

GAO

Testimony

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HIGHWAY BRIDGE PROGRAM

Condition of Nation's Bridges Shows Limited Improvement, but Further Actions Could Enhance the Impact of Federal Investment

Statement of Phillip R. Herr, Director
Physical Infrastructure Issues



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Highlights of [GAO-10-930T](#), a testimony before the Subcommittee on Highways and Transit, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

One in four bridges in the United States is either structurally deficient and in need of repair, or functionally obsolete and is not adequate for today's traffic. The Highway Bridge Program (HBP), the primary source of federal funding for bridges, provided about \$7 billion to states in fiscal year 2010. This testimony addresses (1) the current state of the nation's bridges and the impacts of the HBP and (2) the extent to which the HBP aligns with principles GAO developed to guide the re-examination of surface transportation programs. This testimony is based on prior GAO reports, updated with bridge data and information provided by agency officials.

What GAO Recommends

GAO is not making any new recommendations. In 2008, GAO recommended that the Secretary of Transportation work with Congress to (1) identify and define national goals for HBP, (2) develop and implement performance measures, (3) identify and evaluate best tools and practices, and (4) review and evaluate HBP funding mechanisms to align funding with performance. DOT generally agreed with these recommendations and has taken some actions to work with Congress to address issues GAO raised regarding the HBP, but much work remains.

GAO provided a draft of this testimony to FHWA for review. We incorporated FHWA comments, as appropriate.

View [GAO-10-930T](#) or key components. For more information, contact Phillip R. Herr at (202) 512-2834 or herrp@gao.gov.

HIGHWAY BRIDGE PROGRAM

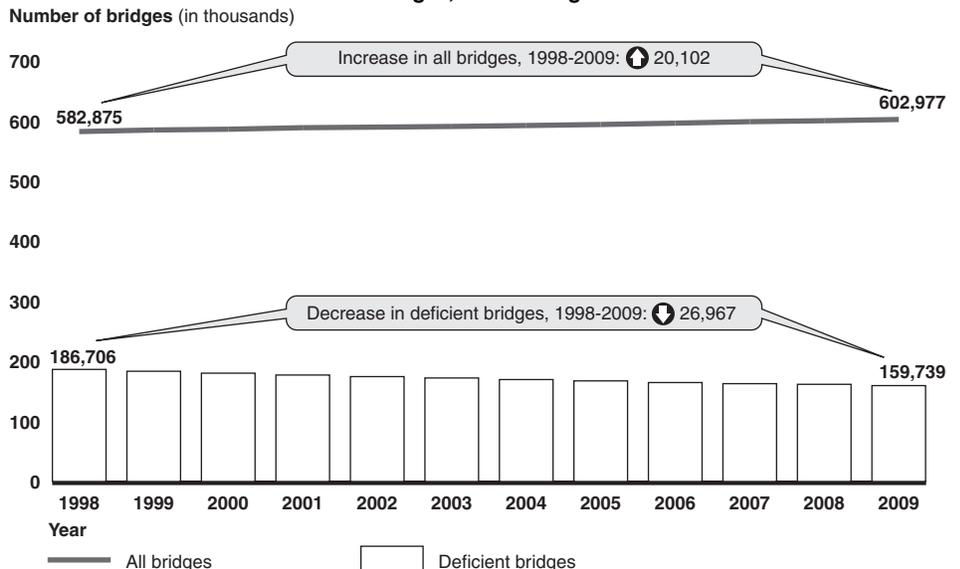
Condition of Nation's Bridges Shows Limited Improvement, but Further Actions Could Enhance the Impact of Federal Investment

What GAO Found

There are over 600,000 bridges on the nation's roadways, of which one in four is deficient in some sense. Data indicate that the total number of deficient bridges has decreased over the past 12 years, even as the total number of bridges has increased, because of a reduction in the number of structurally deficient bridges. However, the impact of the federal investment in the HBP is difficult to measure, in part because there are no comprehensive and complementary data for state and local bridge spending. The lack of comprehensive information on state and local spending makes it impossible to (1) distinguish the impact of HBP funding from other funding to improve bridge conditions and (2) determine the extent to which states may be substituting increased HBP funding for state and local funds that they would otherwise have spent on bridges. Evaluating the impact of the HBP is important not only to understand the outcome of past spending but also to determine how to sensibly invest future federal resources.

The HBP does not fully align with GAO's principles for re-examining surface transportation programs in that the program lacks focus, performance measures, and fiscal sustainability. The program's statutory goals are not focused on a clearly identified national interest but rather have expanded from improving deficient bridges to supporting preventive maintenance and many other projects, thus expanding eligibility to include almost any bridge. In addition, the program lacks measures linking funding to performance and does not utilize new tools such as bridge management systems. Fiscal sustainability also remains a challenge given the nearly \$30 billion in additional revenues added to the Highway Account since fiscal year 2008.

