

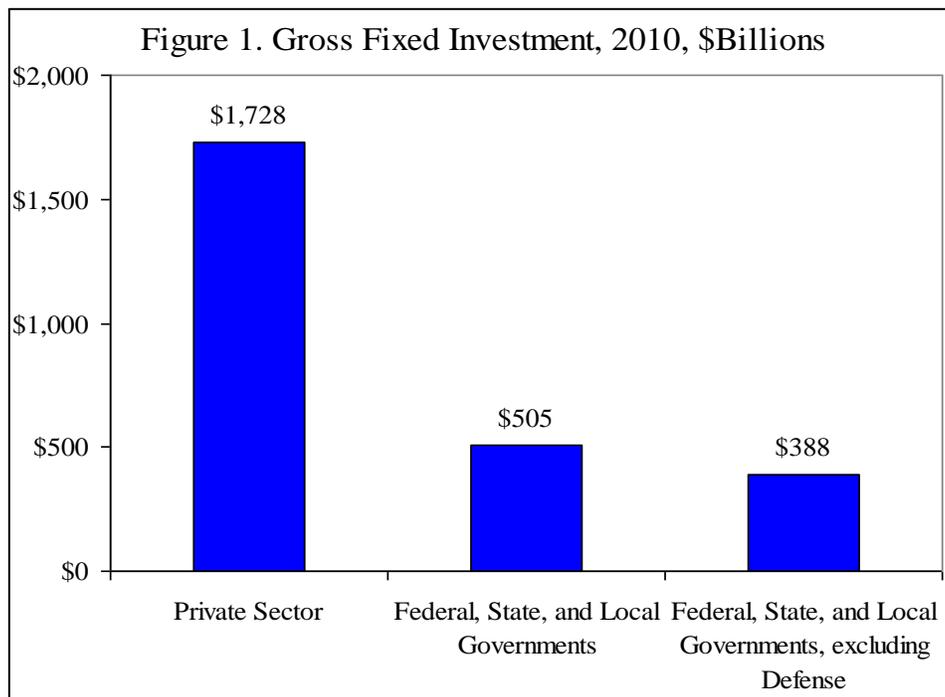
**Federal Infrastructure Investment**  
**Statement of Chris Edwards, Cato Institute,**  
**to the Joint Economic Committee**

**November 16, 2011**

Mr. Chairman and members of the committee, thank you for inviting me to testify today. My comments will examine the federal role in the nation's infrastructure.

In the description of today's hearing, the committee asked how infrastructure helps to promote growth, jobs, and manufacturing. The short answer is that we can spur growth by ensuring that America's infrastructure investment is as efficient as possible. Infrastructure funding should be allocated to the highest-value projects, and those projects should be constructed and maintained in the most cost-effective manner. My testimony will discuss why reducing the federal role in infrastructure will help to increase the efficiency of our investment.

The first thing to note about America's infrastructure is that most of it is not provided by the government, but by the private sector. A broad measure of private infrastructure spending—including spending on items such as buildings, factories, freight rail, pipelines, and refineries—is much larger than government infrastructure spending on items such as roads and airports. In Figure 1, Bureau of Economic Analysis data show that private gross fixed investment was \$1.7 trillion in 2010, which compared to gross fixed investment by federal, state, and local governments of \$505 billion.<sup>1</sup> When defense investment is excluded, government infrastructure spending was just \$388 billion, or less than one-quarter of private infrastructure spending.



