



SECTION 2 · CHAPTER 5

# Rebuild our infrastructure

Workers perch on the structure of the  
Checkered House Bridge on Jun. 18, 2012  
in Richmond, Vermont.

AP PHOTO/TOBY TALBOT

**Q**uality infrastructure is a foundational building block that allows us to work together, get our goods to market, get ourselves where we need to go, and get clean water to our homes. One of the reasons for America's 20th century success was not just that we were the largest economic power in the world but also that we were well connected.

From the vibrancy of the ports of Los Angeles and New Orleans and the western states' electrification made possible by the Hoover Dam to the great digs that cleared 21 miles of tunnels and 58 miles of tracks for the New York subway system and the grand project of connecting states and cities with more than 42,000 miles of roads in the national highway system, American infrastructure allowed American workers and businesses to compete and excel at home and abroad.

As our infrastructure has eroded, however, so too has the economic advantage it once gave us. In 2010 public spending on infrastructure

was about \$132 billion a year for transportation, energy, and water improvement—far short of the estimated \$262 billion a year in required spending over the next 10 years to get our infrastructure up to par.<sup>1</sup> It's not surprising, then, that our infrastructure report-card grade from the American Society of Civil Engineers is a "D+."<sup>2</sup>

Having neglected our infrastructure for too long, it is now time to invest—and to do so in a strategic, cost-effective way. For this reason, we propose policies to:

- Launch a National Infrastructure Council

- Leverage private-sector investment via a National Infrastructure Bank
- Substantially increase federal investment

Infrastructure investment also carries the benefit of adding much-needed jobs to our economy. Studies have indicated that for every \$1 billion of government infrastructure spending, between 4,000 and 18,000 jobs are created.<sup>3</sup> This is why President Obama’s Jobs Council called infrastructure investment a “two-fer,” meaning it results in job creation in the short term and greater economic competitiveness over the long term.<sup>4</sup>

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## Policies to launch a National Infrastructure Council

The White House should create a National Infrastructure Council made up of the representatives of more than a dozen infrastructure-oriented agencies to assist with the integration of infrastructure planning between private partners, federal agencies, and state and local governments (see box on page 196). The council would not shift authority from the agencies that it represents but would function as a centralized policy planning and coordination entity.

Specifically, it would:

- Assure that improvements made to infrastructure by one state, department, or agency will be taken into account by all other planning entities

- Increase the economic and societal returns of infrastructure funding by developing a best-practices institute that creates models for construction cost reduction, accelerated project selection, and preventative maintenance
- Collect and assist states in developing prospective projects that are good candidates for collaboration with private-sector partners
- Consolidate water quality and quantity oversight in an accountable way by increasing the communication and integration of the five federal agencies and departments—the Army Corps of Engineers, the Department of Transportation’s Maritime Administration, the Environmental Protection Agency, the Federal Emergency Management Agency, or FEMA, and the Department of Agriculture—that currently play a role in water infrastructure
- Report to Congress and the public on infrastructure issues of national importance such as accounting for the impact of climate change on infrastructure needs and developing need-based measures for distributing federal funds for infrastructure

Federal investment in infrastructure is currently conducted in a fashion that does not fully integrate infrastructure improvements by each federal agency into one overarching solution to each specific area of need. The Department of Transportation, for example, which manages freight-rail improvements through the Federal Railroad Administration, does not coordinate with the Army Corps

# Infrastructure

**Problem:** The highways, bridges, railways, water systems, and power systems that form the bedrock of an economy—our infrastructure, without which we cannot work or even get to work—currently gets a D+ grade from the American Society of Civil Engineers, at a huge cost to American workers and businesses.

**Solution:** Develop a coherent infrastructure strategy, encouraging the private financing of public projects, and increasing federal direct investment in infrastructure.

