.
- State and local funding added another $3.9 billion for bridge repairs.
- As the Federal Highway Administration reports, in 2004, a total of $10.5 billion was invested in bridge rehabilitation by all levels of government.

While states may transfer funds from one category of federal aid to another, such transfers are simply a project management tool. They do not reflect actual levels of state bridge investment, which greatly exceed federal bridge program funding.

Bridge Deficiency Percentages, 1994–2006



Source: National Bridge Inventory

Bridge Inspections Are Key

States also make substantial investment in bridge inspection programs. For example, the state of Virginia spends $13.5 million per year. Oregon spends $8 million and California spends some $14 million.

Every state conducts a thorough and continual bridge inspection and rehabilitation program. America's bridges are inspected every two years by trained and certified bridge inspectors, conditions are carefully monitored, and, where deterioration is observed, corrective actions are taken.

In addition, states frequently supplement federal inspection requirements with more detailed data collection and analysis. For example, 40 states currently employ an element level inspection process that focuses on individual components of a structure.

Since August 1, in compliance with federal requests, every state has reviewed or is in the process of re-inspecting its steel deck truss bridges. Based on the reports of this review, these bridges are safe.

Are Current Funding Levels Adequate for the Job at Hand?

Clearly the answer is no. A huge backlog of bridge needs still remains. According to the U.S. DOT, needed repairs on National Highway System bridges alone total over $32 billion, which includes over $19 billion needed on Interstate Highway System bridges.

SAFETEA-LU increased guaranteed spending levels for highways and transit by 38 percent over the previous bill. But for the Bridge Program, SAFETEA-LU increased annual funding levels by only 6 percent.

That funding has been eroded by dramatic increases in materials costs—steel, concrete, fuel, asphalt—which have increased an average of 46 percent from 2003–2006.

The U.S. DOT's 2006 *Report on Conditions and Performance of the Nation's Highway and Transit Systems* estimates that maintaining the current investment level of $10.5 billion annually would reduce the backlog of bridge needs by half over 20 years. An investment level of $12.4 billion per year for bridge system rehabilitation would eliminate the backlog by 2024, excluding any kind of necessary spending on expansion or enhancements.

And of course, the gap between available funding and needs for bridges is reflective of the larger funding and needs gap that exists for the entire surface transportation system. Current overall needs, or "cost to improve" the highway and bridge system in its entirety, stand at $131.7 billion per year, or 87.4 percent higher than what we spent in 2004.

States Tackle Bridge Repairs, Replacement

Many states have launched special bridge rehabilitation programs.

Missouri, for example, which has the seventh largest number of bridges in the nation, is targeting 800 in the worst condition for repair under an innovative Safe and Sound program. Federal-aid bridge funds will be used to bring the bridges into good condition by 2012 and maintain them for the next 25 years.

In 2003, Oregon approved a $2.4 billion transportation program, with more than half of the funding directed to repairing or replacing hundreds of the state's aging bridges over 10 years. An additional $1 million was directed to local bridge and highway needs.

Advances in Bridge Construction

Use of design-build contracting has enabled several states to accelerate efforts to restore damaged bridges to service. For example:

- Using incentive contracting and streamlined construction and environmental procedures, Caltrans was able to reopen a freeway overpass to the San Francisco-Oakland Bay Bridge in only 26 days.

- The Oklahoma Department of Transportation reopened the Interstate 40 bridge in only 65 days after it was struck by a barge, only 47 days after construction began.
- Only a month after Hurricane Katrina knocked 435 segments weighing 309 tons out of alignment on the I-10 Twin Span bridge across Lake Ponchartrain, the east-bound bridge was reopened to traffic. The other span was opened in early January, some four months after the hurricane.

New Methods and Materials

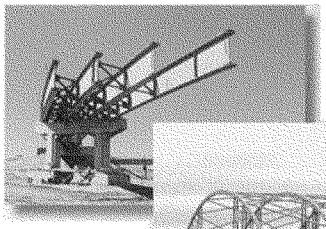
New technology has allowed for innovative materials to be used on bridge repairs as well as on new construction. For example, bridge deck overlays can now be done with new mixes that allow higher strengths of concrete with the same amount of cement that was traditionally used, therefore reducing the amount of concrete needed. Another innovation is the use of cathodic protection to halt corrosion of the steel within bridge decks. Sensors are also being used to monitor the health of bridges, and have recently become much cheaper and smaller, allowing for easier use.

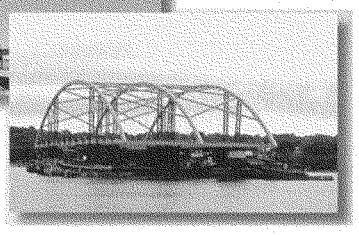
In bridge replacement, higher strength concrete and steel are now available, for more efficient, lighter bridges. Research is now being done on many types of composite materials as well as stainless steel reinforcing—both of which resist corrosion from salt and water. Epoxy coatings are already in use to reduce corrosion.

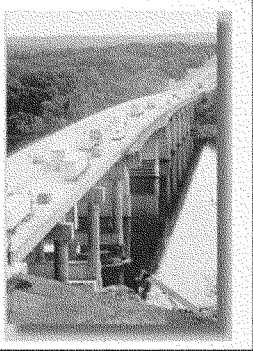
The Federal Highway Administration has instituted a new program called the Innovative Bridge Research and Construction Program. It provides funding to promote the use of innovative materials such as high-performance concrete and steel, aluminum, stainless steel and fiber reinforced polymers as well as technologies for bridge repair and construction.

Lastly, many innovative techniques are being used to accelerate overall bridge construction. For instance, interstates may be completely closed for a short period to complete the work (in some instances, a weekend) instead of maintaining traffic which traditionally causes a longer construction time and larger congestion problems. Having a work zone completely free of traffic is also a safer alternative for the workers as well as the traveling public. Design-build (construction begins as the design is in process), innovative contracting including early finish incentives, and public/private partnerships are also being used to accelerate bridge construction. Even more radical techniques include methods such as using large precast segments that are built in a yard or warehouse and barged or craned to the construction site. These precast segments can be large sections of beams, large deck panels or, in some cases, an entire bridge built offsite and then lifted and placed on existing piers.

But important bridge research that could further enhance safety has been postponed due to a lack of federal funding.







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RESPONSES BY KIRK T. STEUDLE TO ADDITIONAL QUESTIONS FROM SENATOR CARDIN

Question 1. In your written testimony you mention that a number of AASHTO members have identified "environmental issues" as a concern. Specifically, you mention compliance with the Clean Water Act, the Clean Air Act, and the Resource Conservation and Recovery Act (RCRA). You write "It is questionable if these [Clean Water Act] actually help." That is a serious assertion. Do you have any data to suggest that regulations relating to the Clean Water Act are not helpful?

Response. Please allow me to clear up any misunderstanding that may have prompted these two questions. The statements about the Clean Water Act (CWA) and the Clean Air Act (CAA) to which Senator Cardin refers were included in my written testimony as an attachment provided by the American Association of State Highway and Transportation Officials (AASHTO). The attachment provided a sampling of comments from other AASHTO member states, offered in response to a survey conducted in early September with regard to the use of bridge funds and the impediments thereto. The two sample comments regarding the CWA and CAA requirements did not come from my department.

The Michigan Department of Transportation (MDOT) does not see the requirements of the CWA and the CAA as barriers to the use of federal bridge funds in Michigan. MDOT firmly follows appropriate practices in response to the environmental regulation, and works well with its partner agencies on those issues.

However, to ensure that Senator Cardin's questions are appropriately addressed, AASHTO has provided the following:

The American Association of State Highway and Transportation Officials (AASHTO) fully supports the Clean Water Act (CWA), the Clean Air Act (CAA), and other environmental regulations. For example, because of CAA, the materials and coatings now used on structural steel have substantially improved so as to minimize the volatile organic compounds (VOCs) that might have previously been released during painting operations. In addition, AASHTO has a structural steel coating testing program underway to evaluate new products to determine their service life and suitability for bridges in an effort to help states achieve better and longer-lasting protection for bridge structures.

However, at times these regulations have had unintended consequences which create an inability to efficiently address needs within the transportation system. Certain maintenance activities that are currently prohibited by environmental restrictions may have, at most, a minimal negative effect on the environment.

For example, bridge washing programs, which are conducted in several states, have been documented to preserve the long-term structural capacity of bridges by helping to prevent the onset of rust and corrosion due to such things as the accumulation of bird guano on steel bridge superstructures, as well as to remove residual deicing agents used to control snow and ice on bridges, all of which would eventually find its way into a waterway below a bridge regardless of whether the bridge is washed or not. It should be noted that rust and corrosion can have a deleterious effect on water quality, so this early prevention can have a long-term positive effect both on the bridge itself as well as to the river or stream that flows beneath it.

AASHTO and other organizations are currently involved in research and educational efforts to improve the state of the practice with regard to bridge washing and painting. However, a balance must be struck between strict environmental requirements and the safety considerations that ensure the proper maintenance of our nation's bridge infrastructure. AASHTO would recommend revisiting the CAA and CWA regulations related to bridge washing and painting and working to provide for more practical and reasonable applications of these requirements based on individual situations, including such considerations as the age of the bridge, the material that is being applied or washed, and the likelihood that VOCs and other contaminants may get into the water or air. From an oversight perspective, it is often easier to apply blanket restrictions across the board instead of looking at individual cases, but in this case the restrictions are creating significant delay and expense where it is unnecessary.

Question 2. In a similar vein, you suggest that Clean Air Act requirements during bridge painting operations are of little utility. Again, that is a serious assertion. Do you have any data to suggest that the release of tons of volatile organic compounds during painting operations are not a factor in the formation of smog?

Response. Please allow me to clear up any misunderstanding that may have prompted these two questions. The statements about the Clean Water Act (CWA) and the Clean Air Act (CAA) to which Senator Cardin refers were included in my written testimony as an attachment provided by the American Association of State Highway and Transportation Officials (AASHTO). The attachment provided a sampling of comments from other AASHTO member states, offered in response to a sur-

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RESPONSES BY KIRK STEUDLE TO ADDITIONAL QUESTIONS FROM SENATOR LIEBERMAN

Question 1. In your testimony, you observed that the problem we face is bigger than just bridges. As you said, bridges are connected to roads. We tend to focus on bridges because of the large catastrophic consequences if one structure fails. But I would ask you to expand your remarks on the wider strategy of financing transportation infrastructure. We are looking towards a new highway bill in 2009, and work on that bill will begin shortly. Can you give us some guidance about how we should think about reforming our federal transportation infrastructure system?