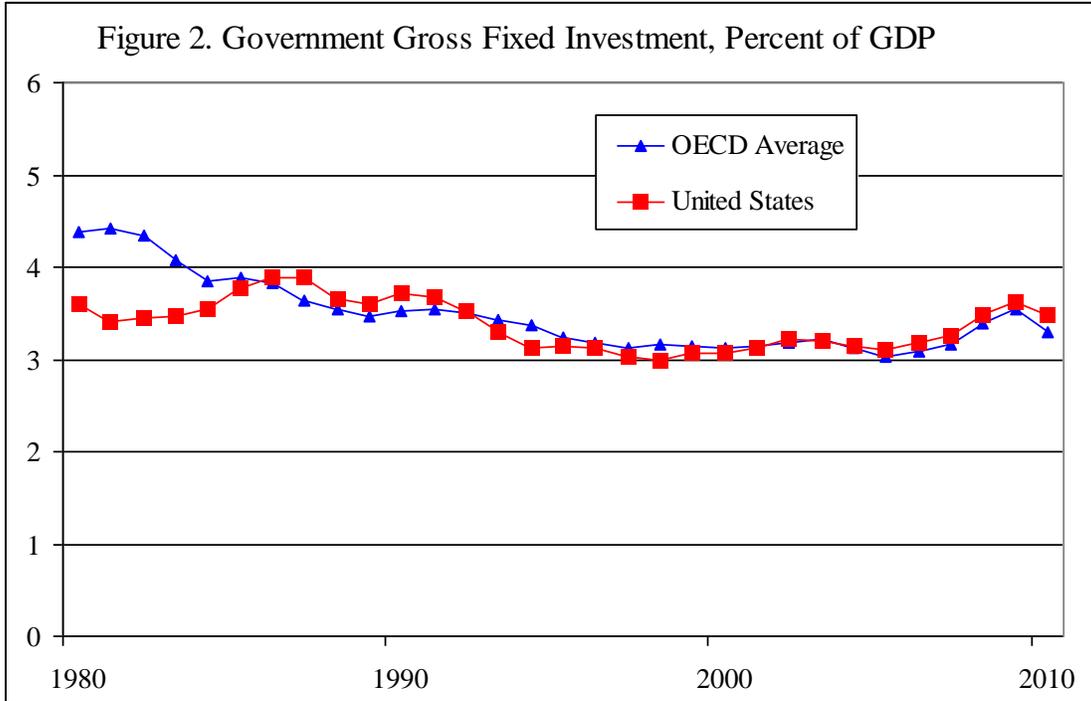
One implication of this data is that if Congress wants to boost infrastructure spending, the first priority should be to make reforms to encourage private investment. Tax reforms, such as a corporate tax rate cut, would increase the net returns to a broad range of private infrastructure investments. Regulatory reforms to reduce barriers to investment are also needed, as illustrated by the delays in approving the \$7 billion Keystone XL pipeline from Alberta to Texas.

Despite its smaller magnitude, public-sector infrastructure spending is also very important to the U.S. economy. But the usual recommendation to simply spend more federal taxpayer money on infrastructure is misguided. For one thing, the government simply can't afford more spending given its massive ongoing deficits. More importantly, much of the infrastructure spending carried out by Washington would be more efficiently handled by devolving it to state and local governments and the private sector.

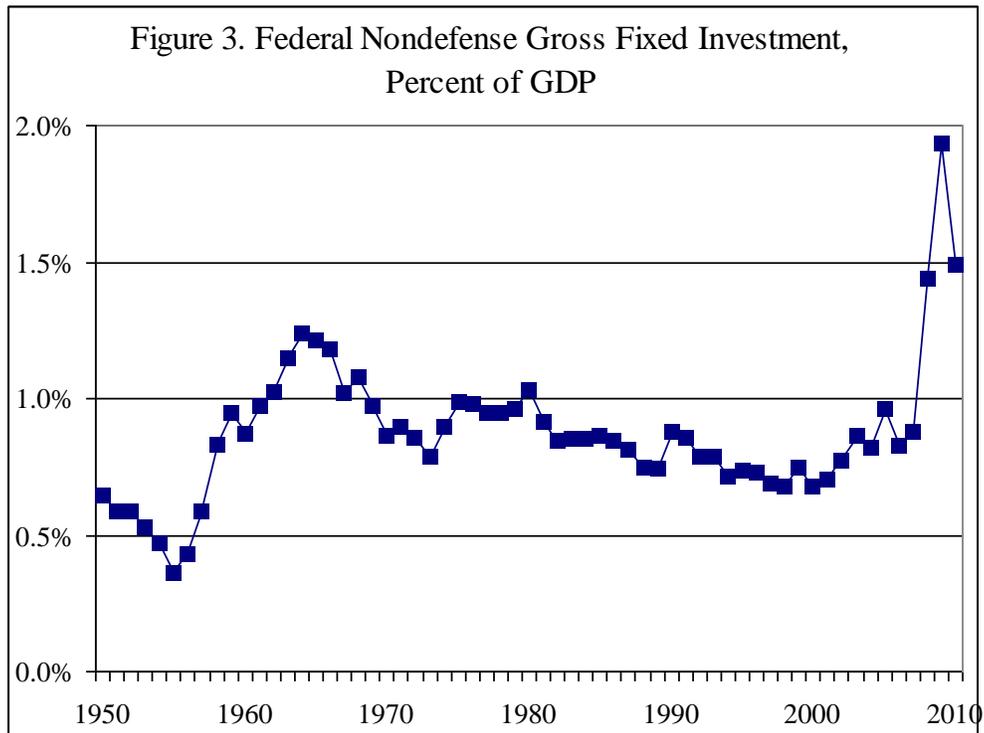
### **Notes on Government Infrastructure**

