

Construction is Critical to the Economy

Addressing the construction industry crisis is essential to rebuilding, expanding and sustaining the broader U.S. economy for a number of reasons. The nation is suffering through a recession and the construction industry is experiencing depression-like conditions. The construction businesses and their employees have been disproportionately affected by the economic downturn with an unemployment rate nearly double the overall national jobless rate. As a matter of fact, by the end of 2009 alone, nearly one out of every three jobs lost was in construction.

- ▶ Architects play a critical role in the construction industry. Architects are the first to be involved in the construction phase coming up with the building designs. Hiring an architect leads to employment in other construction related fields from engineers and manufacturers to steel and electrical contractors.
- ▶ According to the latest Bureau of Labor and Statistics, as of November 2009, there were 185 thousand employed in the Architectural Services industry. This is down 18% from the peak of July 2008. The current ratio of employment in the architectural services industry to the construction industry is 1-to-34. For every architect hired, another 30 or more now displaced worker in the construction industry could be employed.
- ▶ While over \$1 trillion was invested in construction in 2008, it was projected to shrink nearly 20 percent by the end of 2009. The stimulus program enacted early in 2009, which included approximately \$135 billion for infrastructure and construction projects, helped, however, much of it was used to offset declining state and local investments and it was not enough to turn around a trillion dollar industry.
- ▶ Few communities have avoided the job losses and declining construction activity currently devastating the industry. Since August 2009, construction employment had declined in 48 states and improved in only two from a year earlier. All but 13 of the nation's largest 336 metropolitan areas saw declines in construction employment over the past year, with four communities seeing declines in their construction workforce in excess of 30 percent.
- ▶ This nationwide construction crisis is not only devastating to construction workers, but it is serving as a drag on U.S. economic growth. The construction industry accounts for more than eight percent of U.S. gross domestic product and is responsible for one out of every 10 U.S. manufacturing shipments and one out of every 12 machinery shipments. Given that the vast majority of construction firms are small, local businesses, the strength of the sector has a disproportionate impact on countless communities.

Architects and Design for Tomorrow

The passage of the American Recovery and Reinvestment Act (ARRA) came at a time of tremendous and unprecedented opportunity for green building. Rather than looking project-by-project, or system by system, many government leaders are thinking holistically about how to use recovery dollars to advance sustainability in the built environment. The benefits of green building are increasingly documented in case studies and independent research and include significantly lower energy costs and other financial returns, alongside other rewards in occupant and environmental health. Now is the time to further expand what started with ARRA.

► **Invest in Healthy Schools to better the Future for our Children**

Investing in our children and America's future is one re-investment area with the most potential for future returns. By promoting the design and construction of green schools, governments can make a tremendous impact on student health, test scores, teacher retention, school operational costs and the environment.

Ohio took a major leap in its commitment to rebuilding and improving its public schools by committing to green schools. This initiative employs thousands of individuals across the state. To date, there are nearly 140 schools registered or certified for LEED certification as a result of this initiative, administered through the Ohio School Facilities Commission. State and local governments should also consider pursuing recovery funds from the State Fiscal Stabilization Fund, School Construction Bonds and Impact Aid – each administered through by the Department of Education – for more efficient, greener and healthier schools.

For an overview of provisions for school modernization:

<http://www.ed.gov/policy/gen/leg/recovery/modernization/index.html>

► **Expand Residential Energy Retrofit Programs**

With innovation on energy retrofit programs at the state and local level at an all-time high, the federal government has an unprecedented opportunity to bring the environmental, economic and health benefits of green building home to the everyday Americans by taking measures that further address the residential sector.

The City of Houston began piloting its program to improve energy efficiency in lower income communities in 2006 through a partnership with the local utility. Efficiencies of upwards of 20% were achieved through simple weatherization measures, and with payback periods of approximately two years, an average annual savings of more than \$800 per household was significant to homeowners, not to mention the CO2 reduction and other environmental benefits. Houston scaled up its program in 2007 to reach more than 1,000 homes, and again in 2008, reaching a pre-2009 total of over 4,000 homes. The City of Houston is expanding its program once again with plans to weatherize another 6,000 homes through 2010.

► **Create Affordable Housing and Make it More Efficient and Affordable**

Local governments have unique authority to guide smart, sustainable development in America's cities, counties and towns. Across the country, state and local governments are investing in the greening of the affordable housing stock. The federal government should look for ways to partner and support local green affordable housing programs.

In Minnesota, a strategic partnership of not-for-profit organizations has aligned to support affordable housing developers in their work to expand and improve affordable housing within the State. Like in many states, Minnesota will be taking advantage of the expertise, resources, and financial support of local nonprofits, like Minnesota Green Communities, to further the reach of recovery dollars to bring green building and true affordability into the State's neediest of homes.

Governments should also give thoughtful consideration to recovery funds available through the Public Housing Capital Fund (HUD), Assisted Housing Stability and Energy and Green Retrofit Investments program (HUD), HOME Investment Partnerships (HUD), and Neighborhood Stabilization Funds (HUD).

► **Leadership by Example – Greening Public Sector Buildings**

In times of economic trouble, leadership by governments towards the economy of the future is just as important as sound stewardship of public funds. In greening government buildings, both are achieved.