Response. Thank you for your focus on the critical question of how best to address our overall transportation infrastructure needs. We clearly need to focus on the needs of the 21st century, which will entail adopting a compelling national vision for surface transportation. That vision must include all modes, highways, transit, and rail systems. Congress must have had a similar notion, which led to the creation of the Surface Transportation Policy and Revenue Study Commission in the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU).

We could suggest many reforms to the federal program, both large and small, that could have a beneficial impact on the states' ability to deliver an increasingly better transportation system. Instead, I would like to draw attention to one issue that most, if not all, states are facing—identifying funding for mega projects. In Michi-

gan, as in other parts of the country, mega projects are in metropolitan areas and/or are intended to enhance the capacity and versatility of the freight infrastructure.

In Michigan, we have four different mega projects currently in some stage of development. As of today, the cost of each of these projects range between $450 million to $1.3 billion and combined they could cost as much as $3.4 billion. To put these figures into proper perspective, consider that our average annual capital investment level in our five-year highway program (covering FY 2008 through FY 2012) will be $935 million, for a five-year total of $4.7 billion.

Like all other states, we have been struggling with skyrocketing prices for commodities that are essential to transportation infrastructure, such as steel, concrete, petroleum, and asphalt. The Federal Highway Administration's (FHWA's) most recent data shows that between 2004 and 2006, the index of prices for structures, surfaces, and excavation in their "Price Trends for Federal-Aid Highway Construction" series shows a price increase of more than 43 percent over that three-year period alone. If these price trends continue, the cost of our mega projects, and all other capital projects, will likely grow at a similar rate.

While our costs have increased due to commodity price increases, our financial resources have dwindled. Over the same three-year period in which FHWA's construction cost index increased by over 43 percent, the combined state revenue and federal obligation authority available to the Michigan Department of Transportation actually dropped by 4.4 percent. Finding cost savings and efficiencies has become as big of a part of our culture now as it has ever been. With the backdrop of increasing prices and limited growth in revenue, it is easy to see why many states are struggling not only to find the resources to maintain the quality of roads and bridges, but to pay for mega projects.

We feel there are several key areas where the federal program could be improved to facilitate states in our efforts to deliver mega projects. These key areas are outlined below.

Funding Flexibility.—In my testimony to the Environment and Public Works Committee on the conditions of our nation's bridges, I emphasized how regulatory barriers often impede the states' ability to manage bridge infrastructure in ways they deem most efficient and effective. Speaking for Michigan, we have systematically improved the condition of bridges even while building large balances of Highway Bridge Program (HBP) apportionments. Similar regulatory and legislative barriers exist in other programs as well. It is time to re-examine all federal-aid highway programs and accompanying regulations to see if they are achieving their intended purposes, and whether each is distinct enough to warrant continuing as a discrete program.

Funding Tools.—The past three authorizing statutes have looked unremarkably similar with regard to funding and financing tools. Each created tools to assist in either leveraging existing funding or reducing the cost of borrowing to facilitate the construction of transportation infrastructure, and each straddled the fence with regard to tolling new and existing capacity. While we certainly think tools such as state infrastructure banks, credit assistance offered through the Transportation Infrastructure Finance Innovation Act, and private activity bonds have been helpful, there are limits to their use and applicability. The same applies to tolling. However, the difference is that while innovative financing techniques are roundly embraced, states are sent mixed signals with regard to tolling. Faced with significant funding challenges and increasing congestion, states all over the country have been either building new tolled facilities or considering that option. Meanwhile, the same pilot programs seem to perpetually appear in authorizing legislation (or tolling provision relating to specific states or projects), creating uncertainty on the part of states who have formally or informally considered the option. Regarding our infrastructure needs, we do not believe that tolling is the panacea. However, we do think that it is time to get off the fence and either embrace and expand tolling options or identify sufficient resources to ease the financial pressure all state transportation systems are under. A consistent and permanent tolling policy or program, for which all states qualify, will be particularly beneficial to many mega projects, particularly some that we are developing.

Funding Reforms.—With the dramatic increases in construction costs noted earlier and the structural imbalance between revenue collection and authorized funding levels enacted in SAFETEA–LU, Congress will likely be required to identify additional revenue during the next reauthorization in order to simply maintain, let alone increase, transportation funding. It has never been more critical that each and every available dollar is put to its best use. We feel that the earmarking of federal funding does not put every dollar to its most efficient use. Many projects for which funds are earmarked may well be good projects; and if so, these good projects will eventually be discussed, debated, and may be approved at the state and/or local

level through well established planning requirements. Of course, there are other projects that add little or nothing to our transportation system and despite an earmark may never be built. In addition, earmark funding comes with its own onerous regulatory requirements that drive up the cost of administering our program. Consider that in FY 2008, more federal program dollars will go to earmarked projects (roughly $4.8 billion) than is apportioned to states through the HBP ($4.2 billion). We have done some careful analysis of projects earmarked in Michigan and have determined that despite our best efforts, there will remain approximately $63 million of earmark funding that is unobligated. This represents more than 17 percent of our total project earmark funding from SAFETEA–LU. If other states find themselves in a similar situation, 17 percent of the approximately $22 billion in total earmark funding in SAFETEA–LU would equal nearly $4 billion, which comes with an enormous opportunity cost. Redirecting funding toward mega projects that might otherwise be earmarked would be a great start at identifying the necessary funding for these important projects.

Funding Increase.—Of course, the greatest impact would come from a combination of reforms, such as those mentioned above, and increased revenue. To be specific, AASHTO has recommended to the National Surface Transportation Policy and Revenue Commission that it consider the equivalent of a 10 cent gas tax increase and indexing to allow highways to grow from $43 billion in 2009 to $73 billion in 2015. States and locals will need to increase their investments in line with their historical share, which is 55 percent of capital investment. Likewise, transit funding could double in that same period. That would offset losses in purchasing power, which will cost the program 70 percent of its purchasing power by 2015. In addition, we have recommended funding from outside the highway trust fund through tax credits, tax credit bonds, and possible container fees or customs fees for rail and freight initiatives.

Senator KLOBUCHAR. Thank you very much, Mr. Steudle.

Mr. Herrmann.

STATEMENT OF ANDREW HERRMANN, P.E., MANAGING PARTNER, HARDESTY AND HANOVER, ON BEHALF OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

Mr. HERRMANN. Madam Chairwoman and members of the Committee, good morning.

My name is Andrew Herrmann. I serve on the Board of Directors of the American Society of Civil Engineers, and I am the Managing Partner of Hardesty and Hanover, a transportation consulting and engineering firm headquartered in New York City. During my 34-year career, I have been responsible for many of the firm's major bridge projects.

I want to thank you for holding this hearing. I can say there are few infrastructure issues of greater importance to Americans today than bridge safety.

ASCE is the Country's oldest national civil engineering organization representing more than 140,000 civil engineers.

More than four billion vehicles cross bridges in the United States every day and, like all manmade structures, bridges deteriorate. Deferred maintenance accelerates deterioration and causes bridges to be more susceptible to failure.

In 2005, ASCE issued its latest report card for America's infrastructure which stated that as of 2003, 27.1 percent of the Nation's bridges were structurally deficient or functionally obsolete which was an improvement from the 28.5 percent in the year 2000. In fact, over the past 12 years, the number of deficient bridges has steadily declined from 34.6 percent in 1992 to 25.8 in 2006. However, this improvement is contrasted with the fact that one in three urban bridges were classified as structurally deficient or functionally obsolete which is much higher than the national average.

For a better perspective, the 10 year improvement rate from 1994 to 2004 was a decrease of 5.8 percent in deficient bridges. Projecting this rate forward from 2004 yields an estimate of 46 years at that rate to remove all deficient bridges. But, unfortunately, the rate of deficient bridge reduction from 1998 on to 2006 is actually decreasing with a current projection from 2006 estimated at 57 years for the elimination of all deficient bridges.

While progress has made in the past in removing these deficient bridges, our progress is slipping or leveling off. There is clearly a demonstrated need to invest additional resources in our Nation's bridges.

The National Bridge Inspection Standards in place since the early seventies require biennial safety inspections for bridges to be performed by qualified inspectors. Approximately 83 percent of our bridges are inspected once every 2 years.

Standard condition evaluations are documented for individual bridge components as well as ratings for the functional aspects of the bridge. These ratings are weighted and combined into an overall sufficiency rating for a bridge on a 0 to 100 scale. A bridge's sufficiency rating can define it as structurally deficient or functionally obsolete, both of which trigger the need for remedial action.

A structurally deficient bridge may be restricted to light vehicles and reduced speeds because of its deteriorated structural components. While not necessarily unsafe, these bridges are at the condition where replacement or rehabilitation is necessary.

A bridge classified as functionally obsolete is safe to carry traffic but has less than the desirable geometric conditions required by current standards and may not safely accommodate current traffic volumes and vehicle sizes. These restrictions not only contribute to traffic congestion but also pose such major inconveniences as lengthy detours for school buses or emergency vehicles.

Bridges and their components are structurally load rated at inventory and operating levels of capacity in their present inspected physical condition. The inventory rating is the design level for a bridge for normal traffic.

The operating rating level with a reduced factor of safety is intended to define infrequent overload vehicle permits and generally describes the maximum permissible live load to which the bridge may be subjected. Allowing unlimited numbers of vehicles to use a bridge at the operating level may shorten the life of the bridge.

Bridge inspection services should not be considered a commodity. Currently, NBIS regulations do not require bridge inspectors to be professional engineers but do require individuals responsible for load rating the bridges to be professional engineers.

ASCE believes that non-licensed bridge inspectors and technicians may be used for routine inspection procedures and records, but the pre-inspection evaluation and the actual inspection, ratings and condition evaluations should be performed by licensed professional engineers experienced in bridge design and certified as bridge inspectors.

ASCE strongly supports the establishment of a dedicated funding source to repair, rehabilitate or replace structurally deficient bridges on the national highway system as a complement to the current FHWA bridge program. Recent House and Senate initia-

tives would be the first steps in addressing the long term needs of the Nation. However, these efforts should not detract from the investment needs debate during the reauthorization of SAFETEA–LU in 2009.

The requirement to distribute funds based on a formula which takes into account public safety and needs is an excellent step in creating a program that addresses public safety first. As reported by the Texas Transportation Institute this week, traffic congestion costs the economy $78.2 billion annually in lost productivity and wasted fuel.

The Nation's transportation infrastructure is not alone in the need for funding. There are more than 3,500 unsafe dams in the Nation, and the cost to address all dam safety needs is $10 billion.

Unfortunately, 35 years after the enactment of the Clean Water Act, there is an estimated funding gap of as much as $500 billion over the next 20 years to address the needs of our wastewater systems. The Nation is facing the very real possibility that we will wind up with lesser water quality than existed prior to the Clean Water Act's passage in 1972.