## Key policy ideas:

- Launch a National Infrastructure Council to help departments and agencies better align scarce infrastructure resources with the country's most pressing needs.
- Create a National Infrastructure Bank to encourage private financing of public infrastructure projects that generate revenue through tolls and other user fees.
- Add \$58 billion in new annual federal infrastructure investments—almost \$600 billion over the next decade—to build roads, bridges, public-transit systems, ports, waterways, dams, levees, and water systems.
- Change formula funding for infrastructure so that all funds are allocated based on needs.

Other proposed infrastructure policies include reforming federal highway policy to remove the bias against maintenance and repair, and ensuring future infrastructure investments account for the impact of extreme weather, sea-level rise, and other climate-change impacts.

**Outcomes:** The United States will earn an “A” on infrastructure readiness from the American Society of Civil Engineers and will eliminate the infrastructure-funding gap. ■

## Composition of a National Infrastructure Council

Critical to the success of this council is its leadership in acting as a trusted neutral party with deep expertise in infrastructure. The council should include the directors and commissioners of the following federal agencies and departments:

- Department of Agriculture, Office Rural Development
- Department of Agriculture, Natural Resources Conservation Service
- Department of Commerce, National Oceanic and Atmospheric Administration
- Department of Defense, Army Corps of Engineers
- Department of Energy, Office of Electricity Delivery and Reliability
- Department of Interior, Bureau of Reclamation
- Department of Transportation, Federal Aviation Administration
- Department of Transportation, Federal Highway Administration
- Department of Transportation, Federal Railroad Administration
- Department of Transportation, Federal Transit Administration
- Department of Transportation, Maritime Administration
- Environmental Protection Agency, Office of Ground Water and Drinking Water
- Environmental Protection Agency, Office of Wastewater Management
- Federal Communication Commission
- Federal Emergency Management Agency
- Federal Energy Regulatory Commission

of Engineers on freight improvement in the Mississippi River basin. As a result, the limited federal funds spent on infrastructure are not dispersed in a way that most efficiently utilizes the entire transportation system in the United States.

A national interagency infrastructure planning council can help to ensure that departments and agencies make the best use of scarce resources across all federal infra-

structure-investment programs.<sup>5</sup> Although Congress sets out the general rules for where infrastructure funds are spent and, to some degree, how they are spent, agencies have some ability to increase the efficiency of infrastructure spending. That is most likely to occur if the key agencies work together and if White House leadership is applied to accelerate efforts to better align infrastructure resources with the nation's most pressing infrastructure needs.

A national infrastructure council could also ensure that timely and appropriate decisions are being made in regard to infrastructure decisions around information and communications technology, which is an increasingly critical component of our national economic competitiveness.

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## Policies that leverage private-sector investment via a National Infrastructure Bank

In October 2011 President Obama's Jobs Council recommended the creation of a "new national infrastructure financing organization that complements existing programs and attracts private capital to infrastructure projects."<sup>6</sup> Indeed, at a time of inadequate federal funding for infrastructure and tightening state budgets, policymakers should look to encouraging the private sector to help finance large-scale infrastructure projects.

That's why we propose the creation of a National Infrastructure Bank, a federal entity that would provide partnerships between state governments and their private investors with direct loans and loan assistance to help large infrastructure projects get off the ground. A National Infrastructure Bank would be accountable to both Congress and the executive branch and would closely coordinate strategy with the National Infrastructure Council. While encouraging private investment in infrastructure will not make up the entire funding shortfall our infrastructure is facing, it can help scarce federal funding go to areas not suitable for public-private partnerships.

Private-sector investors and companies can be important players in the funding of infrastructure projects by providing up-front financing in exchange for a dedicated stream of revenues from user fees or taxes. A National Infrastructure Bank would support these projects by providing direct loans, loan guarantees, or credit assistance, which would lower the costs faced by state and municipal governments and their private partners. The bank would create a more efficient environment for private investors to participate in rebuilding public assets.

The National Infrastructure Bank should be federally capitalized with at least \$10 billion in federal credit subsidies, and Congress should provide it with at least \$30 million annually to support the banks' administrative operation.

