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The Need for Infrastructure

Few things make a larger impact on the quality of life for average Americans than the quality of infrastructure in their communities.

Underfunded roads and highways equal more parents stuck in traffic rather than at home with their families, an increase in emissions and air pollution, and a decrease in overall safety.

- **FACT:** Americans annually lose a total of 4.2 billion hours in traffic congestion, wasting 2.9 billion gallons of fuel and \$78.2 billion each year – equal to 105 million weeks of vacation and 58 fully-loaded supertankers (Source: Texas Transportation Institute).
- **FACT:** Nearly 51 percent of U.S. urban interstates are now congested. The ten worst states are: LA, FL, MI, MA, CA, NY, NH, HI, RI, AK and NJ (Source: Reason Foundation).
- **FACT:** Traffic congestion in U.S. contributes 27.2 million tons of carbon dioxide emissions each year (Source: Portland Cement Association).
- **FACT:** Nearly a 1/3 of all highway fatalities are due to substandard road conditions, obsolete road designs, or roadside hazards (Source: Department of Transportation).

Our decaying water infrastructure is wasting billions of gallons of a nonrenewable resource, as well as putting our environment and public health at risk.

- **FACT:** \$151 billion to \$390 billion is needed respectively every year over the next 20 years to repair obsolete drinking water and wastewater systems (Source: Environmental Protection Agency).
- **FACT:** The nation needs to invest \$390 billion over the next 20 years to update or replace existing water and sewer systems and build new ones to meet increasing demand.(Source: Environmental Protection Agency).

When transportation options are limited, the working poor bear the brunt of the burden.

- **FACT:** In 2001, the working poor spent nearly 10 percent of their income getting to and from work. This compares to over 2 percent for those earning \$45,000 or more annually, and 3.9 percent for all working Americans (Source: Surface Transportation Policy Project).
- **FACT:** From 2000-2005, average American salaries went up 10.3 percent, transportation costs went up 13.4% (Source: Center for Housing Policy).
- **FACT:** Public transit users save more than \$9,500 per year by taking public transportation instead of driving (Source: American Public Transportation Association).

Since we ultimately pay for it, the American taxpayer deserves safe, efficient, affordable and modern infrastructure.

- **FACT:** 35% of America's major roads are in "poor" or "mediocre" condition (The Road Information Program). Poor road conditions are responsible for one-third of all U.S. highway fatalities.
- **FACT:** Over 3,650 dams or levees are currently deemed "unsafe" (Source: American Society of Civil Engineers).



- **FACT:** The use of portable classrooms by public school systems continues to grow at more than 20 percent each year (Source: Modular Building Institute).

It's time for fresh approaches to old problems – we must reform and modernize the way we invest in infrastructure. Getting it done right (with accountability and transparency) is just as important as getting it done fast.

- **FACT:** A near unanimous 94 percent of Americans are concerned about our nation's infrastructure, and 81 percent are willing to pay more in taxes to rebuild it. But over 60 percent say that accountability and transparency in how the funds are spent are their highest priorities (Source: Luntz, Laslansky Strategic Research).

Building America's Future recommends that states and localities report back to Congress on how any federal funds were allocated and how many jobs were created.

Collecting this data will help Congress and the new Administration understand what return on investment we are getting for our infrastructure dollars and how we might better target those funds in the future.

Infrastructure is a key stimulus for economic growth and a measure of global competitiveness.

Our crumbling infrastructure isn't just affecting our quality of life – it's hurting America's bottom line, causing lost revenues and waste.

- **FACT:** Rolling blackouts and inefficiencies in the U.S. electrical grid cost an estimated \$80 billion a year (Source: Lawrence Berkeley National Laboratory).
- **FACT:** Over the next 30 years, our nation is expected to grow by 100 million and highway traffic will double again. Even if highway capacity grows no faster than in the last 25 years, Americans can expect to spend 160 hours – 4 work weeks – each year in traffic by 2035 (American Road and Transportation Builders Association).

Time and money are wasted when semi-trucks and trains carry goods on gridlocked roads and railways or when ports are not modern enough to meet today's demands. The more efficiently we can move people and goods, the stronger our economy will be.