Successfully and efficiently addressing the Nation's infrastructure issues will require a long term comprehensive nationwide strategy including identifying potential financing methods and investment requirements.

For the safety and security of our families, we as a Nation can no longer afford to ignore this growing problem. Aging infrastructure represents a growing threat to the public health, safety and welfare as well as to the economic well being of our Nation.

It is time that Congress and the Administration hears our message. We must renew Federal investment in our Nation's vital public works infrastructure or risk reversing the public health, environmental and economic gains of the past 50 years.

Thank you, Madam Chairman. That concludes my statement. I would be pleased to answer any questions you may have.

[The prepared statement of Mr. Herrmann follows:]

STATEMENT OF ANDREW HERRMANN, P.E., MANAGING PARTNER, HARDESTY AND HANOVER, ON BEHALF OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

Chairman Boxer, Senator Inhofe and Members of the Committee:

Good morning. I am Andrew Herrmann, a Board Member of the American Society of Civil Engineers (ASCE)[1], and the Managing Partner of Hardesty & Hanover, LLP, a transportation consulting engineering firm headquartered in New York. I am a licensed Professional Engineer in 26 states. During my 34 year career I have been responsible for many of the firm's major fixed and movable bridge projects. My experience covers inspection, rating, design, rehabilitation, and construction of bridges.

Let me start by thanking you for holding this hearing. As someone who has worked in this field for many years, I can say that there are few infrastructure issues of greater importance to Americans today than bridge safety.

I am pleased to appear today to be able to lend ASCE's expertise to the problem of the nation's crumbling infrastructure that was highlighted by the tragic events of August 1, 2007 when the I–35W Bridge in Minneapolis collapsed into the Mississippi River.

[1] ASCE, founded in 1852, is the country's oldest national civil engineering organization. It represents more than 140,000 civil engineers in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a 501(c) (3) non-profit educational and professional society.

I. BRIDGE CONDITIONS

More than 4 billion vehicles cross bridges in the United States every day and, like all man-made structures, bridges deteriorate. Deferred maintenance accelerates deterioration and causes bridges to be more susceptible to failure. As with other critical infrastructure, a significant investment is essential to maintain the benefits and to assure the safety that society demands.

In 2005, ASCE issued the latest in a series of assessments of the nation's infrastructure. Our 2005 Report Card for America's Infrastructure found that as of 2003, 27.1% or 160,570 of the nation's 590,753 bridges were structurally deficient or functionally obsolete, an improvement from 28.5% in 2000. In fact, over the past 12 years, the number of deficient bridges (both structurally deficient and functionally obsolete categories) has steadily declined from 34.6% in 1992 to 25.8% in 2006.

However, this improvement is contrasted with the fact that one in three urban bridges (31.2% or 43,189) were classified as structurally deficient or functionally obsolete, much higher than the national average.

In 2005, the FHWA estimated that it would cost $9.4 billion a year for 20 years to eliminate all bridge deficiencies. In 2007, FHWA estimated that $65 billion could be invested immediately in a cost beneficial manner to address existing bridge deficiencies.

The ten year improvement rate from 1994 to 2004 was 5.8% (32.5%–26.7%) less deficient bridges. Projecting this rate forward from 2004 would require 46 years to remove all deficient bridges. Unfortunately the rate of deficient bridge reduction from 1998 on to 2006 is actually decreasing with the current projection from 2006 requiring 57 years for the elimination of all deficient bridges. Progress has been made in the past in removing deficient bridges, but our progress is now slipping or leveling off.

There is clearly a demonstrated need to invest additional resources in our nation's bridges. However, deficient bridges are not the sole problem with our nation's infrastructure. The U.S. has significant infrastructure needs throughout the transportation sector including roads, public transportation, airports, ports, and waterways. As a nation, we must begin to address the larger issues surrounding our infrastructure so that public safety and the economy will not suffer.

II. BRIDGE INSPECTION PROGRAM

The National Bridge Inspection Standards (NBIS), in place since the early 1970s, require biennial safety inspections for bridges in excess of 20 feet in total length located on public roads. These inspections are to be performed by qualified inspectors. Structures with advanced deterioration or other conditions warranting closer monitoring are to be inspected more frequently. Certain types of structures in very good condition may receive an exemption from the 2-year inspection cycle. These structures may be inspected once every 4 years. Qualification for this extended inspection cycle is reevaluated depending on the conditions of the bridge. Approximately 83 percent of bridges are inspected once every 2 years, 12 percent are inspected annually, and 5 percent are inspected on a 4-year cycle.

Information is collected documenting the conditions and composition of the structures. Baseline composition information is collected describing the functional characteristics, descriptions and location information, geometric data, ownership and maintenance responsibilities, and other information. This information permits characterization of the system of bridges on a national level and permits classification of the bridges. Safety, the primary purpose of the program, is ensured through periodic hands-on inspections and ratings of the primary components of the bridge, such as the deck, superstructure, and substructure. This classification and condition information is maintained in the National Bridge Inventory (NBI) database maintained by FHWA. This database represents the most comprehensive source of information on bridges throughout the United States.

Two documents, the American Association of State Highway and Transportation Officals' (AASHTO) Manual for Condition Evaluation of Bridges and the Federal Highway Administration's (FHWA) Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, provide guidelines for rating and documenting the condition and general attributes of bridges and define the scope of bridge inspections. Standard condition evaluations are documented for individual bridge components as well as ratings for the functional aspects of the bridge. These ratings are weighted and combined into an overall Sufficiency Rating for the bridge on a 0–100 scale. These ratings can be used to make general observations on the condition of a bridge or an inventory of bridges.

The factors considered in determining a sufficiency rating are: S1–Structural Adequacy and Safety (55% maximum), S2–Serviceability and Functional Obsolescence

(30% maximum), S3–Essentiality for Public Use (15% maximum), and S4–Special Reductions (detour length, traffic safety features, and structure type—13% maximum).

In addition to the sufficiency rating, these documents provide the following criteria to define a bridge as structurally deficient or functionally obsolete, which triggers the need for remedial action.

Structurally Deficient.—A structurally deficient (SD) bridge may be restricted to light vehicles because of its deteriorated structural components. While not necessarily unsafe, these bridges must have limits for speed and weight, and are approaching the condition where replacement or rehabilitation will be necessary. A bridge is structurally deficient if its deck, superstructure, or substructure is rated less than or equal to 4 (poor) or if the overall structure evaluation for load capacity or waterway adequacy is less than or equal to 2 (critical). Note a bridge's structural condition is given a rating between 9 (excellent) and 0 (representing a failed condition). In a worse case scenario, a structurally deficient bridge may be closed to all traffic.

Functionally Obsolete.—A bridge that is functionally obsolete (FO) is safe to carry traffic but has less than the desirable geometric conditions required by current standards. A bridge is functionally obsolete if the deck geometry, underclearances, approach roadway alignment, overall structural evaluation for load capacity, or waterway adequacy is rated less than or equal to 3 (serious). A functionally obsolete bridge has older design features and may not safely accommodate current traffic volumes, vehicle sizes, and vehicle weights. These restrictions not only contribute to traffic congestion, but also pose such major inconveniences as lengthy detours for school buses or emergency vehicles.

Structural Capacity.—Components of bridges are structurally load rated at inventory and operating levels of capacity. The inventory rating level generally corresponds to the design level of stresses but reflects the present bridge and material conditions with regard to deterioration and loss of section. Load ratings based on the inventory level allow comparisons with the capacities for new structures. The inventory level results in a live load which can safely utilize an existing structure for an indefinite period of time. The operating rating level generally describes the maximum permissible live load to which the bridge may be subjected. This is intended to tie into permits for infrequent passage of overweight vehicles. Allowing unlimited numbers of vehicles to use a bridge at the operating level may shorten the life of the bridge.

Bridge Engineers and Bridge Inspectors

Bridge inspection services should not be considered a commodity. Currently, NBIS regulations do not require bridge inspectors to be Professional Engineers, but do require individuals responsible for load rating the bridges to be Professional Engineers. ASCE believes that non-licensed bridge inspectors and technicians may be used for routine inspection procedures and records, but the pre-inspection evaluation, the actual inspection, ratings, and condition evaluations should be performed by licensed Professional Engineers experienced in bridge design and inspection. They should have the expertise to know the load paths, critical members, fatigue prone details, and past potential areas of distress in the particular type of structure being inspected. They must evaluate not only the condition of individual bridge components, but how the components fit into and affect the load paths of the entire structure. The bridge engineer may have to make immediate decisions to close a lane, close an entire bridge, or to take trucks off a bridge to protect the public safety.

III. INCREASED FUNDING FOR BRIDGE REHABILITATION

ASCE has long supported the creation of trust funds for infrastructure improvement. Unfortunately, the passage of SAFETEA–LU left a significant gap in funding the well-documented needs of our nation's surface transportation programs. During the SAFETEA–LU debate, it was estimated that $375 billion was needed for the surface transportation program, but only $286 billion was authorized in the law.

ASCE strongly supports funding levels in H.R. 3074, the "Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2008," as passed by the Senate, including the Murray amendment to increase the Federal-aid Highway Program obligation limitation by one billion dollars ($1 billion) in additional bridge program funding.

ASCE has been supportive of legislation being drafted by House Transportation and Infrastructure Committee Chairman James Oberstar that would address the public safety issues posed by the National Highway System's structurally deficient bridges. This is a promising display of support that has often been lacking for the

problem of our nation's crumbling infrastructure. However, it is essential to remember that this legislation, while a good first step, is not the sole solution.

ASCE strongly supports quick action to enact the NHS Bridge Reconstruction Initiative which would create a dedicated fund to repair, rehabilitate, and replace structurally deficient bridges on the NHS. This is accomplished through four components:

- Improving bridge inspection requirements;
- Providing dedicated funding for structurally deficient NHS bridges;
- Distributing funds based on public safety and need; and
- Establishing a bridge reconstruction trust fund.

A thorough review of the current bridge inspection requirement seems appropriate and there must be greater emphasis on the steps needed to address a structurally deficient bridge once it has been classified. ASCE strongly supports a requirement that bridge inspections be performed by licensed professional engineers who are certified bridge inspectors. The initiative's compliance reviews of state bridge inspection programs and increased emphasis are good steps to improving the states bridge programs. These efforts, however, must emphasize bridge safety not bureaucracy.

A dedicated funding source to repair, rehabilitate, and replace structurally deficient bridges on the NHS would be a good complement to the current FHWA bridge program because of the emphasis on NHS bridges. NHS bridges carry a large percentage—more that 70 percent—of all traffic on bridges. Of the 116,172 bridges on the NHS, 6,175 are structurally deficient of which 2,830 are part of the Interstate System. The investment backlog for these deficient bridges is estimated to be $32.1 billion.

