A public-private partnership, or P3, is an alternative approach to infrastructure procurement for large-scale, complex projects that allows a private entity to exercise greater control and decision-making authority than it would be able to under a traditional procurement arrangement. A P3 approach allows the public sector to transfer some or all of the project development, design, construction, operational, and revenue risk to a private entity. When structured properly, a P3 agreement can leverage contractual penalties and rewards to increase the likelihood that the private entity will complete the project on time and on budget. Additionally, a long-term P3 deal may result in higher maintenance standards, since the contract obligates the state and concessionaire to uphold their responsibilities to the facility even when adverse economic or political conditions would otherwise lead to deferred maintenance and neglect.

Public-private partnerships exist on a spectrum with more or less private control depending on how the government structures the agreement. On the low end, a P3 approach may simply combine project design and construction into one contract. On the high end, the government may choose to grant additional responsibilities beyond design and construction to the private firm, such as operations, maintenance, and rehabilitation over 30 years or more.¹

A public-private partnership may or may not involve private financing. The most common forms of private financing are proceeds from a private-activity bond issuance and equity capital. Typically, private-activity bond proceeds cover a significant share of total project costs, while equity capital—the most expensive source of financing available—covers much less of the total cost.

Public-private partnerships are a poor mechanism for increasing the total volume of infrastructure expenditures. The controlling factor that constrains overall investment by government is not access to credit; rather, it is the public’s willingness to pay the taxes and fees necessary to service project debts. Sophisticated procurement contracts cannot overcome the basic political challenge of raising tax revenues to support
needed infrastructure investment. Similarly, creating a national infrastructure bank, or NIB, likely would not increase the total volume of infrastructure investment. When politicians make the difficult decision to lead on infrastructure and raise new revenues, they find capital markets eager to finance infrastructure projects regardless of the form of procurement.

Traditional procurement

Building and operating major highway and public transportation projects is a complex undertaking, involving years of work and hundreds of detailed steps. The process can be divided into 10 major elements, some of which may run concurrently depending on procurement laws:

1. Identify transportation needs
2. Study alternative projects
3. Select preferred alternative
4. Undertake surveying, mapping, and scoping for environmental review
5. Complete preliminary design and engineering
6. Study environmental impacts and receive record of decision and permits
7. Complete final design and engineering
8. Purchase right of way and relocate utilities
9. Construct project
10. Operate, maintain, and rehabilitate the facility

Under traditional procurement, the public project sponsor—the state—breaks the process into three phases: design and engineering; construction; and operations, maintenance, and rehabilitation. Beginning with design, the state department of transportation, or DOT, typically publishes a request for qualifications in order to develop a short list of experienced and capable firms. The smaller group then submits a formal design proposal, and the state selects a winning bid. States use a similar approach to select firms and a final bid for the construction phase.

The most important characteristic of the traditional procurement process is that design and construction are two distinct phases carried out by separate private firms. This approach allows the state to retain total control over the final design of the transportation facility, with the construction firm responsible for implementing the completed final design. Once construction is finished, the state retains control and responsibility for operations and maintenance—everything from snow removal to reconstruction of deteriorated segments.
At each stage in the process, the government has the final say in how to proceed. Yet with control comes risk. When problems arise, the public must absorb the costs. This means covering any delays, inflation, cost overruns, and change orders. Additionally, for projects that involve charging user fees such as tolls, traditional procurement means that the public retains all revenue risk associated with the project.

Public-private partnerships

Unlike traditional procurement, a public-private partnership vests the private entity with decision-making authority and additional project delivery or revenue risks that the state would otherwise assume. As discussed above, P3 agreements exist on a sliding scale, with the amount of private involvement varying from project to project.

The most common form of P3 arrangement is known as design-build, or DB. Under DB, a single firm is selected to complete both the design and engineering and construction phases. This allows the firm to begin certain early-construction-phase activities before it completes final engineering. This concurrency often produces significant cost savings because transportation projects involve large quantities of materials such as concrete, steel, and aggregates that often rise in price faster than general inflation.

The design-build approach requires the project sponsor to relinquish a significant amount of control. Rather than choosing every single element of design, the state DOT sets out a series of design parameters and performance requirements that specify what the facility must accomplish. This approach provides the design-build firm with more latitude over how to achieve facility requirements, often leading to more rapid development at a lower cost.

