



Using Pension Funds to Build Infrastructure and Put Americans to Work

Donna Cooper and John F. Craig March 2013



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COVER PHOTO

A worker levels dirt for a light rail bridge construction project over the Willamette River in Portland, Ore., Friday, Oct. 5, 2012. The Labor Department reported Friday that the unemployment rate fell to 7.8 percent in September, a decline of 0.3 percentage point and the lowest since January 2009. The government said the economy created 114,000 jobs, about as expected, and generated 86,000 more jobs in July and August than first estimated. AP PHOTO

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Introduction and summary

America's infrastructure—its roads, bridges, water and sewer systems, energy grids, and telecommunications systems, to name a few—is outdated and is, in far too many places, crumbling due to lack of sufficient public investment.¹ America's construction workers faced levels of unemployment close to 14 percent in 2012,² and our construction industry is experiencing lackluster levels of activity, as the value added by the industry in 2011 was still more than \$100 billion lower than the prerecession high.³ And while public and private employee pension funds are confronting distressing levels of unfunded liabilities due to the most recent market crash and rising levels of retirement—with 90 percent of the pension funds that responded to a Wilshire Consulting survey reporting higher amounts of liabilities than assets⁴—public pension funds and private funds managing union pensions have more than \$4.5 trillion in assets.⁵ Any one of these indicators alone would signal deep economic distress. Together, they should be setting off alarm bells that new economic policies are needed. The Center for American Progress is calling for new federal policies that encourage responsible pension-fund investment in U.S. infrastructure projects because such policies can help reverse these negative trends and make a significant contribution to putting the economy on sounder footing.

The Center for American Progress estimates that all levels of government, together with the private sector, invest approximately \$130 billion annually in energy, surface transportation, and water infrastructure.⁶ But the estimates also show that an additional \$129 billion per year is needed for at least the next 10 years to repair and improve our transportation and water systems, dams and levees, and energy infrastructure, all of which are critical to supporting globally competitive businesses and a high quality of life in communities across America.⁷

Private investment from sources such as pension funds cannot close this gap in infrastructure funding unilaterally. Nevertheless, it makes sense to find ways to accelerate private investment in infrastructure so that annual government appropriations can be directed to projects in which user fees or other dedicated revenues such as gas taxes or sales taxes and the expanded use of tolling—fees charged for the use

of highway facilities—is not likely to be sufficient to repay investors. CAP estimates that at least \$60 billion a year in infrastructure improvements could be financed with private capital, thereby relieving federal and state budgets of this upfront cost, although in some cases government appropriations may be part of the mix of funds used to repay investors over time.⁸ Even with a ready and eager pool of private investment capital, public policies that promote an increase in dedicated revenues are needed to generate the funds necessary to repay investors for their risk and effort.

Canada, Australia, and many of the EU nations are investing more in their infrastructure and modernizing it at a more rapid pace than the United States.⁹ A significant portion of this updating and expansion is being financed with pension-fund capital invested in projects through public-private partnerships, which give investors an equity stake in the infrastructure asset through a long-term lease—commonly known as a concession agreement—or through outright ownership.¹⁰ In some high-profile infrastructure projects overseas, U.S. pension funds are major investors. The largest public pension fund in the United States, the California Public Employee Retirement System, for instance, recently took a 12.7 percent equity stake in the London Gatwick Airport with a \$155 million investment.¹¹

Pension funds are making these types of investments when opportunities align well with their investment-portfolio needs and can thus contribute to achieving fund solvency. Over the next decade investment consultants forecast that pension funds will invest \$3.5 trillion in traditional infrastructure and what is termed “social infrastructure”—public buildings such as schools, government facilities, and hospitals.¹² According to *The Financial News*, “the investments ... in these funds ... would build 170,000 new hospitals or pay for 73,000 miles of three-lane motorway, enough to circle the globe three times.”¹³

This hefty level of investments represents a very small share of overall U.S. and international pension-fund investments. The Organisation for Economic Co-operation and Development, or OECD, estimates that less than 1 percent of pension funds worldwide are invested in infrastructure projects, excluding indirect investment in infrastructure via the equity of listed utility companies and infrastructure companies.¹⁴

U.S. pension funds are much less active in infrastructure investment than their counterparts in Canada, Australia, and the European Union. In Australia, retirement funds, known as superannuation funds, are increasingly investing in infrastructure.¹⁵ While these Australian funds also struggle to find financially feasible domestic infrastructure projects in which to invest, their domestic market is maturing. An

average of approximately 5 percent of their assets is invested in Australia, with some funds' investment stakes in the double digits and representing as much as \$80 billion available to invest in infrastructure.¹⁶ The question is: Why are U.S. pension funds less active in infrastructure investment than their international counterparts? What can be done to spur such investment in financially rewarding and publicly needed domestic infrastructure projects? This report highlights the key challenges that U.S. pension funds face in increasing transportation-related investments in roads, bridges, ports, waterways, airports, transit, and rail. It then discusses policy options that are aimed at reducing or removing these barriers.

One key factor in the relatively low level of pension-fund engagement in U.S. infrastructure investment is the existence of the robust tax-exempt municipal-bond market, typically referred to as the “muni market.” In 2012 this nearly \$400 billion market offered states and localities easy access to low-cost capital for infrastructure projects.¹⁷ Municipal bonds are financially beneficial to investors with tax liabilities. Since pension funds are not taxable entities, infrastructure projects financed with tax-exempt debt don't offer pension funds a financially attractive vehicle through which to make investment in U.S. infrastructure projects. That's the reason pension funds don't enter the muni market. Likewise, neither state and local governments nor quasi-governmental entities such as ports and airports need to engage pension investors because of the strength of the muni market.

Beyond the muni market's effect of crowding out tax-exempt investors, where there are infrastructure investments in the United States that offer a competitive rate of return to pension funds, the funds themselves have confronted significant barriers to investments. These barriers include a lack of experience; lack of investment-review capacity; the paucity of opportunities for investments that align with pension-fund needs and expectations; a mismatch between infrastructure deal structure and size and pension-fund needs and obligations; an aversion to operational and headline risks where there is a possibility of negative publicity associated with the investment; and political conflict and uncertainty where the viability of an investment can become subject to legislative action.

