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REVITALIZING STATE AND LOCAL INFRASTRUCTURE

Empowering Cities and States to Tap Private Capital and Rebuild America

by

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EXECUTIVE SUMMARY

America has large unmet infrastructure needs, but governments at all levels are strapped for funds and under voter pressure to downsize. State and local governments have begun to experiment with infrastructure privatization—both selling or leasing existing facilities to the private sector for expansion and modernization and issuing long-term franchises under which the private sector finances, designs, builds, and operates wholly new infrastructure projects (airports, toll roads, wastewater plants). Federal policy has been inconsistent toward this privatization trend, and in many cases poses significant barriers to it.

A number of government policies direct states and cities to favor government ownership of infrastructure enterprises. The identical airport terminal, toll bridge, water utility, or wastewater plant is treated in one way by federal law if it is government owned and in a radically different way if it is owned by investors. Tax laws exempt from taxation the interest on bonds issued by government enterprises—which translates into higher debt-service costs for investor-owned infrastructure (as well as reduced revenue for the federal government). Further, government-owned enterprises are generally exempt from local property taxes and both federal and state income taxes. Federal grant and regulatory policies also discriminate against a facility owned by investors, as compared with the identical facility owned by a state or city government.

These policies, many of them unique to the United States, are preventing this country from realizing the full benefits of the worldwide movement toward privatizing airports, highways, energy and environmental

infrastructure. These benefits include the ability of cities and states to "mine their balance sheets" by selling or leasing infrastructure facilities to private operators, the potential of faster development of needed facilities thanks to streamlined private-sector methods, potential cost savings and efficiency gains from bottom-line-oriented management of infrastructure, and the benefits of introducing market pricing where it is now lacking. (Market pricing would provide incentives to conserve scarce resources like water supply and landfill capacity, and incentives to shift usage away from congested peak-use periods).

A number of short-term reforms would give cities and states greater freedom to privatize. These include modest tax-law changes, codifying the provisions of a 1992 Executive Order on infrastructure privatization, permitting tolls on Interstate highways, and changing the definition (in environmental regulations) of municipal wastewater plants to include those which are privately owned.

Longer-term reform would level the playing field for infrastructure finance, either by extending tax-exempt status to infrastructure revenue bonds regardless of the ownership status of the facility or by ending tax-exempt status for all *new issues* of revenue bonds for user-fee supported infrastructure. The former proposal might be found to be revenue-neutral to the Treasury, depending on the assumptions used. The latter would ultimately produce some \$24 billion per year in net new federal revenue, once fully phased in.

An added benefit of encouraging investor-owned infrastructure would be the development of world-class U.S. infrastructure firms. Thanks to the experience gained in the large U.S. home market, these firms would be more likely to succeed in capturing a share of the huge world market for privately owned and operated infrastructure.

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I. INTRODUCTION

America's public infrastructure—facilities provided by state and local governments for energy supply, transportation, water supply, and waste disposal—is in trouble. As documented in 1988 by the National Council for Public Works Improvement, these vital systems increasingly suffer from deferred maintenance, obsolescent technology, and inadequate capacity. NCPWI's findings are equally valid today.

Traditionally, diagnosis of such a problem would have brought forth efforts by Congress to solve the problem via new or expanded federal programs. Indeed, the NCPWI report helped generate support for the Intermodal Surface Transportation Efficiency Act of 1991, which was intended to increase federal investment in transportation infrastructure. Likewise, the Clinton Administration came into office in 1993 pledged to "rebuild America" via new spending programs. Continued federal fiscal pressures, however, ensured that neither of these initiatives significantly expanded the federal role.

Now the voters have signaled a major change in course, echoed by mayors and governors across the country. More than ever before, the task of Congress is now viewed as downsizing the federal government, balancing the federal budget, getting rid of unfunded federal mandates, and devolving authority and responsibility to states and municipalities. In this new policy environment, how best can the nation's infrastructure challenge be met

During the past five years a number of cities and states have begun to expand the role of the private sector in public-purpose infrastructure. Increasingly, they are turning to private firms to manage such facilities as airports, highway maintenance and toll collection, and water and wastewater facilities and systems. Some have sought to sell such enterprises to private firms, turning these facilities into investor-owned rather than municipal utilities (and freeing up their capital for other pressing needs). Other cities and states have entered into long-term franchise agreements with private consortia to design, finance, build, and operate new or expanded infrastructure, such as airport terminals, toll roads, and wastewater plants (thereby making their limited public infrastructure funds go further).

States and municipalities, in partnership with the private sector, are best equipped to address America's infrastructure problems. User fees, privatization, and public-private partnerships are the tools needed for this task. However, significant barriers to making this transition are posed by certain provisions of the federal tax code, by current federal infrastructure grant programs, and by various regulatory provisions. Congress could empower cities and states to work with the private sector to address their infrastructure problems by reforming these aspects of federal law.

II. GOVERNMENT OWNERSHIP OF INFRASTRUCTURE

A. The Surprisingly Large Role of Government Ownership

Before delving into solutions to America's infrastructure problems, we need to understand the uniqueness of

this country's approach to funding and managing such facilities. The past decade has seen a worldwide movement to privatize government enterprises, encompassing nearly 100 countries. In developed countries like Britain and France and developing countries such as Argentina, Malaysia, and Mexico, responsibility for such facilities as airports, highways, electricity, water supply, and waste disposal is being turned over to investor-owned companies. Existing infrastructure is being sold or long-term leased to such firms, and new infrastructure is being developed and operated by private consortia under long-term franchises. The United States lags significantly behind this worldwide trend.

There are a few exceptions. In telecommunications, the United States has always had nearly 100 percent investor-owned companies, in contrast to the rest of the world, where—until the past decade—most countries had state-owned post and telecom monopolies. In electricity, the United States has also had predominantly investor-owned utilities, although there are still 2,010 state and municipal electric utility systems in this country, serving 16.3 million customer accounts. Worldwide, the sale of government-owned electric utilities topped \$10.5 billion in 1994, second only to the sales of telecom utilities.

The United States also has 800 municipal natural gas utilities, serving 3.6 million customer accounts. Britain was the first country to privatize its gas industry, in 1986. Since then, Argentina, Malaysia, and several other countries have begun to privatize their gas utilities.

When it comes to water and wastewater utilities, the United States is a bastion of "municipal socialism." In contrast to Britain, where 100 percent of this industry is in the private sector, and France, where the figure is 75 percent, only 15 percent of the U.S. water supply is provided by private firms, and virtually none of wastewater treatment capacity is in the private sector. With a handful of exceptions (such as Indianapolis and San Jose), investor-owned water utilities tend to be in small communities, typically under 3,500 population, with municipal water works predominating in all other sizes of towns and cities.

