Transportation Infrastructure Investment and Job Creation: Synthesis

Requested by
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Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WSDOT staff. Online and print sources may include newspaper and periodical articles, NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs and related academic and industry research. Internet hyperlinks in the TSRs are active at the time of publication, but host server changes can make them obsolete.

Request for Synthesis:
Melanie Coon of WSDOT Communications Office needed a quick response for information for the Columbia River Crossing Project about the relationship of jobs created to investments in transportation infrastructure. She wanted a general estimate of the number of jobs created as a result of a $1 billion investment in public infrastructure. Additional information provided by Daniela Bremmer, Director, WSDOT Strategic Assessment, is in response to a request from the Governor's Office about the type and kinds of jobs created as a result of public infrastructure investment and the methodologies used to make the estimates. This synthesis is a compilation of the literature and information provided from the Federal Highway Administration, the American Association of State Highway Officials, other state DOT's, and published literature.

Databases Searched:

- TRIS Online
- Research in Progress
- Previous Synthesis Reports
- FHWA
- Google
- Wisconsin DOT Transportation Synthesis Reports
- Virginia DOT

Background:
The most recent analysis of the FHWA (from 2007) reports 34,779 jobs are created from $1 billion in transportation investment. However, determining a single value is difficult. The impact of transportation investment on job creation varies based on region, project type, time line, and study emphasis. Most figures are useful for national purposes. Washington State uses *The 2002 Washington Input-Output Model* to estimate the impact of state and local projects.

Currently, infrastructure investments are being considered to boost the federal economy. The consensus is that infrastructure projects do not provide a short-term economic recovery due to their long-term nature. This consensus is supported by the U.S. General Accounting Office's analysis of the Emergency Jobs Act of 1983 (see "Older Publications"), which was found to be ineffective due to slow spending of funds. Recently, many state DOTs and infrastructure departments have identified ready-to-go projects which would begin spending funds within 180 days, and seemingly provide a speedier economic benefit.

Synthesis Summary:
Categories of publications and resources are as follows:

- From Michael Garrett, VDOT
- Other Current Resources
- Older Publications

Current Methods

The 2002 Washington State Input-Output Model
Washington State Office of Financial Management
Released May 2008
In 2006, seven state agencies and the legislative staff, under the direction of University of Washington Geography Professor, Dr. William Beyers, and the Office of Financial Management (OFM) Assistant Director of Forecasting Division, Dr. Irv Lefberg, initiated the estimation of a new version of the Washington State Input-Output model. This is the methodology WSDOT uses to calculate the jobs created per dollar amount of investment in infrastructure. It uses 2002 dollars as the basis. Figures from other sources for jobs created are for "national" purposes and not used on state or local projects. http://www.ofm.wa.gov/economy/io/2002/default.asp

FROM MICHAEL GARRET, VDOT:

The following sources have been provided by Michael L. Garrett, Senior Policy Analyst, Virginia DOT (phone, 804-371-4763; e-mail, michael.garrett@vdot.virginia.gov).

FHWA Updates Estimate of Jobs Created by Transportation Investment
Sunny Mays Schust (ed.), April 2008, AASHTO Journal Weekly Transportation Report 108(15)

The FHWA estimates that every one billion dollars of federal highway investment, plus the state match, supports 34,779 jobs. In 1997 an FHWA analysis determined that each $1 billion of federal-aid highway expenditures, plus a 20-percent state share, supported 47,500 jobs. One explanation for the reduction is the impact of inflation that has eroded the buying power of transportation investment dollars in terms of jobs. The FHWA analysis measures the impact of three types of employment:

- Construction oriented employment including all jobs created by construction firms that work directly on the project or those firms that provide materials such as asphalt, steel and concrete directly on site;
- Supporting industries' employment which includes those jobs not on site but that benefit directly from the project such as factory jobs. An example would be a job that provides the sheet steel to make the guard rails used on the project; and
- Induced employment which includes all of the jobs supported by consumer expenditures resulting from wages to "construction oriented" and "supporting industries" employment.

http://news.transportation.org/journal.aspx
[For FHWA report: http://www.fhwa.dot.gov/policy/otps/pubs/impacts/index.htm]

Analyzing the Economic Impact of Transportation Projects Using RIMS II, IMPLAN and REMI
Tim Lynch, October 2000, Prepared for U.S. DOT Office of Research and Special Programs