The idea of such a publicly chartered investment bank is not new. The European Investment Bank makes substantial infrastructure investments all over Europe.<sup>7</sup> Meanwhile, the United States is missing an opportunity. Large infrastructure investors are putting their capital to work in other countries, where publicly chartered investment banks are making the process of identifying and investing in large-scale financially viable projects routine, predictable, and clear.<sup>8</sup> Some of that capital could instead be put to use here in the United States.

There is ample evidence that once a ready and financially viable pipeline of projects is created, investors will pony up.<sup>9</sup> A review by the Organisation for Economic Co-operation and Development found that one of the main bar-

riers to investment in infrastructure in the United States is that the “United States infrastructure market is immature and has not provided many opportunities to investors,” in part because of a lack of transparency for private-investment opportunities.<sup>10</sup>

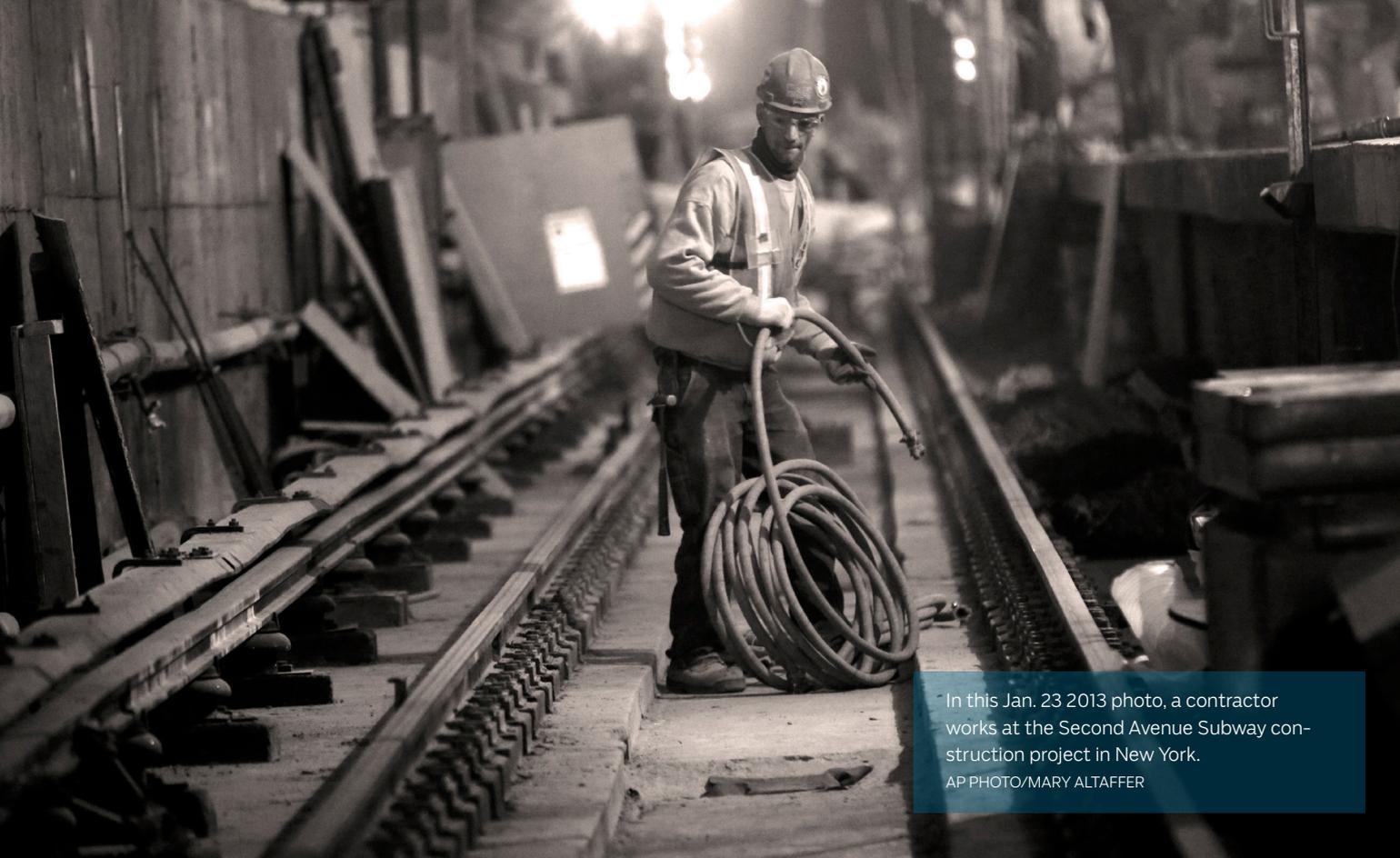
In addition to providing direct loans and credit enhancement, a National Infrastructure Bank can also identify worthy multistate and intermodal projects and can assist states in adapting to project finance in infrastructure. In this role, the bank would review the merits and financial feasibility of large-scale projects. This analytical function is especially important where integrated infrastructure projects are undertaken—for example, where road projects are built in tandem with rail, or where freight projects are built in tandem with port expansions. Projects of this sort have no federal “home,” and as such, private financiers and state and local agencies seeking support have to make redundant pitches to different federal agencies.