The contrast is even more stark when we turn to transportation infrastructure. Essentially 100 percent of the U.S. highway and commercial airport systems are government-owned, and all but a handful of airports are government-operated. By contrast, Britain has privatized its major airports, and a number of other countries (including Australia, Austria, Argentina, Denmark, Germany, Italy, and Malaysia) are in the process of doing likewise. Similarly, the major motorway systems of France, Italy, and Spain (the equivalent of our Interstate highway system) were developed and are operated by private firms under long-term franchise agreements known as build-operate-transfer (BOT) arrangements. Britain and Germany are planning to privatize their motorway systems within the next decade. And the World Bank and other development agencies are encouraging developing countries to adopt the BOT model for highways and other major infrastructure—as Argentina, Mexico, Malaysia, Hungary, Poland, and many others are now doing.

B. Problems with Government Ownership

1. Costs

The debate over public-sector versus private-sector ownership of utilities and infrastructure is a long-standing one. Besides populist ideological arguments about ownership "by the people," advocates of public ownership tend to focus on the claim that government-owned utilities are to be preferred because they have inherently lower costs. As factors leading to lower costs, they cite: 1) lower-cost financing because of the availability of tax-exempt debt; 2) lower operating expenses because the enterprise is exempt from paying most or all taxes; and 3) lower overall costs because there is no requirement to earn a profit.

While widely believed to be true, these alleged lower costs are not necessarily the case. Many factors affect the overall cost of an infrastructure enterprise; what counts is the *overall net cost to the users*, not the level of individual components of total cost.

What can lead to lower overall costs in a privately owned firm? One important factor is economies of scale. Private purchasers of existing infrastructure facilities or developers of new ones frequently operate many such facilities in a number of communities. They can take advantage of centralized accounting,

administration, billing, engineering, insurance, and professional services, spreading these overhead costs over many facilities instead of just one.

Second, private firms are typically more efficient in their use of labor than are government-run enterprises. They may organize the work differently, using one supervisor for a larger number of workers, using a mix of full-time and part-time workers, and investing more heavily in equipment to make the work less labor-intensive. For example, when Indianapolis contracted out the operation and maintenance of its two advanced wastewater treatment plants in 1994, the winning firm was able to reduce operating costs by more than 40 percent, primarily by redesigning the workforce.

Economies of scale and workforce redesign can in some cases reduce operating costs enough to make it *possible* for a private firm to pay taxes and net a profit while still offering competitive prices to users. Nevertheless, the existence of significant tax advantages for municipal enterprises is a major hurdle to overcome in producing privatization transactions that benefit all parties.

Another major difference is often found in *capital* costs—i.e., paying for major investments in expanding and modernizing the enterprise. Municipal utilities typically pre-finance improvements in large blocks, issuing tax-exempt bonds well in advance of the need for all of the new facilities. Private firms are more likely to use "just-in-time" construction, funding only the increment of new capacity needed at the time. In addition, municipal utilities must often borrow several years worth of capitalized interest, provide bond insurance to attract buyers, provide additional reserves for future principal and interest payments, and pay significant costs of issuance uniquely associated with municipal bonds. Another factor that affects the amount financed is the time spent in design and construction. The shorter time period typical of privatized projects means fewer years that must be financed prior to the beginning of the revenue stream from user fees.

To be sure, the interest *rate* paid by a municipality is lower because of the tax-exempt status of the bonds, but the *total amount financed* can be significantly larger than a private firm would require (for the reasons noted above). Thus, the net annual debt service costs can sometimes end up being comparable to that of an investor-owned firm, even with the higher (taxable) interest rate the firm must pay.

2.Loss of Tax Base

Municipal infrastructure enterprises (airports, bridges, water systems, etc.) typically do not pay normal property taxes, nor do they pay state or federal income taxes. Yet the identical service business, if owned by investors, would pay all of these taxes. There is no question that these taxes are costs to the investor-owned firm, which must ultimately be paid for by the users. But they are also important potential sources of revenue to local, state, and federal governments. It seems odd that a city or county's property tax base is diminished by the rather arbitrary exemption of some utilities, but not others, from the tax rolls. If the estimated \$227 billion in marketable state and municipal infrastructure were restored to the local tax base, they would produce over \$3 billion per year in property tax revenues (assuming an average tax assessment of 1.5 percent of market value).

3.Mis-Pricing

There are also significant problems in the way government-owned infrastructure enterprises charge for their services. Generally, due to various political pressures, these enterprises do not charge market prices. The Congressional Budget Office, among others, has found that "while both public and private [water] utilities usually set prices that are more than enough to cover operating costs, only private utilities routinely charge enough to cover fully not only operating costs but also the depreciation of capital facilities." (Many government enterprises do not record depreciation charges at all.) Thus, while the rates they charge to users may appear to be attractive, these below-cost rates mask an unsound fiscal condition which will lead to much larger rate hikes in the future, to catch up with the need to rebuild and modernize.

Below-market pricing misleads consumers about the true cost of the resource they are using. If users believe

that water or electricity is cheap, they will tend to use more of it. But if prices reflect the actual, higher cost of these resources, users will be motivated to conserve. A good illustration is the use of electricity in the Pacific Northwest. Thanks to below-market pricing by government-owned utilities, electricity consumption per capita in the Pacific Northwest is 20 percent higher than the national average. Likewise, cities without water meters (like Sacramento, California) show much higher household water use than cities with meters and realistic pricing. When Denver switched to metered water service in 1987, water use per household dropped by 27 percent. Also, consumers who pay for solid-waste disposal by the can or by the pound have a strong economic incentive to conserve on their use of the waste-disposal system. Residents of cities whose garbage companies have implemented "pay-as-you-throw" pricing are much more likely to compost yard wastes and to recycle newspapers and other recyclables than residents of cities where garbage is either paid for via property taxes or charged for on a flat-rate monthly basis regardless of the amount collected.

A similar effect is found in transportation infrastructure. Most government-run highways do not charge users at all, and those that do charge flat-rate tolls, regardless of the level of demand. Private toll-road developers in California and Washington State are planning to charge "congestion prices" which will be high at rush hour and low at off-peak hours. Nearly all (government-run) commercial airports charge landing fees based on the weight of the aircraft, ignoring the fact that the cost of tying up runway and taxiway space may be equally large for a private plane and a large airliner, and the fact that demand is very high at busy hours and quite low at off-hours. By contrast, privately owned Heathrow and Gatwick airports in London charge prices which are not based on weight, and which vary by time of day and season of the year.