This link is to a report prepared for the U.S. DOT discussing three of the main analytical tools use to evaluate economic impacts from transportation investments. Published in 2000, my research suggests that the discussion remains relevant. The models discussed have all been updated and continue to be utilized by practitioners and researchers interested in evaluating transportation economic impacts.

http://dlis.dos.state.fl.us/bld/roi/workshop/handouts/roi_workshop_lynch_report.pdf

Transportation Economic Development Impact System (TREDIS)

The following link is to the TREDIS model Web site, another analytical tool.

http://www.tredis.com/

Economic Impact Analysis [Caltrans Web site]

California DOT has developed a web site that provides a rather "clean" introduction to economic impact analysis of transportation investment. This site also draws a distinction and shows the relationship between analysis of economic development impacts deriving from a transportation project and benefit-cost analysis of a transportation project.

http://www.dot.ca.gov/hq/tpp/offices/ote/benefit_cost/benefits/economic_impact_analysis/

Study: Port Responsible for 340,000 Jobs, $41 Billion in Total Revenues for Virginia
Virginia Port Authority, January 2007

A 2007 Virginia Port Authority study estimates that the operations of Virginia's marine terminals in Hampton Roads accounted for over $41 billion dollars in economic activity and supported over 340,000 jobs across the state. This study evaluates ongoing operations, which included port operations providers such as pilots and longshoremen, and support services including truck and rail transportation, warehousing and storage, and ship servicing. The study also values the cargo that flows through the ports and the economic impact of exports created in Virginia. The study provides estimates of direct, indirect, and induced impacts stemming from the availability and use of the ports.

http://www.vaports.com/Media_Room/2008/Econ_Impact.pdf

Virginia Department of Rail and Public Transportation Cost/Benefit Analysis Program

Virginia's Dept. of Rail and Public Transportation uses a cost/benefit analysis tool, developed specifically to evaluate the economic and social impacts of proposed rail investments. Development of such an analysis tool was mandated by Virginia law as an aid in evaluating the efficacy of public spending on rail improvements. A proposed project's benefits must exceed costs to be considered for support using public funds.

MDOT State Long-Range Transportation Plan, Economic Impact Analysis of the Michigan Transportation Investment Packages
Wilbur Smith Associates, June 2007

The purpose of this report is to examine the potential economic impacts to Michigan's economy when MDOT invests in the improvement and maintenance of the state's transportation system.

http://www.michigan.gov/documents/mdot/MDOT_SLRP_Economic_Impact_Analysis_200445_7.pdf

2035 Statewide Transportation Plan, Economic Connection Technical Report
Colorado Department of Transportation, March 2008

In 2006 the Colorado Department of Transportation (CDOT) researched numerous studies from across the country and conducted focus group sessions throughout Colorado to begin to better understand the economic benefits of transportation investment. Based on the findings of this research, CDOT has proceeded to evaluate statewide economic benefits under alternative transportation investment scenarios in order to better establish the link between transportation investment and economic growth in Colorado.

http://www.dot.state.co.us/StateWidePlanning/PlansStudies/2035_SWP/Economic_Connections_Technical_Report.pdf

Economic and Land Use Impacts of Wisconsin State Trunk Highway 29, Final Report, Projects 0092-02-17 and 0092-03-06

Dennis Leong, Liat Lichtman, Franklin Marcos, Kristi Michelson, and Robert Russell, WisDOT, July 2004

In 2004 Wisconsin DOT analyzed the impact of one of their major highway construction projects, Highway 29, and forecasts that by 2020 the improvement will account for an additional 2,400 jobs. The project cost $450 million. Statewide personal income is projected to benefit by $1.4 billion while statewide business output will increase by over $400 million. Wisconsin DOT's preliminary analysis also showed that while VMT increased by 75 percent on many segments of the highway, the fatality rate declined by half.

http://on.dot.wi.gov/wisdotresearch/database/reports/03-06highway29.pdf

OTHER CURRENT RESOURCES

Can Infrastructure Spending Rev Up the Economy?
Scott Horsley, December 2008, All Things Considered

Every $1 billion the federal government commits to roads, bridges and other infrastructure helps to support some 35,000 jobs.