Trends in Number and Condition of Bridges, 1998 through 2009



Source: GAO analysis of 2009 FHWA data.

Note: Deficient bridges include both structurally deficient and functionally obsolete bridges.

Dear Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to participate in this hearing on federal efforts to address the condition of our nation's bridges. Bridges are critical elements of the nation's transportation network, which supports commerce, economic vitality, and personal mobility. According to the Federal Highway Administration (FHWA), it is authorized through the Highway Bridge Program (HBP) to provide approximately \$7 billion to states in fiscal year 2010. This program provides funding to states for a variety of activities that improve the condition of their bridges.¹ In addition to HBP funding, the American Recovery and Reinvestment Act of 2009 (Recovery Act) provided \$26.7 billion to the highway infrastructure investment to restore, repair, and construct highways and bridges and for other eligible uses, such as maritime industry projects.

Since the collapse of the I-35W bridge in Minneapolis, Minnesota, on August 1, 2007, there have been calls for increased federal investment in bridge infrastructure. Calls for increased investment coincide with strains on traditional funding for infrastructure projects, as evidenced by recent shortfalls and subsequent infusions of additional revenues into the Highway Trust Fund, which funds the HBP and other highway programs. Surface transportation funding has been on our high-risk list for several years.² We have also recently called for a fundamental re-examination of surface transportation programs and commitments to address emerging needs by eliminating outdated or ineffective programs, more sharply defining the federal role in relation to state and local governments, and modernizing certain programs.³

My testimony today addresses (1) the current state of the nation's bridges and impacts of the HBP and (2) the extent to which the HBP aligns with principles we developed to guide the re-examination of surface

¹States may use HBP funds for seven types of bridge-related activities, including replacement, rehabilitation, painting, seismic retrofitting, systematic preventive maintenance, installation of scour countermeasures (to address the effects of sediment erosion around bridge piers and abutments), and anti-icing or deicing activities.

²GAO, *High-Risk Series: An Update*, [GAO-09-271](#) (Washington, D.C.: January 2009).

³GAO, *Surface Transportation: Restructured Federal Approach Needed for More Focused, Performance-Based, and Sustainable Programs*, [GAO-08-400](#) (Washington, D.C.: Mar. 6, 2008).

transportation programs.⁴ My testimony is based on prior GAO work, including our 2008 report and testimony on the HBP, as well as updated data and information.⁵

For our prior reports, we interviewed a range of federal, state, and local transportation officials, including officials in six states that we visited (California, Missouri, New York, Pennsylvania, Texas, and Washington); analyzed data in FHWA's National Bridge Inventory (NBI), the primary source of information on the nation's bridges; and compared HBP practices to re-examination principles identified in our previous work. Those principles include identifying clear federal goals and roles, incorporating performance and accountability into funding decisions, using best tools and approaches, and ensuring fiscal sustainability. More detail on scope and methodology is available in each prior report. To update this report, we analyzed FHWA data and interviewed relevant officials. GAO provided a draft of this testimony to FHWA for review and comment. FHWA provided technical comments, which were incorporated, as appropriate. We conducted all our work in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Bridges vary significantly in their size and use, including daily traffic volumes. In 2009, there were 602,977 bridges in the United States, which carried the nation's passenger car, truck, bus transit, and commercial vehicle traffic over waterways, highways, railways, and other road obstructions. The number of bridges owned is fairly evenly split between

⁴These principles were developed in our earlier work on twenty-first century challenges and were based on our institutional knowledge, our extensive program evaluation and performance assessment work for the Congress, and federal laws and regulations. See GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, [GAO-05-325SP](#) (Washington, D.C.: Feb. 1, 2005) and *High-Risk Series: An Update*, [GAO-07-310](#) (Washington, D.C.: January 2007).

⁵GAO, *Highway Bridge Program: Clearer Goals and Performance Measures Needed for a More Focused and Sustainable Program*, [GAO-08-1043](#) (Washington, D.C.: Sept. 10, 2008) and *Highway Bridge Program: Clearer Goals and Performance Measures Needed for a More Focused and Sustainable Program*, [GAO-08-1127T](#) (Washington, D.C.: Sept. 10, 2008).

states (48 percent) and local government agencies (50 percent). State agencies are responsible for 77 percent of the nation's bridge deck area, which carry 88 percent of the average daily traffic crossings. The federal government owns less than 2 percent of the nation's bridges, primarily on federally owned land.

