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Why America Needs a Privatized Infrastructure Industry



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y subject today is infrastructure and why I believe the United States needs a privatized infrastructure industry. My basic thesis is that the traditional way in which we produce and operate major infrastructure in this country, especially transportation infrastructure, is obsolete and needs to be replaced. Instead of simply using the private sector to design and build infrastructure projects like airports, highways, water supply, and waste disposal, we need to create a whole new industry of firms that

finance, design, build, own and operate major infrastructure. In other words, what we need really is a new paradigm for infrastructure in this country.

There are two basic reasons why I think this is so. First, I hope I will be able to demonstrate to you this morning that the

traditional public works paradigm is simply not working well for major infrastructure in this country. Secondly, Europe and Japan are well along in adopting the kind of new paradigm that I believe we need to adopt. In international competitions for building infrastructure for the Third World and the former communist world, they are going to win all the contracts if we don't develop a vital, thriving privatized infrastructure industry as well.

Here is what I consider a best-case description of the traditional public works paradigm for infrastructure in this country. We use a source of tax money—often a user tax—and we put that money into a centralized trust fund. A political process operates to select projects to spend that money on. The projects are built by the private sector, but operated by government with no direct charge to the user in most cases and operated in a bureaucratic manner by a government agency. Now, what's wrong with this picture? After all, it has produced the interstate highway system, it produces airports, it produces sewer systems, and so forth. But I argue that this

approach has built-in institutional problems that are now coming home to roost. I've identified five of them.

First is what I call the Pork Barrel Problem, sometimes known as the Paving-Over-West Virginia problem because Senator Byrd has so much clout in Congress. It's simply that there are huge political incentives to select bad projects which inevitably displace good projects. There are only so many dollars that the public sector has to spend on infrastructure and every billion dollars that's spent paving West Virginia is a bil-

> lion dollars that can't be spent on something vitally needed like replacing obsolete New York City bridges.

The second problem is the Free Money Problem. When the federal government provides 80-90 percent of the cost of a state or local government project,

that makes it very easy to focus on new projects and on new capital spending, rather than repairing the existing structure or using innovative software or pricing as a potentially more cost-effective solution. Nearly free federal money biases us toward capital-intensive solutions where they are not necessarily the right answer.

Number three is the Subsidy Problem. The public sector either typically doesn't charge at all or charges a below-market price for the use of infrastructure, and that leads to excessive use. It leads, therefore, to rush-hour congestion, to airport delays, to the overuse of water, the overuse of waste disposal capacity, and so forth. The perception that's created by all that misuse is that we need more capacity in all of those areas of infrastructure. We may indeed need some additional capacity, but we're giving a false impression that we need a lot more capacity because with a zero price tag people always overuse, and that creates artificial shortages.

The fourth problem is the Deferred Maintenance Problem. To those of you who live in New York City I hardly need

say more about that, but it's a problem elsewhere as well. The National Council on Public Works Improvement estimated that, although 75 percent of the capital cost of major infrastructure comes from user charges or user taxes, only 50 percent of the operating and maintenance budgets for infrastructure comes from user fees. That means the other 50 percent has to come out of general appropriations, and in the political process, any number of honest public officials will tell you there are always a thousand things that are more politically attractive to allocate money for: day-care centers, AIDS, programs for the elderly. All of these are more attractive than ordinary maintenance of highways, bridges, and water pipes. The temptation is to always put it off until next year because there are other things more pressing. But when you systematically put it off until

next year, you end up with huge problems that cost a lot more than would be the case if there were proper ongoing maintenance. But the incentives inevitably drive these decisions in the direction of irresponsibility.

Number five is what I call the Entrepreneurial Problem. Public agencies are risk-averse. They are very status quo oriented; they don't like change. We build highways today basically the same way we did when Eisenhower was president and started the Interstate Highway Program. The public sector doesn't understand making strategic investments in new technology and making a niche market pay for a higher level

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of service that in turn pays for the new technology. If it ever gets around to using new technology, it has to be for everybody all at once because it is only fair to do it that way. But that means that the public sector hardly innovates at all. And so, to the extent that we want to introduce technological upgrading using things that information technology makes possible, it's going to be a long time coming if we rely on traditional public sector infrastructure to do that.