A Jobs Pipeline
"You're talking about every kind of job that's associated with a transportation infrastructure project, from the people that actually make the steel to the people who build the project," says Tony Dorsey, spokesman for the American Association of State Highway and Transportation Officials. "You're talking about everything in that whole pipeline."

Faced with their own budget shortfalls, many states have had to defer these kinds of projects. AASHTO has identified some $64 billion worth of work that's all ready to go—just waiting for someone to write the check.

"These projects can be under contract within 180 days," Dorsey says. "All they need is the investment from the federal government to help them to get off the shelf and put people to work."

Speed counts, because part of the government's goal would be to get the extra money flowing into the economy as quickly as possible. Economist Alan Viard of the American Enterprise Institute is skeptical that infrastructure projects are the best way to do that—a concern the president-elect's own economic advisers have raised in the past.

http://www.npr.org/templates/story/story.php?storyId=97973470

Transportation Investment Can Make a Significant Contribution to Economic Recovery and Job Creation
William Buechner—ARTBA, October 2008, Presented to the Committee on Transportation and Infrastructure, U.S. House of Representatives

Workers in the U.S. construction industry have, so far, borne the brunt of the current economic crisis. Although the national unemployment rate is just over six percent, the unemployment rate among construction workers in September was 9.9 percent, almost four percentage points higher than for the economy as a whole . . .

Transportation contractors have the capacity for a significant amount of additional construction work. According to ARTBA's latest quarterly industry conditions survey, many transportation construction contractors are operating well below capacity and are eager to take on new work. Thirty-six percent of surveyed construction firms are operating at 75 percent of capacity or less…

Transportation investment has been used in the past to speed recovery and create jobs. During the severe 1982 recession, President Reagan and Congress worked together to increase the federal gas tax by five cents per gallon and expand federal highway investment more than 50 percent, from $8 billion in 1982 to more than $12 billion by 1985—equivalent to a $21 billion increase in the federal highway program today. This bipartisan increase in federal highway investment helped boost employment in the construction industry by almost 20 percent between 1982 and 1985, or almost 700,000 jobs.

http://www.fasterbettersafer.org/research_and_industry/ARTBA%20Testimony%20081029.pdf

Transportation and Jobs
Surface Transportation Policy Project, Web site

Impact of Public Transportation Projects on Job Creation
In recent years, proponents of increased investment in new highway capacity have used job-creation as a rallying cry for their cause, saying that money spent on these new roads will lead to a surge in new jobs. While transportation investment should not be seen as primarily a jobs program, economic studies indicate that transit capital investments and operations funding are even better sources of long-term job creation.

According to a recent study by Cambridge Systematics, 314 jobs and a $30 million gain in sales for businesses are created for each $10 million invested in transit capital funding, and over 570 jobs are created for each $10 million in the short run. While new highway construction does lead to an increase in employment, these jobs are mostly for non-local workers: road engineers and other specialists who come in to an area for a specific job and then leave when it has been completed. On the other hand, transit investments create a wealth of employment opportunities in the short and the long run. Transit system construction leads to an impressive level of short-term job creation, and once the systems are finished, a long-term source of high-quality jobs. Of the 350,000 people directly employed by public transportation systems, more than 50 percent are operators or conductors. In addition, 10,000 to 20,000 professionals work under contract to public transportation systems or are employed by companies and government offices that support these systems. Thousands of others are employed in related services (i.e. engineering, manufacturing, construction, retail, etc.).

http://www.transact.org/library/factsheets/jobs.asp

2007 Estimated Jobs Supported by Federal-Aid Highway Construction Spending
FHWA, Frequently Asked Questions, 2008

Why is the 2007 estimated jobs supported by Federal-Aid Highway construction expenditure less than the previous 1997 estimates?

For 2007 wage and economic data, FHWA estimates that $1 billion of federal-aid highway construction expenditure plus 20 percent state match supports 34,778 person-years of employment. Previously, FHWA had estimated $1 billion federal-aid highway construction expenditure plus 20 percent state match would support 47,576 person-years of employment based on 1997 wage and economic data.

The 2007 estimate is less than the 1997 estimate because the analysis measures jobs against a fixed level of federal aid highway construction expenditure. The $1 billion expenditure has not changed from 1997 to 2007, unlike labor and materials costs. Between 1997 and 2007, the highway construction cost as measured by the Bureau of Labor Statistics Producer Price Index has increased 57 percent. Because workers and especially materials cost more, a constant highway expenditure of $1 billion translates into fewer jobs.