Bridge safety emerged as a high-priority issue in the United States in the 1960s, following the collapse of the Silver Bridge between Ohio and West Virginia, which killed 46 people. That collapse prompted national concerns about bridge condition and safety and highlighted the need for timely repair and replacement of bridges. Congress responded by establishing the National Bridge Inspection Program (NBIP) to ensure periodic safety inspection of bridges and what is now known as the HBP to provide funding and assist states in replacing and rehabilitating bridges. Both of these programs generally define eligible bridges as publicly owned, over 20 feet in length, and located on public roads.⁶ Although the NBIP and HBP are separate programs, they are linked by the data collected through bridge inspections.

The NBIP establishes the National Bridge Inspection Standards, which details how bridge inspections are to be completed, by whom, and with what frequency. For example, state departments of transportation (state DOT) carry out the federal-level policies, procedures, and requirements for inventory, inspection, bridge load ratings, quality assurance, and reporting. Routine bridge inspections are generally conducted every 2 years by state bridge inspectors, but with FHWA approval, the inspection interval may be extended to 4 years on certain bridges. Bridges also may be inspected more often than every 2 years, when past inspection findings justify an increase. Inspectors must report bridge condition information to the NBI, maintained by FHWA headquarters.⁷

⁶The NBIP and the HBP generally apply to both Federal-aid highway and non-Federal-aid highway bridges located on public roads. The NBIP standards do not apply to pedestrian or railroad bridges, bridges on private roads, or tunnels. FHWA encourages states to require private organizations to inspect privately owned bridges according to those standards. States are not responsible for the inspection of bridges owned by federal agencies.

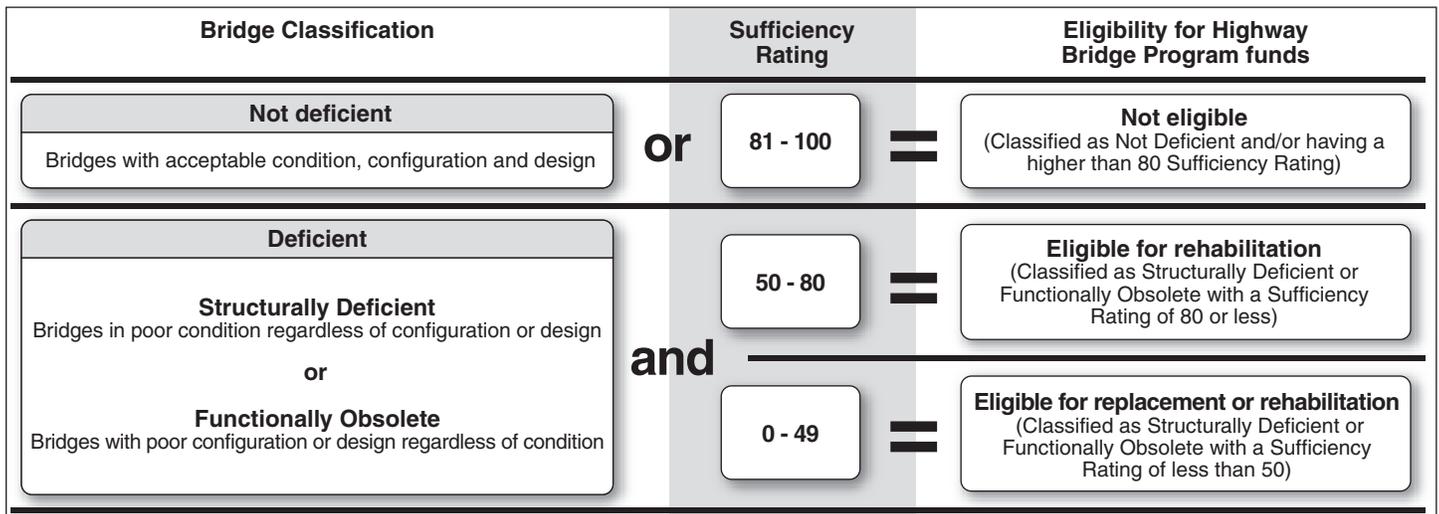
⁷In January 2010, the U.S. Department of Transportation (DOT) Inspector General reported on inconsistencies in FHWA's enforcement of bridge inspection standards and found that FHWA has little assurance that states receiving Federal-aid highway funds comply with bridge inspection standards. See DOT Inspector General, *Assessment of FHWA Oversight of the Highway Bridge Program and the National Bridge Inspection Program*, MH-2010-039 (Washington, D.C., Jan. 14, 2010).

Based on information gathered during inspections and reported to the NBI, the HBP classifies bridge conditions as deficient or not, assigns a sufficiency rating, and uses that information to provide funding to states. A bridge may be classified as deficient for one of two reasons: a structurally deficient bridge has one or more components in poor condition, while a functionally obsolete bridge has a poor configuration or design that may no longer be adequate for the traffic it serves.⁸ Bridge sufficiency ratings are calculated using a formula that reflects structural adequacy, safety, serviceability, and relative importance. Each bridge is assigned a sufficiency rating between 0 and 100. Bridges that are deficient and have a sufficiency rating of 80 or less may be eligible for rehabilitation and bridges that are deficient and have a sufficiency rating of less than 50 may be eligible for replacement or rehabilitation (see fig. 1).⁹ However, the HBP allows other activities to be funded with program funds, regardless of a bridge's eligibility. These activities include seismic retrofitting, scour countermeasures, and systematic preventive maintenance projects.