- **FACT:** On an average day, some 43 million tons of goods valued at \$29 billion move on the nation's interconnected network of ports, roads, rails and inland waterways (Source: U.S. Chamber of Commerce).
- **FACT:** Traffic on more than half the miles of interstate highway exceeds 70 percent of capacity, and nearly 25 percent of the miles are strained at more than 95 percent of capacity (Source: Brookings Institute).
- **FACT:** By 2020, every major U.S. container port is projected to at least double the volume of cargo it was designed to handle. Some East Coast ports will triple in volume, and some West Coast ports will quadruple (Source: U.S. Chamber of Commerce).
- **FACT:** Other countries are leapfrogging past us by investing in world-class ports. China is investing \$6.9 billion; the port of Shanghai now has almost as much container capacity as all U.S. ports combined (Source: Brookings Institute).



Targeted, accountable infrastructure investment is one of the most effective ways to stimulate our economy and create new jobs that can't be outsourced.

- **FACT:** Under the right conditions, a 1% increase in a country's infrastructure stock could produce a 1% increase in the level of GDP (Source: World Bank).
- **FACT:** For every \$1 billion in federal investment in transportation infrastructure, an estimated 37,000 jobs are created (Economic Policy Institute).
- **FACT:** For every \$1.00 invested in public water and sewer infrastructure services, approximately \$8.97 is added to the national economy (Source: U.S. Conference of Mayors).
- **FACT:** Repairing existing roads and bridges creates 9 percent more jobs per dollar than building new roads or bridges (Source: Surface Transportation Policy Project).

America is falling behind both developed and developing countries in tackling its infrastructure problems.

- **FACT:** The U.S. is currently investing less on infrastructure as a percentage of gross domestic product (GDP) than Europe, China and many emerging countries (Source: Progressive Policy Institute).
- **FACT:** The European Union is investing over \$675 million to the "Marco Polo" Program to encourage shippers to move freight off European highways and onto coastal shipping routes (Source: Institute for Global Maritime Studies).
- **FACT:** By 2020, China plans to build 55,000 miles of highways, more than the total length of the U.S. interstate system (Source: Atlanta Fed).
- **FACT:** There's already an estimated \$2.4 trillion in construction projects either underway or under development in Gulf Cooperation Council (GCC) countries - Saudi Arabia, Kuwait, Bahrain, Oman, Qatar and the United Arab Emirates - and \$1.4 trillion of that is earmarked for projects in civil construction (Source: Merrill Lynch).

Smart infrastructure investments will help in the fight against global warming, curb our dependence on foreign oil, clean our air, and support healthy and sustainable communities.

Building America's Future supports President Obama's "green energy" approach to economic recovery, which will focus on projects that reduce energy consumption and increase energy efficiency.

- **FACT:** Commercial and industrial buildings account for as much as 50 percent of U.S. energy use, and residential buildings account for another 20 percent (Source: Center for American Progress).
- **FACT:** Retrofitting public buildings to be more energy-efficient would reduce carbon emissions and save taxpayers energy costs, while creating as many as 800,000 jobs (Political Economy Institute).
- **FACT:** Had a "smart" power grid system been in place during the Northeast blackout of 2003, it could have saved almost \$6 billion in economic loss to the region (Department of Energy).

Our nation should also make a substantial investment in public transit, which will put people to work while helping to lower transportation costs for American families and businesses, reduce carbon emissions, and spur economic development across the U.S.

- **FACT:** The U.S. economy currently generates more than 750,000 “green collar” jobs – a number that is projected to grow five-fold to more than 4.2 million over the next three decades (Source: U.S. Conference of Mayors).
- **FACT:** Public transit reduces petroleum consumption by a total of 1.4 billion gallons of gasoline each year. This represents 108 million fewer cars filling up – almost 300,000 everyday (Source: ICF International).
- **FACT:** In 2006, public transit around the country saved 3.4 billion gallons of oil and prevented 26 million tons of greenhouse gases (Maryland Public Interest Research Group).

Tools To Make It Happen

Accountability Measures: Robust, timely and rigorous data are essential components of a cost-effective, performance-based and accountable transportation policy that addresses national priorities such as job creation and economic competitiveness, reduces dependence on foreign oil, reduces greenhouse emissions, improves system efficiency, reduces congestion and enhances freight movement. Compared to many of its international counterparts or the private-sector, the U.S. transportation sector is noteworthy for its lack of goal-based criteria or performance measures in its infrastructure programs. Furthermore, we face an even more basic problem – our poor data collection at the Federal, state and local level often makes it impossible to determine if we are spending our infrastructure dollars wisely or even what we are spending.

