



BIPARTISAN POLICY CENTER

Executive Council *on* Infrastructure

KNOWING LONG-TERM COSTS IS A KEY PART OF ADDRESSING INFRASTRUCTURE NEEDS

It is well documented that America's infrastructure is in dire straits.¹ With \$3 trillion in need, all possible tools, including leveraging private investment, must be part of the solution. While public-private partnerships (P3s) are widely used internationally, several existing barriers have limited their use in the United States.² Minimizing two such barriers begins with simply making more comprehensive information about public infrastructure projects available to the public and potential investors.

Asset Inventories

Infrastructure projects—everything from bridges to water systems—have an intended lifespan, whether that's 20, 50, or even 100 years. Too often cities and states do not know what assets they own and manage or the overall costs of maintaining and replacing those assets. One telling example, in Washington, D.C., it took a water main breaking to discover that it had been installed back in 1860.³

State and local governments should be developing asset inventories, comprehensive lists of all infrastructure they own. Asset inventories assemble, in one database, information on the current condition, maintenance costs (for the remainder of an asset's useful life), replacement costs, and potential impact of a failure for every asset.

As the Bipartisan Policy Center's Executive Council on Infrastructure recommended in the report [Bridging the Gap Together: A New Model to Modernize U.S. Infrastructure](#), developing a comprehensive asset inventory enables public officials to effectively schedule and prioritize maintenance, identify deteriorating assets most at risk of failure, and find new ways to generate revenue from existing assets.



Examples

- Detroit deployed an inventory-based solution for the Motor City Mapping⁴ program's effort to revitalize housing conditions, which fully digitized property information, including photographs, to categorize the condition of all 376,000 properties. With an updated and categorized inventory in hand, the city implemented new policies and partnerships, such as the Detroit Land Bank Authority,⁵ to begin repurposing unused lots, demolishing blighted structures, and building new homes.
- New York City conducted an audit of city-owned property and found more than 1,100 vacant lots⁶ that could be put to use as affordable housing or incorporated into other strategic planning goals.
- The Federal Highway Administration maintains the National Bridge Inventory, a database of information about the nation's bridges. The existence of this inventory helped catalyze Pennsylvania's Rapid Bridge Replacement⁷ project, which bundled 558 small and rural bridges into a single project using an innovative public-private partnership.



Life-Cycle Cost Analyses

When planning projects, engineers and analysts can forecast both the upfront cost of construction as well as the cost of maintenance and operations over the expected life of a project, and make design and delivery decisions to minimize total costs over the long term. Project designers do not uniformly or regularly apply this tool in most projects, leading to inefficiencies and, eventually, poorly maintained infrastructure. This lack of foresight is fiscally irresponsible.

Public procurements too often overvalue low initial costs and undervalue future obligations, rewarding bidders who can build cheaply rather than those who offer the best value over a project's intended life. This can increase costs down the road—higher operations and maintenance costs, more frequent repairs that often go unaddressed, infrastructure failing prematurely requiring expensive rebuilds, etc.—for which states and localities will appeal to the federal government to fund.

Examples

- Washington, D.C.'s metro has replaced carpet in its rail cars with nonporous durable flooring⁸ and older cars are receiving an upgrade.⁹ The new flooring has been designed to be more resilient to wear and tear, and therefore reduce long-term maintenance costs.
- In constructing Seattle's Tolt Water Treatment Facility,¹⁰ city officials estimated savings of 40 percent using a Design-Build-Operate contract over a traditional procurement. These savings were largely driven by life-cycle efficiencies in its design and by aligning incentives from construction through 15 years of operations.

What Can the Federal Government Do?

- Require state and local governments to complete comprehensive asset inventories as a condition of receiving assistance.
- Require state and local applicants to demonstrate they have fully accounted for the long-term costs of their projects, including any risks inherent in construction, operations, or maintenance, and to select the project delivery model that provides the best value over the life of the project.
- Increase state and local leaders' capacity to develop new projects (for both P3s and traditional projects), and navigate often cumbersome federal application processes by providing technical assistance, predevelopment funding, a clearinghouse of best practices, and designated agency liaisons—in addition to improving and expanding the existing federal “capacity building” efforts, such as USDOT's Build America Bureau and USDA's Circuit Rider Program for rural water systems.

For more information, visit bipartisanpolicy.org/infrastructure.

¹ American Society of Civil Engineers. *2017 Infrastructure Report Card*. Available at: <https://www.infrastructurereportcard.org>.

² Bipartisan Policy Center. “Texas Vote Shows Key Barriers to P3s Still Exist.” May, 2017. Available at: <https://bipartisanpolicy.org/blog/texas-vote-shows-key-barriers-to-p3s-still-exist>.

³ Tweet from @GeorgeHawkinsDC. May, 2017. Available at: <https://twitter.com/GeorgeHawkinsDC/status/864943361756725248>.

⁴ Motor City Mapping. Available at: <https://motorcitymapping.org>.

⁵ John Gallagher. “Despite missteps, Detroit Land Bank proves its worth.” *Detroit Free Press*. February, 2017. Available at: <https://www.freep.com/story/money/business/columnists/2017/02/04/detroit-demolition-kildee-land-foreclosure/96833026>.

⁶ Office of the New York City Comptroller Scott M. Stringer. *Building An Affordable Future: The Promise of a New York City Land Bank*. February, 2016. Available at: https://comptroller.nyc.gov/wp-content/uploads/documents/The_Case_for_A_New_York_City_Land_Bank.pdf.

⁷ Bipartisan Policy Center. *Rapid Bridge Replacement*. October, 2016. Available at: <http://bipartisanpolicy.org/wp-content/uploads/2016/10/BPC-Infrastructure-Rapid-Bridge.pdf>.

⁸ Washington Metropolitan Area Transit Authority. “Metro welcomes first 7000-series railcars.” January, 2014. Available at: <https://www.wmata.com/about/news/pressreleasedetail.cfm?ReleaseID=5634>.

⁹ Metro Forward. “Metrorail resilient flooring.” Available at: <https://www.flickr.com/photos/metroforward/sets/72157640360095223>.

¹⁰ Bipartisan Policy Center. *Tolt Water Facility*. October, 2016. Available at: <https://bipartisanpolicy.org/wp-content/uploads/2016/10/BPC-Infrastructure-Tolt-Water-Facility.pdf>.