The requirement to distribute funds based on a formula which takes into account public safety and needs is an excellent step in creating a program that addresses public safety first. ASCE's Cannon of Ethics states clearly that public safety, health, and welfare should be the engineer's primary concern. Any bridge safety program should be based on providing for public safety first.

The Oberstar initiative would be a first step in addressing the long term needs of the nation. However, this effort should not detract from the investment needs debate during the reauthorization of SAFETEA–LU in 2009.

IV. ASCE'S POLICIES REGARDING BRIDGES

Funding programs for transportation systems, i.e., federal aviation, highways, harbors, inland waterways, and mass transit as documented by the U.S. Department of Transportation, need to be increased, to provide orderly, predictable, and sufficient allocations to meet current and future demand. The Highway Trust Fund is in danger of insolvency (as other trust funds may be in the future) and must receive an immediate boost in revenue to ensure success of multi-modal transportation programs. In fact, the Office of Management and Budget estimates that in FY 2009 the Highway Account of the Highway Trust Fund will be in the red by as much as $4.3 billion.

The safety, functionality, and structural adequacy of bridges are key components necessary to support and ensure the safe, reliable, and efficient operation of transportation infrastructure and systems which provide mobility of people and the movement of goods and services. Federal policy establishes the minimum bridge safety program components necessary for both public and private bridges to ensure an adequate and economical program for the inspection, evaluation, maintenance, rehabilitation, and replacement of our nation's bridges.

Continued neglect and lack of adequate maintenance will ultimately result in higher annual life-cycle costs of bridges due to shortened service life. Therefore, investment to improve the condition and functionality of the nation's bridges will reduce the required investment in the future.

Bridge Safety

For the continued safety of the nation's bridges, ASCE advocates that a bridge safety program for both public and private bridges be established, fully funded, and consistently operated to upgrade or replace deficient bridges and to properly maintain all others. This program should preserve full functionality of all bridges to support the operation of safe, reliable and efficient transportation systems, and to allow these systems to be utilized to their full capacity. Such programs should include as a minimum:

- Regular programs of inspection and evaluation that incorporate state-of-the-art investigative and analytical techniques, especially of older bridges which were not designed and constructed to current design loading and geometric standards;
- Posting of weight and speed limits on deficient structures;

• Implementing and adequately funding regular system-wide maintenance programs that are the most cost-effective means of ensuring the safety and adequacy of existing bridges;
• Establishing a comprehensive program for prioritizing and adequately funding the replacement of functionally obsolete and structurally deficient bridges;
• Setting a national goal that fewer than 15% of the nation's bridges be classified as structurally deficient or functionally obsolete by 2010; and

Transportation Funding

Adequate revenues must be collected and allocated to maintain and improve the nation's transportation systems and to be consistent with the nation's environmental and energy conservation goals. A sustained source of revenue is essential to achieve these goals.

ASCE recommends that funding for transportation system improvements, associated operations, and maintenance be provided by a comprehensive program including:
• User fees such as motor fuel sales tax;
• User fee indexing to the Consumer Price Index (CPI);
• Appropriations from general treasury funds, issuance of revenue bonds, and tax-exempt financing at state and local levels;
• Trust funds or alternative reliable funding sources established at the local, state, and regional levels, including use of sales tax, impact fees, vehicle registration fees, toll revenues, and mileage-based user fees developed to augment allocations from federal trust funds, general treasuries funds, and bonds;
• Refinement of the federal budget process to establish a separate capital budget mechanism, similar to many state budgets, to separate long-term investment decisions from day-to-day operational costs;
• Public-private partnerships, state infrastructure banks, bonding, and other innovative financing mechanisms as appropriate for the leveraging of available transportation program dollars, but not in excess of, or as a means to supplant user fee increases;
• The maintenance of budgetary firewalls to eliminate the diversion of user revenues for non-transportation purposes, and continuing strong effort to reduce fuel tax evasion.

V. NATIONAL INFRASTRUCTURE OUTLOOK IS POOR

Two years ago, ASCE released its most recent assessment of the condition of the nation's public works systems. Our 2005 Report Card for America's Infrastructure was a grim review taken as a whole of the state of America's roads, bridges, navigable waterways, dams, airports, water treatment plants, and other facilities. We gave the nation a cumulative grade of "D."

• Federal, state, and local governments have made a significant investment in improvements in wastewater-treatment infrastructure throughout the country since 1972. But many problems remain. The Environmental Protection Agency estimates that the investment "gap" for wastewater treatment will total approximately $390 billion through 2020.
• America faces a shortfall of $11 billion annually to replace aging facilities and comply with safe drinking water regulations. Federal funding for drinking water remains at about $800 million, less than 10 percent of the total national investment need.
• The U.S. Army Corps of Engineers estimates that at least half of the 257 locks on the nation's 12,000 miles of inland waterways are functionally obsolete. It will take billions to replace or upgrade these locks.
• Since 1998, the number of unsafe dams has risen by 33 percent to more than 3,500. While federally owned dams are in good condition and there have been modest gains in repair, the number of dams identified as unsafe is increasing at a faster rate than those being repaired. $10.1 billion is needed over the next 12 years to address all critical non-federal dams—dams which pose a direct risk to human life should they fail.
• America shortchanges funding for much-needed road repairs. Traffic congestion costs the economy $78.2 billion annually in lost productivity and wasted fuel. Passenger and commercial travel on our highways continues to increase dramatically. The Texas Transportation Institute's 2007 Urban Mobility Report notes that congestion causes the average peak period traveler to spend an extra 38 hours of travel time and consume an additional 26 gallons of fuel, amounting to a cost of $710 per traveler. The American Association of State Highway and Transportation Officials (AASHTO) estimates that capital outlay by all levels of government would have to

increase by 42 percent to reach the projected $92 billion cost-to-maintain level, and by 94 percent to reach the $125.6 billion cost-to-improve level.

VI. CONCLUSION

Successfully and efficiently addressing the nation's infrastructure issues, bridges and highways included, will require a long-term, comprehensive nationwide strategy—including identifying potential financing methods and investment requirements. For the safety and security of our families, we, as a nation, can no longer afford to ignore this growing problem. We must demand leadership from our elected officials, because without action, aging infrastructure represents a growing threat to public health, safety, and welfare, as well as to the economic well-being of our nation.

Thank you, Madam Chairwoman. That concludes my statement. I would be pleased to answer any questions that you may have.

RESPONSES BY ANDREW HERRMANN TO ADDITIONAL QUESTIONS FROM SENATOR CARDIN

Question 1. In your testimony you highlight the need for key elements of the bridge inspection program to be implemented by licensed Professional Engineers. Do you have any data that you can provide to the Committee that gives as a sense that we have the right people conducting these bridge inspections? That applies to both state and federal inspection programs.

Response. Currently, NBIS regulations have the first option to have a Professional Engineer with the requisite experience and training to perform bridge inspections but they do have other lesser options which do not require bridge inspectors to be Professional Engineers. ASCE believes that non-licensed bridge inspectors and technicians may be used for routine inspection procedures and records, but the pre-inspection evaluation, the actual inspection, ratings, and condition evaluations should be performed by licensed Professional Engineers experienced in bridge design and inspection. The NBIS regulations should be changed to require just Professional Engineers with appropriate experience such as the expertise to know the load paths, critical members, fatigue prone details, and past potential areas of distress in the particular type of structure being inspected as the lead bridge inspector. They must have the ability to evaluate not only the condition of individual bridge components, but how the components fit into and affect the load paths of the entire structure. The bridge engineer may have to make immediate decisions to close a lane, close an entire bridge, or to take trucks off a bridge to protect the public safety.

I do know that in New York, the state where my firm has a significant amount of experience inspecting bridges, the requirements for Team Leader and Quality Control Engineer are very strict including the PE license, bridge experience, and NY inspection training. Other owners may use in-house staff that may or may not have these requirements. The fact that the NBIS regulations have lesser bridge requirements that may be substituted for the PE is what should be addressed. We could suggest a survey of state and other bridge owners as to their current requirements for bridge inspectors.

Question 2. In your view, do we have enough licensed Professional Engineers in this county! What should we be doing to assure the nation of an adequate supply of these critical personnel?

Response. In my view, we don't have enough Professional Engineers and engineering graduates in the country. Incentives may be needed similar to those provided to students pursuing a teaching career to entice and hold more students in the engineering profession. Engineers have to have the recognition required of a profession building and maintaining the nation's infrastructure. They also need commensurate levels of compensation to compete with the financial and information industries.

Our present educational system is not meeting the needs of our increasingly technical society. Focuses have shifted in our educational system and many students are not being adequately exposed to math and science. Education in these areas is not identified or promoted as necessary for all students, particularly those wishing to pursue technical careers. Consequently, too few highly qualified students are pursuing careers in civil engineering.

There is a need and an opportunity to provide math and science education at all levels of our educational system, to promote the pursuit of math and science oriented careers, to guide qualified students toward civil engineering careers and to require and assist in ongoing career guidance activities in civil engineering.

Ultimately, ASCE believes that it is critical to provide all students, no matter what careers they ultimately pursue, with a strong background in basic mathematics and science to enable them to participate in our increasingly technical society. We must prepare those students who want to pursue careers based in mathematics and science with the necessary skills in these subjects. And finally, we must encourage highly qualified students to pursue careers based in mathematics and science and more specifically in civil engineering.

Over half of the economic growth today can be attributed directly to research and development in science, engineering and technology. Our ability to maintain this economic growth will be determined largely by our nation's intellectual capital. The only means to develop this resource is education.

Recent assessments by the U.S. Department of Education of the progress of students' performance in various subject areas, including science, math, engineering and technology education, have concluded that the grasp of science and math by U.S. students is less than that of their international peers. It is also notable that over half of U.S. graduate students in science and math are foreign-born.

For these and other reasons, the implementation of the recommendations of the NSB in their report on math and science education is critical. The proposal to coordinate and facilitate STEM programs through a National Council for STEM Education has merit and should be supported by Congress. Other recommendations to focus attention on STEM education in federal agencies also have merit.

RESPONSES BY ANDREW HERRMANN TO ADDITIONAL QUESTIONS FROM SENATOR LIEBERMAN

Question 1. I would like to ask you about one observation you made in your written statement. Currently, NB1S regulations do not require bridge inspectors to be Professional Engineers. Your organization, the American Society of Civil Engineers, believes that non-licensed bridge inspectors and technicians can perform routine inspections. but the actual inspection and ratings should be performed by a licensed Professional Engineer.

