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Infrastructure and Project Finance – US

Large Increase in US Infrastructure Spending Will Be Slow to Develop

Federal government proposals calling for $1 trillion of infrastructure spending over the next decade would be credit positive for the infrastructure sector, as well as regional and state economies benefiting from renewal of assets necessary to support economic growth. Several constraints, however, suggest that the spending will be slow to ramp up and result in limited increases in spending in the 2017 and 2018 years.

» **Heightened infrastructure spending is likely to be delayed by lack of bipartisan agreement on a funding approach.** Private investment initiatives supported by Republicans may not be applicable to projects that lack a defined revenue stream. Direct public investment favored by Democrats would likely require higher levels of state and local borrowing, as well as increased taxes to support the debt.

» **Even with agreement on funding and reform of government oversight, regulatory reviews will constrain the rate of spending.** Environmental and other regulatory reviews are often complex and can delay projects. The Trump administration has focused on regulatory reform, which will likely shorten some aspects of federal review of projects. However, state and local government regulatory reviews can also be complex and time consuming.

» **Practical contractor and supplier constraints will also limit the rate of spending growth.** The capacity of contractors and suppliers to take on a large increase in projects will constrain the pace at which incremental investment can be executed.

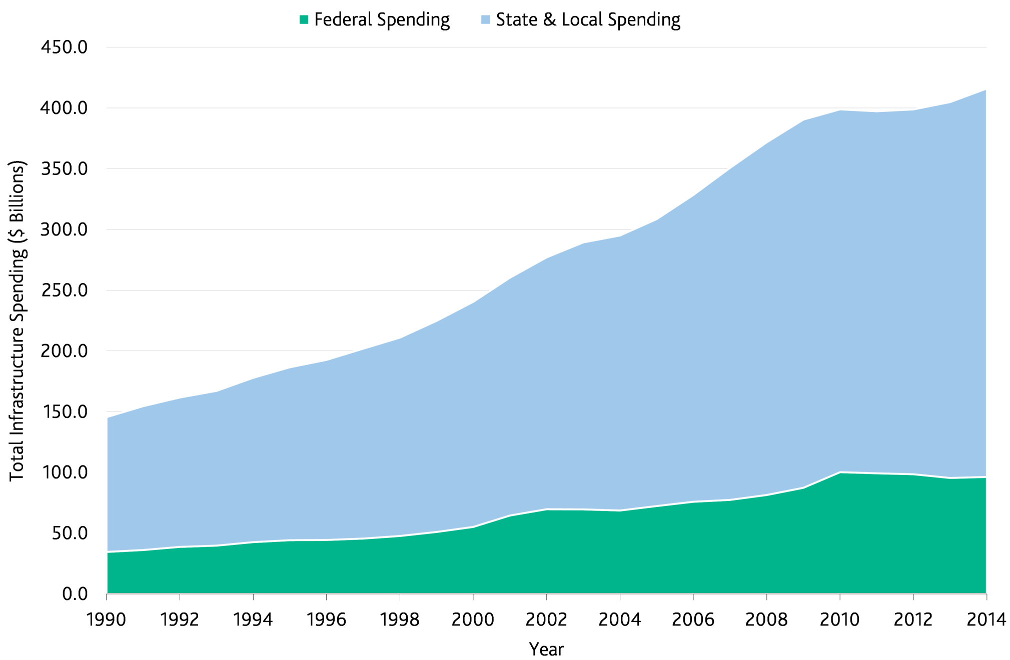
» **Expanded access to private capital will be dependent on greater use of Public-Private Partnerships (P3s).** State and local governments will likely need to approve legislative and regulatory changes to expand the role of private investment in public infrastructure. While increasing, only 37 states have adopted legislation authorizing some form of P3s.

Significant Need for Infrastructure Investment in the U.S.

In the U.S. the vast majority and an increasing share of infrastructure spending has been done at the state and local level. Overall spending has continued to grow and accounts for about 2.5% of GDP, yet budget constraints at all levels of government have limited the ability to adequately reinvest in the U.S. road systems, water systems and other critical infrastructure. Funding has been available for viable privately financed infrastructure projects, such as P3s during the last several years, but P3s currently fund well less than 5% of the over $400 billion of US annual investment in infrastructure.