⁸For purposes of counting, functionally obsolete bridges that are also structurally deficient are recorded in the NBI as structurally deficient.

⁹Bridges that are newly constructed, have been replaced, or had major rehabilitation within the past 10 years are also not eligible. This is referred to as the "10-year rule."

Figure 1: FHWA’s Process for Designating Bridges as Eligible for HBP Funding



Sources: GAO and FHWA.

The HBP gives states three key flexibilities in determining how to use their HBP resources. First, as mentioned above, states have the flexibility to use HBP funds not only for bridge replacement and rehabilitation, but also for a broad array of purposes regardless of bridge eligibility. Second, states have flexibility in determining how to split HBP resources between state and locally owned bridges. Aside from a requirement to distribute funds equitably, the only HBP requirement applicable to states’ allocation of program funds is that states must set aside a minimum (15 percent) on non-Federal-aid highway bridges.¹⁰ Third, states may also spend HBP funds on other, nonbridge transportation priorities by transferring up to 50 percent of their annual HBP funding to other core Federal-aid highway programs, though a penalty is invoked by reducing the state’s HBP funds in the succeeding year by the amount transferred.¹¹ Planning for how HBP funds are spent is generally under the control of state DOTs: once states select bridge projects, they apply to FHWA to obligate funding to cover the

¹⁰Non-Federal-aid highway bridges are generally located on local or rural roads that carry lower volumes of traffic.

¹¹The majority of Federal-aid highway infrastructure funding is distributed through seven major programs, often referred to as core highway programs. These programs are the National Highway System Program, Surface Transportation Program, Interstate Maintenance Program, HBP, Congestion Mitigation and Air Quality Improvement Program, Highway Safety Improvement Program, and the Equity Bonus Program.

federal share of the costs, which is generally 80 percent of the project cost.¹²

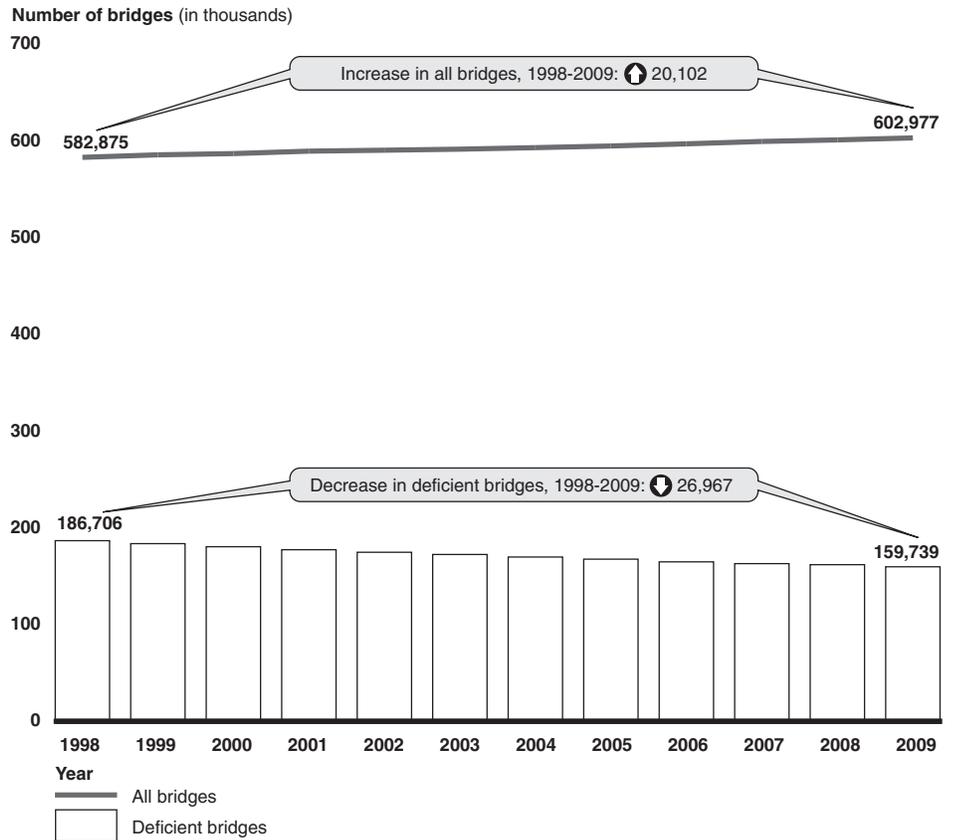
Bridge Conditions Have Improved, but the Impact of the HBP Is Difficult to Determine

Bridge Conditions Have Improved but a Significant Number of Bridges Remain in Poor Condition

Of the 602,977 bridges on the nation's roadways, one in four is classified as deficient. Data indicate that the total number of deficient bridges has decreased since 1998, even as the total number of bridges has increased. From 1998 to 2009, the number of deficient bridges declined by over 14 percent, from 186,706 to 159,739, even with the addition of more than 20,000 new bridges to the NBI (see fig. 2).