The most comprehensive P3 is the design-build-finance-operate-maintain approach, or DBFOM. This approach hands over everything from design and construction to long-term facility operations and maintenance—from snow removal and mowing to repaving and reconstruction. The final agreement requires detailed maintenance standards to ensure the roadway or transit facility is maintained to an adequate degree. At the end of the P3 agreement, responsibility for maintenance and operations returns to the state. P3 agreements that include a long-term maintenance and rehabilitation element often result in better-maintained facilities than result from traditional procurement. All too often, economic downturns or changes in political administration result in deferred maintenance. A P3 agreement can lock in a high maintenance standard for a period of decades—though such a high standard comes at a cost.
Developing large-scale transportation projects involves substantial risk—principally in the form of delay and cost overruns but also as revenue risk if a facility includes tolls. A core benefit of a public-private partnership is the ability of the public project sponsor to transfer certain project delivery and revenue risks to a private company. For instance, in traditional procurement, a state might build a new toll road using the proceeds from a general obligation bond to finance construction, with the intention of using toll revenues to service the debt. Provided the state has a high credit rating, choosing a general obligation bond will reduce interest rates and total financing charges over the life of the debt. Under this arrangement, the state retains the downside risk that travel demand and toll revenues could fall short of projections. Should toll revenues not meet their forecast levels, the state would be responsible for making bond payments using other tax revenues.

A P3 agreement, however, would allow the state to develop the toll road and transfer revenue risk by giving the private company all toll proceeds while also obligating them to cover debt service payments. In exchange for taking on this risk, the private company would expect a substantial return on investment. Typically, a P3 deal with revenue risk transfer includes provisions that allow the company to raise tolls over the life of the project on a set schedule that was determined during initial negotiations with the government project sponsor. Risk transference, after all, is not free. And while such an arrangement offloads toll revenue risk to the private company, it opens up a new risk—namely, that driving levels exceed initial projections, leading to substantially higher profits for the private company. In effect, taxpayers end up paying far more in tolls for the same road than they would have under traditional municipal bond financing. Depending on the contract, the government may share in a portion of toll proceeds above and beyond a certain level.

Importantly, a public-private partnership does not necessarily have to involve revenue risk transfer. A project sponsor may use a P3 agreement that relies on an availability payment. An availability payment is a fixed schedule of payments—or a fixed formula for calculating payments—made by the government to the private company in order to cover construction or construction and ongoing maintenance costs, depending on the specifics of the deal. Under this structure, the state would keep all toll proceeds and must make its annual payments regardless of travel demand and toll revenues. An availability payment is similar to the obligation incurred through the issuance of a general obligation bond. In both cases, the state is committing to a series of payments over a specified number of years, regardless of what happens with travel demand and toll revenues.
Private finance

In addition to an alternative form of procurement, a public-private partnership may also involve private financing. This private-sector participation takes the form of debt, equity, or a combination of the two. Debt is by far the most common form of private financing. However, the private debt issued as part of P3 agreements is in many respects indistinguishable from traditional municipal bonds.

For well over a century, governments have issued debt in the form of tax-exempt municipal securities. The federal government does not require investors in municipal bonds to pay income taxes on interest income from these securities. The underlying rationale for not taxing interest income is that state and local governments issue debt to advance projects with broad public purposes and benefits. Because they receive favorable tax treatment, municipal bond rates are often significantly lower than those of taxable debt; however, they have similar maturities and risk profiles. As a result, governments can deliver more projects because the cost of funds is lower, saving millions of dollars in financing costs. In the absence of favorable tax treatment, municipal bond interest rates would roughly parallel the private sector. This means that the cost of funds would be higher, limiting the number of projects that could be completed.

The key to private financing for many projects is the use of private-activity bonds, or PABs, which are tax-exempt securities similar to traditional municipal bonds. As part of a P3 project, a state or local government authority will issue a PAB, with the proceeds of the issuance passed through to the private company for use in the construction of the project. The functional difference between a traditional municipal bond and a PAB is that the private company—rather than the government—is legally responsible for repaying bondholders.

Some state legislatures set a cap on total indebtedness as a form of fiscal control and to protect the state’s credit rating. However, depending on state law, private debt in the form of PABs may not count as an obligation of the state. This statutory distinction makes a public-private partnership involving PABs an attractive alternative to traditional project financing because it offers a way to circumvent statutory controls on indebtedness. However, upon further inspection, the seemingly bright-line distinction between public and private debt begins to fade.

Take, for example, the East End Crossing bridge project connecting southern Indiana with northern Kentucky across the Ohio River. The state of Indiana, acting through the Indiana Finance Authority, is the project sponsor. The bridge is being developed through a public-private partnership with Walsh Investors LLC, VINCI Concessions, and Bilfinger Project Investments, which joined together to form a company called WVB East End Partners. The company will construct and maintain the bridge for a period of 35 years.
Under the terms of the deal, the Indiana Finance Authority will make progress payments totaling $392 million to WVB East End Partners during construction. The remaining construction costs will be covered with $676 million in PAB proceeds and $78 million in private equity. In total, private equity represents only 7 percent of project costs, while public funds and PAB debt account for 93 percent.