There is an essential Federal role in directing and supporting data-gathering, transparency and accountability to ensure the most effective and efficient use of scarce infrastructure dollars. The Federal government should provide sufficient resources and incentives to states, localities and transportation agencies that receive Federal transportation funds to insure compliance with data-collection, reporting and auditing requirements. Ideally, for every billion dollars invested in infrastructure, one-half to one percent should be allocated for data-collection, analysis and reporting. At a minimum, states, localities and transportation agencies that receive economic recovery transportation funds should report how those funds were spent and how many jobs were retained and/or created, and those reports should be available on a publicly-searchable database.

Public-Private Partnerships: The United Nations defines public-private partnerships as “a form of contractual arrangement in which government and private companies assume co-responsibilities for the delivery of infrastructure services. Through these partnerships, it is anticipated that the advantages of the private sector—dynamism, access to finance, knowledge of technologies, management efficiency, and entrepreneurial spirit—will be enhanced by competition and combined with the social responsibility, environmental awareness, local knowledge and job generation concerns of the public sector.”

Starting with the United Kingdom in the 1990s, countries and provinces around the world have been increasing their use of public-private partnerships (P3) in order to boost infrastructure financing, determine properly its full cost by including not just its upfront cost but also its lifetime maintenance and operation expenses, deliver it on time and on budget, procure and manage it at lower cost, and lower risk to taxpayers. Depending upon the project, P3 financing can be used to facilitate projects at the statewide and regional levels, including downtown development projects.

Two Canadian provinces, British Columbia (BC) and Ontario, provide some insight into the value conferrable by the employment of P3 financing.



Since the 2002 creation of PartnershipsBC, an independent oversight organization owned by the BC government, that province has boosted infrastructure financing approximately 20 percent and on average has obtained an overall project savings of 6.5 percent. Among its recent successes is a water treatment plant at an environmentally-challenged mine, a 300-bed hospital and cancer treatment center, a highway improvement project, and a 19.5 kilometer rapid transit line.

Since the 2005 creation of Infrastructure Ontario, a crown corporation operated by a private board of directors but with the Ontario government as the single shareholder, over 45 major infrastructure projects have been assigned to the corporation and evaluated according to an alternative financing and procurement model that leverages the strengths of the public and private sectors. According to Infrastructure Ontario, over 100,000 jobs are expected to be generated by those projects, and thus far more than two dozen projects, worth more than \$5 billion, have been brought to market, including courthouses, hospitals and highway service centers.

Both PartnershipsBC and Infrastructure Ontario specialize in determining the *full* cost of proposed infrastructure and the best way to construct, finance, manage and maintain that infrastructure. When involving the private sector in infrastructure projects, they negotiate between public sector priorities and private sector capabilities while ensuring that the private sector receives no more than a reasonable rate of return and that taxpayers get value for their money from the application of P3 in each case. The process is transparent, with requests for qualifications, proposal requests, final contracts and value-for-money reports are all posted on-line. As a result, both British Columbia and Ontario secure valuable resources and expertise for infrastructure projects that are not otherwise available to the public sector.

Federal Investments: It is crucially important that this Administration, Congress and the American people understand that the American Recovery and Reinvestment Act of 2009 is just a down payment on our nation's long term needs. This economic recovery package will do much to jump start our economy and put Americans to work, but we will also need to continue to steadily address our nation's \$2.2 trillion backlog of infrastructure needs.

The Federal budget does not make infrastructure investment a key priority: According to the Congressional Budget Office, in inflation-adjusted dollar terms, annual public spending on infrastructure has risen steadily, from \$105 billion in 1956 to just over \$312 billion in 2004, an average of 2.3 percent per year. Of this total amount, the federal government spends approximately \$75 billion a year on infrastructure investments. Although, federal spending has averaged an annual rate of increase of 1.7 percent in dollar terms, as a share of total non-defense federal expenditures, the federal contribution has declined. Between 1956 and 1966, infrastructure spending as a share of total non-defense federal expenditures was approximately 10 percent, peaking at 11.2 percent in 1960. Since that time, this figure has steadily gone down. Over the last twenty years, federal spending on infrastructure now averages 3.5 to 4 percent of total non-defense expenditures.

As a share of the nation's gross domestic product (GDP), total public spending on infrastructure spending, including federal, state, and local governments has also remained constant, between 2.3 and 2.5 percent over the past twenty years. State and local government are picking up more than their fair share of overall investment, which has translated into a larger burden being shouldered by state and local governments, as the federal government's share of total public spending has remained constant. State and local governments



now account for three out of every four dollars spent by the public sector on infrastructure over the past twenty years.

