



Regional Economic Impact Analysis of the American Recovery and Reinvestment Act – US Army Corps of Engineers

5th Interagency Social Science Roundtable
Institute of Water Resources, U.S. Army Corps of
Engineers
Alexandria VA, January 10, 2011



American Recovery and Reinvestment Act

- **The American Recovery and Reinvestment Act (ARRA) of 2009 (Public Law 1115-5) was enacted by Congress in February 2009**
- **ARRA appropriated \$787 billion for the purpose of creating employment, promoting infrastructure investment, and catalyzing consumer spending**
- **Designed to focus on projects that were "shovel ready"**



USACE ARRA Projects

- **USACE was allocated \$4.6 billion for a broad spectrum of activities that affect six of the eight business lines managed by USACE**
- **Total number of funded projects is 2,960**
- **Navigation and Flood Risk Management projects account for largest share of funded projects**



RECONS- (Regional ECONomic System)

The U.S. Army Corps of Engineers, Institute for Water Resources contracted with the Louis Berger Group to develop an economic impact tool to :

- provide accurate and defensible estimates of regional and national jobs creation and retention and other economic measures
- document the performance of direct investment spending of the USACE as directed by the American Recovery and Reinvestment Act (ARRA)
- to evaluate Civil Works Budget and other non-federal spending activities related with USACE infrastructure and programs



USACE ARRA Projects



Business Line	Total Value
Navigation	\$1,770 million
Flood Risk Management	\$1,400 million
Environment (including FUSRAP)	\$771 million
Hydropower	\$314 million
Recreation	\$311 million
Water Supply	\$.7 million
Regulatory Program	\$24.9 million
Emergency Management	NA
Expenses	\$6.6 million
Total	\$4,600 million