Drivers will pay a toll to use the bridge, and Indiana and Kentucky will split the revenue from the tolls. Importantly, WVB East End Partners will receive an annual availability payment from the state of Indiana regardless of the amount of toll revenue generated by traffic on the bridge. Because the state must make its availability payment each year no matter what fluctuations may occur with traffic on the bridge, this approach removes all toll revenue risk for the private company. WVB East End Partners will use the availability payments from the state of Indiana to service the PAB debt and cover ongoing operations and maintenance on the bridge.

The availability payments represent a promise by the state of Indiana to use its taxing powers to fulfill its legal obligation under the terms of the P3 deal. This is functionally equivalent to the promise made by the state on the issuance of a general obligation bond. A careful reading of the Official Statement, which is the equivalent of a prospectus for municipal securities, clearly states that Indiana is ultimately the source of the funds to repay the PAB: “The source of funds for the payment of the Milestone Payments, Availability Payments, and other amounts due to the Company under the Public-Private Agreement is ultimately subject to the availability of funds appropriated by the General Assembly of the State.”

A core argument in favor of public-private partnerships is that they attract idle private-sector capital that is then put to productive use on building projects. This assertion rests on the idea that private capital is somehow not already engaged in building infrastructure. This is hardly the case. Governments almost never have sufficient cash on hand to complete large-scale infrastructure projects; with few exceptions, these projects utilize a mixture of grant funding and financing.

In 2013, state, local, and other public agencies and instrumentalities issued $335 billion in new debt; all nonfederal public-sector debt is referred to as municipal, or “muni.” At present, states and municipal governments have more than $3.6 trillion in outstanding debt. Not all of this has been issued to build infrastructure. But it is clear that the municipal bond market is intensely active and attractive, pulling in hundreds of billions of dollars of private capital from bond buyers every year.

This raises an important question: What is the fundamental difference between a PAB and a traditional municipal bond? The answer is, not much. A PAB lists the private corporation as the debtor. Yet in an availability payment transaction, the money to repay the bond comes from the government project sponsor, and the bond rating reflects the
source of money rather than the private company listed on the security. Defaulting on the East End Crossing PABs, for example, would significantly harm the state of Indiana’s credit rating. When used as part of an availability payment transaction, PABs are another form of municipal finance that happens to involve additional administrative steps. But the substance remains the same: Project finance relies on tax-exempt bond debt repaid as a general obligation of the state.

Infrastructure companies, like all other corporations, are able to raise capital through bond markets. However, corporate bonds are more expensive than municipal securities because the interest income is taxable. Congress created PABs under the rationale that proceeds from the issuances would construct facilities with broad public purposes and benefits. In other words, even though the proceeds flow to a private firm, the end result is a new public asset.

Providing PABs with the same tax-exempt status as municipal securities allows project sponsors to consider a P3 form of procurement that would otherwise be cost prohibitive if the concessionaire were to raise capital through a taxable corporate bond. Given the functional equivalence between municipal debt and PABs, choosing to pursue a P3 deal must rely on justifications other than access to private capital. The decision to use a P3 approach must rest on the partnership’s ability to efficiently transfer project development, revenue, or other risk. Moreover, the estimated monetary value of the transferred risk should exceed the additional financing charges that accompany P3 equity capital. In short, the policy conversation to date has almost exclusively and wrongly promoted P3 deals as a mechanism for raising project capital, when in reality the true advantage of a P3 approach is the ability to transfer risk. Additionally, a P3 approach can protect projects with long-term operations and maintenance components from the vagaries of election cycles, economic downturns, and the accrued harm that results from continually deferring essential maintenance.

Policy goals and intergenerational transfers

In addition to the potential for risk transfer, public-private partnerships are often touted as vehicles for institutional investors, such as public pension funds, to meet their fiduciary obligations while also helping rebuild the country. In essence, P3s are considered a creative way to meet two seemingly disparate policy goals: strengthening workers’ retirement and building infrastructure to move the economy forward.

Pension funds are tax-exempt investors, meaning they have no federal income tax liability. For this reason, they typically do not purchase municipal securities, since the return on investment is too low. In order to earn an adequate return, public pension funds would need to make equity investments. Yet the cost differences between government bonds and equity are substantial.
A 2012 report by the California Public Employees’ Retirement System, or CalPERS, notes the difference between the rate of return on municipal bonds and the high returns expected by the pension fund: “In the current environment, with tax-exempt bond interest rates near historic lows, public agencies have access to funding at lower rates than the targeted rates of return of CalPERS and other equity investors, which are typically above 8%.”