One reason to address these barriers is that adding pension funds to the “investor table” increases the number of willing investors, which in turn increases the supply of capital, creating a healthier marketplace that can produce a lower cost for capital. In addition, engaging pension funds at the investor table can mean that there is an investor that will demand employment policies that will ensure that workers are well trained and well paid throughout the construction and operation of the projects.¹⁸ For these reasons, CAP believes that a strategy that increases

pension-fund investment in infrastructure will contribute to increasing the pace of American infrastructure repair and improvement while boosting the likelihood that our projects are built by well-trained workers who can do high-quality work.

New federal and state policies and resources can address some of these challenges by helping make pension funds more knowledgeable of and comfortable with infrastructure investments. Options include policies that close the knowledge and capacity gap through education and training, increase investor confidence in the infrastructure sector, and boost the predictability of returns on such investments. Specifically, we suggest:

Closing the information gap to build experience

- Establish a national infrastructure bank that has the capacity to hire experts who can work with pension funds where investment needs align with infrastructure projects.
- Provide seed capital to launch a network of fee-supported nonprofit intermediaries that are not affiliated with any infrastructure funds or other private-investment vehicles to disseminate to pension-fund staff, trustees, and advisors expertise in pension and infrastructure investing.
- Support small working conferences where pension-fund managers and project sponsors work jointly on products, metrics, templates, and any other necessary documents or information that can enable pension funds to review projects according to their needs and give project sponsors a well-informed approach to seeking partnerships with pension funds.
- Establish an industry-standard group that would bring pension funds together to establish benchmarks for infrastructure investment and consider prudent fee structures for public pension funds investing in projects funded in part through tax credits, public grants, or publicly subsidized debt.
- Use the training capacity of the U.S. Department of Transportation to prepare state transportation departments to work in partnership with pension funds, including through the creation of templates for responsible contractor policies and clarification about what categories of projects are likely to be approved for private financing, as well as through clarification of state performance and the earnings expectations of private investors. Tap the expertise of the U.S. Department of Labor to increase the understanding of Employee Retirement

Income Security Act-related requirements and the degree to which infrastructure investments meet those requirements for private-pension-fund trustees, managers, and advisors. Where further clarification is required, the Department of Labor should undertake releasing such guidance.

Increasing confidence in the soundness of infrastructure investments

- Fund a pension-trustee training institute that prepares materials for pension-fund fiduciaries and administrators that can build trustee understanding of infrastructure investment and separate the facts and myths about investments made in this sector. Charge the institute with creating tools to help trustees consider risks so that sound decisions can be made about the likelihood of financial or headline risks and the options for addressing these risks should they materialize.

Increasing the financial return to pension funds for investing

- Launch a new federally subsidized, taxable bond instrument that can offer pension funds sufficient return for debt investments in infrastructure. Enable infrastructure projects where pension funds are majority equity owners in order to tap the tax-exempt bond markets for the share of ownership under their control.
- Improve U.S. loan-guarantee and credit-enhancement options to improve protections available for projects in which pension funds are equity owners.

Ensuring that project financing is reliable and predictable

- Enable states to use tolling on all highway lanes where tolling is viable throughout the National Highway System.
- Increase the amount of dedicated and predictable federal revenues available for states to use to offer a reliable and competitive rate of return to investors.

This paper describes the current state of pension-fund activity in infrastructure investments in the transportation-related sectors, explains the barriers to mobilizing more pension-fund investment in the sector, and offers recommendations to address these challenges.

Background

The U.S. government offers many incentives for private investors to participate in transportation- related and other infrastructure investments. These options include tax-exempt municipal bonds, tax-exempt private-activity bonds, and—from 2009 to 2011—subsidized taxable bonds known as Build America Bonds. The government also extends credit to privately financed infrastructure projects via subsidized loans and loan guarantees from programs such as the Transportation Infrastructure Finance and Innovation Act. A review of these federally supported investment approaches is useful in understanding the landscape of infrastructure investment—and how changes to it might increase pension-fund transportation-related investments.

Tax-related infrastructure incentives

The federal government currently has several tax-expenditure programs that are targeted in part toward increasing the amount of private capital invested in infrastructure. Tax-exempt municipal bonds and private-activity bonds can be used to finance a variety of infrastructure projects, as follows:

- **Tax-exempt municipal bonds:** States and localities may issue tax-exempt municipal bonds in order to fund publicly owned infrastructure facilities, including roads, water facilities, and various other publicly owned projects.¹⁹ Purchasers of the bonds are not taxed on the interest earned on these bonds, which allows the governmental issuers to attract willing investors while benefiting from a reduced project cost as a result of the lower interest rate.²⁰
- **Private activity bonds:** States and localities may also issue tax-exempt private-activity bonds on behalf of privately owned facilities, including airports, ports, local mass transit systems, and public-works facilities.²¹ These bonds provide private-infrastructure owners access to an affordable option for financing the maintenance and development of publicly used facilities.

By far, the most powerful federal subsidy for attracting private investment in transportation infrastructure is tax-exempt debt. Out of the approximately \$340 billion in long-term, tax-exempt bonds issued in 2010, approximately \$24 billion was issued for new transportation projects and \$22 billion was issued to refinance previous transportation projects.²² Tax-exempt municipal bonds are highly valued by state and local governments because they offer relatively simple access to low-cost capital. The tax-exempt nature of these bonds, however, does not attract investors who have no U.S. tax liability, which is precisely the case for pension funds since they are tax-exempt entities.

In 2009 and 2010 the American Recovery and Reinvestment Act of 2009 created a bond program that encouraged investors without tax liability to invest in municipal bonds. States and localities were permitted to issue Build America Bonds, which were taxable with a federal subsidy of 35 percent that the state or local governments could use to subsidize the interest costs.²³ The issuance of these bonds totaled approximately \$120.1 billion in 2010, with transportation construction and improvement projects making up \$29.4 billion of the total.²⁴

The issuance of the Build America Bonds saved state and municipal governments approximately \$20 billion, and because of the otherwise taxable but higher interest rates these bonds offered, they were quite attractive to long-term institutional investors such as pension funds.²⁵ Though the Build America Bond program expired at the end of 2010,²⁶ the program demonstrated the potential that subsidized taxable bonds have for encouraging tax-exempt institutional and other investors such as pension funds to enter the infrastructure sector.

Direct federal financing incentives

In addition to subsidizing tax-exempt bonds, the U.S. government also lowers the cost of infrastructure projects through several direct-loan and loan-guarantee programs. These programs offer projects or companies that pass rigorous standards a federal subsidy that both lowers the project cost and sustains investment returns, making projects more feasible for private investors such as pension funds.

