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MINING THE GOVERNMENT BALANCE SHEET:

What Cities and States Have to Sell

by

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EXECUTIVE SUMMARY

President Bush's Executive Order (No. 12803) on Infrastructure Privatization of April 30, 1992 cleared away federal barriers to cities and states selling or leasing existing public works infrastructure to private investors. This report reviews the potential for state and local governments to make use of the new option granted them by the Executive Order.

Selling infrastructure enterprises can provide financial benefits to all three levels of government. For hard-pressed state and local governments that sell these assets, the immediate gain is the one-time retrieval of their capital, for use on other pressing needs. Local governments will thenceforth benefit from ongoing property tax payments, as formerly exempt highways, bridges, airports, water systems, and waste disposal facilities are added to the tax base. Each enterprise that is privatized also represents a new stream of state and federal corporate tax revenues. And the federal government will receive the depreciated value of its previous grant investment, at the time of sale.

Privatization of infrastructure is a worldwide phenomenon. Airports have been privatized in Britain; seaports in Britain and several Asian nations; water supply in Argentina, Britain, and France; electric and gas utilities in a number of countries; and highways in many parts of Europe, Asia, and Latin America.

Based largely on this international experience, estimations of the market value of privatized infrastructure are derived in this report. Applied to the numbers of commercial infrastructure enterprises owned by cities and states, valuation rules of thumb yield estimates of the potential sales value which cities and states could realize via privatization. This preliminary estimate is $227 billion.

In light of the easing of federal policy and the sizable potential benefits, state and local governments should consider the transfer of public assets to the private sector.

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I. INTRODUCTION

The 1990s are likely to be an era of rethinking and restructuring of government's roles and responsibilities. As David Osborne puts it in *Reinventing Government*, "Business does some things better than government... Business tends to be better at performing economic tasks, innovating, replicating successful experiments, adapting to rapid change, abandoning unsuccessful or obsolete activities, and performing complex or technical tasks." Very few of the major infrastructure enterprises operated by state and municipal governments in the United States are inherently governmental. Gas and electric utilities are predominantly investor-owned in this country, though hundreds of municipal systems also exist. By contrast, all large commercial airports and three-fourths of all water supply systems are government-owned in this country. Yet overseas, 100 percent of water supply in Britain and 72 percent in France is privately owned or operated. Major airports (and several smaller ones) in the United Kingdom are investor-owned, and the trend is spreading to Austria, Denmark, Greece, Malaysia, and New Zealand.

President Bush's Executive Order on Infrastructure Privatization offers state and local government the option of selling or leasing any infrastructure enterprise that had previously received federal aid, as long as it repays the depreciated value of the federal grants. And it directs the relevant federal agencies—principally the Environmental Protection Agency, the Federal Aviation Administration, and the Federal Highway Administration—to work with their grantees in removing obstacles, should they opt to pursue privatization.

This report reviews the possible rationale for privatizing infrastructure. It then seeks to identify which enterprises would be most attractive to investors and what their aggregate market value might be, based

primarily on international experience.

II. WHY PRIVATIZE INFRASTRUCTURE

There are two potentially good reasons for states and cities to consider selling or leasing income-producing infrastructure enterprises. The first is financial and the second is operational. Privatization can help cities and states cope with fiscal stress. And by changing the incentives under which these enterprises operate, privatization may lead to important operational improvements.

Businesses that are financially stressed often find it good practice to divest assets. Divisions or subsidiaries that are poorly run by a large conglomerate often receive a new lease on life under new, leaner management. The one-time windfall from the sale permits the seller to pay down debt or obtain capital for other needed investments—without having to engage in new borrowing. In Europe and Latin America, debt reduction is one of the major uses of privatization proceeds, and an important reason for selling state-owned enterprises.