Exhibit 1

U.S. Federal, State and Local Infrastructure Spending



Source: CBO

Both the new Trump Administration and the Democratic members of Congress have advocated initiatives that would see $1 trillion of new infrastructure spending in the U.S. over the next 10 years. Such an increase would be a favourable development for the infrastructure sector as it would facilitate funding for new projects and help the U.S. maintain its aging infrastructure assets. The American Society of Civil Engineers estimates a $1.1 trillion[1] cumulative shortfall in infrastructure spending in the US by 2020. Either party's 10-year plan would represent a meaningful down payment on that shortfall.

Exhibit 2

Estimated Cumulative U.S. Infrastructure Needs through 2020

Infrastructure Systems	Total Needs	Expected Funding	Funding Shortfall
Surface Transportation	$1,723	$877	$846
Water/Wastewater	126	42	84
Electricity	736	629	107
Airports	134	95	39
Ports and Inland Waterways	30	14	16
Total	$2,749	$1,657	$1,092

In $2010 Billions

Source: American Society of Civil Engineers

If implemented, and truly incremental to current initiatives, either party's 10-year plan would suggest a 25% average annual increase above the current level of infrastructure spending. Moody's anticipates that infrastructure spending will increase in the coming years, but believes that the rate of increase will more likely be in the low to mid single digits in the near term. The pace of new project launches will be slow due to the lack of bipartisan agreement on the way to fund and implement the $1 trillion spending initiative called for by both parties. We anticipate that private infrastructure investment will continue to play a growing role in the U.S. market, but will remain a relatively small portion of the overall basket without significant evolution of public policy and legislative initiatives related to P3s in the U.S. Also, beyond the funding question, other issues will continue to constrain the pace at which new infrastructure investment can occur; these include the lengthy lead times needed for environmental and other regulatory approvals for new projects, and capacity constraints of large engineering firms to take on significant new projects.

Heightened infrastructure spending is likely to be delayed by lack of bipartisan agreement on a funding approach

While both parties have advocated for aggressive new infrastructure spending, there is no bipartisan agreement on how to fund such investment. This will likely delay forward progress on new infrastructure investment until common ground can be found.

The Republican Plan

In an address to the U.S. Congress on February 28, 2017, President Trump asked members to 'approve legislation that produces a $1 trillion investment in the infrastructure of the United States -- financed through both public and private capital.'[2] He went on to stipulate that this effort would be 'guided by two core principles: Buy American, and Hire American.' The President's comments show an openness to using both direct investment by government, as well as private investment to meet the country's infrastructure needs. His comments are also a refinement of a policy paper published on October 27, 2016 by the Trump campaign that outlined 'a major private sector, revenue neutral option to help finance a significant share of the nation's infrastructure needs.'[3]

That plan assumed that at an average leverage factor of 5 to 1, $1 trillion of privately sponsored infrastructure investment would need $167 billion of equity investment. To promote such sponsorship, the plan would grant a tax credit to private infrastructure investors equal to 82% of the equity invested in a new project. The plan further argued that the government would recoup these tax credits through taxes on the incremental wages of laborers and contractor profits during construction. The plan also noted the potential to incentivize the flow of private capital to infrastructure projects through revised policies on the repatriation of overseas earnings.

While greater use of private investment would be beneficial to the infrastructure sector, not all infrastructure projects have a defined and discreet revenue base that would facilitate using a demand risk P3 structure. For instance, only about 3.6% of all U.S. highways or about 12% of the U.S. Interstate highway system is tolled, leaving a large amount of roads and bridges without an existing specific revenue stream that could be used to support a private funding initiative for new projects. Consequently, a material portion of any infrastructure investment will need to be accomplished via direct government funding.

Another constraint on aggressive use of private infrastructure investment is that the assumed leverage factor of 5 to 1 in the Trump policy paper could understate the actual equity investment needed if more challenging demand risk P3 projects are a large part of the infrastructure requirements. Availability payment P3 projects are often structured with lower equity funding of about 10% compared to the Trump plan assumptions of 20% or 5 to 1, while credit worthy demand risk projects typically have seen 30% to 50% equity funding (2 to 1 or 1 to 1 leverage).