¹²The federal share for bridge projects on the Interstate System is 90 percent.

Figure 2: Trends in Number and Condition of Bridges, 1998 through 2009



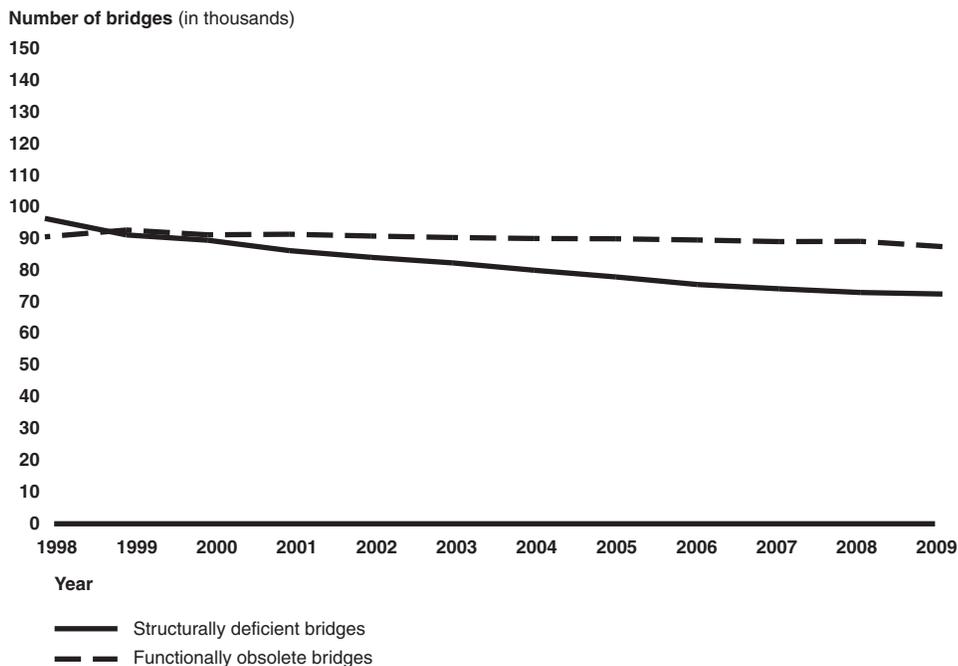
Source: GAO analysis of 2009 FHWA data.

Note: Deficient bridges include both structurally deficient and functionally obsolete bridges. These data include bridges subject to the “10-year rule,” which limits bridge eligibility for HBP funds.

The decline in the overall number of deficient bridges—which includes structurally deficient and functionally obsolete bridges—is primarily attributable to a reduction in the number of structurally deficient bridges. Specifically, from 1998 through 2009, the number of structurally deficient bridges decreased by 25 percent, from 96,263 to 72,388 (see fig. 3). During that same period, the number of functionally obsolete bridges decreased by 3 percent, from 90,443 to 87,351. The reduction in the number of structurally deficient bridges may reflect state efforts to address deterioration or damage. Although reducing or eliminating structurally deficient bridges may not always be a state’s highest priority, structurally deficient bridges often require maintenance and repair to remain in service. In contrast, functionally obsolete bridges do not necessarily

require repair to remain in service and therefore are unlikely to be state transportation officials' top priority for rehabilitation or replacement.

Figure 3: Number of Structurally Deficient and Functionally Obsolete Bridges, 1998 through 2009



Source: GAO analysis of 2009 FHWA data.

Note: These data include bridges subject to the “10-year rule,” which limits bridge eligibility for HBP funds.

Additionally, in our prior work, we found that the average sufficiency rating of all bridges—including both deficient and not deficient bridges—also improved slightly. Specifically, the average sufficiency rating for all bridges increased from 75 to 79 on the sufficiency rating’s 100-point scale from 1998 to 2007. Further, while structurally deficient bridges generally have lower sufficiency ratings (average rating of 42 in 2007) than functionally obsolete bridges (average rating of 69 in 2007), the average sufficiency ratings of both types of deficient bridges improved slightly since 1998. In updating our prior work, FHWA officials indicated that bridge sufficiency ratings have continued to improve (average rating of 80 in 2009).