For too long we have been living off the infrastructure built by previous generations of Americans. It is vital that we don't stop with the stimulus investments, but begin planning, a long-term infrastructure strategy that focuses on how we will meet funding goals and the best way to ensure that the spending decisions will be based on need not politics.

Life Cycle Cost Accounting: Lifecycle costs refer to all the costs associated with infrastructure, including not just construction but those required for operation and maintenance over a project's entire lifecycle. One of government's principal shortcomings in connection with infrastructure is its inability to focus beyond the upfront costs. For example, as a state, California is good at building projects but fails when it comes to crafting or budgeting these projects with lifetime operation or maintenance costs in mind or putting aside money to operate and maintain these projects over their lifetimes. In order to ensure the long-term viability of our infrastructure systems, lifecycle costs must begin to be taken into account during project planning stages.

Infrastructure Bank: A national infrastructure bank could play a key role in financing those types of projects, including providing financial "carrots and sticks" for states and localities to use pricing and tolls to generate additional revenue. The current economic crisis presents a unique opportunity to jump-start such an establishment, which would provide creative solutions to some of our nation's most pressing infrastructure challenges. Some characteristics of this bank include:

- Allocation of funds using a merit-based assessment of individual projects, without favoring one mode or method over another. To make the process clear, performance should be assessed against criteria that relate directly to important national goals and specifically accelerate the transition to a 21st century clean, green economy. To keep things simple, in the interim eligibility would be limited to projects that meet at least one of the following criteria: bring existing assets to a state of good repair; improve the sustainability of the economy, measured by reduced energy consumption or reduced carbon emissions; improve our economic competitive position in the world.
- Power to raise funds from the private sector, pledge federal tax credits to bondholders, and finance public and public-private ventures. Potential roles for private capital include: projects such as toll roads, where the revenue stream is sufficient to spur private investment; attraction of private investment through federal tax credits; or non-traditional projects that blur the line between private investment and public infrastructure – there are wide variety of more innovative projects that have both public and private benefits but have been tough to fund with purely public dollars.
- Funding through capital budgeting, where the costs of a valuable asset are accounted for over its useful life of 20 or 30 years instead of all up front. Applying this principle to an infrastructure bank pilot project will allow it to get started without a dramatic effect on the Federal deficit in the short term.

About Building America's Future

Building America's Future (BAF) is a bipartisan coalition of elected officials dedicated to bringing about a new era of U.S. investment in infrastructure that enhances our nation's prosperity and quality of life.



Founded in January 2008 by Governor Edward Rendell of Pennsylvania, Governor Arnold Schwarzenegger of California, and Mayor Michael Bloomberg of New York, BAF boasts a politically and regionally diverse membership of state and local elected officials from across the nation.

BAF seeks to advance a new national vision for infrastructure investment that strengthens our cities and rural communities, and focuses on economic growth and global competitiveness, creation of economic opportunity for all Americans, and environmental sustainability.

In addition, BAF embraces a wide definition of infrastructure - from roads and bridges to water and sewer systems, energy systems, buses, trains, ports, airports, levees, dams, schools and housing.

BAF's Goals:

- Mobilize a coalition of elected officials and like-minded organizations to advocate for increasing our nation's infrastructure investments and reforming national infrastructure policy.
- Advocate an infrastructure policy that is focused on shared prosperity that reaches all Americans, revitalizes our metropolitan centers, and boosts our nation's economic competitiveness.
- Advocate a new era of strategic planning, economic analysis, accountability and rigorous performance standards for U.S. infrastructure investment
- Advocate infrastructure policy that is forward-thinking and comprehensive in scope, yet grounded in the need for environmental sustainability, lower carbon emissions, and reduced U.S. dependence on foreign oil.

Building America's Future works closely with associations that represent the nation's top officials, including the National Governors Association, the U.S. Conference of Mayors, the National League of Cities, the National Association of County Officials, the National Conference of State Legislators, and the Council of State Governments and with other non-profit groups such as the Brookings Metropolitan Policy Center, Regional Plan Association, OneRail, Transportation 4 America, U.S. Chamber of Commerce and the National Association of Manufacturers.

The Rockefeller Foundation and its President, Judith Rodin, have generously committed to provide a grant to BAF to help ensure that the organization can carry out its vital mission.