The Democrat Plan

In a January 2017 proposal entitled 'A Blueprint to Rebuild America's Infrastructure', the Democratic members of the Senate also outlined a $1 trillion investment in infrastructure over the next 10 years. The Blueprint specifically identified amounts to be invested in various infrastructure categories, and the expected job creation that would result from such investment. While the plan did not specifically define how the investment would be funded, it did run counter to the Trump policy paper approach of incentivizing private investment by noting that 'Our Blueprint will invest directly in communities because Democrats know that we can't fix a problem of this magnitude simply by tolling more highways or privatizing water and sewer systems that profit on ratepayers'.[4]

Thus, the Democratic plan would likely be more reliant on Federal, State and Local Government direct investment, and would likely require incremental taxation, in addition to any user fees, to support the debt incurred to fund the infrastructure investment. The prospect of higher taxation along with higher levels of government indebtedness could pose other challenges.

Exhibit 3

Overview of Investments from Democratic Congressional Plan

Project Type	Amount (billions)
Roads and Bridges	$210
Water and Sewer Systems	$110
Rail and Bus Systems	$180
Vital Infrastructure Programs	$200
Schools	$75
Ports, Airports and Waterways	$65
Energy	$100
High Speed Broadband/Public Safety	$20
Public Lands and Indian Country	$20
Department of Veterans Affairs Hospitals	$10
Innovative Financing Tools (Infrastructure Bank)	$10
Total	$ 1.0 Trillion

Source: A Blueprint to Rebuild America's Infrastructure, the Senate Democrat proposal on Infrastructure 1/24/17

Under both the Republican and Democratic proposals, infrastructure spending would increase by an average of $100 billion per year. This compares to the current rate of spend of about $400 billion per year by federal, state and local governments. If funded through direct government investment, such an increase would be difficult to accommodate given other pressures on federal, state and local government budgets. Yet, the increase would be well more than 10 times the recent pace of P3 projects reaching financial close in the U.S. each year.

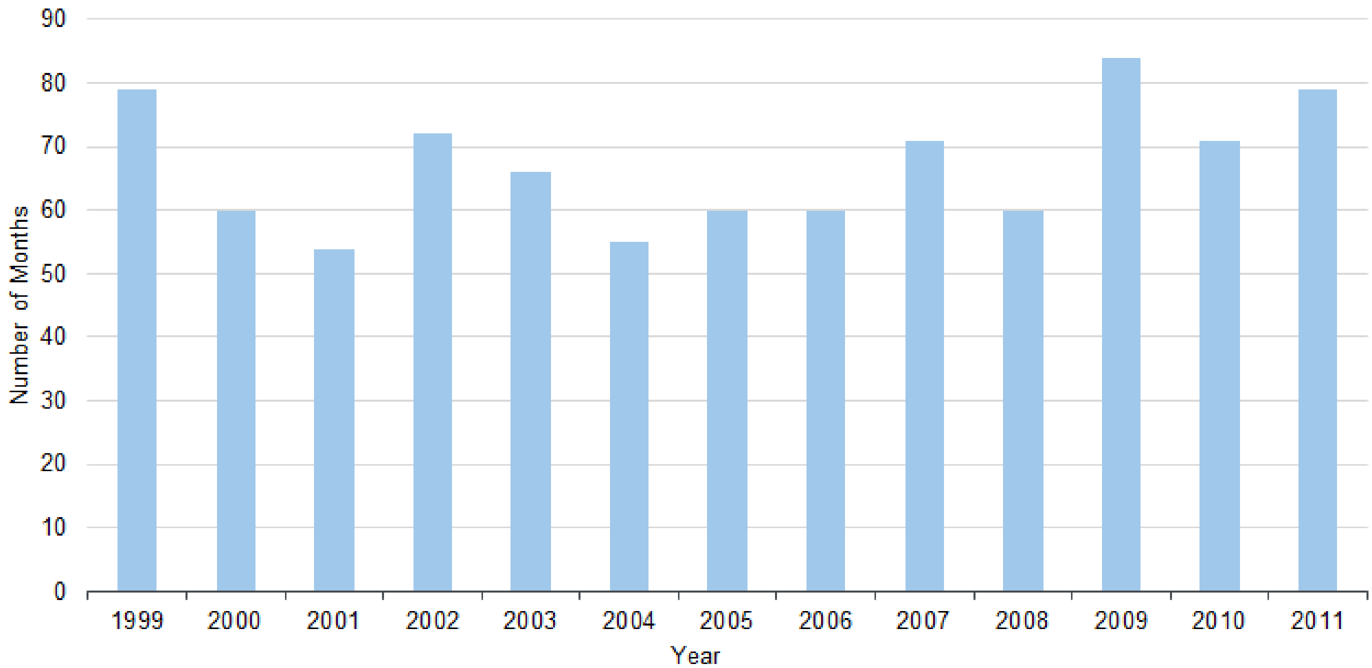
Finding a reasonable balance between direct government investment and private investment will take time, and because of other legislative priorities such as health care, tax reform, the budget, and approvals of remaining administration appointments, we believe that specific action regarding infrastructure is not likely until late 2017 at the earliest.