Transportation Infrastructure Finance and Innovation Act. Through loan guarantees, direct loans, and standby lines of credit, the Transportation Infrastructure Finance and Innovation Act, or TIFIA, provides assistance to significant surface-transportation projects.²⁷ Through TIFIA, the U.S. Department of Transportation grants loans

to qualified projects at an interest rate near U.S. Treasury rates, with a credit subsidy paid for by appropriated federal funds.²⁸ The Federal Credit Reform Act requires that to establish the credit subsidy, a cost assessment must be performed by both the U.S. Office of Management and Budget and the Department of Transportation that “takes into account expected repayments, defaults, recoveries, and any interest or fees collected over the life of the loan, adjusted to current dollars.”²⁹ Each dollar of federal funding used toward providing credit subsidies under TIFIA allows the Department of Transportation to issue approximately \$10 in lending near U.S. Treasury interest rates.³⁰ In addition, the act requires projects to have no more than 33 percent of their estimated project cost paid for by federal credit assistance.³¹ As such, each dollar appropriated to provide credit subsidies through the act results in up to \$20 in investment from other governmental and private sources.³² The program has been approved to provide up to \$1.75 billion in credit subsidies in 2013 and 2014,³³ which in turn will provide up to \$50 billion in new infrastructure investment.³⁴

Railroad Rehabilitation & Improvement Financing program. This program authorizes the Federal Railroad Administration to provide up to \$35 billion in direct loans and loan guarantees to finance improvements to tracks, bridges, yards, and buildings and develop new intermodal facilities that connect other forms of transportation to railways.³⁵ The program has made \$1.7 billion in loan agreements to date, and almost \$1 billion of that lending has occurred since the start of 2009.³⁶ The credit subsidy for this program is calculated in the same manner as the rules

New infrastructure capacity made possible by pension funds working in partnership with federal loan programs

The federally subsidized loan programs lower project costs, which in turn can modestly boost the long-term rate of return for investors. As a result, infrastructure projects that tap these loans are increasingly attracting private investors, including pension funds such as:

Teachers Insurance and Annuity Association - College Retirement Equities Fund, or TIAA-CREF. One of the largest U.S. pension funds, with \$502 billion in assets under management,³⁸ this pension fund is a 50 percent equity partner in the private company that will “design, build, finance, operate and maintain the I-595 road-

way” in Broward County, Florida, over a 35-year contract.³⁹ The pension fund invested more than \$100 million in the \$1.8 billion project, which also received a TIFIA loan of \$603 million in 2009.⁴⁰

Dallas Police and Fire Pension System. A \$3 billion fund,⁴¹ it became a partner in the North Tarrant Express project in 2009. The pension fund invested about \$43 million in this \$2 billion expressway project in the Fort Worth area,⁴² which also had a \$650 million TIFIA loan and raised \$398 million from issuing private-activity bonds—tax-exempt bonds available to private owners of publicly used facilities.⁴³

of the Federal Credit Reform Act, but unlike the Transportation Infrastructure Finance and Innovation Act, funding for the Railroad Rehabilitation & Improvement Financing program is not appropriated by Congress to offset the credit subsidy.³⁷ As a result, the borrower pays back to the government the full cost of the loan plus the full cost of the credit subsidy.

U.S. pension funds are increasing their commitments to invest in U.S. infrastructure projects

Federal laws wisely require that pension-fund trustees base their investment decisions exclusively on what is in the best interest of fund beneficiaries. As a result, pension-fund trustees must limit fund investments to those that offer reasonable and predictable returns and pose risks that are appropriate to keeping pension promises. At the same time, it's possible to argue that crumbling infrastructure, high unemployment, and weak labor protections can—in the long run—undermine pension funds' financial conditions. Still, the relatively bright-line rules that prescribe fiduciary responsibilities of pension trustees are reasonable because broader interpretations of beneficiary interests can be subject to manipulation that could put retirees at risk and exacerbate the unfunded-pension-liability crisis.

Pension-fund trustee fiduciary standards

Broadly stated, the fiduciary responsibility of pension-fund trustees and administrators of private single- and multiemployer pension funds or public pension funds are similar, though particular details might differ.

The Employee Retirement Income Security Act governs the fiduciary duty of private-pension-fund trustees—including those for multiemployer pension funds—which typically cover union retirees.⁴⁴ These private-pension-fund trustees are subject to the “exclusive interest” and “sole purpose” rules, which require that they act in the sole purpose of providing benefits to the fund while incurring only reasonable administrative costs.⁴⁵

Public pension funds, which manage the retirement benefits of state and local government retirees, are not subject to the Employee Retirement Income Security Act but instead to the specific laws of individual states.⁴⁶ State laws often include a fiduciary duty similar to what is required under the Employee Retirement Income Security Act.⁴⁷ But unlike the Employee Retirement Income Security Act, states may also impose certain requirements with respect to the kinds of investments that public pension funds can make.⁴⁸

According to Larry Beeferman, the director of Harvard University's Capital and Stewardship Project, "Pension funds looking toward infrastructure investing are doing so because they believe that their investment goals could well be aligned with the attributes of infrastructure finance, and they have or are building or tapping the capacity to carefully review infrastructure investment options."⁴⁹ Specifically, pension-fund trustees are mindful that infrastructure investments may offer:

- Safe investments in monopolistic markets, where long-term returns are not likely to be undermined by competition. In investment parlance, this means that the sector offers high barriers of entry for competitors.
- Predictable earnings often defined in state or local law, where the source of revenue for repayment with defined growth and inflation protection is delineated. Many public-private-partnership concession leases with public entities, for instance, link annual revenues to the consumer price index or higher. In some cases they offer investors availability payments, which are multiyear, legally binding commitments of direct payments from the government to the investors.
- Relatively inelastic investments that are to a significant extent immune to major economic changes and are not overly impacted by demand. Consequently, a dramatic reduction in use or revenues that is derived from use is unlikely unless the infrastructure asset itself fails.
- A long time horizon on which the infrastructure project generates returns to the pension fund that stretch over a decade or more.

Because infrastructure projects possess the above attributes, more and more U.S. pension funds are entering the infrastructure-investment marketplace. Beeferman estimates that, "sixty to seventy U.S. pension funds" are currently investing in or may soon invest in infrastructure projects.⁵⁰ According to Beeferman, "It is more typical that pension funds take the role of an indirect investor, placing a portion of the pension fund assets with a private infrastructure investment fund."⁵¹ Pension funds that take this indirect route become one investor among many in a privately managed infrastructure fund that takes an equity stake in numerous infrastructure projects.