In our Recovery Act work, a number of states have reported plans to use highway infrastructure investment funds to improve bridge conditions.¹³ Some of these plans include improvements to deficient bridges. For example, Pennsylvania is using some Recovery Act funds to reduce the number of structurally deficient bridges in the state, in part because a significant percentage (about 26 percent, as of 2008) of the state's bridges is rated structurally deficient. As of June 30, 2010, 29 percent of Recovery Act funds in Pennsylvania were obligated for bridge improvement and replacement. Nationally, about \$3.2 billion of the \$26.7 billion in highway Recovery Act funds were obligated for bridge projects as of June 30, 2010. This includes funding for 61 new bridge construction projects (\$719 million), 644 bridge replacement projects (\$1.3 billion), and 554 bridge improvement projects (\$1.2 billion).

HBP's Impact Is Difficult to Determine Due to Incomplete Information on Spending, Expansion of Bridge Project Eligibility, and Limitations in Bridge Condition Data

The impact of the federal investment in the HBP is difficult to measure in part because there are no comprehensive and complementary data for state and local spending on bridges. For example, while FHWA tracks a portion of bridge capital spending on a state-by-state basis, the data do not include (1) state spending on bridges located on local roads and (2) most local government spending on bridges, thus making it difficult to determine the HBP contribution to overall bridge expenditures. Also, while FHWA generates a single, national-level estimate for total bridge expenditures at all government levels, this estimate cannot be used to determine the impact of the HBP by state or by bridge. In addition, while two of the state DOTs we visited as part of our prior work had data on state bridge spending, none was able to provide comprehensive data on total state and local investment in bridges.¹⁴ Some officials we interviewed estimated that, in their states, such spending ranged from the minimum match amount—generally 20 percent of the HBP apportionment amount—to more than four times the state's apportioned HBP funds. The lack of comprehensive information on state and local spending makes it impossible to (1) distinguish the impact of HBP funding from other funding to improve bridge conditions and (2) determine the extent to which states may be substituting increased HBP funding for state and local

¹³GAO, *Recovery Act: States' Use of Highway and Transit Funds and Efforts to Meet the Act's Requirements*, [GAO-10-312T](#) (Washington, D.C.: Dec. 10, 2009) and *Recovery Act: States' and Localities' Uses of Funds and Actions Needed to Address Implementation Challenges and Bolster Accountability*, [GAO-10-604](#) (Washington, D.C.: May 26, 2010).

¹⁴[GAO-08-1043](#).

funds that they would otherwise have spent on bridges. Our previous work has shown that although the federal investment in HBP and other Federal-aid highway programs has increased over time, this investment has not resulted in commensurate increases in the nation's federal, state, and local government spending on the highway system.¹⁵ More specifically, we found in our previous work that as the level of federal funding has increased since the mid-1990s, states have not maintained their level of effort in highway spending, and federal funds have increasingly been substituted for state funds. This suggests that increased federal highway funding influences states and localities to substitute federal funds for state and local funds they otherwise would have spent on highways and bridges.

The impact of the HBP is also difficult to measure because available bridge condition data cover only some of the improvements funded by the program. As discussed earlier, states can and do use HBP funds for a variety of activities in addition to rehabilitating and replacing their deficient bridges. Therefore, simply measuring changes in the number of structurally deficient or functionally obsolete bridges does not reflect the full impact of the program, since these measures do not capture the impact of the HBP investment in the other eligible activities—such as preventive maintenance—that do not necessarily result in an immediate reduction in the number of deficient bridges. Without quantifiable performance measures to track the full range of outcomes for the HBP, it is difficult to measure the program's impact across the range of activities funded and determine the extent to which the program is serving its stated purposes.

Another difficulty in determining the impact of the HBP funding occurs because the NBI does not readily permit changes in the condition of bridges to be tracked across time. Each bridge in the NBI is assigned an identifying number by the relevant state DOT. However, the identifying number for a bridge at a specific location may change over the life of that bridge. Such a change may occur when a state renumbers, replaces, or closes and subsequently reopens a bridge. As a result, it is difficult to track changes in the condition of any specific bridge to determine if, for example, the same bridges that were deficient in 1998 are still deficient today, to see how many bridges have been replaced, or to determine the impact of new bridges added to the inventory—which may not be funded

¹⁵GAO, *Federal-Aid Highways: Trends, Effect on State Spending, and Options For Future Program Design*, [GAO-04-802](#) (Washington, D.C.: Aug. 31, 2004).

by the HBP—on the overall condition of the nation’s bridges. In our Recovery Act work, we have found that DOT is not currently assessing the impact of Recovery Act funds used on highway transportation projects—including funds that are being used to improve bridge conditions—but is considering ways to better understand and measure impacts. For example, the NBI could be used to help FHWA study the impact of Recovery Act funds on the condition and performance of the nation’s bridges, including whether these funds improved the state of repair.¹⁶