Those are the reasons why I think we need to consider a new paradigm. The basic elements of the new infrastructure paradigm are:

First, user funding. You should select projects that users



Left to right, Rob Wyder, Volvo North America Corp.; Bob Poole; and Steve Davis, Le Boeuf, Lamb, Leiby & MacRae, at a private dinner in Mr. Poole's honor.

are willing to pay for and this will provide a very important filter for screening out bad projects and focusing limited infrastructure capital on good projects. The second principle is dedicated revenues. Revenues that are produced by these user charges need to be tied to the project as a guaranteed source of not only repaying the capital costs but of assuring a central operating and maintenance fund for the entire life of the project. Third, there needs to be market pricing. Not just user charges but market prices, which means prices that are high in times of the highest demand and low in times of lower demand so that you create good economic incentives to get optimum use of

these valuable and costly facilities. It would be the same way that telephone companies use different prices at different times of day. If they didn't do that, they would have to buy and pay for—and you would have to pay for—a lot more total telephone lines than actually exist.

Now, if you do those three things—user funding, dedicated revenues, and mar-

ket pricing—that makes possible the use of private capital to pay for a lot of the infrastructure. Private investment capital means that the private sector can provide some of the infrastructure, not necessarily all. In many cases it will need to be a mix of public and private capital, but by running things in this kind of a businesslike way, you open the door for private capital. That could be a significant additional source for the scarce capital that we should be investing in modernizing the basic infrastructure of this country.

The good news is that there is a proliferation of these kinds of principles in infrastructure all around the world. The bad news is that there are very, very few of them in the United States. What I want to spend a few minutes on is contrasting in a few areas of transportation infrastructure the relatively dismal situation in the United States, with some of the progress being made overseas.

As I mentioned, in the highway sector we are still largely doing things the way they were done in the Eisenhower era, when we built the interstate system. Today, 39 percent of all United States bridges are obsolete or deficient. On the interstate highway system alone, 25 percent of the pavement is rated in poor condition by the Federal Highway Administration, because we are letting it deteriorate. Congestion in our largest cities costs \$34 billion a year in people's wasted time, wasted fuel, and higher insurance costs, and our entire highway system is designed—in terms of pavement thickness, height of bridges, and the size of lanes—to accommodate both cars and trucks. Not all of it needs to be done that way, and there would be dramatic savings in both capital and operating costs if we had more highways that were specialized only for cars and other light vehicles. This is something you would expect an entrepreneurial approach might produce, but which the public sector "one size fits all" approach has largely precluded.

Now, in contrast to this kind of dismal picture, in Europe, Australia, Asia, and Latin America, there is a rapid growth of public-private partnerships and privatization in the highway sector. For two or three decades the major motorway systems in France, Spain, and Italy have been done on a long-term franchise basis with private capital, private ownership, and private operation. In the last five years, that system has been rapidly spreading to Britain, Greece, Hungary, Poland, and Bulgaria. Mexico has a major massive program underway to

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develop franchised private toll roads; it's spreading to Argentina and Venezuela. Australia has opened its first two privatized toll roads of this sort; there are several under development in China; Malaysia has large projects underway; so does Thailand, and so on.

Some exciting, almost breathtaking, concepts are being introduced. For example, right now the final negotiations are taking place in Paris for a \$5.4 billion underground traffic tunnel system for cars and small vehicles only, designed to get vast numbers of cars off the streets of Paris. They will use electronic toll collection and a nonstop system with no toll



At a Privatization Project breakfast with Mr. Poole (center) are presider Ronald Lauder (left), Chairman of the New York State Senate Advisory Commission on Privatization, and Duncan Campbell-Smith of The Economist.

booths, and time-of-day congestion pricing to keep the traffic flowing smoothly in this underground tunnel network. There will be about 20 miles of underground tunnel in this project. In contrast to that kind of situation, we have very tentative steps being taken to open the door a little bit to the private sector and to private capital, but nothing very serious going on at all in this country in comparison with our size and our needs.

Airports are another whole area where we have a relatively poor situation in the United States. Our airports are operated almost entirely by municipal governments, very bureaucratically. The fees charged bear no resemblance whatever to prices, so as a result we encourage delays and waste of runway capacity. Our airports do not offer very convenient or attractive goods and services to their users, and their level of

safety equipment for not only avoiding collisions on the ground but for safely guiding traffic for landings and takeoffs is far behind the state of the art and far less than it could be. I'm not saying there's an imminent crisis, but there are actually numbers of accidents in the last ten years that are directly attributable to the lack of state-of-the-art safety equipment, including the crash a couple of years ago at Los Angeles International, that I consider inexcusable.