Some funds, however, are taking the direct investment approach, such as the TIAA-CREF's investment in the TIFIA-supported expressway projects described above. Another example of the direct investment approach involves the nation's largest public pension fund, the California Public Employees'

Retirement System, or CalPERS, which is a co-owner of Centerpoint, one of the nation's largest real estate and logistics firms. With CalPERS investment, Centerpoint took over and then redeveloped the inland port in Joliet, Illinois—a \$1 billion project that includes an intermodal center that can support the movement of 500,000 shipping containers annually.⁵² This is an example of a pension fund that is investing as a direct investor in some cases and as an indirect investor in others.

To increase the pace of pension-fund investment in infrastructure, Richard Trumka, president of the American Federation of Labor and the Congress of Industrial Organizations, or AFL-CIO, and Randi Weingarten, president of the American Federation of Teachers, announced at the 2011 Clinton Global Initiative a joint union pledge to move \$10 billion in pension-fund assets into the infrastructure sector in five years.⁵³ These union leaders are eager to push pension funds to find ways to invest in infrastructure that also meet the funds' fiduciary requirements.

To facilitate more union-pension-fund investment in infrastructure, Ullico, a multi-employer, union-owned insurance company,⁵⁴ launched an infrastructure fund in 2012 that is intended to give pension funds an opportunity to invest in infrastructure improvements in the United States.⁵⁵ The fund operates similarly to other privately run infrastructure funds. It expects, however, to offer pension funds an option for indirect infrastructure investments at lower transaction costs, as well as a long-term investment horizon with steady competitive returns from projects that also meet an explicit policy ensuring that workers' rights will be protected.⁵⁶ In December 2012 Ullico announced that it closed its first infrastructure deal, an agreement to make upgrades to the water and wastewater facilities of the city of Rialto, California.⁵⁷

Despite the growth of interest among pension funds in infrastructure investment, funds are having a difficult time finding financially viable projects in the United States. CalPERS, the nation's largest public pension fund, for instance, has sought to invest between 40 percent and 80 percent of its infrastructure allocation of \$5 billion in U.S. infrastructure.⁵⁸ They have yet to reach the low end of that target, with less than half of their current \$1 billion in infrastructure investments located in the United States.⁵⁹

When looking across pension funds, we see that—in addition to the divergence in the form of investing—there is a range of how pension funds designate funds

for infrastructure investment. In some cases, pension funds make specific asset allocations to infrastructure. This designation is helpful because it makes the funds’ intentions clear and also offers a way to track the rising level of interest and investment. Allocations made in this manner are at times misleading; many funds place infrastructure investments under other asset classes such as real estate, private equity, and real assets—and sometimes under opportunities investment strategies, where funds have a small unallocated portion of their capital that they may invest at their discretion. As a result, it’s impossible to accurately estimate the level of pension-fund allocations or investments in infrastructure.

The following is a summary chart of some of the larger pension funds in the United States where a new class for infrastructure investment was created or a specific infrastructure-investment policy was adopted.

TABLE 1
Examples of large pension funds with infrastructure investment policies

Pension funds	Size of fund	Investment target	Infrastructure investment
California Public Employee Retirement System, or CalPERS	\$243.2 billion ⁶⁰	The current allocation of \$5 billion set aside for infrastructure investments is approximately 2 percent of the pension fund's total assets. ⁶¹ CalPERS is currently targeting between 40 percent and 80 percent of its infrastructure budget—between \$2 billion and \$4 billion—toward infrastructure investments in the United States, with a target of 20 percent of the U.S. budget—up to \$800 million—going toward California projects. ⁶²	As of June 2012 CalPERS had made \$1.09 billion in investments in infrastructure, ⁶³ including the purchase of a 12.7 percent stake in the London Gatwick Airport for \$155 million. ⁶⁴
California State Teachers' Retirement System, or CalSTRS	\$152.5 billion ⁶⁵	CalSTRS, the second-largest public pension fund in the United States, created its infrastructure portfolio in 2010, ⁶⁶ and it is looking to increase its allocation to infrastructure investment to 2.5 percent of total assets. ⁶⁷	In October 2012 CalSTRS invested \$48.2 million into four new infrastructure projects in California, bringing the pension fund's total infrastructure investment up to \$750 million. ⁶⁸ Some of the projects that CalSTRS is currently providing funding to include the Presidio Parkway in San Francisco and an Oakland power plant. ⁶⁹
Florida Retirement System Pension Plan	\$124.8 billion ⁷⁰	Along with commodities and real estate, infrastructure investments are included in the pension plan's strategic investments allocation. ⁷¹	In August 2012 strategic investments made up 4.7 percent of all assets, less than half of the 11 percent asset allocation. ⁷² In October 2012 the Florida State Board of Administration, which manages the pension fund, made their first infrastructure investment, a \$150 million commitment to Global Infrastructure Partners II. ⁷³

