

Estimated Impact of GDOT's Highway Expenditures on Employment, Income and Total Value Added in Highway Districts, Local Areas and the State of Georgia: 2009 – 2013

UTG
 Dr. Thomas D. Boston, Dr. Ruth Oyelere
 Georgia Institute of Technology, School of International Affairs and School of Economics

GDOT

Introduction

Introduction

Well designed transportation investments have many short-term and long-term economic benefits. They can spur economic growth, create jobs, boost labor productivity and profitability, increase efficiency and accelerate local and regional economic development. Given the anemic job growth in the US economy today, and the growing fiscal constraints imposed on public agencies, policy makers and stakeholders are increasingly demanding that impacts of infrastructure investments be quantified. This would allow scarce resources to be allocated more efficiently and effectively.

Purpose

This study measures the impact of GDOT's highway expenditures on economic activity in the State of Georgia. The study examines impacts at three levels (1) Statewide impacts; (2) Impacts within GDOT Highway Districts; and (3) County impacts.

The timeframe of the analysis is January 2009 through May 2013.

During this period, GDOT spent \$3.6 billion on highway projects. Each project expenditure had a ripple effect on economic activity in local areas.

Methodology

The research measures all highway project expenditures and classifies them by detailed industry, location of project, year of award and headquarters location of prime and subcontract recipients.

A 440 sector IMPLAN model is used to measure the flow of related industry activity at the county level. Multipliers are derived that measure direct effects, indirect effects, induced effects and total effects of highway expenditures. The multipliers quantify the total impact of each dollar spent on downstream economic activity.

The impacts measured include the following:

- Total industry output (gross sales)
- Employment (full-time and part-time jobs)
- Value-added (additions to total output)
- Employment compensation (wages, salaries and labor income)
- Proprietors income (proprietors and self-employed)
- Asset income (dividends, interest, rent)
- Indirect business taxes (sales, gasoline, excise taxes and fees)

Unique Outcomes

Most impact studies only provide aggregate measures of economic activity and job creation. In contrast, the current study estimates direct impacts, indirect impacts and induced impacts of GDOT's expenditures by the following breakdown:

- Statewide impacts
- GDOT highway district impacts
- Individual county impacts
- Impacts arising from direct awards to prime contractors
- Impacts arising from prime contractors' awards to local subcontractors
- Impacts arising from GDOT's direct awards to city and county jurisdictions
- Impacts arising from prime contractors' awards to local Disadvantage Business Enterprises
- Impacts classified by project work codes/industries
- Impacts based on the geographic location of contractors
- Impacts based on the geographic location of subcontractors
- Impacts based on the geographic location of projects

Figure #1 Illustration of Statewide Employment Multipliers i.e. # Jobs per \$1 million spent on projects

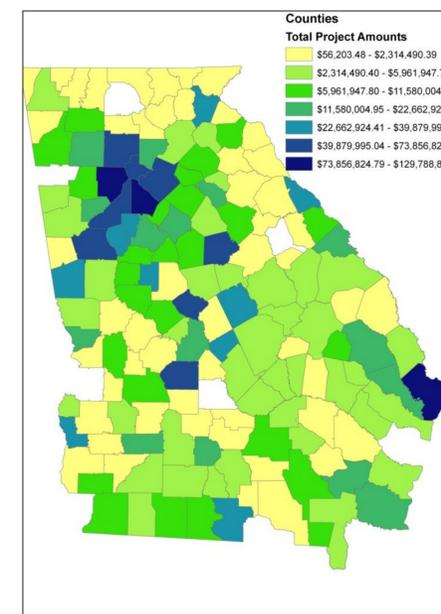
IMPLAN Model for GDOT Statewide Impact: Number of Jobs Created per \$1.0 million of Project Expenditures					
Industry Code	Industry Description	Direct Effects	Indirect Effects	Induced Effects	Total
34	Construction of new nonresidential commercial structures	10.33	2.35	4.02	16.70
35	Construction of new nonresidential manufacturing structures	11.04	1.87	4.15	17.06
36	Construction of other new nonresidential structures	9.79	2.73	4.04	16.56
39	Maintenance and repair construction of nonresidential structures	11.06	2.56	4.27	17.89
40	Maintenance and repair construction of residential structures	6.46	2.06	3.02	11.54
116	Asphalt paving mixture and block manufacturing	0.86	0.64	0.85	2.35
117	Asphalt shingle and coating materials manufacturing	0.71	0.71	1.02	2.44
160	Cement manufacturing	2.54	3.20	2.61	8.34
161	Ready-mix concrete manufacturing	3.64	4.47	3.00	11.11
162	Concrete pipe, brick, and block manufacturing	3.87	3.28	2.67	9.81
163	Other concrete product manufacturing	5.55	2.84	3.25	11.63
166	Cut stone and stone product manufacturing	8.51	3.34	3.64	15.49
167	Ground or treated mineral and earth manufacturing	1.74	3.35	2.11	7.20
216	Air conditioning, refrigeration, and warm air heating equipment	3.88	1.60	3.11	8.59
323	Retail Stores - Building material and garden supply	12.85	2.53	4.15	19.53
335	Transport by truck	7.80	3.71	3.49	15.01
336	Transit and ground passenger transportation	20.84	1.45	4.31	26.60
351	Telecommunications	1.67	2.66	2.16	6.50
353	Other information services	5.92	2.59	3.20	11.71
365	Commercial and industrial machinery renting	4.42	4.00	3.81	12.23
370	Specialized design services	8.89	2.55	3.80	15.24
375	Environmental and other technical consulting services	10.06	2.58	5.39	18.03
376	Scientific research and development services	6.47	3.80	4.40	14.67
430	State and local government passenger transit	30.52	7.35	12.51	50.38
431	State and local government electric utilities	4.06	0.69	2.04	6.78

Prior Research

National Transportation Policy Project. (2009). *Performance Driven: A New Vision for U.S. Transportation Policy*. Bipartisan Policy Center.

This bipartisan report makes an argument for the development of a broad set of goals to capture the full impact of investments. The report leveraged information collected from test cases, best practices and interviews with subject matter experts, politicians and policy makers. The results identified five key metrics of transportation investments impacts: (1) economic growth per dollar invested; (2) national connectivity or connection of people and goods across a region; (3) metropolitan accessibility or the provision of efficient access to jobs, labor and other activities; (4) energy security and environmental protection; and (5) safety, or a reduction in the number of accidents, injuries and fatalities associated with modes of transportation. Along with outlining goals, the report also identified several performance metrics to capture benefits. For economic growth the report advocates using access to jobs and non-work activities, improvements in network utility and reductions in corridor congestion. For energy and environmental metrics, the metrics include petroleum consumption and CO emissions. Safety metrics comprise the number of fatalities and injuries per capita as well as fatalities and injuries per vehicle miles traveled.

Hypothetical Example of Geographic Impacts



Cont'd

Economic Development Research Group (2009) *Job Impacts of Spending on Public Transportation: An Update*

This research examines the job impact of investments in public transportation. It defines the job impacts in two ways: (1) The impact of transportation investment spending on related industries such as construction and manufacturing; and (2) How improving access to public transportation reduces household costs and increases local business revenue. The study also estimates the number of jobs and income created by capital investments and operational spending on transportation.

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