Now, in contrast, much of the rest of the world, even where the efforts are operated in the public sector, operates their airports as single integrated businesses that are intended to make a profit. There is some use of a pricing mechanism, particularly at the privatized British airports, Heathrow and Gatwick, that are run by an investor-owned company, BAA. There is a significant move to sell either all or a part-interest in airports in Vienna, Copenhagen, and Auckland, and the Mexican government announced last winter that it's planning to privatize all of the commercial airports in Mexico. Soon after that Venezuela said the same thing, and Argentina is planning to

privatize the Buenos Aires airports. This kind of thing is going on around the world; virtually every month there is a new development announced somewhere. There is tremendous potential for airport automation. The electronics industry in this country estimates that the worldwide market for the systematic automation of airports is \$20–40 billion over the next ten years. But it expects very little of that to be realized in the United States until and unless we change the way we operate airports, because it is so fragmented. There is no single customer to sell the equipment to, who can really take full advantage of it.

The United States air traffic control system is a disaster waiting to happen. This is a system that is about 15 years behind the state of the art in computers and electronics, and it seems to be getting further and further behind, despite massive efforts by the Federal Aviation Administration to upgrade. They can't get out of their own bureaucratic way, however, in terms of the way they procure equipment and systems, and there are incredibly old-fashioned ways of doing things. You would think if you're flying from New York to Los Angeles you'd fly in a straight line, but you don't.

You fly—you'll notice if you watch—in a zigzag pattern. That zigzagging is caused by flying based on signals from VOR stations that are laid out in the original positions where lighted beacons were laid out on hilltops in the twenties. That is still the system, even though computer technology makes it possible to plot out a course that goes in a straight line. But this is the way the FAA operates what should be the high-tech system that provides the vital safety that you and I depend on when we fly. And it's a bureaucratic nightmare to have to pay the same wages to controllers in a tower at Kennedy Airport who live in New York, as they pay the controllers in a tower in Oshkosh, Wisconsin where the cost of living is much less, so naturally there is a chronic problem getting enough adequately experienced and trained controllers to work in New York.

The good news, again, is that around the world there is progress being made. There are similar problems inherent in many air traffic control systems, but, for example, New Zealand corporatized its air traffic control system in 1987, by turning it into a corporation which charged user fees, and was mandated with making a profit. And it is making a profit. It has gone through one technological upgrade already, and they plan to sell shares to investors within a few years. The Swiss created SwissControl in 1988, as a corporatization of air traffic control, and it is already 29 percent owned by users and they are going to be upping that percentage to 49 percent within the next few years. Germany corporatized air traffic control beginning this year and they are just getting underway with a

new model. They are talking about it in Canada and in several other countries, but there is no discussion in this country.

From what I've said thus far, you can see that there are four generalized models for how you would apply the privatized approach to transportation infrastructure. One is divestiture; the complete sale or very long-term lease of existing facilities. This is what the British did with their airport system; BAA is now a highly profitable company that is seeking additional business worldwide. A second model is to keep the enterprise within the public sector but turn it into a profit-

"There are four generalized models for how you would apply the privatized approach to transportation infrastructure. One is divestiture; the complete sale or very long-term lease of existing facilities. A second model is to keep the enterprise within the public sector but turn it into a profit-making, userfunded corporation. A third option is to lease and redevelop existing facilities. And a final option is the long-term franchise for new infrastructure, on what is called a build-operate-transfer or BOT basis."

making, user-funded corporation, which is what the Swiss and the Germans have done with their air traffic control systems. A third option is to lease and redevelop existing facilities. This is what Mexico and Venezuela are doing with their airportsyou issue a long-term franchise in which the private sector comes in and invests a lot of capital in modernizing and then it gets to operate the airport for twenty, thirty, forty or fifty years, to repay its investments. And a final option is the long-term franchise for new infrastructure, on what is called a build-operate-transfer or BOT basis. The long-term franchise, if it's structured correctly, is a bankable document that the private developer can take to the financial community and say, "All right, we have the right to provide this tunnel system in Paris for 50 years; we need the following financing and here's our pro forma that shows the level of fees we can charge and you and we will make money from doing this." This is being done for the new Athens airport, a \$1.5 billion project, and it's being done in California, in one of the few U.S. examples, with four private toll roads worth \$2.5 billion.