The National Governors Association has offered a list of over 400 infrastructure projects, some of which have been moving through their respective required approval phases and could benefit if government policy were to increase infrastructure investment. One interesting development was seen in news reports of a meeting held with top economic advisors and business leaders at the White House on March 8, 2017, in which the administration discussed requiring states to begin construction within 90 days of receiving any federal funding for an infrastructure project as a means of pushing states to streamline permitting processes. The discussion also called for emphasizing renovation of existing roadways and other assets, which often require less regulatory review, over building new ones. These initiatives suggest the potential for some uptick in the pace of infrastructure spending in 2018, but because of the long lead times likely to still exist for approval of large ticket new infrastructure development (rather than renovation of existing assets), we believe that most of the benefit of any new infrastructure spending program will only become apparent toward the end of President Trump's current term.

Even with agreement on funding and reform of government oversight, regulatory reviews will constrain the rate of spending

Beyond the issue of funding, regulatory approval issues will continue to constrain the rate at which new infrastructure investment can materialize. A critical time constraint in all large infrastructure projects is the significant mountain of environmental and other regulatory approvals and permits that must be cleared before a project can begin. These can involve long processes with multiple studies commissioned; reviews and hearings with various regulatory bodies and the public; and potentially litigation at local, state and federal levels. In most cases, clearing this approval process can take several years. As one example, the Federal Highway Administration indicates that for Records of Decision issued for highway projects during the years 1999 thru 2011 (most current data reported) under the National Environmental Policy Act process (NEPA process is related to projects that require Environmental Impact Studies), the median review process ranged from 54 months to 84 months.[5]

Exhibit 4
Federal Highway Administration -- Months Required to Complete NEPA Process



Source: Federal Highway Administration

Federal agencies have recognized the importance of improving the efficiency of the regulatory review process for projects, and one example of a high-priority infrastructure project that benefitted from accelerated permitting is the Tappan Zee Bridge Replacement project in New York State. The Federal Highway Administration used a process of concurrent reviews among various federal, state and local agencies, as well as other initiatives to materially shorten the review process. But such actions are costly and rely significantly on the support of politicians, and therefore may not be applicable to a broad range of infrastructure projects.

President Trump's executive order of 1/24/17 calls for the US Government to 'streamline and expedite, in a manner consistent with law, environmental reviews and approvals of all infrastructure projects, especially projects that are a high priority for the Nation, such as improving the U.S. electric grid and telecommunications systems and repairing and upgrading critical port facilities, airports, pipelines, bridges, and highways.[6] The executive order indicates the new administration's interest in expediting the regulatory and environmental review process of infrastructure projects, and on the margin, should be beneficial in moving projects forward. Its implications were most clearly demonstrated by the February 8 decision by the US Army Corps of Engineers to approve the completion of the Dakota Access Pipeline in North Dakota,[7] a project that had previously been halted by regulatory and environmental reviews, as well as public protests. However, Dakota Access is a unique situation that had already been subject to significant regulatory study, and may not be indicative of the pace of change the executive order will have on the overall approval process for new projects.

The executive order sets an important tone, which is beneficial for the infrastructure sector, and compliments other recent initiatives such as the creation of the Build America Bureau within the U.S. Department of Transportation to streamline access to federal credit and grant opportunities. Nevertheless, it relates only to federal regulations. Infrastructure projects are also subject to significant state and local regulations which are not directly affected by these executive orders. Meaningful acceleration of lead times for new projects would likely require true regulatory reform involving a host of federal, state and local agencies and/or passage of new legislation, which will may be met with political resistance. Consequently, we continue to expect long regulatory and environmental approval lead times for new projects to preclude a material near term uptick in infrastructure investment.