Evaluating the impact of the HBP is important not only to understand the outcomes of past spending, but also to determine how to sensibly invest future federal resources. The number of bridges in need of repair or rehabilitation is expected to increase as a large share of the nation’s bridges built in the 1960s and early 1970s age. In our prior work, we reported that the average age of bridges in 2007 in the NBI was approximately 35 years, the average age of bridges with a sufficiency rating of 80 or less was 39 years (a deficient bridge with this rating becomes eligible for rehabilitation), and the average age of bridges with a sufficiency rating less than 50 was 53 years (a deficient bridge with this rating becomes eligible for replacement).¹⁷ This suggests that as the age of bridges in this group rises, so will the number of HBP-eligible bridges. As a result, states and local agencies may see a spike in their need for bridge rehabilitation and replacement funding over the next 15 years. In our work to update this report, FHWA officials indicated that bridge conditions are continuing to improve despite the aging of bridges and noted that other factors in addition to age—such as the original type of design, maintenance, and climate—contribute to bridge conditions. Also, the reduction in deficient deck area is an important measure of the overall condition of the nation’s bridges. According to FHWA data, the structurally deficient deck area of bridges on all highway systems has decreased by about 11 percent between 1998 and 2009. Nevertheless, FHWA officials indicated that they expect these trends in bridge conditions to continue as long as historical investment trends are sustained. In this environment of increasing demand for limited resources, it is especially important for FHWA and Congress to be able to evaluate HBP’s impact to ensure that the program is providing an acceptable return on investment and addressing national transportation needs.

¹⁶GAO-10-604.

¹⁷See GAO-08-1043. The age of a bridge is based on the number of years since it was built or reconstructed.

The HBP Lacks Focus, Performance Measures, and Sustainability

As we reported in 2008, the HBP does not fully align with our principles for re-examining surface transportation programs in that the bridge program lacks focus, performance measures, and sustainability. These principles, which are based on our prior work and federal laws and regulations, include

- ensuring program goals are well defined and focused on the federal or national interest;
- incorporating performance and accountability into funding decisions;
- employing the best tools and approaches to emphasize return on targeted federal investment; and
- ensuring fiscal sustainability.

First, HBP's goals are not focused on a clearly identified federal interest. Over the years, the program's statutory goals have expanded from improving deficient bridges to supporting activities like seismic retrofitting and preventive maintenance, thus expanding eligibility for HBP funds to include almost any bridge in the country. Our previous work has emphasized the importance of identifying clear areas of federal interest as a first step in determining program goals. For example, if mobility is determined to be a key federal interest and a primary goal, the HBP could be targeted toward heavily congested bridges or ones that are important for economic competitiveness and carry higher levels of freight than bridges that may serve relatively few people or businesses each day. If rehabilitating and reducing deficient bridges is determined to be a key federal interest, then the program could be further targeted toward that goal.¹⁸ The federal interest may also be greater in mega-bridge projects that are too expensive for states to undertake without additional federal assistance or in projects that cross state lines.¹⁹ Under the current HBP structure, the federal share is generally 80 percent of the total project costs. The cost-sharing arrangement could be structured so that the level and share of federal funding reflects the benefits the nation receives from investment in a bridge project; however, in reality, this cost-sharing appears to reflect historical levels of funding for many surface

¹⁸DOT's Inspector General found that FHWA can not link expenditures of HBP funds to improvements made to deficient bridges and recommended that FHWA develop a data-driven, risk-based approach to bridge oversight to strengthen its oversight of states' use of HBP funding. DOT Inspector General, *National Bridge Inspection Program: Assessment of FHWA's Implementation of Data-Driven, Risk-Based Oversight*, MH-2009-013 (Washington, D.C., Jan. 12, 2009).

¹⁹Mega-bridge projects are projects with an estimated total cost greater than \$500 million.

transportation programs without reference to whether the cost share should vary by project or whether state and local governments could assume more responsibility. Once the federal interest has been determined, our principles suggest basing the federal share of the cost of the bridge project on the level of federal interest.

Second, there is no clear tie between HBP funding and performance. HBP funds are apportioned to states without regard to program performance because the HBP formula is based on a calculation of needed repairs to deficient bridges, but the formula does not consider a state's efforts or effectiveness in reducing its inventory of deficient bridges or controlling costs. Because the federal formula does not factor in other eligible program activities, such as systematic preventive maintenance, there is no link between the apportionment formula and the states' performance of these activities. Without performance measures to link funding to performance, states lack an incentive to improve the return on the federal investment and are not held accountable for the results of their investments. Further, a bridge's deficiency status and sufficiency rating may not be the best proxy for bridge safety or risk. For example, states we visited in our prior work and officials we spoke with identified other priorities for bridge projects, such as seismic retrofitting, that are a greater safety concern for their bridge programs. Also, as states reduce the number of deficient bridges, they could become eligible for less HBP funding, which has created a potential disincentive for states to eliminate deficient bridges. Our work has shown that an increased focus on performance and accountability for results can help the federal government better target limited federal resources.