What is a person-year?

FHWA states the jobs supported by federal-aid highway expenditure in terms of “person years.” For example, 100 person-years can translate into 50 jobs supported for 2 years or 100 jobs supported for 1 year. The temporal aspects of the jobs will correspond to the nature of the construction project.

How does FHWA estimate the employment impact of Federal-Aid Highway Construction Expenditure?

FHWA contracted with the Boston University Center for Transportation Studies for the creation of an input-output economic model call JobMod. The input-output model, first issued in 2000, estimated employment for 1997. The revised and updated version of the model, JobMod 2 contains estimates fro 2005 but allows systematic tracking of price changes evident in the BLS

Producer Price Indexes (PPI) for major construction inputs. The relevant BLS 2007 PPI estimates have been utilized in the model to estimate the 2007 employment impacts.

Is the 34,778 supported person-years equivalent to "new" jobs?

The analysis assumes that there is slack capacity in the markets for labor, goods, and services. This is a standard assumption for input-output models but it may not reflect reality. Whether or not an employment impact is incremental will depend on the time and place of the highway investment. During recessions, when there is relatively little private construction activity, a larger proportion of estimated employment will be incremental. Highway projects in regions where there is low unemployment will be less incremental than projects in regions with labor surpluses. It is important that users of FHWA's estimates do not give the impression that all jobs are incremental jobs.

What types of Highway Improvements are included in the estimate?

The term "highway improvement" can cover a broad range, including construction of new highways; reconstruction of old highways; construction, reconstruction or major repair of bridges; improvement of signal systems and traffic flow systems for the purpose of congestion reduction or safety enhancement; and highway alterations for environmental purposes such as the installation of sound barriers. Furthermore, a substantial portion of highway funds may not be spent on construction per se, but on engineering design services. Since these different types of activities will produce different employment impacts the model makes it possible for the user to specify highway improvement types.

How does the input-output model estimation TOTAL employment impacts?

FHWA measures employment impacts of:

- Construction oriented employment including all jobs that are created either by the construction firms that work directly on the project or by the firms that provide direct inputs (paving materials, steel, concrete etc.) to the construction project;
- Supporting industries' employment including jobs in firms that provide inputs to the industries that directly provide materials and equipment used in highway construction. For example a firm that produces guard rail is counted as 'construction oriented' but the firm that provides the sheet steel to make the guard rail is considered part of supporting industries' employment;
- Induced employment includes all the jobs supported by the consumer expenditures resulting from wages to 'construction oriented' and 'supporting industries' employment.

Estimates are also available for 48 industry sectors including construction; mining; glass, stone and clay products; machinery, engines and equipment; just to name a few.

Is it appropriate to use the model to estimate State level employment impacts?

The estimation model design is only for national impact assessment. Its main purpose is to estimate the number of jobs supported nationally by a specified program of highway improvement investment. The model design is not useful in making state-level employment estimates.

The danger of using JOBMOD2 for state estimates is as follows. Even if a construction investment occurs entirely within the borders of a single state, it is likely to generate employment in other states. This is because construction inputs—especially manufactured goods such as steel elements, lights, signals, signs guard rails, culverts, etc.—are shipped between states. In addition, the induced employment effects may accrue too many different states depending on the distribution of the production of consumer goods and services.

Transportation Investment and the American Economy
ARBTA Brochure
http://www.ntweek.org/publications/ARTBA_Economy.pdf

Highway Investment: The Road to Economic Recovery

John Horsley, March 2008, AASHTO

It is time to correct a grave misunderstanding that stands in the way of the creation of more than 750,000 jobs across America. As Congress considered action on how to stimulate the nation's faltering economy, Administration officials voiced their mistaken belief that investment in the nation's highways could not be spent fast enough to be of much immediate help.

State governors and state transportation directors know better. At the request of members of Congress, the American Association of State Highway and Transportation Officials (AASHTO) in January asked our member departments of transportation to identify projects that could be underway within 90 days. The response was overwhelming, with 47 states and the District of Columbia reporting more than three thousand "ready to go" projects totaling some $18 billion.