Pension funds	Size of fund	Investment target	Infrastructure investment
Maine Public Employees Retirement System, or MainePERS	\$10.8 billion ⁷⁴	The Maine Public Employees Retirement System currently has 2.2 percent of its total funds invested in infrastructure, more than the 2 percent interim target allocation. ⁷⁵	The system's investments include five public-private-partnership assets including a courthouse in Long Beach, California, a highway project in Texas, and a research center in Montreal. ⁷⁶
Michigan State Employees' Retirement System, or MSERS	\$10 billion ⁷⁷	MSERS placed its asset allocation for infrastructure at 3 percent. ⁷⁸	While MSERS has yet to make a direct investment in infrastructure, ⁷⁹ its increased interest in infrastructure is partly attributed to seeking diversification, ⁸⁰ and the pension system has set performance objectives for individual investments at 400 basis points above the Consumer Price Index. ⁸¹
New Mexico Educational Retirement Board, or NMERB	\$9.8 billion ⁸²	NMERB has used a strategy of investing in funds rather than directly investing into infrastructure projects. ⁸³	At the end of 2011, the retirement board had more than \$150 million in commitments to three separate funds that have invested in transportation, energy, and utilities opportunities primarily in the United States and Western Europe. ⁸⁴
New York City Employee Retirement System, or NYCERS	\$40 billion ⁸⁵	NYCERS is authorized to spend up to \$800 million on city infrastructure projects. ⁸⁶	To date \$450 million has been invested in infrastructure projects, while future opportunities may include the overhaul of the Tappan Zee Bridge, ⁸⁷ a multibillion-dollar project. ⁸⁸
New York State Common Retirement Fund	\$150.7 billion ⁸⁹	The real-assets allocation of the New York Common Retirement Fund is where infrastructure investments are categorized, along with gold, timber, and farmland. ⁹⁰	The fund increased its allocation to this category to 3 percent, but as of March 2012 there has yet to be an investment made in this area. ⁹¹
State Universities Retirement System of Illinois	\$13.7 billion ⁹¹	The State Universities Retirement System of Illinois invests in infrastructure through a custom opportunity allocation targeted for 1 percent of the system's total assets and not to exceed 5 percent. ⁹³	In June 2012 the fund was investing \$160 million in a public-private-investment program and \$80 million in an infrastructure portfolio. ⁹⁴
Teacher Retirement System of Texas	\$111.4 billion ⁹⁵	The Teacher Retirement System of Texas invests in infrastructure through its real-assets portfolio. ⁹⁶ Infrastructure investments may make up between 2 percent and 5 percent of the system's total assets. ⁹⁷	In 2010 the total amount invested in infrastructure was \$1.43 billion. ⁹⁸ The focus of the Teacher Retirement System of Texas's infrastructure investments is not limited to either state or national investments. ⁹⁹
Washington State Investment Board	\$61.8 billion ¹⁰⁰	The Washington State Investment Board invests in infrastructure through the intangible-assets category, which currently has \$818 million invested through it. ¹⁰¹	Infrastructure investments make up approximately 60 percent of the investments made in the tangible-assets allocation, for a total of about \$500 million. ¹⁰²

U.S. pension funds are increasing their capacity to invest in infrastructure

There are serious market problems slowing down U.S. pension-fund investments in infrastructure projects at home. But even if the market was better aligned, U.S. pension-fund inexperience and lack of capacity in the infrastructure-investment sector are significant factors that require attention.

When pension funds embark on a new area of investment, there are many questions to answer that require specific and reliable information.¹⁰³ Pension funds need to understand, for instance, the economic and financial strengths and risks of the sector. In the case of infrastructure, this is complicated because the sector covers many subsectors, including bridges; roads; transit; passenger rail; freight rail; ports; airports; drinking water and wastewater systems; energy generation and distribution; and public buildings such as schools and government centers. Each of these subsectors has its own federal, state, and sometimes local statutory requirements, regulations, and economies, as well as its own financial returns, volatilities, and leverage trends. Pension funds and pension-fund advisors need a deep understanding of the nuances of and the facts related to each subsector so they can responsibly select sectors and projects.

Other questions have to be explored as well, such as:

How much should be invested in infrastructure? The issue of liquidity is increasing on the minds of pension-fund trustees as more and more baby boomers retire. While infrastructure investments may well offer long-term predictable returns, as individual assets they are not easily sold, hence they are relatively illiquid. Funds need to consider what shares of their funds can be invested in relatively illiquid investments or substitute infrastructure for another illiquid investment. Pension funds can make more liquid infrastructure investments by investing in open-ended investment funds that permit the pension fund to redeem its investment before the end of the life of the project.

Should a new investment class be established or an existing class be modified?

Funds have to decide what investment class infrastructure falls within, such as alternative investments, real assets, or a separate class of assets established specifically for these investments. This is a fundamental decision since pension-fund investment policies are typically set by the investment-class type. To make this decision, funds also need to establish a clear definition of what they mean by the term “infrastructure.”

A case in point: CalPERS investment in the Joliet Port project was made from its real-estate asset class. At the time of the investment, the pension fund didn’t have an infrastructure asset class. As Harvard University’s Beeferman points out, “The lack of pension funds’ internal capacity to assess complicated infrastructure investments is one factor which holds back their participation in these transactions.”¹⁰⁴

What are the preferred methods of investment? Funds need to decide if they want to be an indirect investor and as such put their funds in an existing privately managed infrastructure-investment portfolio. If they decide on the indirect-investor approach, funds must decide whether that portfolio should be one that is listed—a publicly traded portfolio—or one that is unlisted. Additionally, after deciding that indirect investing makes sense, they must then consider the pros and cons of open-ended or close-ended private-investment funds. Alternatively, pension funds could become a direct investor, where they share direct ownership and responsibility for the operation of the asset. U.S. pension funds have learned that the private-equity model of investment requires that high fees be paid to asset managers. In addition, the private-equity investment model severs the inherent alignment of long-term investment in a long-lived asset since the private-equity model is predicated on a relatively short-term commitment to the investment.¹⁰⁵ Here again, CalPERS has explored these issues in depth. In an effort to promote a new deal structure that can work for its pension fund, the fund released infrastructure terms sheets that prescribed, for instance, the role that the pension fund will take on as investor, the minimal project size and level of investment that the fund will make, and the total and annual return that must be met for the fund to consider investing.¹⁰⁶

What nonfinancial conditions should be expected of investment? Given that public and multiemployer pension funds exist to meet the needs of organized labor retirees, the funds need to decide what—if any—labor protections associated with the construction and maintenance of assets are necessary. If a public or multiemployer pension fund decides to invest in a project, the fund needs to construct a responsible contractor policy that codifies required workforce-related guarantees.

To answer these questions, some U.S. pension funds must often rely on outside consultants, while other pension funds are building internal capacity. CalPERS, for instance, has spent several years creating internal capacity to ensure that wise investments are made in the infrastructure sector. An early step in this process was the creation of an in-house team of experts. In October 2011 CalPERS announced:

To support staff's immediate efforts and its ongoing efforts to maintain an intensive focus on investment in California, while continuing to support the broader management and growth requirements of the Infrastructure Program, staff will pursue approval for accelerated recruitment of Infrastructure staff resources and one additional resource to support the Coordination and Policy Process effort.¹⁰⁷

CalPERS's approach mirrors the aggressive internal-capacity development strategy adopted by the Ontario Municipal Employees' Retirement System, or OMERS, one of Canada's largest pension funds, which also ranks among the largest pension funds investing in infrastructure globally. The Canadian pension fund overcame many of the information, fact, and expertise barriers to investment by creating expert organizations where experienced private-finance staff work alongside experienced infrastructure-project-management and engineering professionals. This arrangement ensures that the best possible decisions are being made in selecting infrastructure projects to fund and structuring those investments to ensure the best total return to the pension fund.