4.The Public Authorities Alternative

Many observers acknowledge the limitations of government agencies as owner/operators of infrastructure, but contend that America has invented an alternative that combines the best of both the public sector and the private sector: the public authority. It is argued that the public authority has the freedom to operate like a business, but because it is retained in the public sector, inherently safeguards the public interest.

Other scholars disagree, contending that in some respects the public authority combines the worst of both worlds: it is exempt from many of the constraints that an investor-owned firm would have to comply with (e.g., local zoning laws, building codes) but is not disciplined by having to be accountable to share owners. Investor-owned firms are likely to be more efficient than public authorities, because the former are subject to much stronger economic incentives for productivity.

Legal scholar Clayton Gillette laid out this case in some detail in a recent policy study comparing public authorities with investor-owned firms. Table 1, reproduced from that study, summarizes the principal differences between the two types of enterprise. Gillette concludes that these differences are significant enough that "the decision to have public authorities provide major infrastructure should be reconsidered, since private firms can often perform these same public functions while not suffering from the institutional disadvantages of public authorities."

Comparison of Performance Constraints		
Factor	Public Authority	Private Firm
Accessible to Voters	No	No
Subject to Public-interest Regulations	Sometimes	Yes
Clear Performance Measures	Sometimes	Yes
Customer Monitoring	Low	Low
Rating-agency Monitoring	Medium-high	High
SEC Disclosure Requirements	No	Yes

Managers' Financial Incentives	Low	High
Owners' Financial Incentives	No	Yes
Implicit State Guarantee	Yes	No
Bondholder Monitoring	Yes	Yes
Shareholders' Monitoring	No	Yes
Incentive to Overexpand	Medium	Low
Procurement Regulations	Sometimes	n/a
Managerial Performance Controls	Low-medium	High
Corruption Incentives	Sometimes	Low

C. Why the Persistence of Government Ownership

Despite the serious problems with government-operated infrastructure enterprises, the United States has seen only a handful of efforts to either sell municipal utilities or to make use of the private sector to develop and operate new infrastructure. What accounts for the persistence of the governmental approach in the land of free enterprise, while the rest of the world is busily converting infrastructure to private enterprise

The short answer is that a variety of long-established government policies favor governmental over private ownership of these vital facilities. Among the most important are tax policies. First of all, both federal and state law exempt from taxation the interest on bonds issued by state and local governments—even when those bonds are used to develop business enterprises paid for by customers (such as utilities and airports). By contrast, the interest on bonds issued by private firms is fully taxable. This tax discrimination results in interest rates on taxable debt that are at least two full percentage points (200 basis points) higher than for comparable tax-exempt bonds. This difference in interest rates translates into higher debt-service costs for the equivalent amount of capital investment, if developed privately.

The United States is virtually alone in exempting infrastructure bonds from taxation. Cross the border into Canada, or cross the Atlantic to Europe (except for Italy) and there is no such thing as a tax-exempt infrastructure bond. Only the United States subjects private infrastructure developer/operators to this kind of tax discrimination.

In addition, infrastructure enterprises owned and operated by government are generally exempt from both local property taxes and state and federal corporate income taxes. Once again, government policy biases the choice between private and government ownership of these vital facilities, increasing the cost of choosing the former mode.

Another disincentive to private ownership of infrastructure is federal grant programs. The current federal Airport Improvement Program provides "entitlement" grants to airports based on the number of annual passengers enplaned—except that privately owned airports are not eligible. Similarly, the Federal Aviation Administration has claimed that a municipality that sold or leased its airport could not legally make use of the proceeds for general governmental purposes but must retain them solely for airport purposes. While several legal observers have disputed that claim, the threat of costly litigation has served to discourage serious efforts to privatize airports. Requirements that previous federal grants be repaid in the event of the sale of an infrastructure facility have likewise discouraged the sale of such facilities.

Various other provisions of federal law have also served as barriers to privatization of infrastructure. For example, waste-discharge provisions of the Resource Conservation & Recovery Act (RCRA) intend to differentiate between municipal wastewater treatment plants and industrial facilities that may discharge waste water, subjecting the latter to more detailed regulation because of their potentially more hazardous nature. Because the law specifies "publicly *owned* treatment works" [emphasis added], it inadvertently subjects a privatized municipal plant to a more costly regulatory regime, even though the plant carries out the identical municipal function regardless of ownership status.

Clearly, federal tax, grant, and regulatory law were not *intended* to bias the choice of ownership of infrastructure in this way. These laws simply did not contemplate the possibility that, by the dawn of the 21st century, the private sector worldwide would be able and willing to take responsibility for basic infrastructure functions. What policymakers need to do is to remove these biases from the law. This will permit city and state officials to choose between private and public ownership on their merits, rather than because the cost comparison between these alternatives has been distorted.

III. THE POTENTIAL OF INFRASTRUCTURE PRIVATIZATION

A. Asset Sales and Public-Private Partnerships

Before going further we need to be clear on definitions. The word "privatization" means different things to different people. It is often associated with the outsourcing of service delivery by a government agency, via competitive contracting. That is *not* the sense of the term that is relevant here. The focus of this paper is on two other types of privatization: asset sales and public-private partnerships (long-term development franchises). Both are ways in which responsibility for financing, owning, and operating infrastructure (rather than just operations and maintenance) can be shifted to the private sector.

Divestiture (asset sales) is the most common form of privatization worldwide. Typically, government either organizes an initial public offering of stock (as the federal government did in 1987 with Conrail) or it holds a competition in which firms submit bids to purchase the enterprise. Combinations of these methods are also possible, in which a government offers a majority stake to the winning firm but sells off the rest of the shares to large numbers of investors. A common feature of this type of privatization is for government to reserve a portion of the shares (typically 10 percent) for workers and managers; they may be given a certain number of shares and permitted to buy additional shares at a large discount. The purpose is to give these employees a tangible stake in the enterprise's success as a private firm, helping to overcome both their natural fear of change and the organized opposition of their union leaders.