The conventional wisdom that highway projects take too long to create jobs needed in a hurry fails to recognize that not every project is a multimillion dollar interchange or bridge reconstruction. Years of underinvestment in highways have left a substantial backlog of projects such as pavement resurfacing that can render our roads safer and smoother. Those projects create good jobs in the hard-hit construction industry and stimulate the economy both with paychecks and the purchase of materials. They also make lasting improvements to our transportation network that is critical to every segment of our economy. [Table of potential projects by state follows.]

http://www.transportation.org/news/101.aspx

DOT Economist Warns: Transportation Spending Not Economic Quick Fix
TruckingInfo.com, September 2008

U.S. Department of Transportation Chief Economist Jack Wells Tuesday wrote about transportation spending on the DOT's blog, particularly with regards to job creation and short-term economic growth.

"Whenever the economy hits a rough spot, politicians often say that we need to spend more on transportation infrastructure to create jobs," Wells writes. "They often cite numbers like "47,500 jobs are created for every billion dollars spent on infrastructure." However, he says, that figure is outdated and misleading. That number comes from a study done in 1997, he says, and is also based on a federal investment of $1 billion plus matching funds of $250 million in state spending. In addition, he writes, "It's really more correct to say that the billion dollars 'supports' ... jobs because the actual number of new jobs created depends on how much unemployment there is when the highway spending starts."

http://www.truckinginfo.com/news/news-detail.asp?news_id=61464

Chief Economist Jack Wells: Transportation Spending, an Inefficient Way to Create Short-Term Jobs
Welcome to the Fast Lane, The Official Blog of the U.S. Secretary of Transportation, September 2008

Full version of posting reported above.

http://fastlane.dot.gov/secretarysblog/2008/09/chief-economist.html

Job Creation Through Transportation Investment
Ronald E. Brummett—Kern Council of Governments and CSU Bakersfield, 2006

Typically employment associated with a transportation investment has been categorized as direct, indirect and induced employment impacts. Direct impacts include the on-site highway construction jobs at the construction site. Indirect impacts include companies that process orders, supply and deliver construction materials.

The induced impacts are those arising from expenditures of workers wages on various goods and services (FHWA Vol. 59, No. 4). Generally, job creation associated with transportation

investments translates into 42,100 jobs for each $1 billion invested during a five year period; direct jobs account for 7,900, indirect jobs total 19,700 and induced jobs are 14,500 (FHWA, Highway Investment). The induced jobs are drawn from many segments of the local and regional economy including housing, manufacturing and service sectors . . .

In Kern County, the investment of $1.73 billion in federal demonstration funds received through the efforts of former Congressman William Thomas and voter approval of a local transportation measure would increase the number of jobs in Kern County by about 11%. Total job creation from these investments is estimated to be 35,900 over the 10 to 20 years required to construct the projects. This lower number of jobs results from the extended delivery schedule of the transportation projects. Both direct and indirect jobs would be lower because workers would be able to work on multiple projects during the delivery time frame, therefore reducing the number of workers required.

http://www.kerncog.org/pdf/PR/transportation-investment.pdf

The Perfect Storm
Mary Peters—FHWA, January 2004, Remarks as prepared for delivery, National Stone, Sand and Gravel Association

Every $1 billion in federal transportation investment supports 47,500 jobs.

http://www.fhwa.dot.gov/pressroom/re040124.htm

Economic Development
FHWA Web site, November 2008

Three Levels of Analysis
There are three general levels of looking at highway related economic development. One is at the national level e.g., how much do our nation's highways help the national economy. Two offices in FHWA are sometimes involved at this level. Their general websites are: www.fhwa.dot.gov/policy/otps/highways.htm and www.fhwa.dot.gov/policy/ohpi/index.htm.

Another is at the regional level (e.g., what kind of transportation investments should a region make to optimize its economic growth) . . .

FHWA co sponsored the 3rd International Conference on Transportation and Economic Development in March 2006 in Little Rock, Arkansas.

http://www.fhwa.dot.gov/planning/econdev/index.html

Transportation Improvements Grow Wisconsin's Economy: The Economic Benefits of Transportation Investments
Cambridge Systematics, February 2003, prepared for the Transportation Development Association of Wisconsin

It's estimated that a $5.8 billion increase over 21 years to implement Wisconsin's State Highway Plan (SHP) will yield 4,800 new jobs on an average annual basis (p. 31 of PDF) and that highway construction expenditures of the SHP will support an annual average of over 4,300 jobs (p. 33 of PDF).