OMERS went even further and purchased a private firm—expert in construction management and civil engineering—to help select and oversee its direct infrastructure investment.¹⁰⁸ Today that company, Borealis, oversees approximately \$9.6 billion of the pension fund's investments in hospitals, schools, transportation, and energy projects, as well as government-regulated facilities in the United States, Canada, and the United Kingdom,¹⁰⁹ including the 2010 takeover of the British high-speed train system that runs 67 miles from London to the U.K. end of the Channel Tunnel. In November 2010 the Ontario Municipal Employees Retirement System—together with the Ontario Teachers' Pension Plan—purchased the train system for approximately \$3.4 billion.¹¹⁰

Models adopted by the Canadian pension funds to create and contract with a knowledgeable intermediary to support these investments may offer a path for U.S. pension funds to take.

Barriers to pension-fund infrastructure-investment growth

Despite the growth of pension-fund investments in infrastructure globally, the Organization for Economic and Cooperative Development survey of pension-fund infrastructure-investment activity in 2011 found that specific barriers are in the way of moving a larger share of pension assets into infrastructure.¹¹¹ The survey looked at the way in which the government works and the way in which pension funds operate, identifying as a result general market failures where the information necessary for an efficient market to function is not available.

TABLE 2
OECD survey findings: Pension funds and infrastructure, 2011

Government barriers	Pension-operation barriers	Market barriers
Fragmentation of decision making on projects among different levels of government	Lack of expertise in the infrastructure sector	Negative perception of infrastructure value
Lack of clarity about what is available for investment	Size of funds not well aligned to need; some funds are too small to take on big projects, while other plans are too big and face a shortage of big investment opportunities	Lack of transparency in the sector
High bidding costs with long time horizon before decision	Misalignment of interests among some private-infrastructure investment funds and pension funds	Shortage of data and no benchmarks
Lack of long-term political commitment	Short-termism, in which the fund is looking for projects that achieve total return benchmarks in less than a decade.	
Early projects fostered risk concerns		
Regulatory barriers		

Source: Organisation for Economic Co-operation and Development, "Pension Funds Investment in Infrastructure" (2011), available at <http://www.oecd.org/sti/futures/infrastructureto2030/48634596.pdf>.

In addition to the barriers found in this survey, in 2011 CalPERS held a series of roundtable discussions in California to discuss strategies for increasing its pension-fund investments in U.S. infrastructure projects.¹¹² The roundtables unearthed additional barriers to investment, including the following weaknesses in the public sector:

- Lack of expertise or training for relevant state-agency staff on how to approach private-investment infrastructure projects
- Need to streamline California's public-private-partnership law and remove its sunset provision, with the goal of increasing investor confidence and creating more flexible options for private participation
- Absence of templates for evaluating rate of return for private projects
- Lack of a central exchange where investors can learn about investment opportunities

In addition to these structural barriers to pension-fund investment in infrastructure, U.S. funds are finding investment options that take their assets outside of the United States to European, Asian, Canadian, and Australian infrastructure projects. According to Felicity Gates, co-head of Citi Institutional Investors, "One of the main reasons activity is happening in other nations is because so many countries are more attuned to working with private investors to finance public infrastructure and they are willing to pledge government revenues to pay back investors more readily than in the United States. As a result, in those countries there is a healthier pipeline of large-scale projects with decent credit ratings, backed by reliable revenue streams that offer returns high enough for pension investors."¹¹³ In addition, the public agencies that plan and finance infrastructure investments have gained invaluable expertise that helps them understand and address the interests of private investors, including pension-fund investment advisors.

Increasing the pace of pension-fund investments in infrastructure

In the United States federal and state policies that expand options for private investment in infrastructure projects have often faced opposition from organized labor.¹¹⁴ The main reason for this resistance has been the elimination of public jobs when infrastructure projects are shifted under private ownership. In addition, some private-investment efforts have attempted to skirt federal labor protections

that ensure prevailing wage rates. Increasingly, however, private investment in infrastructure is being structured in ways to protect workers and wages.¹¹⁵

Some pension-fund investment is helping drive these changes. Brian Clarke, the North American executive director of business development for Industry Funds Management, the large Australia-based pooled-pension infrastructure fund, points out that pension-fund investments in infrastructure projects can grow union jobs. According to Clarke, “There is a perception that projects done via a [public-private-partnership, or P3, model] means losing jobs. Our experience is just the opposite. When IFM proposed a P3 to redevelop the Melbourne Airport, it had 200 full-time employees all of whom were in a union. Today, the redeveloped airport provides employment for 12,000 people and majority of the jobs are union jobs.”¹¹⁶ While the context and legal environment in Australia is quite different than in the United States, the patterns set by the Australian fund’s approach may offer a useful guide for how to structure pension-fund investment in U.S. infrastructure projects.

As a result of these promising trends, CAP proposes the following new public policies to accelerate the learning curve and build capacity, increase confidence in the infrastructure sector, and make the sector more attractive to pension investors.

Close the information gap and build experience

Currently, those pension funds looking at the infrastructure sector are working independently to build sector knowledge and expertise. In some cases, pension funds have collaborated on their learning process, but the examples of that sort of collaboration and reach are rare.¹¹⁷ As a result, to increase the pace of pension-fund investment, new national structures need to be created to collect and disseminate information that is both relevant and responsive to the needs of pension-fund staff, trustees, and advisors. To that end, we propose that Congress:

- Establish a national infrastructure bank that has the capacity to hire experts who have the background and expertise to build working relationships with pension funds and identify projects that can offer pension funds responsible options for their infrastructure investments. The infrastructure bank would not need to be the sole venue through which pension funds invest in U.S. infrastructure projects, but it can have as an explicit purpose the establishment of a relationship with pension funds and the development of a track record of joint investments.

The bank can also serve as the essential clearinghouse where pension funds can readily find financially sound projects that are appropriately sized for the fund's portfolio. When the bank is also investing in a project, it can partner with funds to navigate the myriad of local, state, and federal legislative, funding, and regulatory processes. Although pension funds have some capacity to self-train about new investment sectors, their staffs in most cases are quite limited, and administrative resources are extremely scarce. For this reason, CAP proposes that the federal government provide seed capital to launch a network of fee-supported, nonprofit intermediaries that are not affiliated with any infrastructure funds or other private-investment vehicles and that are charged with creating and disseminating critical infrastructure-sector information that would be useful to pension-fund staff, trustees, and advisors. On its face, it seems that pension funds have the resources and wherewithal to create such structures. But pension funds typically have very small staffs and limited administrative funds to spend. These factors may account for the absence of such structures.