The initial one-time windfall is generally the most dramatic financial impact of selling an infrastructure facility. But there are also important ongoing revenue streams. Most state and municipal enterprises are exempt from all taxation—local property taxes, state income taxes, and federal income taxes. Converting an airport or highway or water system into an investor-owned business converts it also into a tax-paying corporate citizen. Airports, for example, are often the largest single land use in a city, yet they are generally not part of the property tax base. Such an enterprise can be a substantial addition to the tax base. The total impact of these revenue streams can be quite large. A study by Price Waterhouse of the private Dulles Toll Road Extension in Virginia estimated that this facility will pay, over its useful life, some $2 in taxes for every $1 of initial investment.

In terms of operational efficiency, there are a number of potential benefits from privatizing infrastructure. One of the most important is the introduction of market pricing. Government-owned enterprises generally come under strong political pressure to charge below-market rates, either across the board or at least to politically favored groups. Firms answerable to investors are far more likely to employ market pricing. In utilities such as water and gas supply and waste disposal, market pricing provides powerful incentives to conserve on usage. Likewise, in transportation facilities such as airports and highways, market pricing, including higher charges during peak hours, will help reduce congestion, by giving users incentives to shift some trips to off-peak hours or to alternative facilities.

A second benefit involves investment decisions. There is a natural tendency for elected officials to promote public works projects whose costs exceed their benefits, because of the political benefits the projects bring to their sponsors (construction jobs, higher levels of service to remote areas, etc.). Under private ownership, investment will only take place for projects that can provide an acceptable rate of return on the invested capital. Having to meet this kind of market test for capital investment is powerful insurance against such injudicious spending.

Third, private ownership can stimulate innovation, often involving the use of new technology. Many areas of public works are little different today than projects designed 40 years ago. This is certainly true of highways. Yet California's recent experience with private tollways offers a powerful example of the

potential for innovation. The four private projects approved in 1990 will include the first use of "congestion pricing" in the United States, the first fully-automated (no toll booths, nonstop toll collection) toll road in the world, and innovative solutions to the problem of obtaining rights of way (e.g., putting toll lanes down the median of an existing freeway; in another case, building an elevated tollway above 10 miles of flood-control channel). There is significant potential for using more cost-effective technology in wastewater treatment and for modernizing airport air-traffic control and safety-related equipment.'

Fourth, when building new projects (or rebuilding existing ones), private firms are not bound by cumbersome, time-consuming public-bidding and procurement regulations. They are free to make use of innovative techniques such as Design/Build, in which the designers and construction contractor work together as a team from the outset. The result is frequently significant savings in both development time and project capital cost.

Finally, privately owned infrastructure is not likely to be subject to the phenomenon of "deferred maintenance." There are strong pressures in the public sector to postpone needed maintenance, due to strong political pressures to spend limited public funds on apparently more urgent human-service needs. This phenomenon was well documented by the National Commission on Public Works Improvement. A private owner-operator is able to charge sufficient prices to ensure proper ongoing maintenance, and is strongly motivated to do so in order to preserve the asset value of its investment in the facility. Indeed, in many cases covenants with bondholders provide a legal obligation to devote adequate sums to maintaining the value of the physical assets.

None of these potential benefits is guaranteed to occur in every case of infrastructure privatization. But since there are strong economic incentives encouraging each of them, and much weaker incentives for them to be present under public ownership, there is a strong operational case to consider privatizing these enterprises. While the immediate motive may often be purely financial, cities and states may end up improving the quality of the infrastructure as a byproduct of dealing with their fiscal problems.

III. CANDIDATES FOR PRIVATIZATION

What do states and cities have to sell A few governments have "sold" their city halls and leased them back, or engaged in other forms of asset shuffling. This report is not concerned with that type of transaction; rather, it seeks to identify those enterprises which generate revenue sufficient to cover at least their costs and which, therefore, can be profitable under private ownership.

This criterion excludes several categories which might still be candidates for some forms of privatization in which government would continue to subsidize or otherwise act as the customer for the facility. Nearly all municipal transit systems in this country, for example, do not cover even their operating costs, let alone their capital costs, from user-generated revenues. If offered for sale, they would find no buyers, unless hefty operating subsidies were to be provided.