http://www.tdawisconsin.org/data/publications/cambridgecomplete.pdf

Economic Growth from Transportation Improvements: Does It or Doesn't It?
Martin Weiss—FHWA, Fall 1999

A somewhat more technical, but still not too technical paper on the topic of highway related economic development from 1999 which first appeared in the proceedings of the fall 1999 Transportation Research Board conference on Planning Needs of Small and Medium Areas.

http://www.fhwa.dot.gov/planning/econdev/econdoes.html

A Brief History of Economic Development and Highways
Martin Weiss—FHWA, 2002

Regarding the meaning of economic development for use in the Economic Development Highway Initiative, the FHWA has developed a definition of "economic development potential of a highway corridor" for this purpose as, “The extent to which and/or likelihood that, improvement of a highway corridor will result in: significant reduction in losses of employment; and/or sustained increases in employment; and/or sustained increases in wages, profits, sales and similar indicators, in a geographic area consisting of contiguous counties/parishes, single counties/parishes or portions thereof, which have historically suffered from high unemployment.”

http://www.fhwa.dot.gov/planning/econdev/edhist.htm

Economic Development Highways Initiative—Public Briefing
FHWA Website

In the process leading to the FY 2000 DOT Appropriations, Congress developed legislative report language that directed the FHWA to carry out an Economic Development Highways Initiative. The language is contained in Senate Report 106-55 and House of Representatives Report 106-355. The Senate report noted that the Committee [on Appropriations] is "...interested in some recent studies that demonstrate the degree of new and sustainable economic development generated by new or substantially improved highway facilities through economically disadvantaged regions. . ." Subsequent discussions with staff of this committee indicated that the “recent studies” referred to in this language was the Federal Highway Administration (FHWA) report "Linking the Delta Region with the Nation and the World.” This FHWA report was completed in 1995 and circulated within the lower Mississippi Delta in 1996 but became more widely known in subsequent years. The House report made funds available for the Initiative. Further correspondence was received from Congress indicating that it was intended that a substantial amount of the work would be for study of US 80 and US 43 in Alabama.

[Site maintains links to 12 corridor studies funded by the initiative.]

http://www.fhwa.dot.gov/planning/econdev/econdevini.html

More Transportation Spending: False Promises of Prosperity and Job Creation
Ronald D. Utt—The Heritage Foundation, April 2008, Backgrounder #2121

With the economy slowing and flirting with recession, many Members of Congress and several presidential candidates have been advocating a second, costly stimulus package that would rely more on government spending than on stimulating private spend-ing with tax cuts. In many of these proposals, a portion of the new spending would go to infrastruc-ture, with some or all of it targeted to transportation projects. As is often the case, many of the leading tax users in the field of transportation—the American Association of State Highway and Transportation Officials (AASHTO), the American Road and Trans-portation Builders (ARTBA), the American Public Transportation Association (APTA), and the Associated General Contractors—have urged Congress to spend more money on projects that would directly benefit their members.

As this paper demonstrates, most of the alleged economic benefits are based on grossly exaggerated claims made by a U.S. Department of Transportation (USDOT) computer simulation conducted in 2000 and 2002. In fact, the vast majority of independent academic and federal government studies on the relationship between infrastructure spending and economic activity have found that the impact is very modest and long in coming.

http://www.heritage.org/Research/Budget/upload/bg_2121.pdf

25 Reasons Why Transportation Investment Is Important
ARTBA

Transportation Investment & American Economy

The nation's highway and transit network is critical to ensuring the strength of the U.S. economy and quality of life.

10. The U.S. transportation construction industry generates more than $200 billion in economic activity annually and helps sustain 2.5 million American jobs.
11. In 2005, the nation's transportation infrastructure was worth $2.9 trillion, or 7.7 percent of the value of all fixed assets in the United States.
12. The U.S. Department of Transportation says that every $1 billion in federal highway investment creates 47,500 new jobs and generates more than $2 billion in economic activity.

http://www.artba.org/25_reasons.htm

Money Talks: The Financial Facts About Tolls and Transportation, Fact Sheet, DRAFT
IBTTA, May 2005

Document is a list of transportation funding statistics.

http://www.ibtta.org/files/PDFs/IBTTA%20Finance%20Fact%20Sheet.pdf

OLDER PUBLICATIONS

Economic Returns from Transportation Investment
Eno Transportation Foundation Inc., 1996, Lansdowne, VA

