



Rebuild and Renew:

The Impact of Economic Recovery on the Architecture Profession

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Summary

Proposals to stimulate the economy with federal funding for infrastructure projects will create or preserve jobs in the architecture sector, but at differing levels depending upon the kind of infrastructure projects funded. The data in this analysis show that the largest potential for architect jobs lies in projects funded under the Community Development Block Grant program and projects for school modernization, where the data suggest that for every \$1 billion spent in these sectors, the number of architect jobs created or preserved would be 178.2 and 165.2, respectively. Public housing is close behind, with 132.3 architect jobs created or preserved per \$1 billion in funding.

Introduction

As the nation's economic crisis worsens, Congress and the incoming Obama administration are readying an economic stimulus plan to create jobs, fix infrastructure and promote green projects and programs. Recent news reports suggest that the package may be as large as \$800 billion, with at least \$350 billion being devoted to infrastructure projects.

The American Institute of Architects has developed a plan (www.aia.org/rebuildandrenuew) for ensuring that economic recovery funds in the package go towards investments that create greener buildings, vibrant communities, and a 21st century transportation network that is good for both the environment and economy. The AIA believes that investing in such projects will reduce energy consumption and greenhouse gas emissions from the built environment, promote transportation options that reduce congestion and foster the development of livable, walkable communities.

This report analyzes the potential impact of economic recovery plans on the creation or retention of jobs in the architecture profession.

Current Status

There are approximately 104,000 registered architects in the United States¹; according to the U.S. Department of Labor, seven in 10 architects work in the private-sector, primarily in architectural firms with fewer than five workers.²

Architecture firms employ nearly 200,000 people nationwide³; in addition to architects, this includes architectural interns and administrative and support staff.

Due to the economic downturn, architecture firms have seen a significant slowdown in work. The AIA Architecture Billings Index (ABI), a leading indicator of economic activity in the design and construction fields, has reported 11 consecutive months of declining activity. The November 2008 ABI was the lowest in its history⁴.

In addition, recent news reports indicate that architecture firms have begun laying off significant numbers of employees.⁵

Analyzing the Data

In order to measure the impact of economic recovery plans on the architecture profession, it is necessary to first analyze which programs would lead to clients hiring architecture firms to perform work and to what degree; and then to calculate the number of architect jobs that would be created or preserved per program.

It is likely that the economic stimulus plan being developed by Congress and the incoming Obama administration will provide funding (appropriations) to existing authorized federal programs that support design and construction work across a wide range of infrastructure sectors. Such programs include the Community Development Block Grant Program (CDBG), the Energy Efficiency and Conservation Block Grant program (EECBG) authorized in the 2007 Energy Independence and Security Act, and transportation funding through the Safe, Accountable, Flexible Efficient Transportation Equity Act (SAFETA-LU) of 2005. Each of these programs provides funding to states or localities based on statutorily derived formulae to perform specific allowable activities.

Currently, the most comprehensive compilation of potential projects funded by the economic stimulus package at the local level is the U.S. Conference of Mayors' MainStreet Economic Recovery report,⁶ which states that "in 641 cities of all sizes in all regions of the country, a total of 15,221 local infrastructure projects are 'ready to go.' These projects represent an infrastructure investment of \$96,638,419,313 that would be capable of producing an estimated 1,221,677 jobs in 2009 and 2010. These are the cumulative totals of projects, required funding, and jobs to be created that have been reported in the three surveys of cities conducted by the Conference of Mayors."⁷

The Mayors' survey breaks down projects into ten sectors based on the kind of appropriation (i.e., federally authorized program) under which the projects would be funded, and then lists the number of projects, their total cost and estimated jobs produced:

SECTOR	PROJECTS	PROJECT COSTS	JOBS
Community Development Block Grants for Infrastructure	3,253	\$19,474,124,552	299,762
Energy Block Grant for Infrastructure and Green Jobs	1,163	\$7,676,145,779	78,056
Transit Equipment and Infrastructure	726	\$8,778,352,364	95,529
City Streets/Metro Roads Infrastructure	3,604	\$24,587,832,617	380,293
Airport Technology and Infrastructure	486	\$4,489,454,297	37,082
Amtrak Infrastructure	45	\$1,099,410,000	3,375
Water and Wastewater Infrastructure	3,343	\$18,940,871,816	190,510
School Modernization	791	\$4,819,721,570	84,121
Public Housing Modernization	568	\$2,256,930,175	18,794
Public Safety Jobs and Technology	1,242	\$4,515,576,142	34,155
TOTAL	15,221	\$96,638,419,312	1,221,677

U.S. Conference of Mayors

The projects included in the list comprise many that require the use of licensed professional architects, such as structural design and code changes, sustainability retrofits and land-use and site planning; and those that do not, such as the installation of load-serving power systems, purchase of equipment for schools and other social service functions and road building. Therefore, the AIA analyzed the list to identify those projects in the Mayors' list that could reasonably be assumed to require the use of an architect.⁸

(For most of the projects, cities did not indicate whether the projects were currently in the design phase or had undergone final design, or whether the design process had yet to commence. This made it difficult to gauge precisely how much activity by architects would be needed on each specific project moving forward. However, architects generally would need to be involved in projects throughout the construction process, not simply during the design phase, to serve as the owner advisor/advocate and for contract administration.)

Based on the AIA's analysis, the number of projects in the Mayors' list that would necessitate the use of licensed professional architects is as such:

SECTOR ⁹	PROJECTS REQUIRING ARCHITECT	PROJECT COSTS
Community Development Block Grants for Infrastructure	1,500	\$12,856,298,677
Energy Block Grant for Infrastructure and Green Jobs	426	\$1,907,430,581
Transit Equipment and Infrastructure/ Amtrak Infrastructure ¹⁰	164	\$1,236,488,383
City Streets/Metro Roads Infrastructure	177	\$ 316,027,070
Airport Technology and Infrastructure	55	\$1,637,196,219
School Modernization	303	\$2,950,571,162
Public Housing Modernization	198	\$1,105,877,396
TOTAL	2,823	\$22,009,889,488

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Total Job Impact on Architecture Profession

The next step is to measure how many architect jobs are created or preserved by these projects. Although there is no hard data to indicate the number of architects required per project, certain assumptions can be made, based on industry standards for design fees, consultant expenditures for architecture firms and annual staff hours. It is estimated that approximately 5.4 percent of project costs go towards architectural design staff. Assuming a one-year duration of a project, \$100 per hour to support one designer (including administration, overhead and support staff) and 2000 hours per year per staff person as a maximum, it can be estimated that for every \$10 million in project costs, 2.7 architect jobs are created or preserved.

Based on this calculation, the number of architect jobs created or preserved by the projects in the Mayors' list are as follows:

SECTOR	PROJECT COSTS	ARCHITECT JOBS CREATED OR PRESERVED
Community Development Block Grants for Infrastructure	\$12,856,298,677	3,471.2
Energy Block Grant for Infrastructure and Green Jobs	\$1,907,430,581	515.0
Transit Equipment and Infrastructure/ Amtrak Infrastructure	\$1,236,488,383	333.9
City Streets/Metro Roads Infrastructure	\$316,027,070	85.3
Airport Technology and Infrastructure	\$1,637,196,219	442.0
School Modernization	\$2,950,571,162	796.7
Public Housing Modernization	\$1,105,877,396	298.6
TOTAL	\$22,009,889,488	5,942.7

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Economic Impact of Federally Funded Programs

The Mayors' list also offers the opportunity to take a snapshot of what funding for various federally authorized programs would mean for the architecture profession overall. Even though the Mayors' list is not an exhaustive list of projects that would be initiated under an economic stimulus bill, if one assumes that the mix of projects in the Mayors' list is roughly representative of the mix of projects that would be funded, then it is possible to measure the percentage of funding appropriated by Congress for each of these sectors that would go towards projects requiring architects:

SECTOR	TOTAL PROJECT COSTS IN MAYORS' LIST	COSTS FOR PROJECTS REQUIRING ARCHITECT	PERCENT REQUIRING ARCHITECT
Community Development Block Grants for Infrastructure	\$19,474,124,552	\$12,856,298,677	66.0%
Energy Block Grant for Infrastructure and Green Jobs	\$7,676,145,779	\$1,907,430,581	24.8%
Transit Equipment and Infrastructure/Amtrak Infrastructure	\$8,778,352,364	\$1,236,488,383	12.5%
City Streets/Metro Roads Infrastructure	\$24,587,832,617	\$ 316,027,070	1.3%
Airport Technology and Infrastructure	\$4,489,454,297	\$1,637,196,219	36.5%
School Modernization	\$4,819,721,570	\$2,950,571,162	61.2%
Public Housing Modernization	\$2,256,930,175	\$1,105,877,396	49.0%
AVERAGE ACROSS SECTORS	\$73,181,971,354	\$22,009,889,488	30.1%

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From this chart, it is possible to then make an estimate of the number of architect jobs created or preserved for every dollar appropriated by Congress for each of these sectors. For example, for every \$1 billion appropriated by Congress for the CDBG program, approximately 66% of that funding, or \$660 million, would go towards projects that require an architect. Using the methodology described above, this would mean that 178 architect jobs would be created or preserved for that \$1 billion appropriation.

FOR EVERY \$1 BILLION SPENT ON:	THIS MANY ARCHITECT JOBS WOULD BE CREATED OR PRESERVED
Community Development Block Grants for Infrastructure	178.2
Energy Block Grant for Infrastructure and Green Jobs	67.0
Transit Equipment and Infrastructure/Amtrak Infrastructure	33.8
City Streets/Metro Roads Infrastructure	3.5
Airport Technology and Infrastructure	98.6
School Modernization	165.2
Public Housing Modernization	132.3
AVERAGE ACROSS SECTORS	81.3

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Conclusion

The data show that, although funding in all major infrastructure sectors (with the exception of water infrastructure and public safety) would provide job opportunities for architects, the largest opportunities lie in projects funded under specific programs, most notably the Community Development Block Grant program and school modernization, where the analysis shows that more than six in ten dollars would go towards projects that require the use of licensed

professional architects. Public housing is close behind, with nearly half (49 percent) of funds going towards projects that require a licensed professional architect.

On the other side of the ledger, funding for streets and roads would provide the least amount of opportunities for work for architects. Most of the opportunities in this area are in streetscape and landscape improvements, but this accounts for a small fraction of the projects identified.

For more information, contact the AIA Federal Relations Team at 202-626-7438 or govaffs@aia.org.

¹ National Council of Architectural Registration Boards 2008 Survey of Registered Architects

² Bureau of Labor Statistics, Occupational Outlook Handbook, 2008-09 Edition

³ Bureau of Labor Statistics, 2005 (U.S. architecture employment)

⁴ AIA, "Business Conditions at Critical Levels at Architecture Firms," Dec. 19, 2008, http://www.aia.org/aiarchitect/thisweek08/1219/1219b_otb.cfm

⁵ Architectural Record, "Layoffs Sweep Architecture Profession as Economy Worsens," Dec. 28, 2008, <http://archrecord.construction.com/news/daily/archives/081229layoffs.asp>

⁶ <http://www.usmayors.org/mainstreeteconomicrecovery/documents/mser-report-20081219.pdf>

⁷ Ibid, p. 1

⁸ For the purposes of this study, landscape architects are included with architects.

⁹ The Public Safety and Water Infrastructure categories included negligible amounts of projects involving architects and were therefore not included.

¹⁰ Transit and Amtrak are combined into one category.