Jails and prisons are also potential candidates for privatization, generally either contract operation of existing facilities or long-term franchise for development and operation of new ones. But since government is the only customer for correctional services, there would probably not be buyers of existing jails or prisons

without a long-term government contract to purchase inmate-custodial services.

State and local governments operate a considerable array of infrastructure enterprises which do meet our criterion—facilities which in other jurisdictions (either at home or abroad) are owned by investors and supported by customers paying market prices. To obtain an initial estimate of the magnitude of such enterprises, those ventures which are operated by only a handful of state or local governments have been excluded: cable TV systems, telephone systems, and a variety of miscellaneous enterprises. This study will focus instead on 10 major categories in which significant numbers and/or significant dollar values of enterprises exist, as set forth in the following paragraphs.

A. Commercial Airports

According to the Airports Association Council International, the largest 87 U.S. airports enplane 90 percent of all passengers on scheduled airline service. These 87 airports, ranging in size from Chicago (O'Hare) to Richmond, are the principal candidates for sale to private investors.

The country most advanced in privatizing airports is Britain. In 1987 the British government sold the former British Airports Authority (BAA) for $2.5 billion. BAA's airports included the three principal London airports (Heathrow, Gatwick, and Stansted) and four Scottish airports. Other countries announcing plans to privatize existing airports include Austria, Denmark, Malaysia, New Zealand, and Singapore. A number of other countries, including Canada, Greece, and Turkey, are using private enterprise to develop and operate new airports or terminals.

In a 1990 policy study, the Reason Foundation developed a procedure for estimating the potential market value of commercial airports. By analogy with cable TV and cellular phone systems— which are bought and sold based on a certain dollar value per person in the service area—the procedure found that in actual and proposed airport sales thus far, the sales price averaged $61 per annual enplaned passenger. Since enplanements are the basic parameter that correlates with activity levels and revenue opportunities, this rule of thumb was selected for value estimation.

Enplanements fluctuate up and down in step with economic conditions. In a recent representative year, there were 474.6 passenger enplanements at U.S. airports. Were those airports all to be sold at an average of $61 per enplanement, their market value would be $28.95 billion.

B. Electric Utilities

According to the American Public Power Association, as of 1990 there were 2,010 publicly owned (i.e., in state or municipal ownership) electric power systems in the United States. This number excludes utility cooperatives and the 10 federal power agencies.

Privatization of state-owned electric utilities has been an ongoing trend over the past decade around the world. Among the countries selling all or part of such electric power systems are Argentina, South Korea, Austria, and the Philippines.[9]

Perhaps the most illustrative case for our purposes is, once again, Great Britain. In the late 1980s the British government restructured the state-owned power industry, separating it into several power generating

companies and 10 regional distribution companies. In 1990 it sold the regional distribution companies for $10.2 billion. A year later, it sold 60 percent of the two main generating companies (National Power and PowerGen) and all of Scottish Power and Hydro Electric. Based on those sale prices, the total market value of the generating companies was $11.5 billion. Combined with the distribution companies, that gives a total value of $21.7 billion.

The state-owned electricity industry served all of the United Kingdom except Northern Ireland—a 1989 population of some 55.78 million. Thus, investors were paying an average of $389 per person in the service area for the electricity industry.

The 2,010 U.S. state and municipal utilities served 16.32 million "ultimate customers" in 1990, the vast majority of them households. Multiplying that number by the Census Bureau's figure of 2.63 persons per household (1990 census), yields 42.87 million people—somewhat fewer than in Britain. At $389 per person served, that would put the market value of these state and municipal electric companies at $16.7 billion.

C. Gas Utilities

The American Gas Association reports that there are some 800 municipal gas utilities in the United States. They serve 3.6 million customers. Again, since the vast majority of these accounts are households, the Census Bureau figure of 2.63 persons per household was used to arrive at a figure of 9.54 million customers.