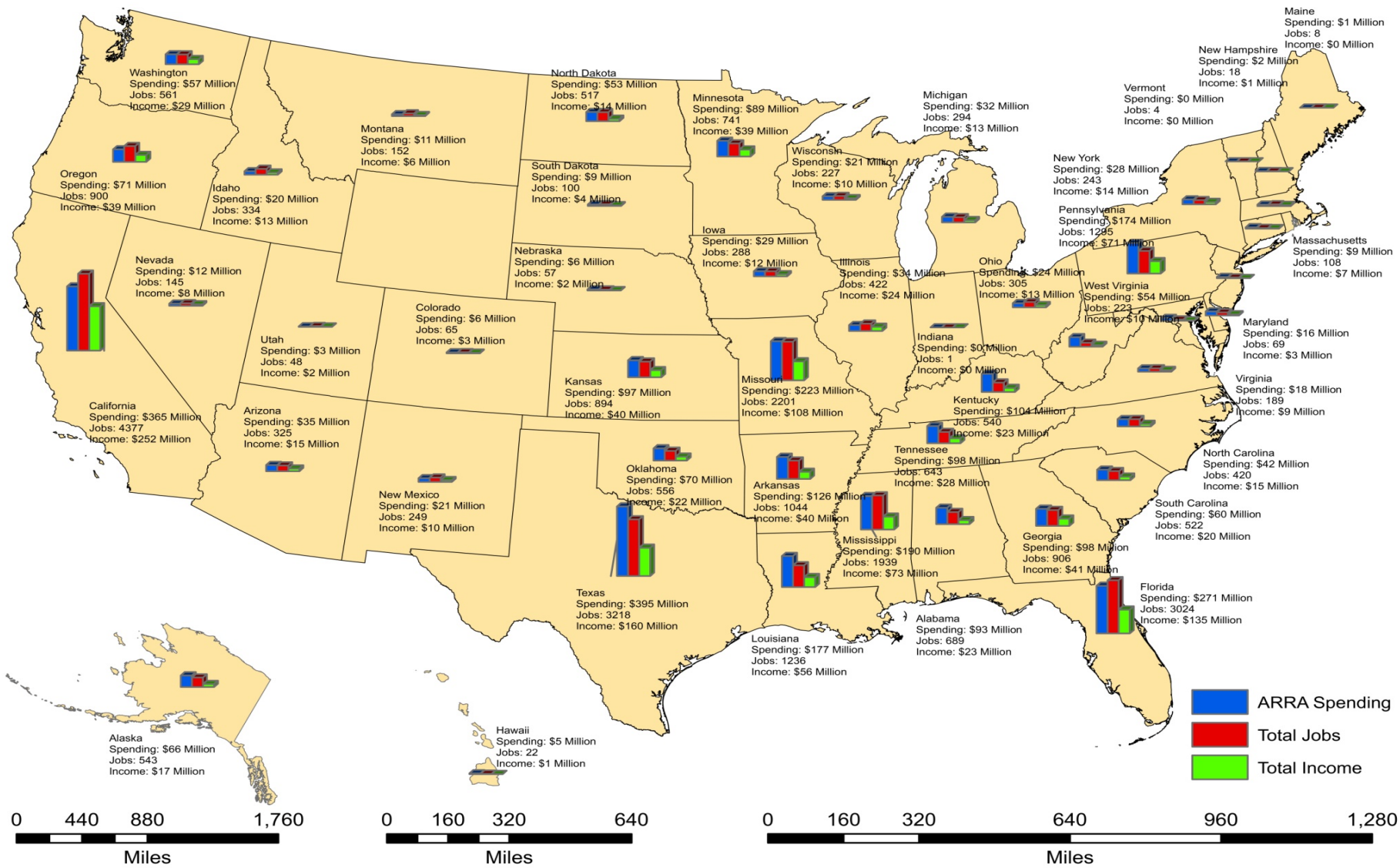
USACE ARRA Projects



Appropriation Account	Total Value
Operations and Management	\$2,073,000,000
General Construction	\$1,998,000,000
Mississippi River and Tributaries	\$373,125,000
FUSRAP	\$99,500,000
General Investigations	\$24,875,000
Regulatory	\$24,875,000
Expenses	\$6,625,000
Total	\$4,600,000,000

