

# Don't Binge on Bridge-Building

By David Siegel

A hard look at America's decaying infrastructure can be sobering: A report card published by the American Society of Civil Engineers last year gave the U.S. an overall D-plus. The ASCE recommends spending \$4.59 trillion by 2025 on repairs and improvements.

America's folly has been to consider infrastructure spending largely a form of periodic stimulus, something to ramp up and down as economic conditions (or political whims) warrant. This creates not only inefficiency but the temptation in Washington to pick favorites, even bridges to nowhere.

My view, as a trained engineer, is that true reform means consistently supporting an extensive ecosystem for building infrastructure. It would be filled with skilled engineers, well-trained civil servants, and many other workers involved in planning, monitoring and executing projects. This is the way to foster innovation, quality and efficiency at scale.

Forming such an ecosystem requires the promise of continuing contracts. Few would opt to pursue a career in bridge engineering without the hope of consistent work. Sporadic opportunity similarly reduces incentives for entrepreneurs to develop new and better technologies to build tunnels and sewers, and it discourages incumbents from innovating.

Meanwhile, municipalities can't

make long-term plans without dependable flows of funding. They can't afford to hire teams of expert civil servants to manage contractors and keep projects on track. Instead they end up relying on costly consulting arrangements, leading to poor results.

A good example is New York's Second Avenue subway project. For almost 100 years, the need for this new line was obvious. The first attempt to build it ended in the 1970s, when funding disappeared, leaving wasted

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## Predictable spending on infrastructure would vastly improve its quality.

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tunnel in the ground. Last year when the first phase, running about 1.6 miles uptown, finally opened, the final price tag was more than \$4 billion. That's many times the cost of comparable French or British projects. Ultimately, the price was so high, the work so slow, the disruption so great, and the funding so unpredictable, that I doubt subsequent phases will be built in my lifetime.

When a project does make it to completion, there is an awful lot that can be learned from the work. In science and technology, learning through iteration is a core value. Building additional copies of something almost always lowers unit costs. Unfortunately, infrastructure projects in America are effectively all

one-offs like the Second Avenue subway work. The U.S. is constantly reinventing the wheel as new projects ramp up.

Building a strong infrastructure ecosystem would require a shift in thinking. Instead of spending in fits and starts, Americans should think of building projects as something to undertake consistently and forever as a matter of basic national interest.

Bridges, roads, dams and other public works decay at a steady rate. The need for new infrastructure to support population growth is readily calculable. Rather than going on periodic spending binges, Congress should decide what percentage of gross domestic product to invest year in and year out. Americans spend about 18% of GDP on health care. Surely there's a way to increase the 2.4% of GDP spent on infrastructure. It isn't nearly enough.

Adopting a more constructive way of thinking about infrastructure would bring many benefits. State and local governments would be able to develop more workable and effective building plans. Engineering firms would invest more confidently in their workers and in state-of-the-art technologies. Students and entrepreneurs would increasingly see civil engineering as a viable career path. In the end, the rewards would be greater American innovation, opportunity and economic growth.

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