When a government needs a new infrastructure facility but is unable or unwilling to finance and develop it itself, a public-private partnership based on a long-term franchise is often employed. The government agency defines a set of requirements in a Request for Proposals (RFP) and engages in a competitive process to select the firm or consortium which presents the best proposal, as judged against a set of quantitative selection criteria. The winner receives a franchise for a period of years long enough to recover its investment in the project. If properly structured, this franchise is "bankable," i.e., the firm or consortium can use it to raise the capital (both debt and equity) to finance, build, and operate the facility. This process is often termed Build-Operate-Transfer (BOT), since the most common form of franchise agreement calls for the ultimate transfer of the facility back to the government at the end of the franchise period. In the United States this form of privatization is often called a public-private partnership (PPP).

Asset sales and PPP are often considered two separate issues, with the latter considered less controversial than the former. But these two forms of privatization are actually closely related. A mature facility (e.g., an airport or a water system) has a well-established history of usage by customers, known operating and maintenance costs, etc. It is relatively low-risk for a private firm to take over. By contrast, developing a totally new facility—a new toll road, a new airport, a new wastewater plant—carries considerable risk. Not only are there the normal risks of development and construction (changing interest rates, construction delays, etc.) but there is also great uncertainty in the forecasts of future usage of the facility.

To the extent that policy makers wish to see a healthy infrastructure industry develop in the United States, able to meet the needs for new and modernized infrastructure, it is unwise to expect firms (either financiers or developers) to take on *only* the high-risk new-development projects. In many cases, being able to take over an existing facility and expand or modernize it is far less risky—and therefore far more likely to attract firms and capital into the infrastructure field. Hence, asset sales and public-private partnerships must go hand in hand.

B. The Case for Asset Sales

The most common argument against asset sales is that it is "selling the family silver"—i.e., a short-sighted policy that may generate one-time cash benefits but is unwise in the long run. (This argument has been raised in virtually every one of the 100 countries which now have active and successful privatization programs.) There are several problems with this argument.

First, selling a state or municipal infrastructure asset does not result in the *loss* of asset value for the government. It is simply changing its form, from a physical asset to a financial asset. On the government's balance sheet, only the location of the asset has been changed. Presuming the government uses the proceeds from the sale wisely, the change is, at worst, neutral in financial terms. Except in emergencies (e.g., a municipal bankruptcy), proceeds from asset sales should not be used to pay for ongoing government operating expenses. Rather, they should be used for other capital transactions—e.g., to pay off outstanding debt (thereby reducing future interest costs) or to pay for other needed infrastructure that does not lend itself to private provision.

Second, to the extent that privatization succeeds in changing management incentives, the performance of the facility under private ownership should be superior to what was experienced under government ownership. Since they were privatized in the mid-1980s, Britain's airports, seaports, electricity, water and wastewater, gas, and telecom enterprises have become more entrepreneurial, more efficient, and more customer-friendly than in their days as state-owned enterprises. France's large private water companies are considered the world's most technologically advanced firms in the industry.

Third, the financial benefits of asset sales to the selling government go well beyond the one-time windfall of the sales proceeds. Many (though not all) state or municipal utilities receive operating subsidies which represent a drain on the taxpayers. Privatization usually eliminates such subsidies and any claim on future subsidies. Moreover, as noted previously, privatized utilities become part of the local property tax base, and become subject to state and federal income taxes. Thus, all three levels of government will reap ongoing revenue benefits thanks to this type of asset sale.

C. What States and Cities Have to Sell

In 1992, when the Bush Administration was considering an executive order to ease federal barriers to state and local infrastructure privatization, the Reason Foundation compiled an inventory of state and local enterprises which might be candidates for divestiture. The results are summarized in Table 2, which is extracted from that report. Included in the inventory are only those types of infrastructure that can be expected to be financially self-supporting via payments by users. Excluded, therefore, are jails and prisons, mass-transit systems, public housing projects, and other types of facilities which do have privatization potential but would be harder to turn into free-standing businesses.

Included are the following:

✕**Airports** : The largest 87 airports, which enplane 90 percent of all passengers on scheduled airline service. Valuation is based on prices paid for overseas airports which have been sold to investors.

✕**Electric Utilities**: The 2,010 state and municipally owned utilities (excluding cooperatives and federal power agencies). Valuation is based on the British electricity privatization.

✕**Gas Utilities**: The 800 municipal gas utilities (data from American Gas Association). Valuation is based on the British gas privatization.

✕**Highways and Bridges**: These figures derive from a Reason Foundation study of how states might leverage their highway funds with private capital, which estimated that full 50-state implementation of this approach might lead to \$19 billion per year in private investment in highways and bridges, primarily involving upgrading and modernization of existing facilities which would be sold or long-term leased to the private sector.

×**Parking Structures** : Between 35,000 and 40,000 of the nation's 100,000 parking structures are owned by governments. Valuation is based on standard industry formulas, assuming an average of 525 spaces per facility.

×**Ports** : The 45 largest U.S. ports, which handle 1.2 billion tons of cargo per year. Valuation is based on the privatization of British ports.

×**Turnpikes** : Eight eastern toll roads, ranging in length from the New Jersey Turnpike (80 miles) to the New York Thruway (512 miles). Valuation is based on estimates from investment bankers in the early 1990s.

×**Water and Wastewater**: The 34,461 municipal waterworks, which serve 85 percent of the population, plus the wastewater systems which serve 100 percent of the population. Valuation is based on the privatization of British water authorities.

×**Waste-to-Energy Plants**: Seventy-seven municipally owned solid waste plants. Valuation is based on depreciated value of the municipalities' investment in these facilities.

Overall, as noted previously, U.S. state and local governments own some \$227 billion worth of enterprises which would readily lend themselves to privatization via asset sales

D. The Case for Public-Private Partnerships

Around the world, governments are increasingly turning to private capital and private consortia to finance, design, build, and operate major infrastructure under long-term BOT franchises. There are a number of reasons for this phenomenon.

1. New Source of Capital

Governments everywhere are short of funds to invest in new infrastructure projects. Public-private partnerships (PPPs) tap into commercial debt and equity capital that is not currently being invested in infrastructure.

In Australia, pension funds have begun to invest in privatized infrastructure projects. Virtually none of the huge pool of U.S. pension fund capital (some \$4.6 trillion) is invested in public infrastructure, since nearly all bonds for such projects are tax-exempt. Since pension funds are not subject to taxation, they can get higher yields by investing in taxable debt.

Insurance companies in this country have begun to invest in the taxable bonds of PPP projects, such as the California and Virginia private toll roads and several recent sports-arena projects. Insurance company portfolios represent another huge pool of capital which could be tapped to a greater degree for infrastructure needs.

In addition, a PPP project's financing typically includes an equity component, constituting between 10 percent and 40 percent of the total capital. This, too, is an entirely new source of funding for infrastructure.