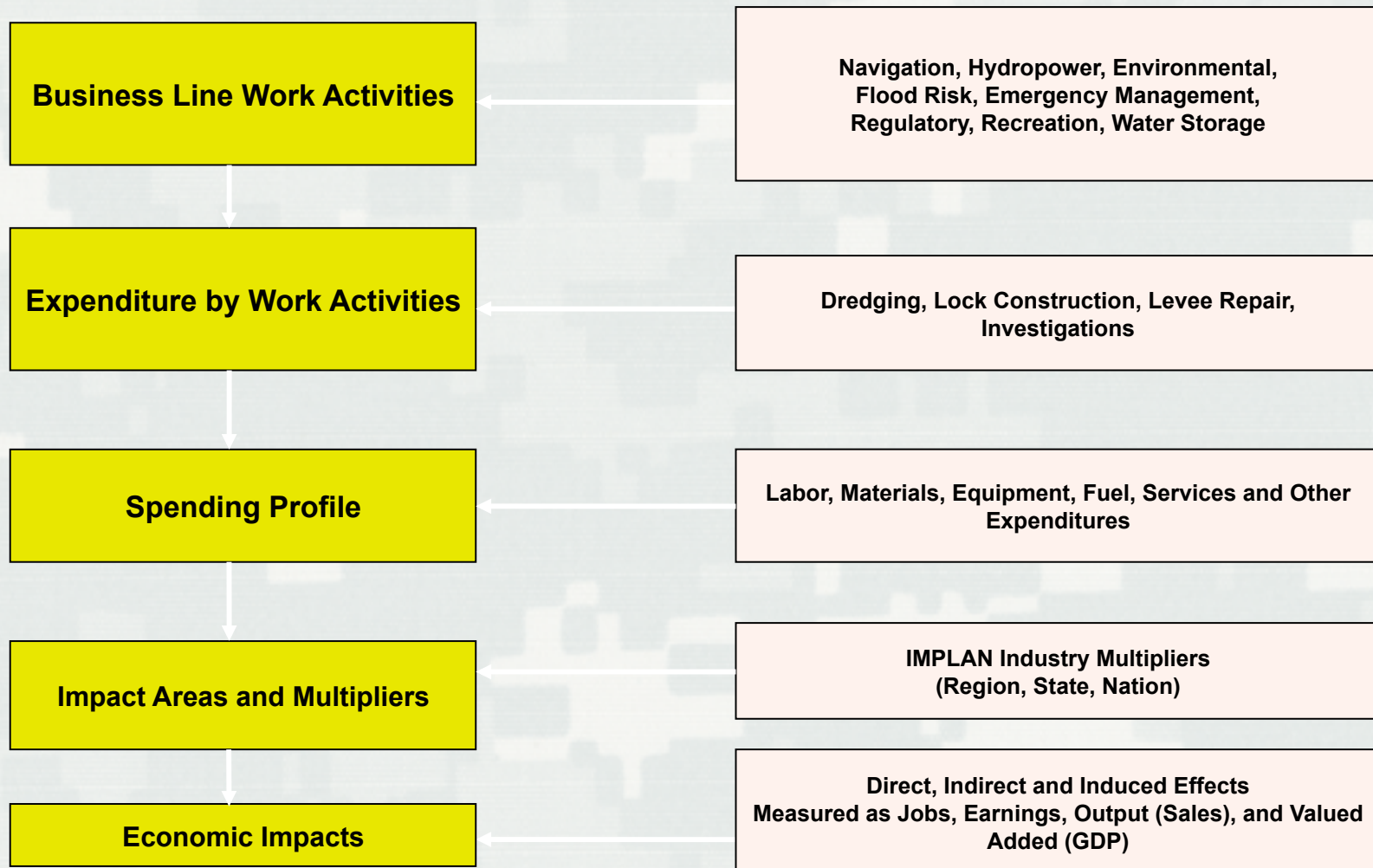


USACE ARRA Spending and Economic Contributions by States



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Approach for Evaluating ARRA Project Impacts



Identifying ARRA Work Activities



- Work activities were initially identified by the ARRA project descriptions and ARRA project and business line research
- All ARRA budget line items were associated with a work activity or multiple work activities
- A total of 134 work activities have been identified with ARRA budget line items
 - Includes 45 purchasing and 21 dredging work activities



Wilmington District



ARRA Impact Regions



- CE projects were identified with one or multiple impact regions- more than 1,200 regional economic models were developed for Corps project locations and are available in RECONS
- Types of local/regional impact regions for ARRA spending alone:
 - Metropolitan (county or multi-county) -- 409
 - Micropolitan (county or multi-county) -- 345
 - Rural – FEAs -- 197
 - Large-scale -- 42
- 50 state and 98 multi-state impact regions



Preliminary National ARRA Results – National, State, and Local Impacts



Type of Impact	National	State and Multi-State	Local/Regional
Direct Expenditures*	\$4,600,000,000	\$4,524,484,641	\$4,227,472,369
Direct Jobs (FTE)	43,348	34,791	27,860
Total Jobs (FTE)	89,138	56,623	40,505
Direct Output	\$4,490,107,894	\$3,473,791,748	\$2,649,999,230
Total Output	\$12,954,563,574	\$6,733,752,435	\$4,473,496,454
Direct Value Added	\$2,555,365,896	\$1,988,805,402	\$1,548,770,214
Total Value Added	\$6,897,341,014	\$3,342,571,613	\$2,002,808,011

*Amount of expenditures can be allocated to regional models



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Preliminary National ARRA Results – Output or Sales



Business Program	ARRA Exp (\$MM)	Direct Output (\$MM)	Indirect Output (\$MM)	Induced Output (\$MM)	Total Output (\$MM)
Navigation	\$1,770	\$1,707	\$1,146	\$1,937	\$4,790
Flood Risk Management	\$1,398	\$1,384	\$898	\$1,771	\$4,053
Environment	\$771	\$766	\$565	\$946	\$2,277
Hydropower	\$313	\$289	\$176	\$350	\$815
Recreation	\$311	\$309	\$223	\$394	\$926
Water Supply	\$0.7	\$0.7	\$0.4	\$0.8	\$2
Other*	\$34	\$34	\$7	\$47	\$88
Total	\$4,600	\$4,500	\$3,016	\$5,447	\$12,963

*Includes General Categories: All (IWR), Planning Assistance to States, Regulatory and Expenses



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Preliminary National ARRA Results – FTE Jobs