By comparison, government project sponsors may access financing—currently, at 2.98 percent—through the U.S. Department of Transportation’s Transportation Infrastructure Finance and Innovation Act, or TIFIA, loan program. The difference in total financing charges between a TIFIA loan and a pension fund equity on a single, large-scale project is significant. For many projects, equity financing is simply cost prohibitive. For instance, $50 million in equity financing from CalPERS at 8 percent interest would cost $57 million more in financing charges than an equivalent loan from the TIFIA program.

This theoretical loan compares the financing charges of an equity investment that would accompany a P3 procurement with debt taken on as part of a traditional procurement approach. Although this is a somewhat apples-to-oranges example, the comparison does highlight an important question: Is the ability to transfer some delivery or revenue risk worth the dramatically higher cost of equity financing?

The high cost of equity financing undermines the idea that attracting institutional capital will solve both retirement and infrastructure needs without any downside. In reality, expanding the use of P3 deals with pension fund equity would involve a significant inter-generational transfer of benefits from workers to retirees. By providing a high return to pension funds struggling to meet their fiduciary obligations, governments are directing limited resources to retirees at the expense of building more projects and hiring more middle-class workers.

The public will only tolerate taxation up to a certain point. This presents a de facto upper bound on the total funding available to support infrastructure. Every dollar spent servicing expensive equity capital is one less dollar available to construct an additional project. Substantially expanding the number of P3 deals with high-cost pension fund equity would direct finite public resources to retirees at the expense of current workers. Therefore, the justification for expanding the use of equity capital shifts from transportation to social welfare—helping prop up underfunded public pension corporations hungry for large returns to stave off bailouts, increased worker contributions, or bankruptcy. The CalPERS report states this issue succinctly: “Institutional investors such as public pension systems cannot compete with tax-exempt financing on a simple cost basis.”
At the same time, pension funds are seen as a powerful force that could push for higher wages, job training, and overall progressive labor standards. Again, this rationale represents a mixing of goals. Fund managers have a fiduciary responsibility to current and future beneficiaries to provide returns that meet benefit obligations irrespective of the investment vehicle; they are not agents of social or labor policy. There is little reason to believe that fund managers are looking to take on such a role or that project sponsors would accept private equity that came with numerous labor requirements—especially if those requirements went above and beyond what local law set as the wage and standards floors.

Project scale

The United States has substantial infrastructure investment needs. This is not in doubt. The most recent infrastructure report card by the American Society of Civil Engineers showed massive needs across asset classes. Yet it is important to recognize that public-private partnerships have the potential to work for a very limited number of large-scale projects.

Perhaps the most overlooked barrier to using P3s is the significant transaction costs involved with vetting potential deals, developing bid submissions, and negotiating final agreements. In a recent speech, investment banker Tom Rousakis noted that P3 bids can cost more than $20 million each. As a result, small projects are a poor fit for the P3 model.

The transportation space is dominated by smaller projects that lack the size and complexity necessary to justify a P3 approach. Data from the U.S. Department of Transportation, or USDOT, reveal that, on average, each state has more than 2,300 active highway and transit projects receiving trust fund support at any given time. At this scale, the P3 bid process would cost more than the total value of many of these projects. Furthermore, research by USDOT suggests that a project needs to have a minimum cost of $500 million before a P3 approach becomes cost beneficial.

Federal project financing

In recent years, both Congress and the Obama administration have advanced proposals to create a national infrastructure bank. Typically, these proposals have called for a single national authority that would provide loans, loan guarantees, and standby lines of credit for infrastructure projects across asset classes. The new authority would draw upon functional expertise from departmental staff, as well as a mix of in-house and outside finance experts.
The idea of federal financing for infrastructure projects is not new. Currently, the federal government offers financing through multiple programs spread across different agencies. As mentioned previously, the TIFIA loan program provides financing for eligible surface transportation projects, including those that involve a public-private partnership structure. In theory, a national infrastructure bank would consolidate and streamline these activities. A single authority could also remove duplicative application processes and leverage modest economies of scale for the technical work involved in determining risk and creditworthiness.

Federal financing, whether through a NIB or multiple programs, offers two benefits over traditional municipal bond markets: low rates and flexible repayment and a high tolerance for risk. Importantly, these benefits represent a form of subsidy as a matter of public policy independent of the requirements of a functioning financial market.