Abstract: A recent study of the returns from highway investments in the last 40 years found surprisingly high rates of return in the 1950s and 1960s, the years when the Interstate System was being built. Those rates declined in the two most recent decades. Analysis of these past patterns can help target future transportation investments to achieve the greatest economic impact. In particular, those programs that have the potential to produce network effects are the key. Future investments can produce the greatest economic return if they are targeted to programs that will preserve or expand network capacity. Four areas of the surface transportation program appear particularly well matched to this objective: preservation of the Interstate System; channeling available funds into the National Highway system; targeting investment in intermodal gaps; and developing Intelligent Transportation Systems.

http://www.fhwa.dot.gov/policy/otps/060320a/060320a.pdf

Emergency Jobs Act of 1983: Funds Spent Slowly, Few Jobs Created
U.S. General Accounting Office, December 1986, GAO/HRD–87–1, Report to the Chairman, Subcommittee on Employment and Productivity, Committee on Labor and Human Resources, United States Senate

Results in Brief (*From Executive Summary, p. 5 of PDF*)
Compared to past job creation programs enacted in response to recessions, the Emergency Jobs Appropriations Act was enacted relatively quickly following the beginning of the 1981-82 recession. Nevertheless, implementation of the act was not effective and timely in relieving the high unemployment caused by the recession.

Funds were spent slowly, and relatively few jobs were created when most needed in the economy. Also, from its review of projects and available data, GAO found that (1) unemployed persons received a relatively small proportion of the jobs provided, and (2) project officials' efforts to provide employment opportunities to the unemployed ranged from no effort being made to working closely with state employment agencies to locate unemployed persons. Other benefits, such as humanitarian assistance and construction, were provided.

Principal Findings
A job creation program designed to alleviate unemployment effects of a recession is most effective if (1) legislation is enacted as soon as possible after the recession is identified, (2) funds

are spent quickly and people are hired when the economy needs new jobs the most, and (3) funds are spent before the economy recovers. (See pp. 24 to 25.)

The act became law 21 months after the beginning of the 1981-82 recession—faster than the average 27 months between the beginning of past recessions and enactment of countercyclical job creation programs. Using the above criteria, the act would have been most effective had funds been spent by June 1984, 19 months into the recovery period. By then, the unemployment rate had returned to levels prevailing before the recession, and the 19 months of rapid growth in real gross national product had begun to moderate. (See p. 26 and pp. 37 to 38.)

Funds Spent Slowly

Most funds were not spent before June 1984. An estimated $3.1 billion, or about 34 percent of the funds made available, had been spent by then, when jobs were most needed in the economy. By June 1985, 2-l/4 years after the act's passage, about $4.5 billion had been spent, and about half the funds remained to be spent.

Expenditure rates among programs and activities varied significantly. For example, funds for public works programs, such as those that build highways or houses, were spent much more slowly than funds for public services, income support, and employment and training programs and activities. (See pp. 26 to 32.)

http://archive.gao.gov/f0102/132063.pdf

The Economic Effects of Federal Spending on Infrastructure and Other Investments
Congressional Budget Office, June 1998

This paper from the Congressional Budget Office (CBO), written in response to a request from the Senate Committee on the Budget, reviews the available data on the economic value of federal investments in infrastructure, education and training, and R&D. It focuses on empirical evidence produced since July 1991, when CBO last analyzed the issue in the study *How Federal Spending for Infrastructure and Other Public Investments Affects the Economy*.

www.cbo.gov/ftpdocs/6xx/doc601/fedspend.pdf

Assessment of Countercyclical Public Works and Public Service Employment Programs
Georges Vernez and Roger J. Vaughan—RAND Corporation, 1978, Document No.: R-2214-EDA

Compares the effects of countercyclical Public Works and Public Service Employment programs on: (1) job creation; (2) speed of job creation; (3) distribution of benefits among regions, industries, occupations, and socioeconomic groups; (4) value of services provided; (5) program participants; (6) transition from public to private employment; and (7) demand for labor and materials. The findings suggest that both types of programs are equally slow to enact and may have little stimulative effect on the economy. However, the two programs differ in their targeting on those regions, industries, occupations, and socioeconomic groups most affected by a national recession. The policy and program design implications of these and other findings are discussed.

[Probably available on loan from Research Library]