Can you tell me why you think NEIS regulations should be changed to require Professional Engineers to conduct inspections and formulate ratings? Currently, is it the case that most of our bridge inspections are actually being performed by individuals without a formal educational background in civil engineering? How critical is it for the Department of Transportation to change this regulation, in your opinion?

Response. Currently, NBIS regulations have the first option to have a Professional Engineer with the requisite experience and training to perform bridge inspections but they do have other lesser options which do not require bridge inspectors to be Professional Engineers. ASCE believes that non-licensed bridge inspectors and technicians may be used for routine inspection procedures and records, but the pre-inspection evaluation, the actual inspection, ratings, and condition evaluations should be performed by licensed Professional Engineers experienced in bridge design and inspection. The NBIS regulations should be changed to require just Professional Engineers with appropriate experience such as the expertise to know the load paths, critical members, fatigue prone details, and past potential areas of distress in the particular type of structure being inspected as the lead bridge inspector. They must have the ability to evaluate not only the condition of individual bridge components, but how the components fit into and affect the load paths of the entire structure. The bridge engineer may have to make immediate decisions to close a lane, close an entire bridge, or to take trucks off a bridge to protect the public safety.

Question 2. Your organization is supportive of the bridge rehabilitation legislation Chairman Oberstar is working on in the House Transportation Committee. In fact, you testified in your written statement the legislation is a "good first step." But, you also commented that "it is not the sole solution" Can you tell us why the proposed legislation is not the "sole solution" to the problem we face? What improvements could be made? In your opinion, what are we missing that we should pay more attention to? What should we keep in mind specifically as we move towards the reauthorization of SAFETEA–LU in 2009?

Response. Congressman Oberstar's proposed legislation is a good first step in that it addresses the structurally deficient bridges on the NHS which accounts for only about 10% of the structurally deficient bridges in the US. Further steps are needed to address the remaining 90% of our nation's roughly 73,000 structurally deficient bridges and also to address the roughly 80,000 functionally obsolete bridges. Bridge needs have been identified and consideration for the reauthorization of the SAFETEA–LU should include increasing and maintaining a dedicated user fees

such as a gas tax and addressing other funding means. Adequate revenues must be collected and allocated to maintain and improve the nation's transportation systems and to be consistent with the nation's environmental and energy conservation goals. A sustained source of revenue is essential to achieve these goals.

ASCE recommends that funding for transportation system improvements, associated operations, and maintenance be provided by a comprehensive program including:

a. User fees such as motor fuel sales tax;

b. User fee indexing to the Consumer Price Index (CPI);

c. Appropriations from general treasury funds, issuance of revenue bonds, and tax-exempt financing at state and local levels;

d. Trust funds or alternative reliable funding sources established at the local, state, and regional levels, including use of sales tax, impact fees, vehicle registration fees, toll revenues, and mileage-based user fees developed to augment allocations from federal trust funds, general treasuries funds, and bonds;

e. Refinement of the federal budget process to establish a separate capital budget mechanism, similar to many state budgets, to separate long-term investment decisions from day-to-day operational costs;

f. Public-private partnerships, state infrastructure banks, bonding, and other innovative financing mechanisms as appropriate for the leveraging of available transportation program dollars, but not in excess of, or as a means to supplant user fee increases;

g. The maintenance of budgetary firewalls to eliminate the diversion of user revenues for non-transportation purposes, and continuing strong effort to reduce fuel tax evasion.

Question 3. I have a question about the timing of preventative maintenance. Based upon your professional experience as an engineer, when should preventative maintenance start on a bridge? When a bridge is rated a 6? Or a different rating? Could we save more money by investing when small problems are diagnosed and recognized?

Response. Preventive maintenance should start being scheduled in year two of a bridge's life if just to clean joints, drainage systems, and bearings to remove the debris (and in northern states road salts) from bridge components to prevent rusting and deterioration. Accumulated debris can hold moisture against bridge components and leaking drainage can concentrate contaminated run-off onto bridge components, both accelerating deterioration. Beyond year two, preventive maintenance should be performed with consideration for deck and overlay repairs before they have expanded into deck replacements and for items such as coating maintenance on steel structures before rusting and "lost section" has occurred. It could be analogous to changing the oil in your car to increase the engine's longevity.

Responses by Andrew Herrmann to Additional Questions from Senator Inhofe

Question 1a. How would you compare the relative needs of bridges as compared to the other needs on our nation's highways?

Response. Highway needs cover roadway conditions and safety for the traveling public. Bridge needs are more critical due to the expenses of repairs per mile and the inconvenience to the traveling public due to the difficult requirements for detours involving maintaining traffic during repairs or replacements. In 2005, the FHWA estimated that it would cost $9.4 billion a year for 20 years to eliminate all bridge deficiencies. In 2007, FHWA estimated that $65 billion could be invested immediately in a cost beneficial manner to address existing bridge deficiencies.

Question 1b. Is the data in the existing bridge inventory sufficiently detailed to tell us where the greatest bridge needs are?

Response. In 2005, highway capital investment was $75 billion, $33 billion or 45 percent of the total in Federal assistance, and $42 billion from the state and local level. According to the U.S. DOT 2004 Conditions and Performance Report based on 2002 data, the "Cost to Improve" our Nation's Highways is estimated at $118.9 billion. This need for more investment is compounded by the increased costs of construction. Between 1993 and 2015, construction costs will have increased more than 70 percent.

The present bridge sufficiency ratings provide comparative bridge conditions for our nation's bridge inventory. Perhaps it could be taken further to consider preventive maintenance options and funding to address bridge ratings and conditions before the structures get to the structurally deficient category.

Senator KLOBUCHAR. Thank you very much.

Senator Barrasso, I don't think the vote has started yet, so we can get started.

Senator BARRASSO. Thank you very much, Madam Chairman. I think it started at 11:59 according to my little bulletin here.

Senator KLOBUCHAR. Well, you are just on top of things. That was very impressive.

Senator BARRASSO. They let the two kids in charge. Our cumulative stay here is less than 1 year.

[Laughter.]

Senator KLOBUCHAR. All right, well, I think it may be better to go vote and then come back or would you like to ask your questions?

Senator BARRASSO. I just have one question.

Senator KLOBUCHAR. OK, go ahead.

Senator BARRASSO. Just listening to Mr. Herrmann's comments and then reading through your testimony, you talk about problems with wastewater treatment, safe drinking water, locks on inland waterways, dams, road repairs. How do we as a Nation prioritize some of these things in terms of doing the risk-benefit analysis for how we spend our money?

Mr. HERRMANN. That is a very good question.

ASCE put together a report card to sort of differentiate between all the different categories of infrastructure, and we gave them letter grades. That sort of sets a priority for which areas are in the worst condition, but it still shows that the whole Country got a very bad grade overall.

Mr. HERRMANN. We could probably spend the rest of the day debating how we do that and compare it to other places in the world, but I know we have other things to do.

Madam Chairman, I will just turn it to you.

Senator KLOBUCHAR. You know what? I am going to come back after the vote, and I just have a few questions. If you could just wait for 10 minutes, I will go and vote and come right back. All right?

Thank you. We will temporarily adjourn and then come back.

Thank you very much.

[Recess.]

Senator KLOBUCHAR. I first wanted to apologize for the witnesses as we reconvene this hearing. I had no idea we had two votes. We thought we had one, and so it took much longer than we thought, and I am sure you are hungry for lunch.

But, as you can imagine, this is a very important issue to the people of my State. I have really appreciated the testimony that you gave, and I wanted to follow up on a few of the things that you said.

First of all, Mr. Steudle, you were talking about how the money is difficult for bridges right now because of the cost of the raw materials. I think you said there has been something like a 46 percent increase for steel and asphalt. How does that equate to the cost of a bridge? What percentage of the bridges' cost are raw materials?

Mr. STEUDLE. You know I don't have a specific to tell you that it is 30 percent or 50 percent, but both of those two, the concrete, the spikes and the cement in the last couple of years and steel are

the two main ingredients. The biggest chunk of a bridge is material.

I am going to rough guess it is probably half. The material cost is half. The labor cost is half.

Senator KLOBUCHAR. Mr. Herrmann.

Mr. HERRMANN. I think Mr. Steudle is correct. There is a lot of labor cost in it also, but steel and concrete are a large portion of the bridge.

Senator KLOBUCHAR. Now, Mr. Steudle, this is from my memory before when you testified before we voted, but I think you said 90 percent of the Federal bridge funds, you weren't using in Michigan because of these delays and the obstacles.

Mr. STEUDLE. Actually, we spend less than 90 percent. It is about 89 percent. So there is about 10 percent that we do not use.

Senator KLOBUCHAR. Ten percent that you aren't spending.

Mr. STEUDLE. Now that Federal funding doesn't come back here to Washington. We make sure that it stays in Michigan, and we spend it on other Federal programs as well. We recognize that is about 10 to 15 million dollars, but we invest 90 million into bridges, of State money, on top of that.

Yes, we do turn some of that money back, but the reason is because they are too restrictive and we use our State funds to do what we need to do from a preventative maintenance standpoint, to keep a good bridge in good condition.

Senator KLOBUCHAR. Could you talk about what those State obstacles are that you have encountered?

I know you mentioned briefly your ideas for improving the system. Could you give me a little more detail on what the obstacles are to States in trying to work through the morass and the red tape of the Federal program?

Mr. STEUDLE. You know a big piece of it is the interpretation. I think SAFETEA–LU gives some flexibility there, but a lot of it is then driven by local interpretation to what does that mean. What does it mean to have a bridge system in place so that you are allowed to use the money for preventative maintenance? That really is the big piece.

If you have a bridge system in place, and it is approved by the Federal Highway Administration, you can then use money for preventative maintenance treatments. Now even with our extensive program, we can't use that money for repairing bridge decks if the other elements are good as well. So there is a lot of nuances within that program that we bump into a lot of times.

Really, the crux of what we are saying is if we have a comprehensive system that looks at the entire network of bridges—the new ones, the middle age ones and the old ones—and we manage each of them separately with their independent lives, we should have the flexibility to invest Federal funding where it is most appropriate.

Senator KLOBUCHAR. OK, very good.

I had some questions about our own bridge collapse in Minnesota, and I know you don't know all the details about it, but we were talking before with the Inspector General, Mr. Herrmann, about the inspection process.

Our bridge was rated as a four, and I understood from Secretary Peters that bridges below that number qualify for being closed. When they are a two, they are automatically closed. When they are a three, they put load limitations on them. Our bridge was at a four, and there is some concern of the balance of the loads and things like that.

I guess my first question to you would be if you can add any improvements to that system, do you think that would make it better from an engineering perspective, Mr. Herrmann?

Then the second just the inspection process. I had asked the Inspector General about using sensors of sort of high tech equipment, and he mentioned that sometimes the most rudimentary things are better measured, but I wonder your perspective on the high tech equipment.