Third, the HBP generally lacks sufficient tools to determine the results of the federal investment in bridges. In this regard, bridge management systems, which are currently used by many states but not required by law, may be useful for prioritizing projects and making funding decisions to improve results and emphasize return on investment. We have previously reported that states use bridge management systems for gathering and analyzing bridge data to help manage their bridge assets and more efficiently allocate limited HBP resources among competing priorities. For example, states use these systems to predict future bridge conditions, estimate maintenance and improvement needs, determine optimal policies for rehabilitation and replacement, and recommend projects and schedules within budget and policy constraints. As previously mentioned, the HBP affords state DOTs discretion in using their HBP funds, and as a result, states select bridge projects and use HBP funds in a variety of ways.

Finally, HBP's fiscal sustainability remains a challenge in light of aging bridge infrastructure, coupled with the declining purchasing power of funding currently available for bridge maintenance, rehabilitation, and replacement. Although transportation revenues have, until recently, increased in nominal terms, the federal and state motor fuel tax rates have not kept up with inflation. As a result, according to federal DOT and FHWA data, the purchasing power in real terms of revenues generated by federal and state motor fuel taxes have been declining since 1990.²⁰ To cover the shortfall in the Highway Trust Fund, from fiscal years 2008 through 2010 Congress transferred a total of \$34.5 billion in additional revenues into the Highway Trust Fund, including \$29.7 billion into the Highway Account. FHWA identified a bridge investment backlog of \$98.9 billion in 2006, and projected that eliminating this backlog and addressing future deficiencies as they arise would cost an estimated \$17.9 billion per year (in 2006 dollars). FHWA projects that maintaining the backlog at its 2006 level would cost an estimated \$11.1 billion annually. Federal funding levels provided in the most recent authorization were much lower than what FHWA estimated is necessary to maintain that backlog, although state and local governments provide additional funds for bridges. One tool that could possibly improve the sustainability of the HBP is a maintenance-of-effort requirement. The potential substitution of federal funds for state and local funds under the HBP and other federal transportation programs may be reduced by establishing a maintenance-of-effort requirement, whereby state or local grantees would be required to maintain their own level of funding for bridges in order to receive federal funds. Such a requirement could discourage states and local governments from substituting federal support for funds they themselves would have spent. The Recovery Act contained a maintenance-of-effort requirement for states and, as we reported, there have been some challenges implementing it. The maintenance-of-effort provision required DOT to invest a significant amount of time and work closely with the states to ensure consistency across states on how compliance with the act would be certified and reported. As a result, much of the work—such as developing compliance and oversight processes, reporting requirements, and identifying data for tracking purposes—has been done that should ensure smoother implementation of similar requirements.²¹ Addressing the HBP's future fiscal sustainability is critical, given the overall fiscal

²⁰GAO, *Surface Transportation: Strategies Are Available for Making Existing Road Infrastructure Perform Better*, [GAO-07-920](#) (Washington, D.C.: July 26, 2007).

²¹[GAO-10-604](#).

imbalance facing the nation and the lack of assurance that HBP funding is allocated to projects that are in the federal interest and provide the best return on investment.

Since our 2008 report, FHWA reports that it has taken a number of steps to work with Congress to address our recommendations. According to FHWA, efforts are under way to incorporate the underlying principles we developed to guide the re-examination of surface transportation programs, such as the need for specific national goals and performance measures to gauge progress toward national goals, encouraging states to use and share best tools and practices, and aligning funding mechanisms to support program goals. Specifically, FHWA initiated a program to collect information on the states' use of bridge management systems and encourage states to share information concerning bridge management practices. According to FHWA officials, FHWA is continuing to work with Congress and the administration to ensure that HBP or other bridge funding mechanisms align funding with performance and support a targeted and sustainable federal program in the next surface transportation reauthorization cycle. Without addressing these issues, the fiscal sustainability of the future transportation program will continue to be a challenge and the impact of federal investments could be diminished.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or Members of the Subcommittee may have.

GAO Contact and Staff Acknowledgments

For further information on this statement, please contact Phillip R. Herr at (202) 512-2834 or herrp@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this testimony were Heather MacLeod, Assistant Director; Jonathan Carver; Bert Japikse; Delwen Jones; SaraAnn Moessbauer; Josh Ormond; and John Stambaugh.

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