I hope what I have accomplished thus far is to illustrate the first of my two main points regarding why we need to improve the quality of infrastructure in this country. There are big problems out there that can be solved by the approach that I've outlined. The second reason why I think we should do this is the competitive challenge that's going on in building modern infrastructure for the Third World and the former communist world. United States firms are already losing big in

this competition. For example, in toll roads, the teams that are winning the first private toll road projects in Eastern Europe are French and Italian companies which have a long history of private toll road operations. In Asia the winners tend to be teams led by Japanese and Hong Kong firms. In airports in recent competitions in Greece and in Eastern Europe it's been British, Canadian, French, and German companies that have been winning those competitions even though we have several good American firms, but they don't have that much experience with running fully privatized airports.

In water and wastewater there have just been several major competitions. Sydney, Australia, awarded long-term BOT contracts for \$.5 billion worth of water system upgrades; the winners were French and British companies. American teams finished out of the running. Buenos Aires recently authorized privatized contracts for \$4 billion worth of major upgrading and operation of its water system; the winner was a French company, and the U.S. didn't even come close. Malaysia just decided to privatize the development of its entire nationwide wastewater treatment system serving 17 million people; the winner was a British company. The world market for this kind of thing is growing rapidly. Since 1986 there have been 70 projects of this kind, in about 14 countries around the world. Those projects have an aggregate value of \$30 billion; about half of which is the Channel Tunnel. But according to various surveys and studies that have been done, there is another \$160 billion worth of privatized infrastructure projects that are already in the franchising process. And on the drawing boards is up to \$500 billion of projects that people are sketching out and are saying that they would like to do as privatized projects. That includes, as I mentioned, the \$5.4 billion tunnel project in Paris; a \$3.1 billion elevated combination of toll roads and transit system in Bangkok that has already started construction; and the \$1.5 billion Athens airport.

I think the major reason why U.S. firms are losing these competitions is that we have no home market here where U.S.



Mr. Poole greets Ambassador Fernando Guillen of Peru, as Bob Jenks of GE Capital Corporation looks on.

developers, operators, and financial firms can gain the kind of experience and expertise to really be competitive. In Britain, 100 percent of the water industry is private; in France 75 percent is private; in the United States, only 15 percent of our water is supplied privately and that is mostly in cities and towns of less than 3,000 people. So you put a U.S. "industry" that has that level of experience against the world's technological leaders in water supply, and it's no contest. We simply don't have the track record. In Britain the major airports for six years now have been privately owned and operated, by a very good, efficient and profitable company. We have no privately owned and operated commercial service airport. We have a few small airports like Atlantic City that are leased, but none that are privately owned. So that makes it difficult to compete. In highways, the French, Italian, and Spanish tollway firms are winning projects all over the world, including in the United States, as part of consortia with U.S. firms, because there is nobody in the private sector in the United States that has experience operating a toll road. It just doesn't exist.

The good news is that there are companies that are starting to make major moves to try to be in the privatized infrastructure industry. Bechtel and Kiewit a month ago formed a joint venture called United Infrastructure Company to be in this business throughout North America. Two years before, the Perot Group and Greiner Engineering formed National Transportation Authority which already has one toll road project under development in California and proposals in Texas and Florida. Two major financial firms that invest their own money in projects, GE Capital and Prudential Power-both of which have done independent power projects over the last ten years—have announced new privatized infrastructure divisions to go after these kinds of projects in the United States and elsewhere. And there is the beginning of a trade association called the Infrastructure Alliance that has held organizational meetings in Washington and hopes to develop this kind of industry.

The problem is that we really don't have public policy that supports this new paradigm as of yet. The FAA is still fighting against privatized airports or traffic control; the Federal Highway Administration is doing very little to support the provisions that are in the last federal surface transportation act which permits public/private partnerships; the EPA doesn't really know yet whether the Clinton administration is going to be for or against private projects in wastewater; and of course Congress is still wedded to business as usual. So I think the real challenge that we face in this country is getting the public policy in shape to encourage what industry would like to do, what the financial sector would like to do, and what the rest of the world is doing for developing this new paradigm.