So my two questions are what you think can be done better with inspections and then if you think there can be some improvements to this process of identifying the problems with the bridges and the numerical values given to the status of the bridges.

Mr. HERRMANN. Thank you, Senator.

The first question, better for the inspection, as I stated in my oral testimony, ASCE recommends that professional engineers be used for the bridge inspections. We are also saying that non-licensed bridge inspectors and technicians could be used for routine inspection procedures, but the pre-inspection evaluation, the actual inspection, the ratings, the condition evaluation should be performed by licensed professional engineers experienced in bridge design and inspection.

The reason we are saying this is because the person out there in the bridge inspection should have the expertise to know the load paths, the critical members, the fatigue-prone details and the past areas of potential distress in the particular type of structure being inspected. They have to know this.

They have to make evaluations in the field. They have to know how the components fit in and affect the load paths of the entire structure. They may have to make an immediate decision to close a lane, close an entire bridge or to take trucks off a bridge to protect the public safety.

One thing that was said earlier was in the discussion of structurally deficient and functionally obsolete, some bridges are posted. Well, that is very important that bridges are posted, but the most important thing is that posting is enforced. There is a problem across the Country, I believe, with enforcing that because there may not be sufficient law enforcement to keep the bigger trucks off the bridges that may be posted for lower ratings.

The other question on high tech, the Inspector General is right. A good pair of eyes and a chipping hammer and a good light is a very good way to inspect a bridge.

You have to get up into that structure, be it all the equipment that is used: snooper trucks to bring you over the side, bucket trucks, rigging the bridge to get out there. Sometimes more money is spent in providing the equipment to get those eyes to the structure than the actual inspectors on the bridge.

But you need someone who has educated eyes, who knows what he is looking for and knows the importance of what he sees. He has

to know the past details, items that on a certain bridge age may cause cracks, may cause problems. As we have gone through the decades, we have learned a lot. We have made changes in our design procedures, but there are some bridges that before we knew it have these details still in place, and that has to be known and has to be watched.

As for high tech devices, there are a number of things that are available that would aid once those eyes find something or aid once those educated eyes know an area to look. We have ultrasonic devices which at least in my experience are usually part of the bridge inspector's team, where if they find losses in a member, it is an ultrasonic device that can tell you how much thickness is left in that steel member if you are looking at a steel structure.

There have been things said about the chain-dragging. That actually does work. You do find voids in concrete decks with chain-dragging. Some of these things may sound primitive, but they do work.

There are a number of high tech strain gauges, electrochemical, electric devices that can be placed on bridges, but you have to know where to put them and you have to monitor them.

Senator KLOBUCHAR. Mr. Steudle, before when I was talking to Secretary Peters, we talked about how, and I think this is in line with what you are saying, the program could be administered better so there is some more flexibility for States. But then we also raised with her—I did and some of the other Senators—the fact that when there is a projected deficit of I think you said $4 billion for the bridge repair funding for 2009, that even no matter how efficient we become with how we administer these funds and what better tools we can put in place to allow States some flexibility, that we are going to have some major issues.

I wondered—and you probably heard discussion since you have been sitting for this very lengthy hearing, about some funding mechanisms with bonds and I think Senator Boxer was talking about reprioritizing some of our funding in Congress—what your ideas are for funding.

Mr. STEUDLE. First of all, the 4.3 is in the Highway Trust Fund. So that is all of the different assets—roads, bridges, all of them together—and we as States are very concerned about that. We are planning our programs, anticipating that the Highway Trust Fund is fully solvent and we can continue with the record repairs and the programs that we had through SAFETEA–LU.

Looking at how do we fill that gap, I think every rock needs to be overturned to see what is under it.

When you add all the innovative pieces all up, you still end up with the biggest lion's share of what needs to be done and the money that needs to be raised is through motor vehicle fuel taxes. You add all the other pieces, and they are going to help, but we are not going to get away from that, I don't think, in the very near future. There is not enough of all those other pieces.

The innovative financing, the tax incremental financing will work well and maybe it works for a new freeway or a new road that goes through.

But what about the road that has been there for 50 years or 60 years that has been free? Do we now put a toll on a road that has

been free? Frankly, it is a road that our parents or grandparents already paid for. They put it in place.

When you go further than that, what about the local street, the city street, the county secondary road? It is almost impossible to put a toll on a subdivision street. There still has to be a mechanism, and it may not be at the Federal level that pays for a subdivision street, but there has got to be something through that that generates funding to take care of those roads as well.

Senator KLOBUCHAR. Thank you.

Do you want to add anything, Mr. Herrmann?

Mr. HERRMANN. Yes, thank you. ASCE has a number of policies, and they have one on transportation funding.

ASCE recommends that funding for transportation system improvements, associated operations and maintenance—maintenance, I would like talk about that a little bit—be provided by a comprehensive program including user fees such as motor fuel sales tax, user fee indexing to the consumer price index, appropriation from general treasury funds;

Issuance of revenue bonds and tax exempt financing at State and local levels; trust funds or alternate reliable funding sources established at the local, State and regional levels including the use of sales tax, impact fees, vehicle registration fees, toll revenues, mileage-based user fees developed to augment allocations from Federal trust funds, general treasury funds and bonds;

Refinement of the Federal budget process to establish a separate capital budget mechanism similar to many State budgets to separate long term investment decisions from day to day operational costs;

Public-private partnerships, State infrastructure banks, bonding and other innovative financing mechanisms as appropriate for the leveraging of available transportation program dollars but not in excess of or a means to supplant user fee increases.

Those are a number of things that ASCE has come out as a policy for finding funding for transportation.

The thing on maintenance I brought up as I was going through the list, I think it was Senator Carper who said there are a lot of people who come out, all the television and media come out when you cut a ribbon for a bridge, and I agree with him. There are not many people that come out when you cut a ribbon because you just painted a bridge or you filled in some potholes.

We need some funding for maintenance or incentive to government agencies to do the maintenance because that will increase the life of the bridges.

Senator KLOBUCHAR. Well, thank you very much, and I again thank you for staying for this extra hour.

I think if you see this bridge and what happened to us in Minnesota, as you can see, just as much as land as over rivers, it was an enormous bridge and affected so many people in our State and continues to affect them.

I appreciate you, on their behalf, staying to answer these questions. As we move forward, we look forward to working with you and your ideas. Thank you.

To finish up, I ask unanimous consent that the statements of the Associate General Contractors and the American Public Works As-

sociation be placed in the record, and the record will remain open for additional submissions.

[The referenced material follows on page 106.]

Senator KLOBUCHAR. The hearing is adjourned. Thank you.

[Whereupon, at 1:14 p.m., the committee was adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. CHRISTOPHER BOND, U.S. SENATOR FROM THE STATE OF MISSOURI

Thank you, Madam Chair and Ranking Member Inhofe. I would also like to thank Senator Coleman and the other panelists who have joined us today to discuss the condition of our nation's bridges.

I would also like to express my compassion and concern for both those who lost their lives and for those who have had to undergo the tragic collapse of the I–35W Bridge Minneapolis.

It is essential that we must continue to develop an efficient and sustainable approach to identify and tackle structurally deficient and poorly maintained bridge infrastructure.

In order to ensure that our nation's surface transportation is safe and dependable; adequate examinations, assessment, rehabilitation and replacement of severe conditioned infrastructure is required to preserve safety for our commuters.

Given that the Highway Trust Fund is facing an estimated deficit of $5 billion dollars by fiscal year 2009; Federal, State and local leaders must consider innovative options in order to finance many bridge and surface transportation programs.

Out of the 10,000 bridges in Missouri—which is the 7th largest total nationwide—there are over 1,000 bridges that are currently rated as poor or serious condition.

In order to address this insufficiency, the Missouri's department of transportation, has had a practical approach to develop an innovative plan to repair or replace over 800 poorly conditioned bridges by 2012.

Consequently, 80% of our state's most worn-out bridges will be rehabilitated to good condition status or replaced within the next five years.

Missouri's Design-Build-Finance & Maintain concept would not only improve our state's worst bridges by 2012; but will maintain them for at least 25 years. In addition, none of these bridges will become tolled bridges. They will remain free.

This innovative Design-Build, Public-Private Partnership is a great example for other states to look at, research and maybe follow.

While this innovative formula may not be suitable to every state's infrastructure priorities, hopefully, it may serve as an example as to how federal, state and local governments may pursue favorable, targeted investment strategies for bridge and surface transportation enhancement.

STATEMENT OF HON. SHELDON WHITEHOUSE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

First, I want to thank Chairman Boxer for holding this hearing, and for her commitment to improving the condition of our nation's aging bridges, roads, and highways. The collapse of the I–35W Mississippi River Bridge in Minneapolis is a tragic reminder of the need to constantly monitor our nation's transportation infrastructure, and to take action where necessary to provide for repairs.

The issue of bridge safety and reliability has special importance for Rhode Island, the Ocean State. Although we are the smallest of the 50 states, our unique geography—the Narragansett Bay bifurcates much of our state—requires us to rely on an intricate system of roads that includes 748 bridges.

For Rhode Islanders, bridges are more than just a means of transportation—they are a lifeline, and a treasured part of our state's history. I, like generations of Rhode Islanders, cherish memories of the hair-raising drive over the old Jamestown Bridge, finally demolished last year. The relocation of Interstate 195, a major artery connecting East Bay communities with Providence and the rest of the state, to a new bridge spanning the Bay has presented the city of Providence with new opportunities for economic development.

The city of Newport and the towns of Jamestown, Middletown, and Portsmouth are located on islands connected to the mainland by four great bridges: the new Jamestown Bridge, the Claiborne Pell Newport Bridge, the Mount Hope Bridge, and the Sakonnet Bridge. The loss of a single bridge in this network could significantly

impact the lives and welfare of the 66,000 Rhode Islanders who call the islands of Narragansett Bay home.

Although our bridges are critical to our existence, many of Rhode Island's bridges have fallen into disrepair. Our aging bridges are increasingly strained by a growing population. According to the Federal Highway Administration (FHA), vehicle traffic in our state increased 16 percent from 1990 to 2002. Increased usage has taken its toll. According to data compiled by the FHA, Rhode Island ranks first among the states in percentage of deficient bridges. Of our 748 bridges, 53 percent are rated either "structurally deficient" or "functionally obsolete." Especially troubling are the 164 bridges that have been rated "structurally deficient." This rating means these bridges are in poor condition and require repairs or replacement.

Among these is the Sakonnet Bridge, built in 1956 in the same steel deck truss fashion as the failed bridge in Minneapolis. While construction on a new bridge has begun, it is not scheduled to be completed until 2015. In the meantime, the Sakonnet Bridge needs the highest level of inspection and maintenance. The destruction of its predecessor bridge by Hurricane Carol in 1954 left thousands of people in peril. We cannot let this happen again.