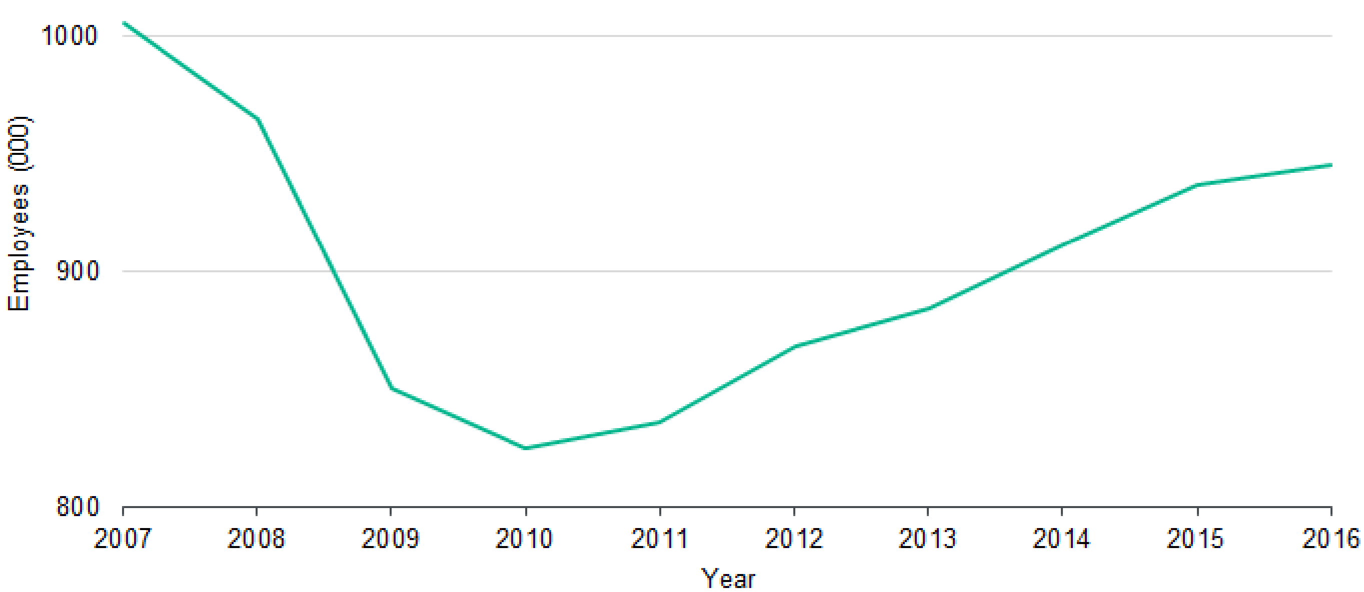
Practical contractor and supplier constraints will also limit the rate of spending growth

Other practical considerations will also constrain the pace at which new projects can proceed, particularly if the president's 'Buy American and Hire American' core principles are followed. These include the limited capacity of engineering and construction firms to take on significant new projects, contractors ability to meet government bonding requirements for large projects, and the need to phase new projects to avoid significant disruptions for users of the existing infrastructure.

A $1 trillion program of new infrastructure investment executed over a 10-year period would suggest, on average, a 25% increase to the current $400 billion annual rate of infrastructure spending in the U.S. Such an increase in activity would pose a significant challenge for the large engineering and construction firms typically engaged on infrastructure projects, including the need to hire and train new project managers, locate skilled labor such as welders and pipe fitters (either of which could be limited by new constraints proposed for work visas), and engage subcontractors and suppliers of critical materials and subsystems. Gearing up the engineering and construction sector, as well as key suppliers (such as rail car manufacturers for transit projects) for such a large increase in spending will require time and suggests that the effects of planned infrastructure investment will be limited in the next couple of years. The Bureau of Labor Statistics data shows that the number of heavy and civil engineering/construction employees in the U.S. has still not recovered to levels seen before the 2008 recession, providing some theoretical room for acceleration of hiring in these sectors to support a higher level of infrastructure spending.

Exhibit 5

US Heavy and Civil Engineering/Construction Workers



Source: Bureau of Labor Statistics

Contractors are typically required to post surety bonds or letters of credit to support their performance on large infrastructure projects. The proposed increase in infrastructure spending would suggest a much greater need for bonding which could be difficult to obtain given the limited financial strength of many construction firms.

Many of the infrastructure initiatives that have been discussed relate to replacing or upgrading existing infrastructure assets. Consequently, even when all regulatory and environmental approvals have been granted and engineering/construction resources have been secured, the execution of these projects will need to be phased to avoid significant disruptions to users of the existing infrastructure assets such as commuters using a major river crossing that is being replaced or travelers using an airport terminal that is being rebuilt. Phasing of projects will tend to stretch out the time frame for spending and also limit the near term impact of initiatives to increase infrastructure spending.