Argentina is in the process of privatizing Gas del Estado, its state-owned gas utility. But our most complete data are for British Gas, which was privatized via a public stock offering in 1986. The stock offering yielded £5.7 billion (i.e., thousand million), and the government retained £1.1 billion worth of debentures, for a total market value of £6.8 billion. At current exchange rates, that is $11.9 billion. British Gas serves 55.78 million people in England, Wales, and Scotland. Hence, British Gas is worth approximately $213 per person served.

Applying this rule of thumb to U.S. municipal gas utilities, their market value is estimated (multiplying 9.5 million people by $213 each) at $2.03 billion.

D. Highways and Bridges

Privatization of highways, bridges, and tunnels has been spreading rapidly over the past decade, both overseas and here at home. The world's largest public works project, the $13 billion Channel Tunnel between Britain and France, is entirely private. France, Italy, and Spain have extensive franchised toll-road networks, and recent converts to highway privatization include Australia, Britain, Canada, China, Malaysia, Mexico, and Singapore. The former are using the private sector to develop new toll roads and bridges. In addition, Argentina and Venezuela are turning existing highways over to private firms for major rebuilding, expansion, and operation. In the United States, five states (Arizona, California, Florida, Texas, and Virginia) and Puerto Rico have enacted private tollway laws.

Under the terms of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), states may grant long-term franchises to private firms willing to either develop and operate new highways, bridges, and

tunnels or to rebuild and operate existing ones. Should states opt to make use of these provisions (which will be simplified by the President's executive order), the principal market will be rebuilding existing highways and bridges that are in poor shape or need expansion.

Deferred maintenance has left our highways and bridges in poor shape. Some 39 percent of all U.S. bridges are classed as "deficient" by the Federal Highway Administration (FHwA), and 25 percent of the mileage of the Interstate highway system is classed as being in fair or poor condition. Non-Interstate highways are in even worse condition. Overall, FHwA estimates that in order to prevent further deterioration of the highway system, the United States should be investing $13 billion more per year than present levels, and to restore highway and bridge conditions to what they were 20 years ago the level of annual investment would have to increase by $42 billion.

Under ISTEA, states may use some or all of their federal highway funds to attract private investment, on a matching basis. For highway projects, the maximum federal share on such projects is 50 percent; for bridges, it is 80 percent. Many analysts suggest that states would be wise to use as low a share of federal funds as possible, in order to attract as much private investment as possible. A recent Reason Foundation analysis showed that a hypothetical state using a 25 percent federal/75 percent private formula might be able to increase its total highway investment by 150 percent.

That exercise assumed that a majority of highway and bridge projects would be suitable for tolling and privatized operation. A more modest assumption is that states would, on average, be able to achieve only one-third as much private investment as in the hypothetical example—but that would still amount to a 50 percent increase. On a national level (i.e., assuming that all 50 states took advantage of ISTEA's privatization provisions), that would mean some $19 billion per year of net new private investment in highways and bridges. Most of those projects would involve the purchase or long-term lease of existing facilities, rebuilding and expanding them, and converting them to toll roads or bridges. Over a five-year period, that would mean $95 billion. Unlike the other categories of infrastructure reviewed in this report, in this case only a portion of the funds would be paid to state or city governments for the existing projects; the majority of the funds would be spent on rebuilding and expanding the facilities.

E. Parking Structures

According to the Institutional and Municipal Parking Congress, between 35,000 and 40,000 of the nation's 100,000 parking structures are owned by municipalities. The average facility has between 500 and 550 parking spaces. And the average monthly income per space is $40, which equates to $480 per year. Using these basic numbers, it is possible to estimate the market value of these municipal parking structures.

A common formula used in the industry is 10 times net annual earnings. Estimating typical structure profits at 7 percent of gross income, that means an average of $33.60 per space (based on $480 per space per year). Assuming 525 spaces per structure and 37,500 municipally owned structures, the result is $6.6 billion.

F. Ports

Some 36 governments worldwide are considering or are in the process of privatizing some or all of their major shipping ports. Among them are Argentina, Brazil, Hong Kong, Malaysia, New Zealand, Panama, Singapore, and Venezuela. The pioneer port privatizer is Britain, which in 1983 privatized (via public stock

offering) the 22-port Associated British Ports. Two other ports were sold in 1990. In 1991 Parliament adopted legislation to require 15 "trust ports" to be privatized, and the first two—Medway and Teas & Hartlepool—are in the process of being sold.