Many types of current government infrastructure used to be owned and financed by the private sector. Before the 20th century, for example, more than 2,000 turnpike companies in America built more than 10,000 miles of toll roads.<sup>2</sup> And up until the mid-20th century, most urban rail and bus services were private.<sup>3</sup> With respect to railroads, the federal government subsidized some of the companies building railroads to the West, but most U.S. rail mileage in the 19th century was in the East, and it was generally unsubsidized. The takeover of private infrastructure activities by governments in the United States and abroad in the 20th century caused many problems. Fortunately, most governments have reversed course in recent decades and have started to hand back infrastructure to the private sector.

Let's look at current data on infrastructure spending. Interest groups complain that governments in the United States aren't spending enough on infrastructure, and we often hear that U.S. roads and other assets are crumbling. However, Figure 2 shows that while federal, state, and local infrastructure spending in the United States has dipped a little in recent decades, U.S. spending has closely tracked trends in other high-income nations. The figure shows gross fixed investment as a share of gross domestic product in the United States compared to the average of countries in the Organization for Economic Cooperation and Development.<sup>4</sup> In 2010, U.S. infrastructure spending by governments was 3.5 percent of GDP, which was a little higher than the OECD average of 3.3 percent.



Let's take a closer look at just U.S. federal infrastructure spending using data from the Bureau of Economic Analysis.<sup>5</sup> Figure 3 shows that federal nondefense infrastructure spending declined somewhat during the 1980s and 1990s, but started to rise again during the 2000s even before the recent “stimulus” spending. Spending in recent decades was generally above the levels of the 1950s, but below the high levels of the 1960s.



The high federal infrastructure spending of the 1960s was unique. A large share of that spending was for building the Interstate Highway System, which is now complete. Also note that substantial federal infrastructure spending at that time was misallocated to dubious or harmful activities. For example, federal funding of urban redevelopment and high-rise public housing schemes often had damaging social and economic effects. Also, federal spending on water infrastructure, such as dams, peaked in the mid-20th century, and a substantial part of that spending made little sense from an economic or an environmental perspective.

Thus, the important thing about infrastructure is to focus on allocating funds efficiently, not to maximize the amount of government spending. If infrastructure funding flows to low-value activities, it doesn't aid economic growth, nor does it help industries such as manufacturing. Experience shows that Washington often does a poor job at allocating infrastructure spending, which partly stems from the fact that its decisions are far removed from market-based demands and price signals.

Most federal nondefense infrastructure spending today is for activities that are state, local, and private in nature. Federal budget data for fiscal 2011 show that nondefense infrastructure spending was about \$162 billion, including both direct spending and aid to the states.<sup>6</sup> Some of this spending that is state, local, and private in nature included: \$42.0 billion for highways, \$16.8 billion for water and power projects, \$14.3 billion for urban transit, \$12.5 billion for community development, \$12.5 billion for housing, and \$3.5 billion for airports.

### **Problems with Federal Infrastructure Investment**

There are calls today for more federal spending on infrastructure, but advocates seem to overlook the downsides of past federal efforts. Certainly, there have been federal infrastructure successes, but there has also been a history of pork barrel politics and bureaucratic bungling in federal investment spending. A substantial portion of federal infrastructure spending has gone to low-value and dubious activities.