Total part-time and full-time jobs are estimated to be: **97,469**

Business Program	ARRA Exp (\$MM)	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Navigation	\$1,770	15,335	5,035	11,320	31,690
Flood Risk Management	\$1,398	14,374	4,503	10,346	29,223
Environment	\$771	7,430	2,815	5,549	15,794
Hydropower	\$313	3,105	805	2,039	5,948
Recreation	\$311	3,100	1,055	2,315	6,469
Water Supply	\$0.7	5	3	5	13
Other*	\$34	289	47	275	612
Total	\$4,600	43,348	14,216	31,574	89,138

*Includes General Categories: All (IWR), Planning Assistance to States, Regulatory and Expenses



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Preliminary National ARRA Results -- VA

Business Program	ARRA Exp (\$MM)	Direct Value Added (\$MM)	Indirect Value Added (\$MM)	Induced Value Added (\$MM)	Total Value Added (\$MM)
Navigation	\$1,770	\$954	\$553	\$1,019	\$2,526
Flood Risk Management	\$1,398	\$818	\$445	\$936	\$2,199
Environment	\$771	\$412	\$275	\$502	\$1,189
Hydropower	\$313	\$176	\$82	\$184	\$442
Recreation	\$311	\$165	\$105	\$209	\$479
Water Supply	\$0.7	\$0.4	\$0.2	\$0.4	\$1
Other*	\$34	\$29	\$4	\$25	\$58
Total	\$4,600	\$2,555	\$1,465	\$2,877	\$6,897

*Includes General Categories: All (IWR), Planning Assistance to States, Regulatory and Expenses



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Preliminary National ARRA Results – Employee Compensation

Business Program	ARRA Exp (\$MM)	Direct Emp. Com. (\$MM)	Indirect Emp. Com. (\$MM)	Induced Emp. Com. (\$MM)	Total Emp. Comp. (\$MM)
Navigation	\$1770	\$691	\$284	\$353	\$1,328
Flood Risk Management	\$1,398	\$653	\$235	\$360	\$1,248
Environment	\$771	\$311	\$146	\$217	\$674
Hydropower	\$313	\$135	\$43	\$64	\$242
Recreation	\$311	\$139	\$55	\$93	\$287
Water Supply	\$.7	\$.2	\$.1	\$.2	\$1
Other*	\$34	\$24	\$2	\$12	\$38
Total	\$4,600	\$1,953	\$767	\$1,100	\$3,820

*Includes General Categories: All, Planning Assistance to States, Regulatory and Expenses



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Conclusions




- Regional economic impact approach provides a reasonable estimate of ARRA impacts
- RECONS provides convenient approach to analyzing large number of projects over numerous geographical impact areas
- Similar approach can be used to evaluate regional impacts of government programs and projects



Civil Works (1)

- Selecting a specific project for evaluation




US Army Corps of Engineers
Regional Economic System (RECONS)

Civil Works

[Main Menu](#) [Model Description](#) [Terms/Definitions](#) [Help](#) [Logout](#)

Select a Project

Search a project by: 

Division:

District:

and/or

Primary State:

Select (click) a project to view CW associated business lines (below)


ALABAMA - COOSA COMPREHENSIVE WATER STUDY, AL
ALABAMA RIVER LAKES, AL
ALLATOONA LAKE, GA
APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS, GA, AL & FL
BLACK WARRIOR AND TOMBIGBEE RIVERS, AL
BUFORD DAM AND LAKE SIDNEY LANIER, GA
CARTERS DAM AND LAKE, GA
EAST FORK, TOMBIGBEE RIVER, MS
ESCAMBIA AND CONECUH RIVERS, FL

BUFORD DAM AND LAKE SIDNEY LANIER, GA project is selected.

Select (click) a business line for review and/or analysis


Environment (\$933,000)
Flood Risk Management (\$371,274)
Hydropower (\$2,928,651)
Navigation (\$28,571)
Recreation (\$3,611,000)
O&M (\$3,611,000)

O&M (\$3,611,000) is selected.



