

Testimony of
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Regarding

Oversight Hearing to Examine
The Condition of the Nation's Bridges

SENATE ENVIRONMENT AND
PUBLIC WORKS COMMITTEE

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Founded in 1914, AASHTO represents the departments concerned with highway and transportation in the fifty States, the District of Columbia and Puerto Rico. Its mission is a transportation system for the nation that balances mobility, economic prosperity, safety and the environment.



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 certified 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 1/3 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.

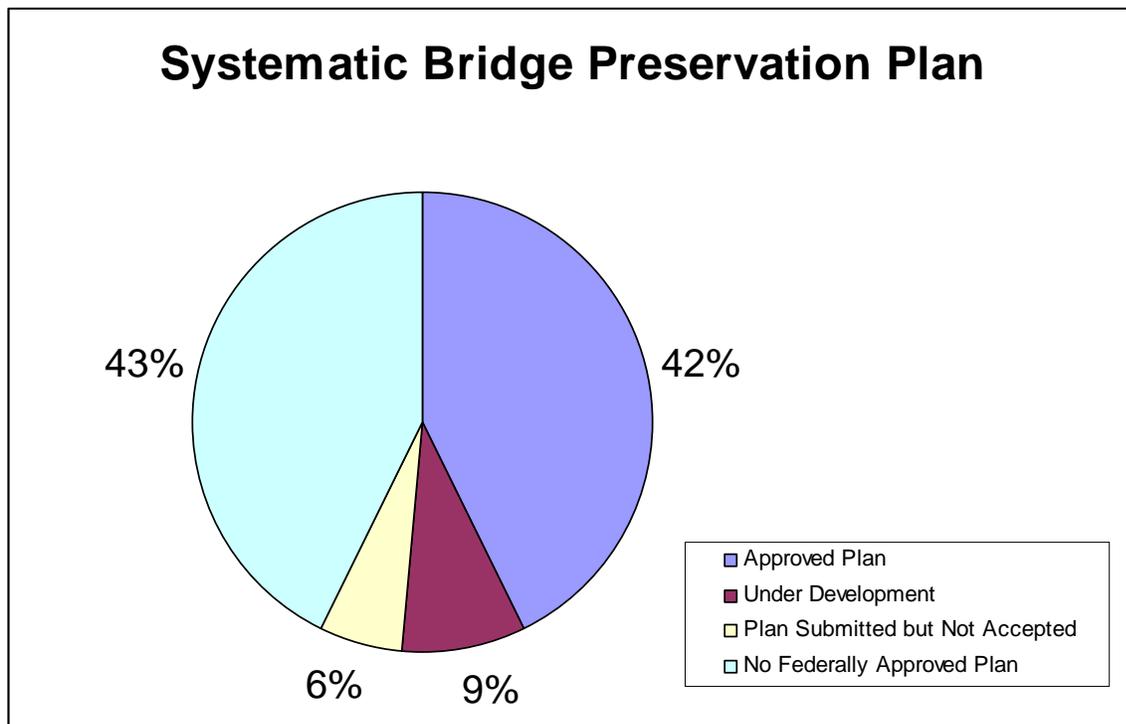
Structural Deficiencies Declining

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.

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.

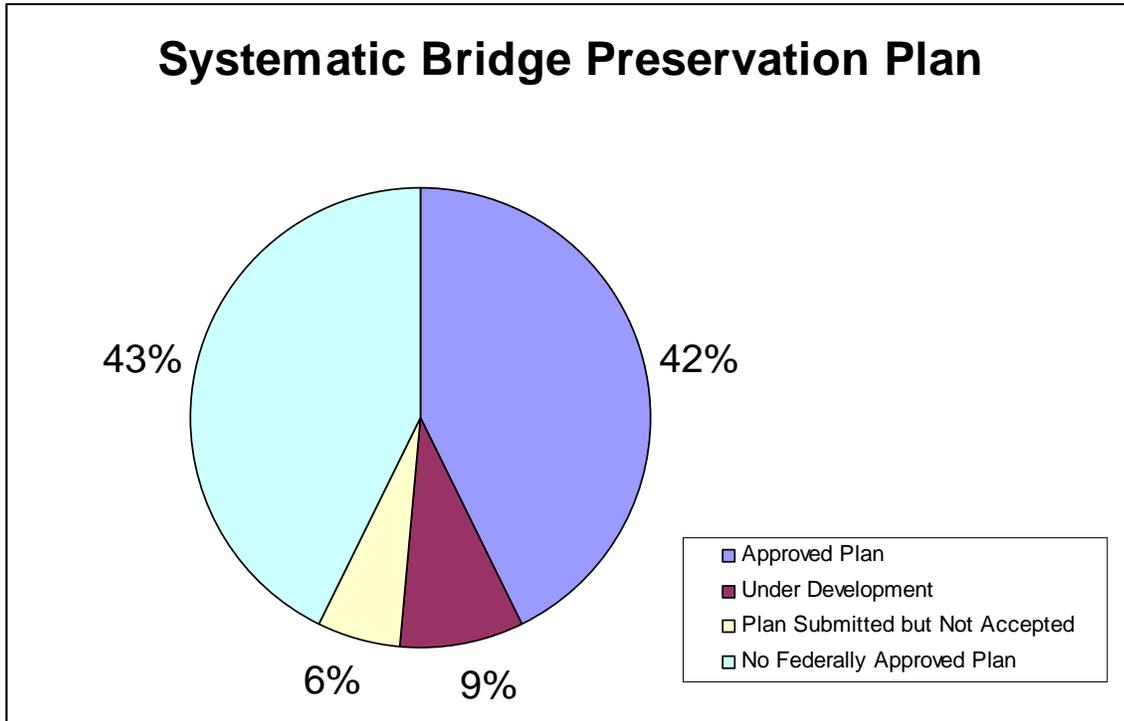
-Bridge washing is highly regulated through the Clean Water Act. It is questionable if these restrictions actually help improve long term water quality in the stream. Bridge painting is another highly regulated maintenance activity from the Clean Air Act and RCRA aspects. It is reasonable to regulate 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.