I've examined spending by the two oldest federal infrastructure agencies—the Army Corps of Engineers and the Bureau of Reclamation.<sup>7</sup> While both of those agencies constructed some impressive projects, they have also been known for proceeding with uneconomic boondoggles, fudging the analyses of proposed projects, and spending on activities that serve private interests rather than the general public interest. (I am referring to the Civil Works part of the Corps here).

Federal infrastructure projects have often suffered from large cost overruns.<sup>8</sup> Highway projects, energy projects, airport projects, and air traffic control projects have ended up costing far more than originally promised. Cost overruns can happen on both public and private infrastructure projects, but the problem is exacerbated when multiple levels of government are involved in a project because there is less accountability. Boston's Big Dig—which exploded in cost to five times the original estimate—is a classic example of mismanagement in a federal-state project.<sup>9</sup>

Perhaps the biggest problem with federal involvement in infrastructure is that when Washington makes mistakes it replicates those mistakes across the nation. Federal efforts to build massive public housing projects in dozens of cities during the 20th century had very negative economic and social effects. Or consider the distortions caused by current federal subsidies for urban light-

rail systems. These subsidies bias cities across the country to opt for light rail, yet rail systems are generally less efficient and flexible than bus systems, and they saddle cities with higher operating and maintenance costs down the road.<sup>10</sup>

When the federal government subsidizes certain types of infrastructure, the states want to grab a share of the funding and they often don't worry about long-term efficiency. High-speed rail is a rare example where some states are rejecting the "free" dollars from Washington because the economics of high-speed rail seem to be so poor.<sup>11</sup> The Obama administration is trying to impose its rail vision on the nation, but the escalating costs of California's system will hopefully warn other states not to go down that path.<sup>12</sup>

Even if federal officials were expert at choosing the best types of infrastructure to fund, politics usually intrudes on the efficient allocation of dollars. Passenger rail investment through Amtrak, for example, gets spread around to low-population areas where passenger rail makes no economic sense. Indeed, most of Amtrak's financial losses come from long-distance routes through rural areas that account for only a small fraction of all riders.<sup>13</sup> Every lawmaker wants an Amtrak route through their state, and the result is that investment gets misallocated away from where it is really needed, such as the Northeast corridor.

Another problem is that federal infrastructure spending comes with piles of regulations. Davis-Bacon rules and other federal regulations raise the cost of building infrastructure. Regulations also impose one-size-fits-all solutions on the states, even though the states have diverse needs. The former 55-mph speed limit, which used to be tied to federal highway funds, is a good example. Today, federal highway funds come with requirements for the states to spend money on activities such as bicycle paths, which state policymakers may think are extraneous.<sup>14</sup>

### **Decentralizing Infrastructure Financing**

The U.S. economy needs infrastructure, but state and local governments and the private sector are generally the best places to fund and manage it. The states should be the "laboratories of democracy" for infrastructure, and they should be able to innovate freely with new ways of financing and managing their roads, bridges, airports, seaports, and other facilities.

It is true that—like the federal government—the states can make infrastructure mistakes. But at least state-level mistakes aren't automatically repeated across the country. If we ended federal involvement in high-speed rail, for example, California could continue to move ahead with its own system. Other states could wait and see how California's system was performing before putting their own taxpayers on the hook.

A big step toward devolving infrastructure financing would be to cut or eliminate the federal gasoline tax and allow the states to replace the funds with their own financing sources. President Reagan tried to partly devolve highway funding to the states, and more recent legislation by Rep. Scott Garrett (R-NJ) and Rep. Jeff Flake (R-AZ) would move in that direction.<sup>15</sup> Reforms to decentralize highway funding would give states more freedom to innovate with the financing, construction, and management of their systems.<sup>16</sup>

One option for the states is to move more of their infrastructure financing to the private sector through the use of public-private partnerships (PPP) and privatization. The OECD has issued a

new report that takes a favorable view on the global trend towards infrastructure PPPs.<sup>17</sup> The OECD says that there is a “widespread recognition” of “the need for greater recourse to private sector finance” in infrastructure.<sup>18</sup> The value of PPP infrastructure projects has soared over the past 15 years in major industrial countries.<sup>19</sup>

PPPs differ from traditional government projects by shifting activities such as financing, maintenance, management, and project risks to the private sector. There are different types of PPP projects, each fitting somewhere between traditional government contracting and full privatization. In my view, full privatization is the preferred reform option for infrastructure that can be supported by user fees and other revenue sources in the marketplace.