2. Time Savings

Both domestic and foreign experience indicates that privately developed projects can be completed and put into service in significantly less elapsed time than traditional public works projects. The private sector typically assembles a consortium of firms which use a technique known as "design/build." In this method, the design and construction phases are integrated, rather than being carried out as separate steps by separate parties. This type of process can reduce development time by one-third to one-half. For example, the privately developed Terminal 3 project at the Toronto airport took only 3.5 years from start to finish,

compared with Transport Canada's estimate of 7 years via traditional methods.

3. Cost Savings

In construction, time is money. Reducing the time period during which capital is tied up translates directly into capital-cost savings on the project. The design/build process also leads to the designers and contractors working more closely together, reducing the number of costly change-orders during construction. Moreover, a private consortium that will end up *owning and operating* the facility has much stronger incentives to design it for low-cost operation than does an outside architect or engineer.

4. Risk Reduction

One of the factors that has led major development banks to promote PPPs is the degree to which this form of infrastructure development shifts risks away from government and onto the private consortium. Numerous white-elephant infrastructure projects have been produced in the past two decades, and not merely in the Third World. Grandiose, overbuilt airports and highways to nowhere are hardly unknown in the United States. Taxpayers and municipal bondholders generally get stuck paying for these consequences of political factors overruling economic factors. PPPs provide much stronger market discipline. By shifting much or all of the development risk and revenue risk to the private consortium, a government can set in motion powerful forces that reduce costs and identify "bankable" revenue streams. And if these forces still prove to be inadequate, the taxpayers will be insulated from any subsequent losses.

5. New Tax Revenues

In contrast to state or municipal infrastructure enterprises, those developed as PPPs (unless specifically exempted) will be taxpaying businesses. Hence, they will pay local property taxes, state income taxes, and federal income taxes. Price Waterhouse has estimated that the \$250 million private tollroad in Loudon County, Virginia, will pay some \$96 million in local property taxes and some \$450 million in state and federal taxes over the life of its 40-year franchise. That is more than \$2 in tax revenues for every \$1 of initial capital invested.

E. What States Have Done Thus Far

Since 1988, a number of states have enacted specific legislative measures to permit PPPs in surface transportation. These states include Arizona, California, Florida, Minnesota, Missouri, Texas, Washington, and Virginia, as well as the Commonwealth of Puerto Rico. Other states that have authorized PPPs under existing law include Colorado and South Carolina. Tollway projects have been financed and put under construction, as of 1994, in California, Virginia, and Puerto Rico, while Arizona and Washington have issued RFPs and selected projects. Several other states, including Massachusetts and New Jersey, have considered making use of PPPs as well.

Several states, including California, enacted PPP measures during the 1980s aimed at environmental infrastructure such as wastewater treatment plants. For the most part, these measures have led to very few projects, primarily due to the tax discrimination against private financing discussed previously. Although the same negative factors apply to tollway PPP projects, where the latter are succeeding is primarily in locations where the potential demand is so high that the project can still be financed, despite the higher financing costs of taxable bonds.

F. Previous Federal Efforts

The federal government has acknowledged the interest of cities and states in using the private sector to a greater extent as the provider of infrastructure. Congress included provisions for this kind of public-private partnership in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and both President Bush and President Clinton issued executive orders intended to support private ownership and private capital investment in the nation's infrastructure. These federal initiatives have borne little fruit at the state and

local level thus far.

1. ISTEA's Public-Private Partnerships Provisions

ISTEA partially reversed the federal government's long-standing prohibition of tolls on federally aided highway facilities. States may now impose tolls on all but Interstate highways, and ISTEA also calls for up to five pilot projects on congestion pricing in urban areas, up to three of which may include urban Interstate facilities. ISTEA also permits states to match some of their federal highway funding with private, rather than state funds, thereby making total government dollars go farther. States entering into such partnerships with the private sector may sell or lease existing facilities to private consortia for upgrading and modernization, and may grant long-term franchises for new highway and bridge projects.

The response by state governments has been modest. Since enactment of ISTEA, three more states (Minnesota, South Carolina, and Washington) have authorized highway privatization projects. Only Washington State explicitly referenced the ISTEA provisions in its legislation. And when the Washington Department of Transportation held a major competition for project proposals in 1994, none of the six finalists proposed to make more than token use of these provisions.

2. Executive Order 12803

Many types of infrastructure—and, in particular, airports, highways, and wastewater systems—have been developed in part with federal grants during the past 30 years. Much confusion has accompanied a handful of attempts to privatize such facilities (e.g., the abortive effort of Albany, New York, first to sell and then to lease its airport in 1989-90). The OMB common rule on grants to state and local governments permits their termination by the recipients, but—since it did not contemplate the privatization of the enterprise, but rather its abandonment or conversion to other use—requires that the awarding agency receive its percentage share of the proceeds from the sale of the asset.

Would-be privatizers pointed out to the Bush White House that this provision could prevent many asset sale transactions, by raising their cost to the point where the deal would not be attractive. In response, President Bush in 1992 issued Executive Order 12803 on Infrastructure Privatization. While the original intent of its drafters was to eliminate the payback requirement altogether, OMB strongly resisted, and the result was a compromise. E.O. 12803 states that if the agency requires grant repayment, what a city or state must repay is the undepreciated portion of the grant (i.e., the remaining value of the assets purchased with the grant funds, after depreciation has been calculated using IRS accelerated depreciation schedules). It also provides that the *first* claim on the proceeds of a sale or lease of an infrastructure asset (before any funds are used for grant payback) is for the state or municipality to recover its original investment in the facility.

As with the ISTEA provisions, the response to E.O. 12803 has been minimal. Since ISTEA already dealt with the area of highways, the principal infrastructure fields affected by the order are airports and wastewater systems. The relevant agencies took opposite approaches to implementing the order. The EPA set up a pilot program, under which municipalities were invited to propose privatization transactions making use of the order. Three jurisdictions were selected, only one of which (Franklin, Ohio) has proceeded with an actual sale transaction. As of January 1995, that proposed sale of a wastewater treatment plant was still awaiting OMB and IRS approval, more than six months after all the parties to the transaction had finalized all other aspects of the deal.

The Federal Aviation Administration, despite much internal work since the Albany episode to develop a written policy on airport privatization, adopted the public stance that no action by it was required. It would wait until a proposed airport sale or lease was presented to it and make policy on a case-by-case basis. This uncertainty deters serious investment proposals.