With the tragedy of the I–35W Bridge fresh in our memory, we must reexamine our methods of bridge inspection and reprioritize bridge investment. For too long, we have taken our bridges for granted. We have been given a warning, and if we take heed, we have the power to safeguard the bridges on which our nation so relies. I'm heartened that this committee has made strengthening our bridges an urgent priority, and I look forward to today's hearing.

STATEMENT OF LARRY W. FREVERT, P.E., PRESIDENT,
AMERICAN PUBLIC WORKS ASSOCIATION

Madam Chairwoman and members of the Senate Committee on Environment & Public Works, thank you for the opportunity to submit testimony for the Oversight Hearing to Examine the Condition of our Nation's Bridges. My name is Larry Frevert, President of the American Public Works Association (APWA). I submit this statement today on behalf of the more than 29,000 public works professionals who are members of APWA, including our nearly 2,000 public agency members.

APWA is an organization dedicated to providing public works infrastructure and services to millions of people in rural and urban communities, both small and large. Working in the public interest, our members design, build, operate and maintain our vast transportation network, as well as other key infrastructure assets essential to our nation's economy and way of life.

We join with others in expressing our deepest sympathy to everyone affected by the I–35W bridge collapse in Minneapolis on August I. We remain saddened by this tragedy and continue to extend our support to local, state and federal officials working on recovery and rebuilding.

The tragic failure of the I–35W bridge is a stark reminder of the importance of public infrastructure to the daily lives of all people and to the welfare and safety of every community. But this essential public asset is aging and deteriorating. It is suffering the effects of chronic underinvestment and is in critical need of funding for maintenance, repair and improvement.

Our nation's highway bridges are no exception. The average span currently is more than 40 years old. More than one in every four is rated structurally deficient or functionally obsolete and in need of repair, improvement or replacement. Of the more than 594,000 publicly-owned bridges on which we depend for personal mobility and movement of freight, more than 158,000 are rated deficient, with more than 77,700 classified as structurally deficient and more than 80,600 as functionally obsolete.

Local governments own in excess of 300,000 bridges, more than half of publicly-owned bridges in the U.S. Of the total local inventory nationwide, 29 percent is rated structurally deficient or functionally obsolete.

Standards have been in place since the early 1970s requiring safety inspections every two years for all bridges greater than 20 feet in length on all public roads. Some bridges may be subject to more frequent inspections, and some structures in very good condition may receive an exemption from the two-year cycle and be inspected once every four years. These inspections, carried out by qualified inspectors, collect data on the condition and composition of bridges.

Structurally deficient bridges are characterized by deteriorated conditions of significant bridge elements and reduced load-carrying capacity. Functional obsolescence results from changing traffic demands on the structure and is a function of the geometries of the bridge not meeting current design standards. Neither designa-

tion indicates a bridge is unsafe. But they do indicate a need for repair, improvement or replacement.

We cannot ignore the underinvestment in bridge maintenance, rehabilitation and replacement. It is a major contributing factor undermining efforts to adequately address deficiencies. Nationwide, the backlog of bridge investment needs is now estimated to total $65.2 billion.

As a nation, we are failing to meet the needs of a transportation system increasingly overburdened by rising travel, a growing population and more freight. Additional traffic volumes and heavier loads are placing ever greater stress on bridges often designed for lighter loads. The U.S. Department of Transportation reports that the funding backlog could be invested immediately in a cost-beneficial fashion to replace or otherwise address currently existing bridge deficiencies.

Local governments' ability to fund necessary bridge improvements has eroded significantly over the years. They have limited financial means to adequately address deficiencies and typically do not have the capacity to do major repairs or capital work on the magnitude of a bridge replacement without funding support.

Sharp increases in the costs of construction materials and supplies in the past few years are compounding the funding challenge for local government. In Washington State, for example, escalating material and supply costs and one of the largest construction programs in the nation have had a severe impact on delivering local agency projects. It is not unusual to take 10 years or more from the time funding can be secured and replacement done. And with the recent industry cost index increases, the gap is growing and will continue to grow.

Immediate action to increase investment is crucial to accelerating local bridge repair and replacement programs. Most bridges on local roads were either built to older standards or are so old they are in urgent need of repair or replacement. It is not uncommon that bridges have gone for years, even decades, without the appropriate action to repair or replace, due to lack of funds. This is particularly true in more rural areas.

In many cases, locally-owned bridges were often designed to carry traffic volumes and loads less than present conditions demand. As congestion increases on the Interstate System and state highways, local roads become diversion routes, supporting ever increasing levels of usage. Freight volumes, too, have increased faster than general-purpose traffic, adding demands on all parts of the system. Automobile technology allowing for greater speeds has made many bridge geometries substandard.

Deficient bridges are rated, prioritized and repaired or replaced as funding is available. When funding is insufficient, deferred maintenance, increased inspections, weight limits and closures are often the only options.

APWA has been and will continue to be an advocate for the development of public policies which ensure the safe and efficient management and operation of our public infrastructure. As Congress considers the needs of our bridge system, we urge you to consider the following recommendations.

APWA supports a determined, comprehensive national effort to increase investment to eliminate the bridge funding backlog needed to repair, rehabilitate and replace all publicly owned bridges—including local bridges—as part of a zero bridge deficiencies goal. Such an effort, however, should not stop there. It needs sustained and sustainable funding to ensure ongoing system preservation and maintenance at a level necessary to prevent future deficiencies of all publicly-owned bridges.

APWA also supports updating bridge inspection standards and strengthening data collection and reporting procedures; evaluating active bridge monitoring systems; and strengthening inspector qualifications and training and inspection technologies, research and procedures for all publicly-owned bridges. including those on our local system. We believe that a program to strengthen research, technology, procedures and standards must be supported by full federal funding necessary to carry out and sustain it.

In conclusion, our nation's bridge system is aging, deteriorating and suffering the effects of decades of underinvestment. The result is the unacceptably high levels of deficiencies we see today. APWA believes that working together in partnership with local, state, federal and private sector partners, we can and must take immediate action to address our bridge needs. But it will take funding and leadership. Increased investment to repair or replace deficient bridges is vital to achieve a safer and more efficient transportation network. A strengthened inspection program can help ensure that we make wise investments to maintain and preserve all bridges.

Madam Chairwoman, we thank you for holding this hearing and are especially grateful to you and Committee members for the opportunity to submit this state-

ment. APWA and our members stand ready to assist you and the Committee as we move forward to address our nation's bridge needs.

STATEMENT OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

The Associated General Contractors of America (AGC) issued the following statement at a press conference in late July 2007: "There is a funding crisis, congestion crisis, and safety crisis looming . . . It's now time to make the tough choices that will carry our nation forward for the next 50 years." Today the Senate Environment and Public Works Committee will hear diverse opinions on how to handle the bridge crisis and begin to chart the course for the next 50 years. AGC is pleased to submit this statement regarding the condition of bridges in the United States.

On August 1, 2007, a span of the 1–35 bridge in Minneapolis collapsed during the evening rush hour bringing national attention to the state of our nations aging infrastructure. However, this tragedy was but one symptom of a deeper problem we face: a national infrastructure crisis. For the past two decades, AGC has been highlighting this crisis. While some steps have been taken to address the concern, Congress has not yet provided the comprehensive, well-funded response necessary to prevent further deterioration of our various infrastructure systems, including surface transportation, aviation, rail, ports, wastewater, drinking water, flood control, navigation, and others. U.S. bridges are a vital link in the nation's transportation network, connecting communities and regions of the country. Many are 50 years old or more and are carrying loads far beyond what they were designed to carry. Bridges are a significant component of the intermodal system that supports our $14 trillion economy.

On September 5, 2007, AGC submitted testimony to the House Transportation and Infrastructure Committee regarding the status of the nation's structurally deficient bridges, as well as on Chairman James Oberstar's National Highway System Bridge Reconstruction Initiative. While this initiative is an appropriate response to this tragic event and addresses the most pressing and high profile part of the nation's surface transportation needs—structurally deficient bridges—other network needs exist and require solutions to alleviate congestion, improve pavement conditions, enhance safety, provide seamless freight mobility, and promote economic development opportunities. AGC supports efforts to dedicate additional funding towards the nation's bridge needs: however, AGC recommends that the needs of the nation's entire surface transportation system be addressed as well.

Highway and bridge inadequacies are exacting a significant toll on cars, trucks, and the economy. The U.S. Department of Transportation estimates that the backlog of unfunded system-wide needs, including highways and bridges, exceeds $460 billion, costing Americans according to various sources, $67 billion a year in extra vehicle operation and maintenance costs, $63 billion a year in wasted time and fuel costs, and $230 billion a year in costs related to motor vehicle crashes. Despite the obvious economic benefits, 26 percent of America's bridges are structurally deficient or functionally obsolete, 33 percent of U.S. roads are in poor or mediocre condition, and 36 percent of our urban highways are congested.

It is clear that the network is aging and in need of investment at all levels of government to maintain and improve the condition and performance of the system, including the reconstruction of the most at-risk bridges. Currently, the federal commitment to the nation's bridges is through the Highway Bridge Rehabilitation and Replacement Program. The program apportions approximately $4.5 billion a year in contract authority to the states, or about 10 percent of all apportionments. In recent years, states have obligated annually over $4.1 billion of their bridge apportionments, more than 13 percent of their total obligations.

Under ISTEA, states were provided the flexibility to transfer up to 40 percent of their annual bridge apportionment to the Surface Transportation and National Highway System core programs; TEA–21 allowed transfers up to 50 percent. From the period 1992–2003, approximately $3.4 billion in contract authority was transferred from the bridge program to these other programs, although less was transferred under TEA–21 (1998–2003).

AGC supports flexibility within the federal-aid highway program to allow states to meet their unique transportation needs; however, in response to this significant and pressing safety problem, states should be encouraged to use all available funding to address bridges that present the most significant safety concerns. States should not be rewarded for past neglect. For this reason, AGC recommends revisiting the existing transfer flexibility provisions in current law and proposes a readjustment to ensure that existing bridge funds are directed towards their critical intended purpose.

To assure further that this vital national concern is addressed immediately, AGC also recommends that any specific bridge reconstruction initiative that may be considered by the Committee include a "maintenance of effort" provision in any formula developed to distribute funds to the states. Such a provision would judge whether states have shifted money out of their existing bridge program apportionments to other non-bridge needs. Furthermore, AGC recommends that states be required to spend any new funding for bridge reconstruction exclusively towards structurally deficient bridges and that they not be permitted to shift more than 20 percent of their regular bridge apportionments to other priorities during the period of any new program. AGC also recommends that states be required to generate new state revenues to match the new federal share and not shift resources from their existing transportation infrastructure accounts.