Transportation is the largest area of PPP investment. A number of projects in Virginia illustrate the options:

- *Midtown Tunnel*. Skanska and Macquarie will be building a three-mile tolled tunnel under the Elizabeth River between Norfolk and Portsmouth. Private debt and equity will pay \$1.5 billion of the project’s \$1.9 billion cost.<sup>20</sup>
- *Capital Beltway*. Transurban and Fluor will be building, operating, and maintaining new toll lanes on the I-495. The firms are financing \$1.4 billion of the project’s \$1.9 billion cost.<sup>21</sup>
- *Dulles Greenway*. The Greenway is a privately-owned toll highway in Northern Virginia completed with \$350 million of private debt and equity in mid-1990s.<sup>22</sup>
- *Jordan Bridge*. FIGG Engineering Group is constructing, financing, and will own a \$100 million toll bridge over the Elizabeth River between Chesapeake and Portsmouth, which is to be completed in 2012.<sup>23</sup>

About \$900 billion of state-owned assets have been sold in OECD countries since 1990, and about 63 percent of the total has been infrastructure assets.<sup>24</sup> The OECD notes that “public provision of infrastructure has sometimes failed to deliver efficient investment with misallocation across sectors, regions or time often due to political considerations. Constraints on public finance and recognized limitations on the public sector’s effectiveness in managing projects have led to a reconsideration of the role of the state in infrastructure provision.”<sup>25</sup>

There has been a large increase in privatization and infrastructure PPPs in many countries, but the United States has lagged behind. The OECD notes that the United States “has lagged behind Australia and Europe in privatization of infrastructure such as roads, bridges and tunnels.”<sup>26</sup> More than one-fifth of infrastructure spending in Britain and Portugal is now through the PPP process, so this is becoming a normal way of doing business in some countries.<sup>27</sup>

The industry reference guide for infrastructure PPP and privatization is *Public Works Financing*.<sup>28</sup> According to this source, only 2 of the top 40 companies doing transportation PPP and privatization around the world are American. Of 733 transportation projects currently listed by PWF, only 20 are in the United States. Canada—a country with one-tenth of our population—has more PPP deals than we do. In Canada, PPPs account for 10 to 20 percent of all public infrastructure spending.<sup>29</sup>

One of the fuels for infrastructure PPP has been growing investment by pension funds.<sup>30</sup> In Canada, Australia, and other countries, there is larger pension fund investment in infrastructure

than in the United States. In some countries, such as Australia, the growth in pension assets has been driven by the privatization of government retirement programs.<sup>31</sup> Thus, there is a virtuous cycle in place—the privatization of savings in some countries has created growing pools of capital available to invest in privatized infrastructure.

There are many advantages of infrastructure PPP and privatization. One advantage is that we are more likely to get funding allocated to high-return investments when private-sector profits are on the line. Of course, businesses can make investment mistakes just as governments do. But unlike governments, businesses have a systematic way of choosing investments to maximize the net returns. And when investment returns are maximized, it stimulates the largest gains to the broader economy.

One reason that privatized infrastructure is efficient is that private companies can freely tap debt and equity markets to build capacity and meet market demands. By contrast, government investment suffers from the politics and uncertainties of the federal budget process. You can see the problems with our air traffic control system, which needs long-term investment but the Federal Aviation Administration can't count on a stable funding stream. For its part, the FAA's management of ATC investment has been poor. The agency has a history of delays and cost overruns on its technology upgrade projects. The solution to privatize our air traffic control system, as Canada has done with very favorable results.<sup>32</sup>

