

AN ECONOMIC ANALYSIS OF INFRASTRUCTURE INVESTMENT

A REPORT PREPARED BY THE DEPARTMENT OF THE TREASURY
WITH THE COUNCIL OF ECONOMIC A

EMBARGOED UNTIL 6:00 AM ET MONDAY, OCTOBER 11, 2010

Executive Summary

The President's plan addresses a significant and longstanding need for greater infrastructure investment in the United States. Targeted investments in America's transportation infrastructure would generate both short term and long term economic benefits. However, transforming and rehabilitating our nation's transportation infrastructure system will require not only greater investment but also more efficient use of resources, because simply increasing funding does not guarantee economic benefits. This idea is embodied in the President's proposal to reform our nation's transportation policy, as well as establish a National Infrastructure Bank, which will leverage private and other non-federal government resources to make wise investments in projects of regional and national significance.

In this report, we begin by reviewing *demand-side* factors that should influence investment in infrastructure. Next, we review evidence on *supply-side* factors, including the availability of workers with the requisite skills, which suggest that now is a particularly favorable time to initiate these investments.

II. Demand-Side Considerations

Long Run

The United States has a rich history of investing in infrastructure and reaping the long-term economic benefits. Influential research by David Aschauer and others has explored the link between public infrastructure investment and economic growth. Many studies have found evidence of large private sector productivity gains from public infrastructure investments, in many cases with higher returns than private capital investment. A recent analysis by the Congressional Budget Office found that additional investment in infrastructure is among the most effective policy options for raising output and employment. Since much of the public capital stock is owned by state and local authorities, more recent research has compared the economic benefits of infrastructure investments between regions in the U.S., generally finding smaller but economically significant benefits in comparison to Aschauer's estimates.

¹ Aschauer, David. "Is Public Expenditure Productive?" J. Monet. Econ., Mar. 1989a, 23(2), pp. 177-200.

² Aschauer, David. "Public Investment and Productivity Growth in the Group of Seven," Econ. Perspectives, 1989b, 13(5), pp. 17-25.

³ Aschauer, David. "Does Public Capital Crowd Out Private Capital?"J. Monet. Econ., 1989c, 24(2), pp. 171-88.

⁴ Congressional Budget Office, "Policies for Increasing Economic Growth and Employment in the Short Term," January 2010.

⁵ Munnell, Alicia H, 1992. "Infrastructure Investment and Economic Growth," Journal of Economic Perspectives, American Economic Association, vol. 6(4), pages 189-98, Fall.



Source: Based on 2008 Consumer Expenditure Survey

Middle Class Americans Are the Biggest Beneficiaries of Improved Infrastructure Source

For the 90 percent of Americans who are not among the top decile in income, transportation costs absorb one out of every six dollars of income. Transportation expenses relative to income are almost twice as great for the bottom 90 percent as they are for the top 10 percent.

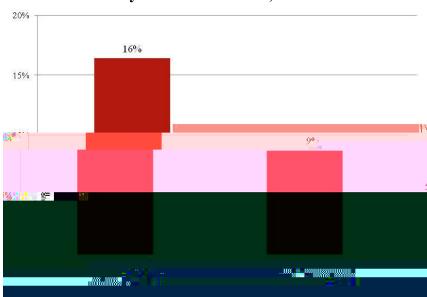


Figure 2: Percent of Income Spent on Transportation by Household Income, 2008

Source

³⁰ America's Roughest Rides and Strategies to Make Our Roads Smoother, Sept. 2010, www.tripnet.org/urban_roads_report_Sep_2010.pdf.

³¹ See appendix for chart of 20 urban areas where costs are the highest

³² ICF International, Public Transportation and Petroleum Savings in the U.S., Linda Bailey, January 2007.

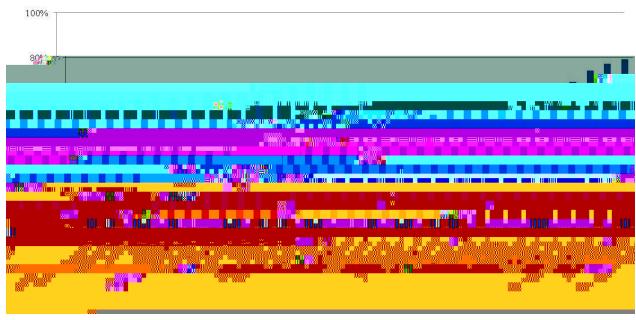


Figure 3: Percent Satisfied with the Public Transportation in their Area

<u>Source</u>: Gallup World View data, 2009, OECD countries. Percent responding "satisfied" to the following question: "In the city or area in which you live, are satisfied or dissatisfied with the public transportation system?"