- Support small working conferences where pension-fund managers and project sponsors work jointly on products, metrics, templates, and any other necessary documents or information that can enable pension funds to review projects according to their needs and give project sponsors a clearer understanding of how to work with pension funds. These conferences should also build pension-fund proficiency with respect to the metrics by which to judge sectors and projects, as well as the metrics necessary to wisely select an intermediary to handle their infrastructure investments. Additionally, care must be taken to ensure that these working conferences offer objective information and that due diligence is exercised to avoid the reality or the perception of any conflicts of interest among participants.
- Establish an industry group to set definitions, evaluate the data available, and define a set of metrics for infrastructure investment at the sector and subsector level, as well as for intermediaries who propose to manage investments for pension funds. The group could also identify missing data and put a process in place to assemble such data. The model of creating industry-driven groups to establish standards and metrics is used by the U.S. Department of Commerce's National Institute of Standards and Technology. It may offer a useful template for this sort of government-facilitated and industry-driven collaboration to build the basic metrics for project and intermediary evaluation with respect to institutional infrastructure investment.

- Use the training capacity of the Department of Transportation and the Department of Labor to prepare state transportation departments to work in partnership with pension funds, including training on fiduciary standards and requirements, creating templates for responsible contractor policies, and clarifying what categories of projects are likely to be approved for private financing and meet the performance and earnings expectations of pension-fund investors.
- Mobilize the expertise at the Department of Labor to educate private pension funds on the ways in which infrastructure investments comport with the Employee Retirement Income Security Act. Where there is a need for additional clarity regarding the fiduciary requirements and these investments, provide guidance to resolve these open issues. Part and parcel of this recommendation would be the formation of clear policy by these federal agencies on the ways in which pension funds can appropriately invest in infrastructure and meet their fiduciary obligations.

Pooled pension fund models: The experience of Australia and the United Kingdom

Pooled approaches—where pension funds create common multi-pension fund structures to manage infrastructure investments—offer the funds a vehicle for building their expertise while sharing the cost of doing so.

Industry Funds Management—an Australian investment management company owned by 30 Australian pension funds—with more than \$40 billion under management, has been focusing on investing in domestic and international infrastructure for years, in addition to its more traditional investment opportunities.¹¹⁸ Through Industry Funds Management's Australian Infrastructure Fund—which has invested in domestic projects since 1995—and their Global Infrastructure Fund—which targets opportunities in OECD member countries—Industry Funds Management currently has roughly \$13.5

billion invested in infrastructure worldwide.¹¹⁹ These funds invest in core infrastructure projects such as airports, seaports, renewable energy projects, and toll roads.¹²⁰

In the United Kingdom the new Pension Infrastructure Platform was created by the Pension Protection Fund, the National Association of Pension Funds, and the U.K. Treasury.¹²¹ The Pension Infrastructure Platform—which is scheduled to launch in the first half of 2013 with more than \$1.5 billion in assets from 10 pension funds¹²²—is targeting public infrastructure as well as private transportation, energy, and telecommunications.¹²³ This platform, which focuses solely on infrastructure and targets pension clients exclusively, provides pension funds with the expertise necessary to encourage pension-fund investment.

Increase confidence in soundness of infrastructure investments

Pension funds investing in infrastructure have grown skittish about the sector because some high-profile nonpension-funded infrastructure projects failed to meet their financial targets. These infrastructure transactions were structured as private-equity investments, and many of them have had trouble generating projected revenues, necessitating that they default on payments to bondholders.¹²⁴

The Indiana Toll Road, for instance—one of the largest transportation public-private-partnership projects in the United States—is not generating sufficient revenues to meet investors’ expected rate of return.¹²⁵ Due to the dramatic and unpredictable reduction in vehicle traffic that has occurred over the past four years, the financial returns are lower than expected or needed.¹²⁶ Aside from roads, however, the experience with carefully structured public-private partnerships to build and improve ports, airports, energy infrastructure, and—in some cases—water systems shows that there is some potential for public assets and quasi-public infrastructure assets to be developed in ways that promote high-quality infrastructure investment and reasonable returns for investors. Given the enormity of the needs of our transportation-related infrastructure, greater pension-fund investment in these sectors can offer access to a new and needed source of capital. To make this happen, however, federal efforts to build pension-fund confidence in the infrastructure sector are necessary and should include:

- Funding a pension-trustee training institute aimed at helping pension-fund administrators educate pension-fund trustees on how to differentiate between the facts and myths of headline risk so that trustees understand when it is likely that a project will cause negative publicity for the investors. Public pension boards are typically comprised of a mix of nonplan member appointees, elected or sometimes appointed active workers and/or retirees, and elected officials or their designees.¹²⁷ Private multiemployer pension funds—also known as Taft-Hartley plans—require that boards of trustees be comprised of equal parts labor and management.¹²⁸ Pension-fund advisors and staff need approval from trustees before making any new investment-policy or allocation decisions. It is important that trustees have the resources and knowledge that they need to make effective decisions, including with respect to infrastructure investments. Measures to help build trustee knowledge and resources can increase the pace and quality of board deliberations on these matters.

The West Coast Infrastructure Exchange, for instance, could be tapped to carry out this task in the areas that it serves. The exchange—comprised of Oregon, Washington, California, and British Columbia—was formed to “promote near-term job creation and long-term economic competitiveness by improving and accelerating infrastructure development, as we look to make \$1 trillion in infrastructure investments along the West Coast in the next 30 years in a time of fiscal uncertainty and climate change.”¹²⁹ To accomplish these goals, the exchange proposes to manage projects more effectively, collaborate with industry experts and innovators, help connect governments to expertise to help design and build projects, and connect projects to innovative financing, including, potentially, private capital.

- Charging the pension-trustee training institute to create tools to help trustees carefully consider risk so that sound decisions can be made about the level of risk and the options for addressing public concerns should they arise. Private investors such as pension funds are frustrated that in the infrastructure sector there are no clear benchmarks for internal rates of return or total returns by subsector, nor are there standards that set parameters for what constitutes an appropriate equity-to-debt ratio.¹³⁰ These and other industry standards exist in other investment areas such as commodities and real estate. Efforts to create these standards can improve and speed up pension-fund decision making with respect to infrastructure.