3. Executive Order No. 12893

President Clinton entered office pledging to "rebuild America" but also promising to reduce the deficit. He

was also under pressure from public employee unions to rescind E.O. 12803, which the unions opposed because it favored privatization. The conflicting pressures of deficit reduction and expanding public works led to the issuance of a new executive order on infrastructure, No. 12893, issued in January 1994. Contrary to some expectations, it did not rescind E.O. 12803 but rather, to some extent endorsed its general principles. Specifically, it called for uniform principles for federal infrastructure programs in transportation, water resources, energy, and environmental protection—including cost-benefit analysis, market-based mechanisms, and "private sector participation in the ownership, financing, construction, and operation of the infrastructure programs." Federal agencies were directed to take action to implement these principles and to "minimize regulatory and legal barriers to private sector participation."

As of the end of 1994, however, 11 months after the order was issued, little real change had occurred. DOT Secretary Federico Pena established an Infrastructure Financing Task Force to explore innovative financing and public-private partnerships, and the modal agencies in DOT sought ideas on innovative financing. But no policy on airport privatization emerged, nor did specific new proposals for highway privatization. And EPA's lone wastewater privatization pilot project continued to await approval or rejection from OMB and the IRS.

IV. NEAR-TERM REFORM AGENDA

It should be clear from the foregoing that state and local governments have the potential to dramatically reshape the way in which infrastructure is provided and financed in this country. It should also be clear that federal tax, grant, and regulatory policies at present serve as significant impediments to the full implementation of this new infrastructure paradigm by those states and cities which might wish to do so. Congress has an opportunity to modify or remove these impediments, thereby giving significant new opportunities to state and local governments and to the private sector. Removing these barriers would not mandate that cities and states privatize anything. It would simply permit them to take those actions, should they decide that asset sales and/or infrastructure franchises represent sound public policy.

This section sets forth relatively modest changes which could be made relatively quickly. The subsequent section then presents a more sweeping, longer-term recommendation to fully implement the new infrastructure paradigm.

A. Tax-Code Changes

In response to the Tax Reform Act of 1986, the Internal Revenue Service has provided in Revenue Procedure 93-13 that contracts with the private sector entered into by state and local governments to manage facilities developed with tax-exempt bonds are limited by a "3-5" rule. Such contracts must provide for termination without cause after three years and terms of no more than five years. Rev. Proc. 93-19 prohibits any form of manager compensation tied to net profits, which serves to discourage productivity-enhancing incentive structures. Not complying with these rules results in the loss of tax-exempt status for the bonds.

The practical effect of these rules is to seriously curtail the extent and scope of privatization agreements to manage and (especially) modernize facilities. A five-year term is too short to recover most capital investments which a private firm might make in upgrading or modernizing a facility. Hence, most facility privatization has been limited to short-term operating and maintenance (O&M) contracts, in which the municipality makes all the investments and bears all the risks. Much of the real potential of infrastructure privatization is thereby precluded. These restrictive rules should be done away with.

Revenue Procedure 93-17 was a response to the growing interest in infrastructure privatization via sale or lease. Its intent was to permit existing tax-exempt bonds to remain tax-exempt in the event of privatization of the infrastructure facility, if several conditions are met. The proceeds must be expended for a purpose that would qualify for tax-exempt financing, and the facility must continue to be used for its original purpose for at least five years. (Of course, if the bond covenants themselves require that the bonds be paid off in the event of a change of ownership, IRS flexibility is irrelevant.)

The first test case of this rule was the 1994 attempt by Franklin, Ohio to privatize its wastewater treatment plant by selling it to a private firm. As of early 1995 the IRS had not yet been able to decide whether or not to permit the facilities' bonds to remain tax-exempt.

This kind of discretion should not be left in the hands of the IRS, creating needless uncertainty and delays which can decrease the likelihood of transactions being able to proceed. Congress could codify this procedure, removing the need for the IRS to approve each transaction prospectively—and its apparent discretion to disapprove such transactions.

On December 30, 1994 the IRS published a proposed revision of these rules in the *Federal Register*. Management contracts could extend up to 15 years, but incentive compensation would still be largely ruled out. Tax-exempt status of existing bonds could be preserved in the event of sale to private owners, but the proceeds would have to be spent by the municipality to defease public debt or to buy some other exempt infrastructure facility. These provisions represent a step in the right direction, but a better solution would be clear direction from Congress that it is in the public interest to bring private capital and ownership into infrastructure, and that existing IRS procedural obstacles should be abolished.

For those cases where bond covenants preclude leaving the original bonds in place, with continued tax-exempt status, Congress could amend the tax law to permit a one-time refinancing by the new private owner on a tax-exempt basis. The benefits to the Treasury would be the new corporate income tax revenue generated by a for-profit firm which would replace a non-taxpaying municipal entity. In many cases, as noted in an article in *The Bond Buyer*, the privatization transaction would not take place at all if the facility would have to be refinanced at the outset with taxable debt. The cost of servicing the new (taxable) debt would have to be borne immediately, while the cost savings brought about by privatization would take a number of years to phase in. The Treasury would be better off with the new corporate tax revenues it would obtain via privatization transactions that come about than with no revenues (the current situation) if such transactions do not come about.

B. Executive Order Codification

The original intent of President Bush's E.O. 12803 was to obviate the need for paying back federal grants in the event of privatization, on grounds that the OMB common rule had never contemplated privatization as the occasion for grant termination. As long as the facility remains in service to the public for its original purpose, its changed ownership status should be of no concern to the federal agency which made the grant(s) to assist with its construction or modernization. Moreover, the intent of E.O. 12803 was to direct the relevant federal agencies to respond positively to requests by grantees to privatize infrastructure facilities.

These principles should be codified, rather than remaining in the precarious form of an executive order that could be rescinded at any time. Thus, Congress could enact a measure that asserts as federal policy that states and cities are free to privatize their federally aided infrastructure, by sale or lease, so long as those facilities are kept in their original use of serving the public. Repayment of previous grant amounts would be prohibited. Proceeds from the sale or lease would be available to the seller or lessor for any public investment purpose, including the repayment of outstanding debt or an endowment fund whose earnings would be used for specified public purposes. The relevant grant-making federal agencies would be directed to cooperate with privatization requests from grantees. And Congress would expect to exercise oversight of these agencies to ensure that they were complying with both the letter and the spirit of this measure.

C. Sector-Specific Reforms

The short-term measures outlined above apply to all types of infrastructure. Current federal law also contains provisions that apply more narrowly, inhibiting privatization within specific sectors. Congress could also remove these barriers.