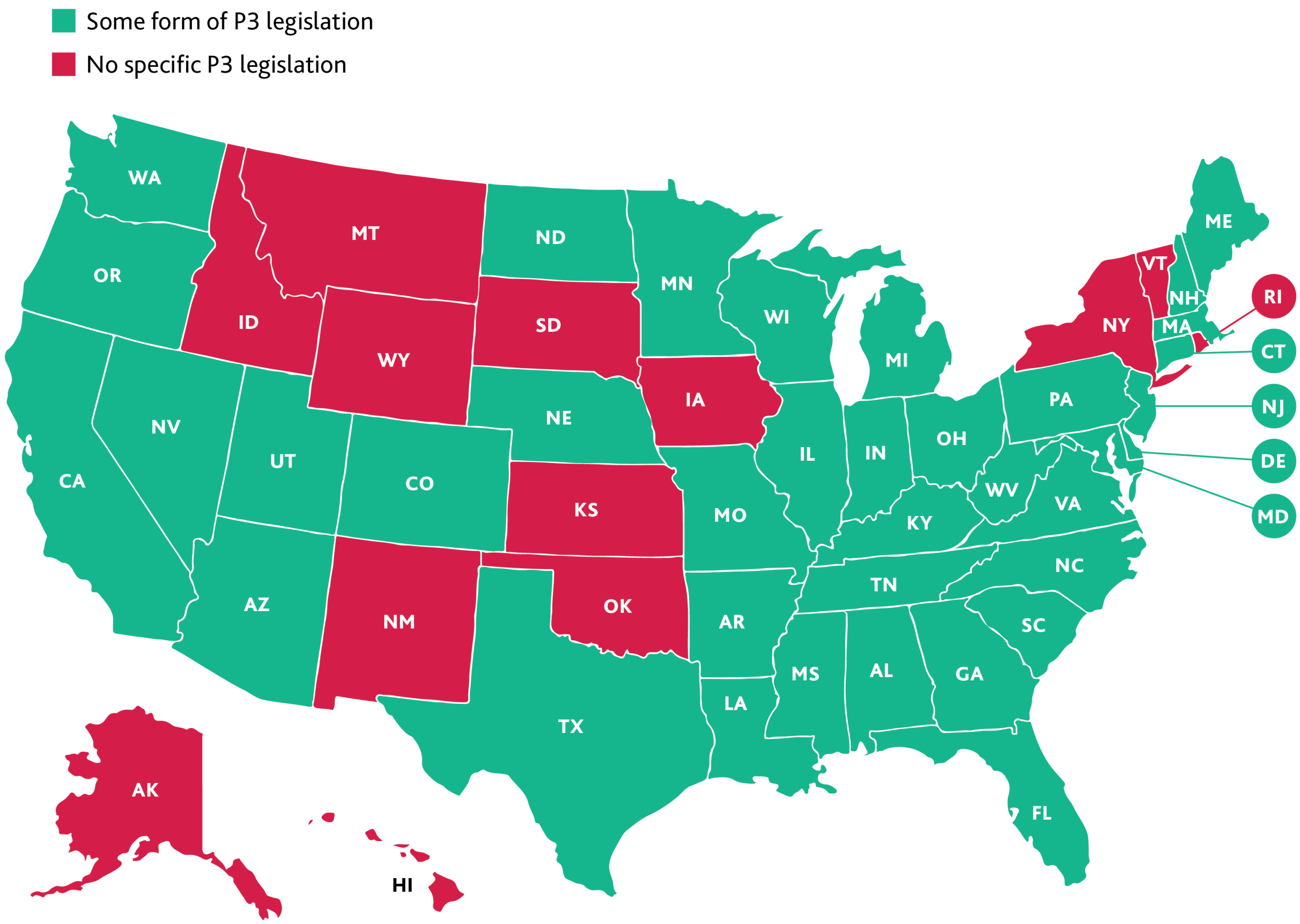
Expanded access to private capital will be dependent on greater use of Public-Private Partnerships (P3s)

Continued evolution of state and local government policy regarding P3s as well as broader legislative action to permit P3 transactions will be necessary if private sponsorship is to play a meaningful role in facilitating an increase in public infrastructure spending.