There are 45 shipping ports in the United States that handle 10 million tons or more of freight per year. In 1987 (the latest year for which full information is available), those ports handled some 1.2 billion tons. Many of these ports are consistently unprofitable and are sustained only by ongoing subsidies, mostly from local sources (so as to retain port jobs). In many of these cases, the land occupied by the docks and facilities would be worth far more if it were redeveloped into other commercial uses. Some of the largest ports (e.g. Los Angeles and Long Beach) are quite profitable and could be attractive investment opportunities as ports.

The data from the British privatization experience is again used in making a first approximation of market value. For Associated British Ports, the two share offerings in 1983 and 1984 averaged $12.07 per annual ton handled.

The two smaller ports sold in 1990 went for approximately $8 per ton. Applying this range of values to the 1.2 billion tons handled by the largest 45 U.S. ports would give a range of between $9.6 and $13.2 billion; the average of those two figures is $11.4 billion. This number may understate the value of those ports which are candidates for closure and commercial redevelopment, but a more detailed assessment would require a case-by-case review of the 45 individual ports, which is beyond the scope of this brief study.

G. Turnpikes

The eastern part of the United States has a number of major turnpikes. Although most of them are now part of the Interstate highway system, their development predates that system. They were developed largely without federal funds, financed by tax-exempt bonds. At this time, those bonds are in most cases nearly paid off, making these turnpikes attractive candidates for acquisition.

One potential buyer stepped forward in the winter of 1991-92. The American Trucking Associations, Inc. (ATA) made an unsolicited offer to purchase the Massachusetts Turnpike, in response to press reports that Gov. William Weld was interested in selling it. (Two other unsolicited offers were also received). In addition, the ATA expressed interest in buying the New York Thruway, and although initial political reaction was negative, in February 1992 Gov. Mario Cuomo announced that he would entertain serious offers.

The investment banking firm Donaldson, Lufkin & Jenrette made a preliminary estimate of the market value of the Massachusetts Turnpike of between $0.5 and $1.0 billion. The low end of that range equates to $3.7 million per mile. While the eight major turnpikes obviously differ in traffic levels and revenue potential, a conservative first estimate can be made using that rule of thumb, as shown in Table 1.

Table 1

ESTIMATED TURNPIKE VALUATIONS

Facility	Length (in miles)	Estimated Value (in $ billions)
Massachusetts Turnpike	135	0.5
New York Thruway	512	1.9
Ohio Turnpike	241	0.9
Indiana Turnpike	157	0.6
Kansas Turnpike	237	0.9
New Jersey Turnpike	80	0.3
Pennsylvania Turnpike	359	1.3
Florida Turnpike	270	1.0
TOTAL	**1991**	**$7.4**

Table 1 *- The estimated total sale value of profit-making toll roads in the United States is $7.4 billion.*

H. Water Supply and Wastewater Treatment

Although in the United States most water supply is provided by municipal water works, this is not the case in a number of other countries. Britain, France, and Spain have largely privately owned and/or operated water supply, and private firms provide a portion of the water supply in Brazil, Chile, Guatemala, Indonesia, Kuwait, Morocco, and Peru. Today, Sydney, Australia is in the process of selecting a private sector provider to design, build and operate a new $1.2 billion water system, and Argentina is planning to sell Obras Sanitarias de la Nacion, its state-owned water company.

The world's largest water system privatization took place in Britain in 1989. Until that time, private companies provided only 25 percent of the nation's water supply, with the remainder supplied by 10 regional water/wastewater authorities. The latter were corporatized during the 1980s and were privatized via public stock offering in December 1989, yielding some $8.4 billion for the government.

In the United States, some 34,461 municipal waterworks serve 85 percent of the population, according to figures from the Environmental Protection Agency (EPA) and the National Association of Water

Companies. Nearly 100 percent of U.S. wastewater treatment systems are owned by municipalities, though some 1,300 systems are operated by private firms under operations and maintenance (O&M) contracts.

