THIRD WAY

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Coming in on Budget: Infrastructure Contracting Reform

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Do highway projects ever come in on budget? Rarely. In fact, 9 out of 10 cost more than expected. [1] But in an economy where capital is mobile and businesses are global, the United States must upgrade its infrastructure to remain competitive. Currently, the U.S. is struggling to find funding to keep our roads, bridges, transit systems, and ports intact. As we search for new opportunities to increase investment in infrastructure, we must also ensure that the money we are spending now isn't frittered away through inefficiency and unnecessary cost overruns. To do that, the federal government should make infrastructure funding contingent on design and contracting reforms that would help keep projects within budget.

The Problem

Infrastructure cost overruns hamper future development.

America needs new investment in infrastructure.

America's transportation infrastructure ranks 24th in the world, behind both Barbados and Malaysia. [2] Average commuting times in major U.S. cities exceed those in every European country but Hungary and Romania. [3] And while Japan's high speed rail network has the ability to transport people and goods at 186 miles per hour, [4] our fastest rail lines travel at a meager 70 miles an hour. [5]

American businesses suffer because of the United States' inferior infrastructure. Economic losses due to inefficiencies in our public infrastructure system currently amount to $195 billion per year. Traffic jams cost truckers $33 billion in fuel in 2009, significantly adding to the shipping costs of American

manufacturers. [6] These inefficiencies also take a bite out of family budgets. The average American spends an extra $335 per year on expenses related to unmaintained roads. [7]

The state of our infrastructure stems from a declining commitment to investment. U.S. infrastructure investment as a share of GDP has fallen 50% in the past 50 years. [8] And our eroding infrastructure spells trouble for the thousands of American companies and millions of workers that rely on our infrastructure to move their goods and services quickly and easily. Without significant infrastructure improvements, economic growth will be stunted.

Our current infrastructure delivery system leads to cost overruns.

The infrastructure delivery system used in the U.S. today makes it easy for projects to run over budget. When soliciting bids for projects, states often use incomplete design documents—meaning that a contractor prices and begins construction on a project before the plan is even complete. [9] While this process saves time at the outset of a project, it also drastically increases the likelihood that a contractor will encounter unforeseen site conditions that cause delays and cost increases. For example, during the reconstruction of Interstate 287 in New York, unforeseen field conditions resulted in the need for an additional excavation, raising the project's price tag by $687,400. This was just one of at least 65 change orders that have caused the project to run 22% over budget. [10]

Project cost overruns like these are far too common and pose a serious threat to our ability to build and maintain a 21st century infrastructure. In fact, nine out of ten infrastructure projects cost more than expected, with the average overrun a shameful 28%. [11] The state of Indiana spent $17 million on overruns in 2001, [12] while the state of California incurred more than $305 million in transportation cost overruns in just three years from 2007 to 2010. [13] These unexpected costs consume valuable resources that could be devoted to other

projects, thus limiting states' ability to meet pressing infrastructure needs.

Contract structures put state and local governments at a disadvantage.

Incomplete design documents result in a contract structure that places the majority of risk with the government entity. Because contractors can't provide an accurate price estimate based on an unfinished plan, they aren't willing to swallow the additional costs that result from plan changes or unforeseen site conditions. Therefore, states are forced to enter into contracts that allow for myriad changes and additional payments.

That means that taxpayers are on the hook for changes like those to the I-287 corridor. Mid-project changes disrupt work flow and can lead to delays as more labor must be added, subcontractors coordinated, and additional materials purchased. Because the additional materials and services escape the competitive bidding process, contractors can charge premium prices, even further increasing the overall cost of a project. In effect, the government has agreed in advance to pay any for changes that invariably occur, and this comes at a high cost to taxpayers.

Additionally, the lowest-bid system used in fielding contracts makes it difficult for contractors to compete fairly. States often are statutorily required to choose the lowest bid on a project, in effect, creating a "race to the bottom." Because contractors know that their competitors will offer a low initial bid to secure the contract and then make up their profit margin through cost overruns, they are forced to do the same to have a chance at winning the project. This results in contracts that sometimes significantly undershoot the actual total cost of the project when it's finished. When the government agrees to pay for additional costs up front, there is no risk associated with this underbidding—the liability rests solely with taxpayers. [14]

Cost overruns erode public trust in infrastructure spending.

Polling reveals broad support for modernizing our nation's infrastructure. Even in today's harshly partisan environment, a recent survey showed that 74% of Democrats, 71% of Republicans, and 66% of self-identified Tea Party voters expressed support for infrastructure improvements. [15] Yet, 90% of those polled also supported increased accountability to ensure that projects come in on time and on budget.