1. Airport Entitlement Grants

As noted previously, the current Airport Improvement Program permits privately owned airports to receive discretionary grants for specific projects, but explicitly prohibits them from receiving the entitlement grants received by all passenger airports based on their number of annual enplanements. This provision clearly discriminates against the private sector, adding yet another factor that artificially creates a cost disparity between government and private ownership. Removing it would be another step toward a more level playing field.

2.Tolls on Interstate Highways

As contemplated in the ISTEA legislation, now that the nation's major highway system is largely complete, the main priority is to modernize it and keep it in good repair. Accordingly, the largest potential market for the private sector is not the creation of entirely new highways and bridges but the modernization and upgrading of existing facilities. Among the highest-traffic facilities in the highway system are Interstates, especially urban Interstates. And as Congress recognized in creating the congestion pricing pilot project section of ISTEA, it is urban areas where the introduction of direct pricing would have the greatest benefit in controlling congestion. Public agencies are very reluctant to put prices on currently "free" highways, but the private sector is eager to have the opportunity to do so (as Washington State has recently demonstrated). Hence, removing the current ban on tolling Interstates would be a very significant reform in the highway field.

3.Investor-Owned Utilities: CIAC

Privately owned water and electric utilities were put at a further disadvantage compared with municipal utilities by the Tax Reform Act of 1986. The issue concerns the tax status of contributions made by would-be customers to facilitate the extension of service to that customer. Under the 1986 Act, Contributions in Aid of Construction (CIAC), when made to an investor-owned utility, are to be included as taxable income of the utility. Thus, depending on the combined rate of federal and state corporate income taxes, an investor-owned utility must charge the customer an amount sufficient to make up for the amount by which the contribution is decreased by these taxes. In high-tax states such as New York, the total "gross-up" required is as much as 70 percent. Thus, while a municipal utility must collect \$1,000 to pay for a \$1,000 connection, an investor-owned utility must collect as much as \$1,700 for the same \$1,000 connection.

The practical result of this exaggerated cost for connecting, say, a new subdivision to an existing system, is the creation of many small new water districts to avoid the impact of the tax. It also serves as a disincentive for consolidation of non-viable water systems into economically more viable units. The tax on CIAC is yet another legally created disparity between government-owned and privately owned utilities. Repeal of this tax has been supported by the National Association of Homebuilders and the National Association of Regulatory Utility Commissioners.

4.Wastewater Systems: POTW

The Resource Conservation & Recovery Act (RCRA) deals, among other things, with the discharge of potentially hazardous effluent from various facilities. It properly seeks to differentiate between industrial plants, which may utilize and possibly discharge very hazardous materials in their effluent, and ordinary municipal sewage treatment plants. The latter are regulated by a less-costly set of standards.

The authors of RCRA did not contemplate the private ownership of municipal wastewater systems. Thus, in choosing the wording to specify what type of facility would be subject to the less-costly standards, they used the term "publicly owned treatment works." In implementing RCRA's discharge standards, the EPA has interpreted these words literally to mean that only those facilities 100 percent owned by a public-sector entity are regulated by the POTW standards. Thus, if a wastewater plant were sold to a private firm, it would be regulated by the far more costly discharge standards applying to industrial plants. Since the EPA has not felt justified in liberally interpreting the language of RCRA, Congress could substitute a new term such as "public-purpose treatment works," which would be neutral between government and private

ownership.

5.Solid Waste Disposal: Unfunded Mandates

Congress is considering legislation to protect state and local governments from additional unfunded federal mandates. This worthy goal could inadvertently impose further competitive disadvantages on private providers of infrastructure facilities. For example, if a waste-to-energy facility owned by a city or county were exempted from a costly federal mandate to install scrubbers, but the same exemption were not granted to identical facilities owned by private firms, the latter would be placed at a severe economic disadvantage. Once again, the danger is that Congress will enact legislation that fails to recognize that public-purpose infrastructure is increasingly being provided by private firms. Federal law needs to move toward a level playing field between public and private ownership, rather than further tilting the field in favor of government ownership. The same environmental regulations should apply to all infrastructure that serves the public, regardless of who owns and operates it.

V. LEVELING THE PLAYING FIELD FOR INFRASTRUCTURE FINANCE

The single most significant barrier to infrastructure privatization is the tax code's discrimination against private capital. Permitting the public sector's bonds to be tax exempt but taxing those of the private sector creates a non-level playing field, biasing the choice between the two forms of ownership. That some asset sales can still pencil out as viable transactions despite the large disparity in interest-rate costs indicates the potentially large efficiency gains to be had from private ownership. But there is no good reason for the U.S. government to continue to tilt the scales in favor of government ownership.

There are two alternative ways to level the playing field. One is to extend tax-exempt status to bonds for public-purpose infrastructure, regardless of ownership status. The other is to end the availability of tax-exemption for revenue bonds for those types of infrastructure which are inherently self-supporting business enterprises.

A. Public Benefit Bonds

A proposal to create, in the tax law, a new category of infrastructure bonds was made in 1994 by Lehman Brothers and introduced in Congress as part of the Infrastructure Development Act of 1994 (H.R.5120) by Reps. Rosa DeLauro and Richard Gephardt. Public Benefit Bonds would consist of two categories: "Type A" bonds for transportation and environmental infrastructure that are currently tax-exempt, and "Type B" bonds that are not currently tax-exempt but that fund infrastructure facilities which benefit the public at large, whether privately or publicly owned. Eligible Pension Fund Investors would be permitted to treat the interest earned on such bonds as part of the Participant's tax cost basis, which would render the interest income tax-free upon distribution. Hence, the bonds would have an interest rate comparable to those of current tax-exempt municipal bonds.

Lehman Brothers carried out an analysis to estimate the budgetary impact to the Treasury, based on assumptions about the budget scoring process used by the Treasury and the Joint Committee on Taxation. In the base case, taxable investors purchase tax-exempt municipal bonds and pension funds invest in taxable corporate bonds of similar creditworthiness. In the Public Benefit Bond case, the pension funds shift to a given dollar amount of the new Public Benefit Bonds, while taxable investors purchase an equal amount of (taxable) corporate bonds no longer held by the pension funds. The net result of these transactions is increased net tax revenues to the Treasury, both short-term (over the five-year time frame used by the Treasury and JCT) and longer-term.

Substituting tax-exempt bonds for taxable bonds on privately owned projects would be a significant stimulus to increased private-sector activity, both in purchasing and modernizing existing infrastructure facilities and in developing totally new infrastructure. Other things being equal, financing a facility with tax-exempt debt would mean lower debt-service costs and hence lower charges to users.