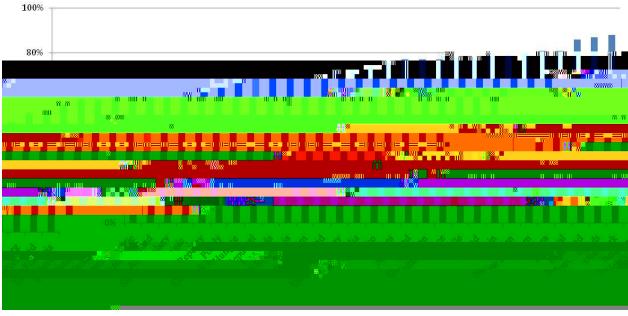


Figure 4: Percent Satisfied with the Roads or Highways in their Area

<u>Source</u>: Gallup World View data, 2009, OECD countries. Percent responding "satisfied" to the following question: "In the city or area in which you live, are satisfied or dissatisfied with the roads and highways?"



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Congestion is not limited to our roads. Each year, Americans lose more than \$9 billion in productivity from flight delays. Adopting a NextGen air traffic control system could significantly reduce these delays and their associated costs. NextGen will help both the Federal Aviation Administration and airlines to install new technologies and, among other improvements, move from a national ground-based radar surveillance system to a more accurate satellite-based surveillance system

III. The Role of a National Infrastructure Bank

President Obama has proposed a National Infrastructure Bank to help finance infrastructure projects. A well designed infrastructure bank could:

• increase overall investment in infrastructure

IV. Supply-Side Considerations

The previous section analyzed the demand for public capital and demonstrated that additional, carefully selected infrastructure investment will yield substantial benefits to the U.S. economy in the future. This section looks at the supply side of infrastructure investment. The main conclusion is that now is a particularly opportune time to invest in infrastructure, because the availability of underutilized resources (especially labor) implies that the opportunity cost of infrastructure investment is currently well below its normal level.

There is currently a large pool of unemployed and underemployed labor available to improve our infrastructure. Building more roads, bridges, and rail tracks would especially help the segment of workers that was most disproportionately affected by the economic crisis – construction and manufacturing workers. The recession that started in late 2007 had an exceptionally large impact on the labor market. The U.S. lost over 8 million jobs between December 2007 and December 2009. Fully 21 percent of those who lost jobs were in the construction industry.

Due to the collapse of the real estate market, the contraction of employment in the construction industry was especially acute. Since December 2007, the construction industry has lost 25 percent of its total payroll jobs, dropping from 7.5 million to 5.6 million employees. In August 2010, the unemployment rate for construction workers stood at 17 percent. This is over three times the rate from three years ago, and almost double the overall unemployment rate. Accelerated infrastructure investment would provide an opportunity for construction workers to productively apply their skills and experience. Moreover, hiring currently unemployed construction workers would impose lower training costs on firms than would be incurred by hiring workers during normal times, because these workers already have the requisite skills and experience in construction.

The excess supply of construction workers is one of many factors making current construction costs low. This is translating to lower project costs. For example, the Federal Aviation Administration received \$1.1 billion in Recovery Act funds for airport improvements. The money was designated for 300 projects. The winning bids for those projects came in over \$200 million below the engineers' estimates. imates.

savings. Overall, the Department of Transportation estimates that more than 2,000 additional airport, highway, bridge and transit projects were funded because of low bids, or projects being completed under budget.

Another critical question is whether there are worthwhile infrastructure projects available for investment. While well-targeted infrastructure investment can be tremendously beneficial, experience has also shown that poorly targeted infrastructure investments have limited, or even negative effects in the long run. The Recovery Act established the Transportation Investment Generating Economic Recovery (TIGER) program to spur a national competition for innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, region, or the nation. TIGER was allocated \$1.5 billion in the Recovery Act to select projects including improvements to roads, bridges, rail, ports, public transit and inter-modal facilities.

As part of the open competition for this investment, the Department of Transportation (DOT) conducted a solicitation for projects meeting the TIGER criteria, providing a test case to determine the supply of these kinds of infrastructure projects. This solicitation yielded 1,457 project applications from all 50 states, the District of Columbia and three territories. Combined, these projects requested over \$59 billion in federal funding, with many projects also supported by state, local and sometimes private capital. These projects were both big and small, with 546 requesting less than \$20 million from the federal government while 82 projects requested more than \$100 million. Given its limited initial funding, DOT was only able to fund 50 projects.

Infrastructure Investment Creates Middle Class Jobs

 $^{^{\}rm 48}$ These estimates do not include multiplier effects.

Appendix

The twenty urban regions with at least 500,000 people (includes the city and its surrounding suburbs), where motorists pay the most annually in additional vehicle maintenance because of roads in poor condition:

Appendix Table 1: Annual Vehicle Operating Cost in Selected Urban Areas

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Rank	Urban Area	Annual Vehicle Operating Cost			
1	San Jose, California	\$756			
2	Los Angeles, California	\$746			
3	San Francisco – Oakland, California	\$706			
4	Honolulu, Hawaii	\$701			
5	Concord, California	\$692			
6	New Orleans, Louisiana	\$681			
7	Oklahoma City, Oklahoma	\$662			
8	San Diego, California	\$654			
9	New York – Newark, NY/NJ	\$640			
10	Riverside-San Bernardino, California	\$632			
11	Sacramento, California	\$611			
12	Tulsa, Oklahoma	\$610			
13	Indio-Palm Springs, California	\$609			
14	Baltimore, Maryland	\$603			
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