An infrastructure bank can also help states and municipalities adapt to project finance in infrastructure. While the universe of significant infrastructure projects in the United States that can be debt financed is immense, when it comes to the basic program documents, sample contracts, and financing worksheets that enable project flow, many state and local governments are unprepared. In addition, there are projects that are financeable but so small (less than \$50 million) that going into the current debt market is prohibitively expensive.<sup>11</sup>

We estimate that there may be as much as \$20 billion annually in financeable transportation and water projects that could be readied for market investment.<sup>12</sup> The creation of public-private partnership resources and the aggregation of debt issuance by a centralized federal bank can help motivate the implementation of project finance on the state and local levels.

Here’s an example: In spring 2012 the mayor of Chicago, Rahm Emanuel, announced the formation of the Chicago Infrastructure Trust, or CIT.<sup>13</sup> The trust is a city effort to match public infrastructure needs to private investors on a case-by-case basis. The city financed the administrative costs of the trust with \$200,000 in 2012 and issued grants totaling \$2.5 million to help finance projects.<sup>14</sup> In return, the trust is expected to oversee \$7 billion in infrastructure improvements in the city.<sup>15</sup> As *The Economist* pointed out, “several financial institutions have already lined up to make investments totaling \$1.7 billion, among them Macquarie Infrastructure and Real Assets, Ullico, Citibank, and JP Morgan.”<sup>16</sup> Given that such a large amount of private infrastructure funding can be encouraged just through connecting public projects with private investors, an infrastructure bank that combines this function with loans and loan assistance will be able to provide significant funding to help improve infrastructure in the United States.

For more information, see the Center for American Progress’s report, “Creating a National Infrastructure Bank and Infrastructure Planning Council.”<sup>17</sup>



In this Jan. 23 2013 photo, a contractor works at the Second Avenue Subway construction project in New York.  
AP PHOTO/MARY ALTAFFER

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## Policies to increase federal investment in national infrastructure

Along with drawing in private investment to finance a larger share of the infrastructure improvement in the United States, the federal government should also increase its own funding for infrastructure. To invest in America's competitiveness and future economic growth, we recommend:

- Increasing annual federal funds spent across all infrastructure sectors by \$48 billion, along with \$10 billion in new federal loan authority.<sup>18</sup> This amount would incentivize an additional \$11 billion in state
- and local matching funds and leverage an additional \$60 billion in private investment for a total of \$129 billion in new infrastructure investment annually. These funds would improve U.S. roads, bridges, public transit, ports, airports, waterways, dams, levees, and public water and sewage systems. In addition, this sum would support investments in improving the national energy grid.
- Converting all federal infrastructure-funding formulas to need-based formulas. Not only are current investments inadequate, existing federal investments do not always flow where they're most needed. A quarter of the highway funds are distributed via

archaic distribution formulas that drive funds disproportionately to selected states without regard to need.<sup>19</sup> Every dollar inefficiently doled out through the highway bill is taken away from an important project elsewhere. Instead of relying on outdated formulas, all funds should be distributed through need-based formulas or programs that distribute funds based on objective metrics of usage, ability to relieve congestion, impact on greenhouse-gas emissions, and cost effectiveness.

- Require infrastructure funds to “fix it first,” meaning pay for necessary ongoing maintenance and repair costs where those investments would be more cost effective. Federal highway policy includes a bias toward new construction and major repairs over capital maintenance, caus-

ing existing infrastructure to erode to the point where the cost of repair ends up being more expensive than the cost that would have been incurred with routine capital maintenance.<sup>20</sup> When it comes to water systems, federal funds cannot be used for basic repairs unless those repairs are needed to meet federal standards for water quality.<sup>21</sup> As a result, water systems usually wait until a water-main breaks to make needed repairs. By permitting federal funds to pay for ongoing capital improvements, the overall cost of maintaining our infrastructure can be reduced and business productivity can increase.

For more details on infrastructure proposals from the Center for American Progress, see our report titled “Meeting the Infrastructure Imperative.”<sup>22</sup> ■

## Adapting to climate change

The United States recently had a deadly and costly reminder of the effects of climate change when Hurricane Sandy battered the East Coast in October 2012, claiming more than 100 lives and costing \$60 billion in federal disaster relief and recovery.<sup>23</sup> Yet despite its severity, Hurricane Sandy was only one of 25 climate-related extreme weather events that each caused at least \$1 billion in damages in 2011 and 2012, with the total for all these events being \$188 billion in damages.<sup>24</sup>

According to estimates, we've seen nearly a fivefold increase in extreme-weather disasters in the past three decades.<sup>25</sup> Scientific consensus holds that there is a strong relationship between extreme weather and climate change, and analysts have concluded that the increasing frequency of disasters is driven by climate change and is likely to continue into the future.<sup>26</sup>

Other effects of climate change include:

- Sea-level rise of 2 to 6 feet by 2100, in addition to the 8-inch or more increase that some U.S. coastal areas have already experienced in recent decades<sup>27</sup>
- Increased frequency of extreme weather, including heavy-precipitation events and longer and more extreme droughts and heat waves, with resulting challenges to livestock and crop production, migration of diseases and pests, and loss of species and their natural habitats

While mitigating the effects of climate change is crucial, some climate change will continue to occur even if we immediately cease emitting carbon dioxide.<sup>28</sup> Mitigation must therefore be coupled with climate-change adaptation in which we prepare for the impacts of previous emissions. As a nation, we need to quickly and practically assess our vulnerabilities to climate change and take measures that enable us to avoid or minimize possible disruptions and damages to communities, local economies, and public health. Taking strong steps on adaptation will also convert climate-change impacts into potential opportunities for our country and fellow citizens.

In order to adapt to climate change, we recommend that a lifecycle analysis that includes consideration of the impact of climate change on a project is included in the criteria by which federal projects are assessed. The Federal Emergency Management Administration, or FEMA, estimated that every \$1 spent on resiliency yields \$4 in future benefits.<sup>29</sup> As a result, direct federal funds through programs such as the Highway Trust Fund and federal loans through the national infrastructure bank described above should be tied to projects that help communities and their infrastructure become more resilient to climate-change-related impacts.

To further assist communities in reducing their vulnerability to extreme weather, we propose the creation of a community resilience fund dedicated solely to providing financial and technical assistance to vulnerable communities threatened by future extreme-weather events.<sup>30</sup>

## Endnotes

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