But a significant question remains as to whether the proposal would actually be revenue-positive to the Treasury. The analysis hinges on the zero-sum assumption that investors who now purchase tax-exempt municipals will shift to purchasing taxable corporate bonds. This assumption is not defended, but simply asserted. Yet there is no reason to expect that the demand for tax-exempt bonds by high-bracket investors will go down, simply because pension funds (in which some of those investors may also be participants) can now purchase infrastructure bonds.

B. Taxable Bonds for Infrastructure Enterprises

The alternative way to level the playing field is to remove the tax-exemption for those infrastructure enterprises that are essentially businesses, whether or not their owner is a government or a private firm. (Current law generally distinguishes between "governmental" services such as fire, police, welfare, and education and "proprietary" services such as electricity, gas, water, telephone, and garbage service.) The tax code could simply spell out the types of infrastructure enterprises which will be assumed to be business-like and fully supportable by user charges. Such a list could be the following:

Energy Facilities

- Electric utilities
- Gas utilities

Environmental Facilities

- Solid waste facilities
- Wastewater treatment facilities
- Water facilities

Transportation Facilities

- Airports
- Highways, bridges, and tunnels
- Ports

It would be unfair to those who have purchased existing bonds for such facilities to remove their current tax exemptions. Hence, the proposal would apply only to *new issues* of revenue bonds in the designated categories. There would be a gradual transition to the new approach, over a period of 15 to 20 years, at the end of which nearly all bond financing of these types of infrastructure would be on a taxable basis. As with the previous approach, there would be a level playing field for all new facilities and for all expansions and modernizations of existing facilities. This should lead to significant private-sector participation, via both purchase of existing facilities and long-term franchises for new ones.

What would be the revenue impact to the U.S. Treasury as this approach is phased in Table 3 assembles figures on the average annual issuance of municipal revenue bonds in each of the above categories over the five years 1990 through 1994. In the typical year of this decade, thus far, some \$51 billion of infrastructure revenue bonds were issued. This represents 26.3 percent of the total municipal bond market. Their average coupon was 5.43 percent.

Assuming that this annual volume is typical, we can project a similar volume of new issues into the future. Assuming that the average coupon on these now-taxable bonds is 200 basis points higher than their tax-exempt predecessors, the annual interest on \$50.852 billion worth of bonds would be \$3.778 billion. At a tax rate of 36 percent, this would produce \$1.36 billion in year one. Each subsequent year there would be an additional \$50.852 billion in new issues, adding another \$1.36 billion in tax revenue. Since the average maturity of the infrastructure revenue bonds in Table 2 is 18.23 years, by year 18 federal tax revenues from this new source would peak at \$24.5 billion, remaining at this level in future years, as shown in Figure 1. Hence, this change would produce substantial, ongoing deficit reduction, while dramatically increasing privatization of infrastructure.

What would be the possible negative effects of such a change Investment banking firms would be no worse

off from this change, assuming the total volume of infrastructure bonds remained at least the same (if not larger). They would simply be doing a larger fraction of their bond volume on the commercial rather than the municipal side of their business. And since margins on municipal issues have been thin in recent years, investment banks might welcome the change.

Bond buyers would have a smaller (by about one-fourth) pool of new issues to choose from each year, about which they would probably be unhappy. Yet they would still have the remaining three-fourths of new issues and the entire existing pool of outstanding bonds in which they could still invest on a tax-exempt basis. Even after the change was fully implemented (after year 18), there would remain a large tax-exempt market of general-obligation bonds and non-infrastructure revenue bonds. And no current bond-holder would be taxed on any existing bond-holding.

City and state governments might object to this change, on grounds that it would increase the interest rates



on a portion of their new issues, thereby leading to higher user fees for their constituents. As noted previously in Section II, there would be a number of offsetting factors working toward *lower* costs for privatized infrastructure, but this might be dismissed in advance of the change as unproved and

purely theoretical.

On the other hand, for the remaining three-fourths of new issues of municipal bonds—those that would remain tax exempt—there would likely be some reduction in interest rates. This would occur for the following reason. The same number of high-bracket investors would create the same amount of demand for tax-exempt munis, but the supply would be one-fourth less. This increased demand (in relation to supply) would bid up the price for the tax-exempt munis, causing their yield to fall. In other words, cities and states could sell their remaining munis at a lower interest rate. Thus, on balance, cities and states would receive an offsetting benefit of somewhat lower interest charges on the majority of their new issues of municipal bonds.

VI. AN ADDED BENEFIT: NEW EXPORT MARKETS

This paper has recommended that federal policy remove all barriers to infrastructure privatization, leveling the playing field between government and private ownership of infrastructure. If this were done, in addition to the benefits flowing from increased investment, better pricing, and better management of our infrastructure there would be the added benefit of stimulating the growth of an important export industry.

The world is moving more rapidly than we are to this new infrastructure paradigm. Worldwide, in 1994

alone, some \$23 billion in new infrastructure projects were privately financed, bringing the total of such projects to nearly \$83 billion. According to a detailed tally by *Public Works Financing*, another 416 projects valued at \$431 billion are in the planning stages. Latin America, Asia, and the former Communist world, in particular, are developing modern infrastructure via asset sales and public-private partnerships.

But the fact is that U.S. firms are doing poorly in the international competitions to finance, develop, own, and operate this infrastructure. British, French, Italian, and Japanese firms are among the leaders in winning competitions for airports, toll roads, water systems, and waste disposal facilities around the world. The world's largest and most sophisticated water/wastewater firms are the large French and British water companies. The world's largest private, for-profit airport developer/owner/operator is the privatized British Airports Authority. The leading firms experienced in building and operating tollways at a profit are French, Italian, and Spanish companies which have been doing this for several decades in their home markets.

The United States has no real home market where American firms can hone their skills and expertise as owner/operators of transportation and environmental infrastructure. The persistence of municipal socialism in this country—in contrast to our international competitors—has stunted the development of world-class capabilities in our firms. To be sure, U.S. firms are still among the leaders at engineering, design, and construction. But our firms are far less experienced at *financing* and *operating* large-scale infrastructure facilities as business enterprises.

It is ironic that the land of free enterprise has thus far largely missed out on the opportunity to develop the modern infrastructure needed in the former Communist world and the rapidly growing Third World. Creating a home market for privatized infrastructure would give U.S. firms the kind of experience that would increase their competitive edge in the huge worldwide infrastructure market of the 21st century.

ABOUT THE AUTHOR

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