Increase the financial return to pension funds for investing

Federal policy is already clearly established to create incentives for private investors to engage in public projects. Examples of these incentives are tax-exempt debt, certain categories of private-activity bonds, and federal loan subsidies. As we have demonstrated, the tax benefits that lure private investors to infrastructure cannot be utilized by pension funds. Meanwhile, the project benefits of pension-fund participation in infrastructure investment are clear. For this reason, we suggest the following:

- Offer a federally subsidized taxable bond instrument that can offer pension funds a reasonable rate of return on infrastructure investments. A federally subsidized taxable bond would work in much the same way that the Build America Bond program worked in 2009 and 2010. States and localities would have to offer an interest rate competitive with private bonds since the interest

would be taxable. The amount paid by the state or local issuers, however, would be subsidized by federal payments. Instead of having the subsidy depend on the marginal tax rate or the bond buyer, the federal government could set the level of subsidy that it is willing to pay. We recommend that these taxable bonds have a federal subsidy level of 28 percent, the level at which the Obama administration asserts they would be revenue neutral.¹³¹

- Enable infrastructure projects where pension funds are majority equity owners to tap the tax-exempt bond markets. Currently, federal law permits the publicly owned portion of investor-owned utilities to benefit from the tax-exempt provisions of private-activity bonds. Public pension funds are fundamentally public entities—they are created by state law and funded by state appropriations and public employee contributions. In essence, they are entities of state and local government. As such, the tax-exempt provisions of private-activity bonds could be available to the portion of infrastructure transactions under ownership of a public pension fund.
- Improve U.S. loan-guarantee and credit-enhancement programs to ensure that they are powerful enough to make projects sufficiently financially viable to attract private investors, including pension funds that are looking to make either an equity or debt investment.

The case for considering U.S. loan guarantees is growing more urgent. Government guarantees are increasingly generous and available to private-infrastructure investors in the European Union, the United Kingdom, and Australia. In the summer of 2012, for instance, the European parliament approved the Europe 2020 Bond Project, which is intended to accelerate progress in matching Europe's \$2.6 trillion infrastructure-improvement needs with more private investment.¹³² The specific new arrow in their quiver is a Project Bond Credit Enhancement program offered by the European Investment Bank. In essence, the bank will take a subordinated debt position for up to \$200 million or 20 percent of the project's costs—whichever is lower—in order to boost the credit quality of a bond and thereby increase investor confidence and reduce issuer's interest costs. A strong backstop of this sort is likely to make European Investment Bank-backed projects more attractive to U.S. pension funds than similar projects in the United States, where the risk of repayment will be greater.

In the United Kingdom new legislation passed in September 2012 will allow the government to guarantee up to \$64.4 billion of infrastructure investment.¹³³ This measure was passed in part to make sure that in instances where credit conditions prevented infrastructure projects from obtaining financing, the projects could begin as planned.¹³⁴ This loan-guarantee program should result in private investors searching for infrastructure opportunities finding the United Kingdom a more attractive destination.

Ensure project financing is reliable and predictable

The following recommendations are essential to spurring any sort of private or more public investment in infrastructure development.

- Enable states to use tolling on all lanes where tolling is viable throughout the National Highway System. Under current law, while additional toll lanes may be added to roads on the National Highway System, current tolling policy does not allow states to implement tolls on existing lanes.¹³⁵ This means that tolling is not available as a solution for highways through rural areas or where additional lanes are not warranted by demand. This limitation on tolling means that many roadways that might otherwise generate sufficient toll revenues to support debt-financed repairs and are in need of repair will continue to erode given the shortage of state and local funds for improvements.
- Increase the amount of dedicated federal grants to states so that they can confidently dedicate funds for availability payments—regular, legally binding general revenue or other revenue-backed payments to investors for providing upfront capital for needed projects.

The recommendations that we propose cannot act as substitutes for the \$49 billion in additional federal funding for infrastructure improvement that we believe is needed annually for the next 10 years.¹³⁶ Nor can we expect more private financing without changes to state and federal policies that enable public-private-partnership structures to be created and tap dedicated revenues for repayment.¹³⁷ Although 33 states have legislation that enables the use of public-private partnerships,¹³⁸ many states have only approved a set number of projects, while others have green-lighted only a single project. The Tennessee public-private-partnership statute, for instance, only allows for two toll roads to be created,¹³⁹ and the Alaska

legislation only authorizes a public-private partnership to be used for the purpose of building the Knik Arm Bridge near Anchorage.¹⁴⁰

The combination of additional federal funds, new policies to promote private investment, and our proposals to spur pension-fund investment offer a comprehensive strategy for innovative approaches to rebuilding our infrastructure that will garner strong public support.

Conclusion

The United States must find the capital to support at least \$1.3 trillion in infrastructure upgrades over the next 10 years. While pension-fund investments alone will not fill this funding gap entirely, pension funds have the assets to contribute a significant share of capital toward rebuilding our crumbling infrastructure. In 2009 public pension funds in the United States were managing approximately \$3 trillion in assets, and an additional \$1.5 trillion more was in other private pension plans covering unionized workers.¹⁴¹ If just 5 percent of these pension-fund assets were invested in financially responsible infrastructure opportunities—projects offering pension funds an acceptable expected rate of return—\$225 billion would be available to invest over time in infrastructure projects. Given the investment models used by pension funds and other private-infrastructure investors—which typically have a 60 percent debt-to-equity model—this scale of pension investment in infrastructure would enable nearly \$600 billion in infrastructure improvements.¹⁴²

In a country as large as the United States and with the scale of needs that we face, disparate efforts by individual pension funds to figure out how to invest in infrastructure is not a viable strategy for mobilizing the wealth of capital held by pension funds, rebuilding the nation's infrastructure, and putting Americans back to work in a big way.

President Barack Obama has called on Congress to support a national rebuilding campaign. A strong partner in this campaign can and should be public and private pension funds. It is up to Congress to put in place policies that can make a new form of public-private pension-fund partnership possible.

A focused national effort to address the barriers to pension-fund investment can pave the way to more pension-fund investment in infrastructure projects that offer the right balance of a predictable and desired return. This could be especially powerful in instances where pension funds are equity investors. Assuming such a role gives pension funds—in particular, those of unionized retirees—a high leverage position from which to advocate for the interests of workers involved in the construction and operation phases of the projects.

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