P3s have been actively used to fund public infrastructure investment for many years in countries such as Canada, the UK and Australia. However, in the U.S. P3s have played a more limited role in public infrastructure investment due to the well-established tax exempt debt market that often gives a financing cost advantage to direct infrastructure investment by state and local governments. Moreover, public policy has often seen a conflict in the profit incentive of private investment in public infrastructure. Yet, the opportunities to transfer risk in both the construction and operating phases of certain projects while also being able to limit the private sector to reasonable returns have caused an increasing number of states to consider the use of P3s. We expect public policy to continue this evolution toward the use of P3s if the higher level of infrastructure spending contemplated by both parties comes to pass.

P3 projects primarily rely on authorizing legislation at the state level, and only 37 states have adopted legislation authorizing some form of P3s (i.e. some states allow for social infrastructure P3s and not transportation P3s, while others allow for demand risk P3s but not availability payment P3s).[8] As public policy toward the use of P3s evolves, we anticipate that more states will pursue P3 authorizing or clarifying legislation. Texas and Virginia have well established legislation and have been active users of demand risk P3s, but both states do not allow for the use of availability payment P3s for road projects. Other states like Hawaii have only recently proposed P3 authorizing legislation, and a number of states have no current initiatives related to P3s or have allowed their legislation to expire like in California for transportation projects at the end of 2016. Even in states that have well established P3 legislation, only a minority of ‘marquee’ projects are currently funded with private investment. Moreover, the significant variability in the way P3 enabling legislation is written among the states makes it more challenging for private sponsors to be active in developing projects across a wide portion of the country. Consequently, we anticipate that continued evolution of public policy and additional legislative action that promotes the use of P3s and simplifies P3 legal frameworks across the states will be an important factor in promoting private investment in the country's public infrastructure.

Exhibit 6
37 States Enable some form of P3s as of January 2017



Source: National Council for Public Private Partnerships

All About Public-Private Partnerships

Below are definitions of important terms used in the P3 market.

Availability-payment P3s. Once construction is completed, the private developer is entitled to payments from the government, as long as contract conditions are fulfilled. Availability payments are sized to cover operating and maintenance costs, debt service costs and equity returns as the private entity operates the project. Availability payments are not subject to swings in demand, such as traffic levels, and are adjusted typically only for lack of performance or lack of availability of the asset to the public. The availability- payment P3 is prevalent in the UK (Aa1 negative), for example, where they are also called private finance initiatives, or PFIs; in Canada (Aaa stable); in Australia (Aaa stable); in France (Aa2 stable); in the Netherlands (Aaa stable); and in Portugal (Ba1 stable).

Demand risk P3s, or concessions. Demand risk PPPs, or concessions, have a long history of public-private financing and have been used in a number of European countries and in Latin America, particularly for toll roads. Under a concession or demand risk P3, the project is largely financed by user fees, and the government takes on no or only limited demand risk. This model is often applied for toll roads, public transport, or water, gas and electricity P3s.

Hybrid forms. P3 arrangements can have characteristics of both an availability-payment and a demand risk P3, exposing the government to a variety of potential liabilities: (1) explicit obligations such as availability payments; (2) contingent obligations such as financial guarantees, termination payments, subsidies if demand falls under certain thresholds; and (3) more remote contingent obligations, such as the risk of contract renegotiations or takeover of the project in case of default of the special purpose entity.

Moody's Related Research

» Default Research: Default and Recovery Rates for Project Finance Bank Loans, 1983-2015, March 6, 2017

» States - US: States Increasingly Picking Up Tab for Spending on Bridges and Roads, January 19, 2017

» Default Research: Infrastructure Default and Recovery Rates, 1983-2015, July 18, 2016

» Infrastructure Renewal and Investment: Bridging $1 trillion infrastructure gap needs multi-pronged approach, February 24, 2016

Endnotes

1 The Impact of Current Infrastructure Investment on America's Economic Future

2 Remarks by President Trump in Joint Address to Congress

3 Trump Versus Clinton On Infrastructure

4 A Blueprint to Rebuild America's Infrastructure

5 Federal Highway Administration: Estimated Time Required to Complete the NEPA Process

6 Executive Order Expediting Environmental Reviews and Approvals For High Priority Infrastructure Projects

7 US Army Corps of Engineers: Corps grants easement to Dakota Access, LLC

8 The National Council for Public-Private Partnerships: State Legislation

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