To encourage green building in the private sector, the City of Seattle is pursuing LEED for New Construction Silver certification for every new construction or major renovation project that it undertakes greater than 5,000 square feet. Seattle also encourages the private sector to incorporate LEED standards into new and existing buildings by providing grants for qualifying projects and offering height or density bonuses to projects that achieve LEED Silver certification and contribute to affordable housing. The City of Seattle plans to use stimulus funds to strive for higher LEED ratings in new construction projects and to implement deeper energy conservation measures and add green elements to existing facilities.

<http://www.seattle.gov/dpd/GreenBuilding/OurProgram/Overview/>

Governments should also explore using recovery funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) towards green building elements in new construction projects and existing buildings.

► **Maximize Efficiency in the Corporate Community**

Engaging the local business community through energy efficiency and green building incentive programs can magnify the impact of recovery dollars. Commercial and industrial building owners are quick to recognize that reducing operational costs can give them a competitive edge in the newly-forming green

economy – and pairing private capital and financing with government and utility incentive programs will only extend their reach.

Adobe Systems, Inc., based in California, implemented 64 energy conservation and related projects and reduced their annual operating costs by \$1.2 million. By leveraging their \$1.4 million investment in these projects with nearly \$400 thousand in rebates from state and local agencies, Adobe achieved a comprehensive green building retrofit with a 121% return on investment and a significant boost to the bottom line. Beyond energy efficiency, the additional benefits of sustainable building practices – from occupant health and water efficiency to increased rental rates – continue to attract the business community to build green, even in a down economy.

The New York State Energy Research and Development Authority (NYSERDA) run a broad range of incentive and assistance programs for commercial and industrial buildings. For existing buildings, NYSERDA offers assistance with energy audits and incentive grants and a loan program to purchase energy efficient technologies. NYSERDA also supports green building in new construction through incentives and technical assistance for energy modeling, design charrette facilitation, commissioning, and purchasing high-efficiency equipment.

Governments should consider accessing funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) to incentivize energy audits and energy efficiency retrofits of commercial buildings.

► **Leverage Recovery Dollars with a Revolving Loan Fund**

Money used to bring long-term eco-efficiencies in one project reinvests in another building, whose efficiencies pay back the fund and yield opportunity for others. State and local governments as well as institutions and foundations are recognizing the power of the “revolving loan fund” (RLF) to finance energy efficiency and green building measures in a sustainable way. When used to finance quantifiable investments in green building and efficiency, the resulting operational cost savings from greener, more efficient buildings pays back the fund.

Harvard University's Green Campus Fund has been greening its campus since 2001 using a revolving loan fund. In some models, repayment schedules are set lower than anticipated cost savings from retrofitting measures, allowing owners to realize the financial as well as environmental benefits of the projects.

Several states are developing RLFs, and the U.S. Congress is considering proposals. State governments see opportunity in the State Energy Program funds (DOE). Local governments are looking to the Energy Efficiency & Conservation Block Grant (DOE).

► **Retro - Commission your Buildings on the Right Track**

Metrics and responsible spending of recovery dollars, relatively small investments in recently constructed buildings may reap rewards over a number of building projects when compared to larger spending on any one project individually. Optimizing the intended design of any building is ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained to perform as intended. The retro-commissioning process calibrates building systems for optimum performance and identifies opportunities for upgrades.

The State of California Department of General Services (DGS) is setting the groundwork for green building performance by energy benchmarking and retro-commissioning each facility. DGS is working extensively with local utility company incentive programs to substantially reduce the cost of their retro-commissioning program. DGS plans to use stimulus funds to implement upgrades that have been identified and build on the 11-12% average increases in efficiency that have resulted from retro-commissioning alone.

<http://www.documents.dgs.ca.gov/dgs/pio/green/highlights.pdf>

Governments should also consider accessing recovery funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) to perform energy audits, commissioning, and make system upgrades to existing buildings.

The Return on Investment

Some of the proposals sketched out in this AIA blueprint will have an impact on the federal budget. Removing the Alternative Minimum Tax and continue existing tax breaks and credits will not be an easy task for the regulators in the days to come. However, these actions will put more Americans to work, increase business expenditures and generate additional revenue sources. From this, income, sales and corporate tax receipts will rise, offsetting some of the costs associated with these changes.

The cost of inaction will have a tremendous effect, if employment and revenue continue their current rates of decline well into next year. The investments in public infrastructure mentioned are likely to have an impact on the federal budget. Addressing the modernization and maintenance backlog for federal buildings will require additional General Fund spending. However, these programs deliver a significant return on the taxpayers' investment. Modernizing the inventory of federal buildings will deliver long-term savings by increasing federal productivity, decreasing maintenance expenses and reducing energy consumption.

Every billion dollars worth of nonresidential construction activity can support well over twenty thousand jobs, boosts gross domestic product and raises personal earnings. Whether it is retro, green and/or maximizing efficiency, designing for tomorrow and turning around this vital sector will unleash a wave of new construction activity that will

employ thousands, stimulate new investments in equipment and supplies and lay a foundation for long term economic prosperity. This path may not be possible without a cost, but for every dollar in additional costs, it provides a significant return on investment that will restore lost jobs, boost business activity, restore tax receipts and give our economy the boost it needs to turn hopes of recovery into reality.