



BLUEGREEN
ALLIANCE

MAKING THE GRADE 2.0

Investing in America's
Infrastructure to Create
High-Quality Jobs and
Protect the Environment



EXECUTIVE SUMMARY

Every four years, the American Society of Civil Engineers (ASCE) releases a report card depicting the condition and performance of America's infrastructure across a number of sectors of the U.S. economy, the latest being the 2017 *Report Card for America's Infrastructure*.¹ Unfortunately, America consistently gets barely passing grades because our infrastructure systems are in dire need of modernization.

The ASCE's latest 2017 Report Card gave the nation's infrastructure a grade of "D+," which was not an improvement over 2013, and estimated that getting to a grade of "B" would require an investment of \$4.6 trillion over the next 10 years. It also showed that the gap between planned infrastructure investment and the amount required to achieve a good state of repair is currently an estimated \$2 trillion dollars. This gap, they said, could result in \$5 trillion in lost U.S. Gross Domestic Product (GDP) by 2040.²

In 2014, following the release of the ASCE's 2013 Report Card, the BlueGreen Alliance released a report delving into the economic impacts of accelerating infrastructure investment—using current financing approaches—to achieve a "B" grade over the next 10 years. With ASCE's latest release, we took another look to understand how the investment needed in our infrastructure systems has changed, the latest job creation potential associated with upgrading our infrastructure systems, and the policies and investments that should be made to maximize quality job creation as well as environmental benefits. *Making the Grade 2.0: Investing in America's Infrastructure to Create High-Quality Jobs and Protect the Environment* updates and builds on that 2014 analysis of some of the sectors represented in the ASCE Report Card, and finds that the need for infrastructure investment is greater than ever.

We measure jobs in two ways, as the difference in employment in any given year and as the number of jobs created across multiple years, which is more properly defined as "full-time job-year equivalents." These are an increase in labor demand sufficient to employ one person full time for one year. When reporting full-time job-year equivalents, we will use the abbreviated descriptor "job-years."

Our research suggests that—along with critical upgrades to the nation's natural gas distribution pipeline system

not addressed by ASCE—an investment of **\$2.25 trillion** has the potential to support or create an additional **14.5 million job-years** across the U.S. economy and to add a cumulative **\$1.66 trillion** to the Gross Domestic Product (GDP) over 10 years, versus a business as-usual approach. These jobs will not only increase employment in the construction sector, but will also lift up the entire national economy—including in the American manufacturing sector.

Our nation must move forward with an ambitious plan to rebuild and transform America's infrastructure. Investing now to repair our failing roads and bridges, water systems, and natural gas distribution pipelines, as well as to modernize our buildings and electric grid, transform our transportation systems, and support our urban and rural communities, will boost our economy and create millions of jobs, while also reducing pollution and combatting climate change.

Rebuilding America's infrastructure can and must do more than just make communities safer, reduce pollution, and increase our global competitiveness. A national investment in a new generation of infrastructure must also create middle-class jobs and create economic opportunity for all people in the communities in which they reside. It's critical that we capture the full benefits of our infrastructure investment in terms of the number of jobs supported or created, and to improve the quality of those jobs.

To ensure we maximize the benefits of our infrastructure investments for communities, the environment, jobs, wages, benefits, and retirement security, we suggest the following recommendations:

- Ensure all projects built with public resources are subject to "Buy America" standards that maximize the return to taxpayers and the American economy by utilizing American-made building products, parts, and components;
- Enforce Davis-Bacon³ prevailing wage provisions that ensure workers are paid prevailing wages on public works projects;
- Utilize project labor agreements (PLAs), a collective bargaining tool establishing terms and conditions for employment on the projects, as well as community benefits agreements;
- Utilize public interest procurement provisions and practices, such as those that prioritize improving training, working conditions, and community benefits,

and those that prioritize use of the most efficient, cleanest materials and products with the lowest carbon and toxicity footprints. These measures help ensure that public investments strengthen domestic manufacturing;

- Instill forward-looking planning that meets environmental standards and builds resilient infrastructure systems;
- Enhance workforce training and development programs to expand the number of skilled workers in new and existing industries and increase economic opportunities for communities and local workers, especially for people of color and low-income communities; and
- Prioritize public funding and financing for infrastructure investment to ensure projects are completed in a timely way and built with products and materials that are of the highest quality and are produced with the lowest carbon intensity. While it is appropriate to consider innovative financing tools to leverage federal funds, like infrastructure banks, grant and loan programs, and public-private partnerships, all financing methods should be held to strong public interest standards.

Beyond the economic benefits to workers, increasing global competitiveness, and growing our economy, making these smart investments will also pay dividends for our environment by reducing air and water pollution—including the emissions driving climate change—as well as repairing structures that contain materials and chemicals that are hazardous to human health. Accelerated infrastructure investment could help achieve significant environmental benefits, including but not limited to:

- Saving nearly 4.4 billion gallons of fuel and averting the carbon dioxide (CO₂) equivalent of 39 million metric tons per year through 2025 by supporting transit ridership increases commensurate with population growth.⁴ Currently, transit ridership levels save the equivalent energy of the gasoline used by more than 7.7 million cars a year—nearly as many cars as are registered in Florida, the fourth largest state.⁵
- Reducing the 6 billion gallons of clean drinking water leaked daily from public drinking water systems—enough for 15 million households—as well as associated greenhouse gas (GHG) emissions.⁶ A 5 percent reduction in leaks reduces climate change pollution by an equivalent of 225,000 metric tons of carbon dioxide.⁷
- Reducing U.S. CO₂ emissions by 12 percent, equal to preventing 442 million metric tons of carbon emissions from entering the atmosphere each year, through the full implementation of a nationwide smart grid.⁸

- Reducing GHG emissions by approximately 10 million tons of CO₂—equivalent to the emissions of 6 million U.S. households—for each 5 percent reduction in the amount of solid waste Americans generate.⁹
- Retrofitting all existing municipal, university, schools, and healthcare buildings could reduce annual CO₂ emissions by over 52 million metric tons.¹⁰
- Avoiding GHG emissions by expanding renewable energy. For example, we could avoid 12.3 gigatonnes of GHG emissions by 2050 by producing 35 percent of America's electricity from wind energy.¹¹ Every megawatt hour of wind generation avoids 0.70 metric tons of CO₂, which equates to each wind turbine saving over 900 cars worth of CO₂ emissions annually.¹²

In addition to saving energy and mitigating climate change impacts, infrastructure investment would significantly improve quality of life and public health, while strengthening the economy. These investments would decrease traffic congestion and pollution, improve access to safe drinking water, reduce airport delays, expedite freight movement, protect lakes and rivers, preserve open spaces, and ensure children learn and play in safe, modern schools.

There's also a financial incentive. The longer we wait to repair these basic systems, the more it will cost in the long run in terms of investment needed, interest accrued, and other factors. If these investments were accomplished under the present form of government expenditure, and financing the \$2 trillion in additional funding needed to close the gap necessary to achieving an overall "B" grade at today's interest rates of 3 percent—versus the pre-recession rate of 4.5 percent—taxpayers would save nearly \$1 trillion dollars over 30 years. It's in America's best interest to fix our infrastructure sooner rather than later.

Repairing America's infrastructure systems is an opportunity to boost the middle-class, build up American manufacturing, support local jobs, reduce our climate impact, and improve public health. We will accrue all of those benefits only if we tackle this challenge the right way: utilizing public money to support and create local jobs with fair wages and benefits and safe working conditions, adhering to forward-thinking environmental standards to ensure resiliency, and using the safest, healthiest American-made products possible.



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