Two methods were used to estimate the value of municipal water and wastewater systems. As in previous sections, the British experience provides an estimate for a market-value rule of thumb. The 10 privatized U.K. firms serve 37.9 million people in England and Wales for water service and all 50.8 million people for wastewater. A review of the costs and revenues of these companies indicates that approximately half of their costs are incurred in providing water service, while wastewater treatment provides twice the profits of water supply. The assumption is made that 40 percent of what the investors paid was for the water portion of the business ($3.36 billion) and the balance for the more-profitable sewer business ($5.04 billion). When these figures are distributed over the population of each of the two service areas, the calculation yields a figure of $99.21 per person for the wastewater business and $88.65 for the water business. Applying these figures to the populations served by municipally owned systems across the United States yields $24.68 billion for wastewater systems and $19.19 billion for water supply systems.

These numbers may be low for two reasons. First, it is well known that the British Treasury under-priced the initial stock offering; one year later the market value of the 10 firms had grown to $10.48 billion. On that basis, the revised rules of thumb would yield values for U.S. municipal entities of $30.79 billion for wastewater systems and $23.94 billion for water supply systems.

Second, the level of technical sophistication of the U.S. systems may be considerably higher, on average, than the British systems. Today the U.K. water/wastewater companies are embarked on a massive capital investment program to bring their systems into compliance with European Community environmental standards; this is leading to dramatic rate increases for users. On the U.S. side of the Atlantic, the EPA has already spent $30 billion in grants for construction of secondary and tertiary treatment plants over the past decade, with another $25 billion still in the pipeline. Between 1980 and 1988 alone, the EPA, the Department of Housing and Urban Development, and the Economic Development Administration made wastewater construction grants of $31 billion, matched by $34 billion in municipal funds, for a total investment of $65 billion. On the other hand, it is not clear that all of this investment would have been made in the absence of the federal grant programs, and the market value of these plants could well be less than their total capital costs.

For these reasons, the values calculated using the revised rules of thumb—$30.79 billion for wastewater systems and $23.94 billion for water supply—are better approximations of the market value. Hence, in Table 2, below, the figures based on 1990 British market values are used.

I. Waste-to-Energy Plants

Solid waste disposal is still done predominantly via landfills, the majority of which are government-owned. Since landfills are relatively short-lived (e.g., 10 years), there is not likely to be much of a demand for investor purchase of existing municipal landfills (although private firms are developing many of today's more environmentally sophisticated new landfills).

Waste-to-energy facilities are a potentially marketable enterprise. The 1991 *Resource Recovery Yearbook* reports that there are 138 such facilities in the United States, serving 34 million people and handling about 17 percent of the waste stream. Of these 138 facilities which cost $7.7 million to build (nearly all in the past

decade), 56 percent are municipally owned. Another $7.5 billion of planned facilities are in the development pipeline. Just under half of the planned facilities will be municipally owned.

No data were available to determine a basis for market value based on sales of existing municipal facilities, either in the United States or overseas. Nor were data available on the profit levels of privately owned plants. The only basis for an initial estimate of potential market value is the investment that has been made in municipally owned plants. Taking into account both the depreciation of existing facilities and the new ones coming on line in 1992, a first approximation would be $4 billion.

IV. SUMMARY AND CONCLUSIONS

Adding up the estimates derived in the previous section, Table 2 presents a summary of the most attractive candidates for sale or lease to private investors. Cities and states have, at first approximation, some $227 billion in infrastructure enterprises which can generate sufficient revenues from users to be capable of profitable operation. Other types of infrastructure not included here but mentioned in the Executive Order—mass transit, rail transportation, waterways, public housing, schools, prisons, and public hospitals—may also be candidates for some form of privatization, involving ongoing government support.