A recent Brookings Institution study describes some of the advantages of PPPs. It notes that the usual process for government infrastructure investment decouples the initial construction from the later management, which results in contractors having few incentives to build projects that will minimize operation and maintenance costs.<sup>33</sup> PPP solves this problem because the same company will both build and operate projects. "Many advantages of PPP stem from the fact that they bundle construction, operations, and maintenance in a single contract. This provides incentives to minimize life-cycle costs which are typically not present when the project is publicly provided," notes the Brookings' study.<sup>34</sup>

There are other advantages of infrastructure PPP and privatization. One advantage is the efficiency of construction. Extensive British experience shows that PPP projects are more likely to be completed on time than traditional government projects.<sup>35</sup> Another advantage is the efficiency of operations. Private firms have incentives to reduce excessive operational costs, as illustrated by the labor cost savings from the leasing of the Chicago Skyway.<sup>36</sup> Finally, private operators of infrastructure such as toll roads are more likely to charge efficient market rates to users, as illustrated by the leasing of the Indiana Toll Road.<sup>37</sup>

The Brookings' paper raises some important concerns with PPP, which I share. One is that state officials may lease assets such as toll roads simply to paper over short-term budget deficits. Another concern is that policymakers write poor contracts that assign profits to private parties but risks and possible losses to taxpayers. The Brookings' authors propose approaches to structuring contracts and competitive bidding to ensure efficiency.

For new infrastructure investments, well-structured PPP or full privatization appears to be a winning approach for taxpayers, governments, and the broader economy. Taxpayers win because their subsidies to infrastructure users are minimized. Governments win by getting new facilities

built. And the economy wins because private investment is more likely to be cost-efficient and well-targeted than traditional government investments.

## Conclusions

In its report on the state of U.S. infrastructure, the American Society of Civil Engineers gives America a “D” grade.<sup>38</sup> However, the ASCE report mainly focuses on infrastructure provided by governments, so if you believe that this low grade is correct, then it is mainly due to government failures. The ASCE lobbies for more federal spending, but OECD data shows that public-sector spending on infrastructure is about the same in this country as in other high-income nations.

Some of the infrastructure shortcomings in the United States stem from mismanagement and misallocation by the federal government, rather than a lack of taxpayer support. So part of the solution is to decentralize infrastructure financing, management, and ownership as much as possible. State and local governments and the private sector are more likely to make sound investment decisions without the federal subsidies and regulations that distort their decisionmaking.

This committee’s description of today’s hearing noted: “Transportation infrastructure is especially important to the manufacturing sector, which relies on various modes of transportation to obtain raw materials and to transport end products to the marketplace.” That is certainly true, and I think transportation privatization is part of the answer to improve America’s competitiveness in global markets. For example, nearly all airports and seaports in this country are owned by governments, but many airports and seaports abroad have been partly or fully privatized. The World Economic Forum rates America’s seaports only 23rd in the world, but the first- and third-best seaports in the world, according to WEF, are private—Singapore and Hong Kong.<sup>39</sup>

The federal government cannot afford to expand its infrastructure spending because of today’s massive deficits. Many states are also in a budget squeeze. Fortunately, the global trend is toward partly or fully privatizing the financing and ownership of infrastructure. U.S. policymakers should study these recent innovations in infrastructure investment, and then start unloading the financing and ownership of our infrastructure to the private sector.

Thank you for holding these important hearings.

Chris Edwards  
Director of Tax Policy Studies and  
Editor of [www.DownsizingGovernment.org](http://www.DownsizingGovernment.org)  
Cato Institute  
202-789-5252  
[cedwards@cato.org](mailto:cedwards@cato.org)

---

<sup>1</sup> Bureau of Economic Analysis, National Income and Product Accounts, Table 1.5.5.

<sup>2</sup> [www.downsizinggovernment.org/transportation/highway-funding](http://www.downsizinggovernment.org/transportation/highway-funding).