Civil Works (2)

- Plotting different-level impact areas of the evaluated project



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Civil Works

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Project Information

Project Information:

Project ID 113671
Project Name BUFORD DAM AND LAKE SIDNEY LANIER, GA
MSC SAD
District Mobile

Local Impact Area/Model [click on an item below to view on the map] i

Model ID	Name
8	Atlanta Sandy Springs Marietta GA MSA

State Impact Area/Model [click on an item below to view on the map] i

Model ID	Name
s10011	Georgia

National Impact Area/Model

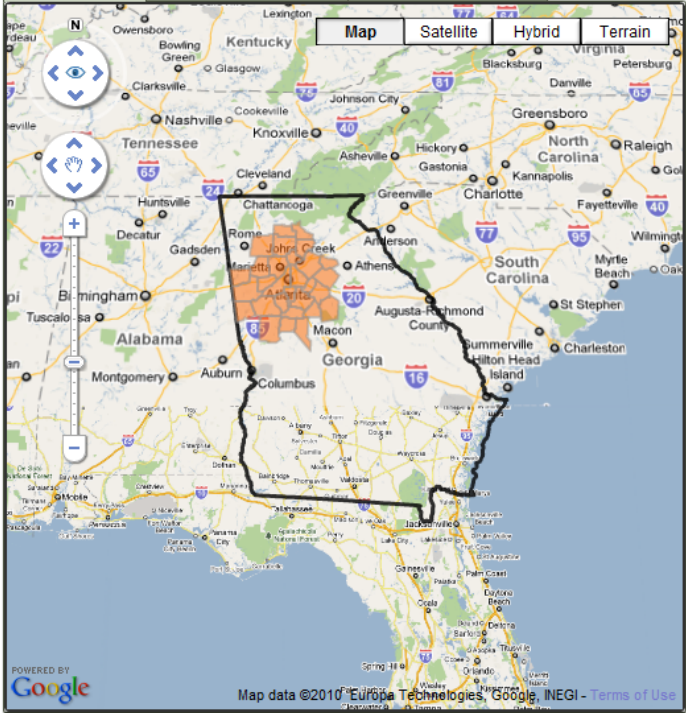
Model ID	Name
90001	National Level

◀ Select another project

Review Expenditure Data ▶

Impact Area Map Local Impact Area Profile State Impact Area Profile


Map
Satellite
Hybrid
Terrain



Map data ©2010 Europa Technologies, Google, INEGI - Terms of Use

Civil Works (3)

- Extracting detailed information on the impact of the project on the selected area



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Regional Economic System (RECONS)

Civil Works

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Project Information:

Project ID: 113671
 Project Name: BUFORD DAM AND LAKE SIDNEY LANIER, GA
 MSC: SAD
 District: Mobile

Impact Area Map
Local Impact Area Profile
State Impact Area Profile

Local Demographics

Year	Population	Household	Employ Rate	Area	Number of Counties
2009	5543990	2012567	89 %	8480.26	28
2014	6251200	2267351	93 %	8480.26	28

Local Economy

Sector Name	Output \$ million	Job \$ million	Labor Income \$ million	Value Added \$ million
Accommodations and Fo...	13,687.2	218,553.0	4,790.9	7,336.1
Administrative and Wa...	16,983.1	283,320.3	8,979.5	11,323.9
Agriculture, Fo... Administrative and Waste Management Services			246.6	404.7
Arts, Entertainment, an...	3,918.7	55,928.8	1,285.4	1,759.3
Construction	30,995.2	246,106.1	10,821.1	11,862.7
Education	15,510.3	245,725.0	12,278.3	13,822.0
Finance, Insurance, R...	65,602.3	352,975.2	17,471.9	42,614.4
Government	16,041.3	179,608.1	11,945.1	13,865.8
Health Care and Socia...	21,992.5	235,677.5	11,661.6	13,775.2
Imputed Rents	31,154.7	169,694.0	4,525.3	20,066.6
Information	50,832.8	98,835.4	12,017.0	22,742.4

Local Impact Area/Model [click on an item below to view on the map] i

Model ID	Name
8	Atlanta Sandy Springs Marietta GA MSA

State Impact Area/Model [click on an item below to view on the map] i

Model ID	Name
s10011	Georgia

National Impact Area/Model

Model ID	Name
90001	National Level

◀ Select another project

Review Expenditure Data ▶