As the Committee considers the possibility of supplemental surface transportation investment and in preparation for the reauthorization of SAFETEA–LU, AGC suggests including a prohibition on earmarking funds. It is important that the public fully recognize the value of any increased investment and support it. Unfortunately, there has been too much cynical coverage in the media portraying federal infrastructure initiatives as "pork barrel" spending, implying that these various funding measures are nothing more than political patronage.

For years, AGC and our transportation allies have called for "putting trust back" into the Highway Trust Fund. That became a reality in TEA–21 when firewalls were enacted requiring that Highway Trust Fund user fee revenue be used for its intended purpose: improving the transportation system. Public support in the short term, and in the long term, as we address SAFETEA–LU reauthorization, is vital to our success. Infrastructure must be above reproach and the steps should be taken to ensure that all funds are invested in the most strategic way possible. Overwhelming public support is vital to our long-term efforts to address the overall infrastructure funding shortfall.

To pay for transportation investments, including bridge reconstruction, AGC fully supports increasing and/or indexing the federal excise tax on gasoline. Other funding sources are being debated in other forums to address future transportation infrastructure needs. While these other funding sources may provide supplementary funding to meet future needs, the excise tax on gasoline continues to be the most reliable, fairest, and easiest to administer user tee. Increasing the federal excise tax can be implemented quickly and provide the additional revenue in a timely fashion. Although we need to continue to identify additional financing options for program in the long term, we also need to act immediately in the short term. Using an existing and successful user fee system now will allow Congress to address a infrastructure problem that impacts all Americans.

In addition, AGC recommends that the federal excise tax on gasoline be indexed to account for the expected inflation in construction costs that will diminish the purchasing power of this funding increase in the future. During TEA–21 reauthorization, AGC recognized the nature of the existing gasoline excise tax, imposed as a "cents per gallon" fee rather than as a percent of the cost, presented long-term problems because of the scourge of inflation. At that time, AGC recommended that the gas tax be retroactively indexed to account for inflation that had occurred since 1993 when the fee was last increased and that the fee be indexed from that point forward to undermine the effects of inflation. If Congress had enacted AGC's plan during the reauthorization, we would be well on our way to erasing the backlog of highway and bridge needs in this country.

Unfortunately, rather than enhancing our nation's infrastructure we are losing ground. Since 2003 we have witnessed a 46 percent increase in the cost of the basic building materials used in bridge construction: steel, asphalt, concrete, and aggregate. The projected continuing growth in world demand for these products points to the continuing diminishing purchasing power of any revenue provided in today's dollars. In addition, the overall increase in the price of diesel fuel directly impacts construction costs as it fuels the heavy equipment, including cranes, bulldozers, and other machinery used in construction.

As the balance of the highway account of the Highway Trust Fund moves towards deficit in fiscal year 2009, the ability of states to continue to meet pressing transportation needs, including structurally deficient bridges and other critical components of the system, is threatened. Congress must act now to provide a necessary infusion of investment dollars to meet the immediate threat of bridge failures, but, more importantly, must also begin the process of addressing the overall transportation infrastructure crisis we face as a nation.

Again, AGC appreciates the opportunity to submit these comments and looks forward to working with the Committee to find solutions to address the condition of

our nation's bridges and other important infrastructure challenges facing the United States.

Thank you.

VERMONT

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Operations Division
1 National Life Drive
Montpelier, VT 05633
www.aot.state.vt.us

Agency of Transportation

[phone] 802-828-2628
[fax] 802-828-3983
[nd] 800-253-0191

August 30, 2007

Kevin Richards
Acting Director, Portfolio Management
U.S. General Services Administration (1PT)
O'Neill Federal Building, 10 Causeway Street
Boston, MA 02222

Dear Mr. Richards;

I am writing to provide you with documentation for your project files and to provide your National office with the reason Vermont does not agree with the financial information that was stated in the prospectus that was submitted to Congress.

The State of Vermont received an earmark for the Derby Port of Entry Highway Project in the amount of $6,000,000. This earmark is made available through the Federal Highway Administration in annual apportionments. When the budget is passed, Vermont is given an obligation or contract authority. This amount is lower than the apportionment and is the actual funds that are made available for the project.

For budgeting purposes VTrans uses 85% as the amount of funds that will be made available or the obligation/contract authority amount. The actual average for the past three years is 86.3%. VTrans will make available to GSA the actual amount of the annual obligation/contract authority for this project.

When calculating the matching funds required to draw down these federal funds, the match funding will be 20% of the total (federal funds and state match) project. Your current calculation is 20% of the federal funds. When GSA revises their budgets, these amounts should be recalculated also.

To restate the amounts that VTrans is using in our budgeting:

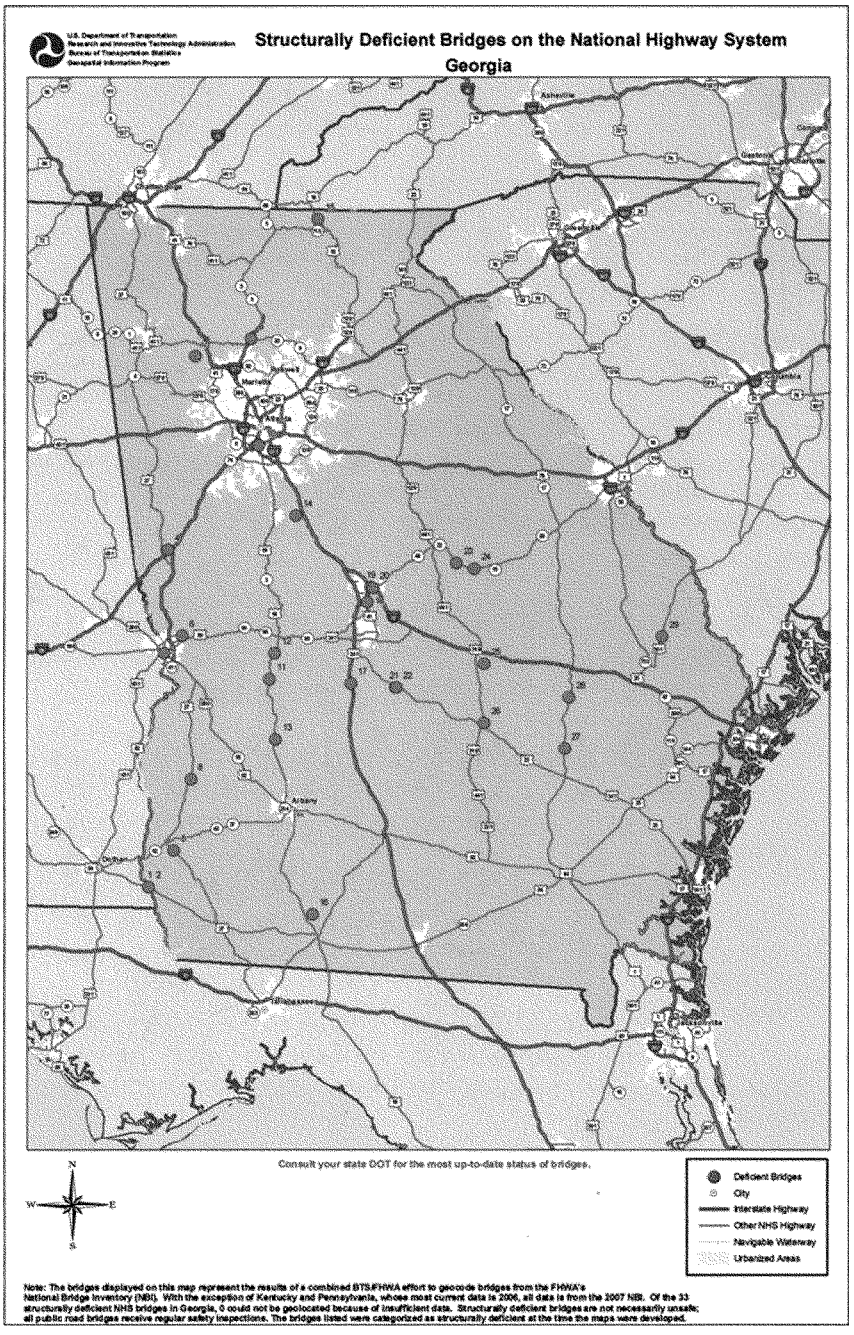
Earmark funds apportioned to the project - $6,000,000
Earmark obligation/contract authority - $5,100,000
VTrans funds for administrative work - $ 400,000
Federal Funds available to GSA - $4,700,000
Vermont Funds available for match - up to $1,200,000

If you have any questions please feel free to contact me at 802-828-2628 or via email at trini.brassard@state.vt.us.

Sincerely,

Trini Brassard
Special Projects Manager

VTrans Working to Get You There


U.S. Department of Transportation
Research and Innovative Technology Administration
Bureau of Transportation Statistics
Geospatial Information Program
Structurally Deficient Bridges on the National Highway System
Georgia
Asheville
Athens
Atlanta
Macon
Columbus
Albany
Jacksonville
Consult your state DOT for the most up-to-date status of bridges.
N
W
E
S
Deficient Bridges
City
Interstate Highway
Other NHS Highway
Navigable Waterway
Urbanized Areas
Note: The bridges displayed on this map represent the results of a combined BTS/FHWA effort to geocode bridges from the FHWA's National Bridge Inventory (NBI). With the exception of Kentucky and Pennsylvania, whose most current data is 2006, all data is from the 2007 NBI. Of the 33 structurally deficient NHS bridges in Georgia, 0 could not be geolocated because of insufficient data. Structurally deficient bridges are not necessarily unsafe; all public road bridges receive regular safety inspections. The bridges listed were categorized as structurally deficient at the time the maps were developed.

Bridge Condition Rating Categories

Rating	Condition Category	Description
9	Excellent	
8	Very Good	
7	Good	No problems noted.
6	Satisfactory	Some minor problems.
5	Fair	All primary structural elements are sound but may have minor section loss, cracking, spalling, or scour.
4	Poor	Advanced section loss, deterioration, spalling, or scour.
3	Serious	Loss of section, deterioration, spalling, or scour have seriously affected the primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
2	Critical	Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may be removed substructure support. Unless closely monitored, it may be necessary to close the bridge until corrective action is taken.
1	Imminent Failure	Major deterioration or section loss present in critical structural components, or obvious loss present in critical structural components, or obvious vertical or horizontal movement affecting structural stability. Bridge is closed to traffic, but corrective action may put back in light service.
0	Failed	Out of service; beyond corrective action.