- 
- <sup>3</sup> [www.downsizinggovernment.org/transportation/urban-transit](http://www.downsizinggovernment.org/transportation/urban-transit).
- <sup>4</sup> This is OECD data for total government gross fixed capital spending based on national income accounts. The OECD emailed me the data behind Figure 2.1 in Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011.
- <sup>5</sup> Data in Figure 3 is gross federal investment spending including direct spending and capital aid to the states. See Bureau of Economic Analysis, National Income and Products Accounts, Table 3.2.
- <sup>6</sup> *Budget of the United States Government, Fiscal Year 2012, Historical Tables*, Tables 9.2, 9.5, and 9.6.
- <sup>7</sup> Essays on these agencies are forthcoming from the Cato Institute.
- <sup>8</sup> [www.downsizinggovernment.org/government-cost-overruns](http://www.downsizinggovernment.org/government-cost-overruns).
- <sup>9</sup> See the *Boston Globe's* "Easy Pass" series of reports by Raphael Lewis and Sean Murphy, [www.boston.com/globe/metro/packages/bechtel](http://www.boston.com/globe/metro/packages/bechtel).
- <sup>10</sup> [www.downsizinggovernment.org/transportation/urban-transit](http://www.downsizinggovernment.org/transportation/urban-transit).
- <sup>11</sup> [www.downsizinggovernment.org/transportation/high-speed-rail](http://www.downsizinggovernment.org/transportation/high-speed-rail).
- <sup>12</sup> [www.msnbc.msn.com/id/45153941/ns/us\\_news](http://www.msnbc.msn.com/id/45153941/ns/us_news).
- <sup>13</sup> [www.downsizinggovernment.org/transportation/amtrak/subsidies](http://www.downsizinggovernment.org/transportation/amtrak/subsidies).
- <sup>14</sup> Ronald Utt, "Next Highway Authorization Bill Should Terminate the Transportation Enhancement Program," Heritage Foundation, November 7, 2011.
- <sup>15</sup> Garrett's bill is the Surface Transportation and Taxation Equity Act. Flake's bill is the Transportation Empowerment Act.
- <sup>16</sup> [www.downsizinggovernment.org/transportation/highway-funding](http://www.downsizinggovernment.org/transportation/highway-funding).
- <sup>17</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011.
- <sup>18</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011, p. 27.
- <sup>19</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011, p. 36.
- <sup>20</sup> Dennis Moore, "Virginia Takes P3 Route for Tunnel," *The Bond Buyer*, August 4, 2011.
- <sup>21</sup> [www.virginiahotlanes.com/beltway/project-info/funding.php](http://www.virginiahotlanes.com/beltway/project-info/funding.php).
- <sup>22</sup> For background, see <http://dullesgreenway.com>.
- <sup>23</sup> [www.southnorfolkjordanbridge.com](http://www.southnorfolkjordanbridge.com).
- <sup>24</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011, p. 34. For a look at water infrastructure privatization around the world, see Steve H. Hanke and Stephen J.K. Walters, "Reflections on Private Water Supply: Agency and Equity Issues," *Journal of Applied Corporate Finance*, Summer 2011.
- <sup>25</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011, p. 34.
- <sup>26</sup> Organization for Economic Cooperation and Development, "Pension Funds Investment in Infrastructure: A Survey," September 2011, p. 107
- <sup>27</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, "Public-Private Partnerships to Revamp U.S. Infrastructure," Brookings Institution, February 2011, p. 5.
- <sup>28</sup> *Public Works Financing*, October 2011, [www.pwfinance.net](http://www.pwfinance.net).
- <sup>29</sup> *Public Works Financing*, October 2011, [www.pwfinance.net](http://www.pwfinance.net), p. 18.
- <sup>30</sup> Cezary Podkul, "Behind the Curve," *Washington Post*, October 23, 2011.

---

<sup>31</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, p. 89.

<sup>32</sup> [www.downsizinggovernment.org/transportation/airports-atc](http://www.downsizinggovernment.org/transportation/airports-atc).

<sup>33</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, pp. 5, 7, 8.

<sup>34</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, pp. 7, 8.

<sup>35</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, p. 13.

<sup>36</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, p. 9.

<sup>37</sup> Eduardo Engel, Ronald Fischer, and Alexander Galetovic, “Public-Private Partnerships to Revamp U.S. Infrastructure,” Brookings Institution, February 2011, p. 16.

<sup>38</sup> [www.infrastructurereportcard.org](http://www.infrastructurereportcard.org).

<sup>39</sup> World Economic Forum, “Global Competitiveness Report, 2011-2012,” 2011, p. 415.