First, the federal government is able to issue credit with incredibly favorable rates and flexible repayment terms. For instance, the TIFIA program offers loans to state and local authorities at the same rate at which the Treasury Department is able to borrow. In effect, USDOT offers credit at a pass-through rate, meaning it reflects the current cost of funds for Treasury securities of equivalent maturity. Furthermore, project sponsors are able to defer repayment until construction is finished, and then repayment may be back-loaded. This flexibility is very attractive for toll highways and transit projects that rely on tax-increment financing, since project revenues tend to grow over time with increased travel demand and associated real estate development, respectively.

Second, the federal government is able to assume default risks that traditional municipal bond investors may not be willing to take. Moreover, this tolerance for risk does not have to translate into higher interest rates. Traditional bond markets price risk into debt securities by demanding a higher rate of return for investing in projects backed by less creditworthy sponsors. The TIFIA loan program offers financing at the same low rate provided the applicant clears a minimum creditworthiness threshold. A NIB would likely retain these credit features.

Proponents of a NIB tend to overlook the technical aspects of federal financing and instead focus on the idea that it would increase the total volume of infrastructure investment over current levels. This rests on the assumption that the constraining factor for increased infrastructure investment is access to capital. However, for all but the largest and riskiest projects, access to financing is not an issue, as the municipal bond market is able to absorb new issuances without any problem. The true constraining variable is the public’s willingness to pay the taxes and fees needed to service project debts. There is not a financing program in the world that can resolve this fundamentally political problem.
NIB proponents tend to make two additional claims. First, that a federal bank would focus limited resources on projects of regional and national significance. The federal government has an important role to play in providing both funding and financing for big, expensive projects that annual state and local capital budgets and bond markets cannot fully support. The federal government can fulfill this role through a NIB or a diverse set of loan programs. In either case, the lynchpin is the continued willingness of Congress to appropriate funds to capitalize loan programs.

Proponents’ second claim is that a federal bank would make more efficient—less political—allocation decisions. A NIB is unlikely to overcome the deeply political nature of infrastructure investment. After all, infrastructure projects are a means to achieving public policy goals. And the benefits and drawbacks of major infrastructure investments are immense and therefore inherently political. Is there any question that choosing to build an on-dock rail at a major seaport as opposed to a new farm-to-market rural highway is a reflection of policy priorities or political winners and losers? The answer, clearly, is no.

Some NIB proposals have tried to combat the potential for political outcomes by placing the authority to make loans in the hands of a bipartisan credit council that would be made up of appointees with substantive financial expertise. Moreover, the application scoring process would focus heavily on the creditworthiness of the project and its sponsor. At first blush, this approach seems to remove subjective political considerations in favor of objective measures such as creditworthiness.

Unfortunately, creditworthiness does not eliminate the politics or policy implications of major investment decisions. For instance, a narrow financial analysis might show that building a second beltway around Atlanta, Georgia, and charging drivers a toll would prove creditworthy. Yet a second beltway would exacerbate unsustainable land-use patterns and badly undermine attempts to meet Clean Air Act standards in the Atlanta metropolitan region.

In short, infrastructure projects have social, economic, and environmental utility and costs that are not captured by a narrow appraisal of creditworthiness. Moreover, technical analysis cannot supplant the fact that infrastructure investments are an expression of public policy priorities, which are themselves an expression of political will. It is not possible to depoliticize that which is inherently political.
Conclusion

Public-private partnerships are a useful alternative form of procurement, allowing project sponsors to balance multiple goals against various delivery methods. They are not, however, a particularly useful or affordable method for raising capital when considered against the backdrop of an active municipal bond market. In the end, a government short of resources to repay a municipal bond will also be short the resources to repay a private entity a higher interest rate as part of a P3 deal.

Federal financing is an important element of infrastructure development as it provides low-cost, flexible, and patient capital capable of taking on risk that the market may not be able to handle—or at least handle at an affordable price. To the extent that a national infrastructure bank helps streamline and rationalize federal investment, it would be a welcome addition. Even with a NIB, the core political challenges remain. The public has a finite willingness to bear taxes and fees to support increased infrastructure investment. Moreover, the deep political and policy consequences of large-scale investments cannot be overcome with simple selection criteria such as creditworthiness.

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Endnotes

4 Ibid.
7 Ibid.
11 California Public Employees’ Retirement System, “CalPERS Infrastructure Outreach Review.”
13 Tom Rousakis, Remarks delivered as part of an Eno Center for Transportation luncheon, Washington, D.C., March 6, 2014.
17 Ibid., p. 16.