The thousands of enterprises listed in Table 2 are candidates for privatization via sale or lease. No city or state is required to privatize anything by the Executive Order, nor should it assume

TABLE 2

SALABLE STATE AND MUNICIPAL ENTERPRISES		
Enterprise Type	Estimated Number	Estimated Market Value (in $ billions)
Airports (Commercial)	87	29.0
Electric Utilities	2,010	16.7
Gas Utilities	800	2.0
Highways and Bridges	n/a	95.0
Parking Structures	37,500	6.6
Ports	45	11.4

Turnpikes	8	7.4
Water Systems	34,461	23.9
Wastewater Facilities	15,300	30.8
Waste-to-Energy Plants	77	4.0
TOTAL ESTIMATED VALUE		**$226.8**

Table 2 *- Estimated value of total salable state and municipal enterprises in the United States: $226.8 billion.*

that private ownership would necessarily meet public objectives better than public ownership. But there are good reasons to consider private ownership and operation of these enterprises, as discussed in Section II. In many cases, privatization can bring about operational improvements, in addition to providing substantial fiscal benefits to hard-pressed state and local governments. The Executive Order gives cities and states new flexibility in exploring this important tool for rethinking government's role.

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NOTES AND REFERENCES

David Osborne and Ted Gaebler, *Reinventing Government*, (New York: Addison-Wesley Publishing Company, Inc., 1992), 45-46.

1. *Privatization 1992*, Sixth Annual Report on Privatization, Reason Foundation, 1992.
2. Joseph B. White, "How Detroit Diesel, Out from Under GM, Turned Around Fast," *Wall Street*

Journal, August 16, 1991.
3. Steve Steckler and Lavinia Payson, "Infrastructure," in *Privatization for New York: Competing for a Better Future*, A Report of the New York State Senate Advisory Commission on Privatization, ed. E. S. Savas, New York, January 1992.
4. Robert W. Poole, Jr., "Incentives for Mobility: Using Market Mechanisms to Rebuild America's Transportation Infrastructure," Reason Foundation Policy Insight No. 116, August 1989.
5. William G. Reinhardt, "Infrastructure Entrepreneurs Pioneer Private Toll Roads," *Public Works Financing*, October 1990.
6. Stephen Moore, "Wastewater Privatization: On the Comeback?" *Partnership Focus*, March 1991.
7. Robert W. Poole, Jr., "Building a Safer and More Effective Air Traffic Control System," Reason Foundation Policy Insight No. 126, February 1991.
8. Robert W. Poole, Jr., "Selling LaGuardia and Kennedy Airports," Reason Foundation Policy Insight No. 208, 1990.
9. National Council on Public Works Improvement, *Fragile Foundation: A Report on America's Public Works*, Washington, D.C., February 1988.
10. Peter Gordon, "Myths and Facts of Nation's Transit Policy," Reason Foundation Policy Insight No. 131, October 1991.
11. Dana C. Joel, "Containing Prison Costs Through Privatization," in *How Privatization Can Solve America's Infrastructure Crisis*, Heritage Foundation and National Chamber Foundation, 1992.
12. Robert W. Poole, Jr., "Privatizing Airports," Reason Foundation Policy Insight No. 119, January 1990.
13. *Privatization 1990*, Fourth Annual Report on Privatization, Reason Foundation, 1990.
14. *Privatization 1991*, Fifth Annual Report on Privatization, Reason Foundation, 1991.
15. *Privatization 1992*, Sixth Annual Report on Privatization, Reason Foundation, 1992.
16. Federal Highway Administration, "The Status of the Nation's Highways and Bridges: Condition, Performance, and Capital Investment Requirements," Washington, D.C., November 1991.
17. Robert W. Poole, Jr., "Private Tollways: How States Can Leverage Federal Highway Funds," Reason Foundation Policy Insight No. 136, February 1992.
18. *Privatization 1991*, Fifth Annual Report on Privatization, Reason Foundation, 1991.
19. *Waterfacts 1991*, Water Services Association, London, November 1991.
20. United State Environmental Protection Agency, *A Preliminary Analysis of the Public costs of Environmental Protection: 1981-2000*, Washington, D.C., May 1990.