Cost overruns betray the public's trust that the government will act as wise stewards of their infrastructure dollars. Construction expert Barry LePatner puts it simply: "If there's anything that Americans are more cynical about than politics, it's construction." [16]

The Solution

Build better to build more.

As LePatner and others have noted, system reform will be vital to restoring discipline to our project delivery system so that we can begin to modernize the nation's infrastructure. To initiate this process, the federal government should require simple, but significant, changes to programs like the Federal Aid Highway Program, the Federal Transit Administration's New Starts program, and the Federal Aviation Administration's Airport Improvement Program. In exchange for federal funding, these programs should require that states:

- Complete project design documents to solicit bids; and
- Increase their use of fixed-price contracts.

Prevent surprises.

Unforeseen site conditions have the ability to add enormous costs to infrastructure projects, and when construction on a project begins before the completion of design documents the likelihood of overruns increases exponentially. For instance, at least $737 million of project cost overruns

associated with Boston's infamous "Big Dig" tunnel project stemmed from incomplete designs.[17] Thorough knowledge of physical elements like soil conditions, design preferences, and the current state of repair of a structure allows for proper planning, accurate materials purchases, and efficiency in managing labor. Although requiring the completion of design documents prior to soliciting bids may result in additional site research and decision making at the outset, the benefits far outweigh the drawbacks.

Requiring the completion of design documents prior to construction would reduce the probability that contractors will encounter unanticipated challenges, and therefore, result in a lower overall price tag for state and local governments. The predictability and fiscal restraint that result from this requirement will translate into more efficient use of taxpayer dollars and more public goodwill.

Reduce the gouging of government.

Under contract structures used by many state and local governments, the government is the party financially responsible when projects go awry. Under a fixed-price contract, however, the government and contractor would have to agree on a dollar amount that project costs cannot exceed. Aside from specific, set increases that can be allowed for in the case of escalation in the market prices of certain materials, changes initiated by the government party, or other specified scenarios matched to a price, the contractor would be held responsible for any cost overruns. This would allow for a more appropriate balance of risk between the government entity and the contractor.

The main concern for many contractors in fixed-price contracts—taking on the additional financial risk of overages—would be lessened with the use of complete design documents. And because contractors would no longer have the option of making up their profit margin through overruns, bidders would be incentivized to provide realistic estimates from the outset.

The Recovery Act, which provided over $48 billion to the Department of Transportation for investment in highways and other transportation projects, [18] also specified that fixed-price contracts should be used "to the maximum extent possible." [19] This is a good start, but more should be done. Fixed-price contracts and complete design documents go hand-in-hand, and federal infrastructure funding should require more of both.

Get more bang for the buck.

In these budget-conscious times, every dollar of infrastructure investment must be used effectively. Failing to keep one project's costs under control and within budget can lead to delay or prevention of another. For example, *The Boston Globe* has reported that Massachusetts will be saddled with debt from the "Big Dig" until 2038, preventing needed infrastructure improvements across the state. [20] And when the cost of building a new bridge on Interstate 680 across California's Carquinez Straight ballooned to nearly four times the original estimate, the California Department of Transportation was forced to pay the bill with $405 million in toll revenue [21] —enough to fund a bridge replacement [22] or buy new Toyota Priuses for 16,000 Californians. By reigning in overruns, contract reform can help to ensure that precious taxpayer dollars will pay for future construction, not past mistakes.

Critiques & Responses

This places too many restrictions on state and local governments.

States would retain the same project selection and management authority they currently have. Some have already begun to implement innovative contracting practices, such as design-build contracts, to keep costs down, and they should be allowed to continue. The federal government, however, does have a responsibility to ensure that federal tax dollars are spent prudently, and straightforward requirements like completed design plans and increased use

of fixed-price contracts will go a long way toward injecting accountability into our infrastructure spending processes.

Contractors wouldn't agree to these terms.

They would. Honest contractors are constrained by the current practice of low bidding and cost overruns. Those who offer a reasonable bid are often passed over in favor of those who offer lower, unrealistic bids and then make up their profits in cost overruns.

Surprises caused by incomplete design plans and inadequate research cause hassles for contractors. They are forced to shuffle their subcontractors and workers to accommodate changes. A design and contracting system that increases certainty would allow them to work more efficiently and save wasted time.

This will cost more money, which the public doesn't support.

Actually, deficit-conscious voters largely support infrastructure development, but they want it on time and within budget. [23] Simple reforms like completed design plans and fixed-price contracts would allow the U.S. to build more with less. By holding state governments and contractors accountable for how they spend precious infrastructure dollars, Congress can make the U.S. a more efficient, more livable, more profitable place to do business.

END NOTES

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