We need to look seriously at the recommendations that were just recently made by the Infrastructure Investment Commission that was appointed by Congress to look at this issue. We need to strengthen and enforce the Executive Order on Infrastructure Privatization that President Bush signed a year ago. We need to level the playing field between taxable and tax-exempt debt. And we need, at the state level, to exempt public/private infrastructure from the traditional, very costly public utility commission regulation and adopt more modest forms of regulation where needed, as California is doing with private toll roads.

If we do those kinds of things I think we will not only go a long way towards solving the major infrastructure problems that we have in the United States, but we will also create the kind of industry that can be competitive in this huge emerging global market for privatized infrastructure. I encourage you all to take an interest in this and speak out in favor of these developments.

Questions and Answers

Q

Would you talk a little about potential privatization in central business districts?

A

Certainly in a place like New York City, there is a tremendous scope and need for privatization of service delivery. Citizens in this city, as in many big cities, are not getting the best value for their tax dollars because of the monopolistic way in which most municipal services are provided, and I think the single most positive reform would be to go to a competitive contracting system for most municipal services. This would include garbage collection, street maintenance, building maintenance, park maintenance, and so forth. You would not necessarily say the private sector has to do the job, but that every few years a bona fide competition is held in which the relevant city workforces would have to compete against outside bids. The British have this, and call it competitive tendering. In transportation there have been good experiences across the United States with competitive contracting for mainline bus service, not only niche markets like transporting the elderly and handicapped, but mainline everyday bus service. In Los Angeles, 20 percent of the former service area of our massive Southern California Rapid Transit District is now operated by a joint powers special district that gets the service from contracting with private bus companies. They are saving 40 percent on operating and maintenance costs. That 40 percent saving is so large it's allowed for reduction in transit fares which has expanded ridership (because there is definitely a price elasticity on bus ridership). The service levels are considered higher, people are more satisfied, the drivers are friendlier, and so on, and so forth. So far it's been a very good experience. Unfortunately they had to fight the transit unions in court and it took about three years before the first bus was able to hit the streets after decisions were made, because of protracted costly court battles.

you've weighed all the pros and cons. Cities can't sell equities and shares, but the private industry can. A city is forced to go to the bond market. But I believe you are saying you want the private industries to be able to issue bonds?



The two alternatives are: one, to expand the scope for tax-exempt debt to privatized projects that serve the public. You could define highways, bridges, water supply, solid waste disposal, airports, etc. as additional categories of public use infrastructure and open that up to tax-exempt financing. The immediate objection from the federal treasury is that this is a huge tax cost, and we can't afford it and we won't stand for it. I think there is a plausible argument that could be made that over the long term the Treasury may come out a winner because these would be forprofit, tax paying companies that would be paying federal corporate income taxes where the current operators are municipal corporations that don't pay any federal corporate taxes. But the actual quantification of that has not really been done to my satisfaction. The other alternative would be the much more drastic one which former New York State Controller Ned Regan is now talking about and that would be to radically shake up the system to limit the degree to which municipal bonds can be issued for new projects. Only projects that aren't enterprises, that can't generate user revenues, would use taxable debt. and that would be a form of a level playing field. There is a lot of work that needs to be done on that, but I think there is clearly a case for some kind of reform.



People are used to tremendous bureaucratic and political inertia and opposition to what you are proposing. Are there any lessons to be learned from any other countries or regions to create the political will for privatization?



I think one factor that seems to be quite common as a success factor for major privatization is major cri-



You said that you wanted to make it a level playing field between taxable and tax-free bonds. I'm sure

ses—major fiscal and financial crises. That seems to be the single most important driving force around the world, and that also seems to be the case in the United States in places where this kind of privatization is bubbling to the surface and finally getting onto the agenda. I wish it were because of the beauty and the rationality of the ideas, but it doesn't quite seem to be that way. Another, of course, is very strong political leadership that is committed to it. It also seems to correlate with a more parliamentary form of government where the political leader by definition has a legislative majority able to enact a comprehensive program. It's much more difficult in our system where you can have divided leadership at the federal, state and local level. I think another factor, probably not a major one, but an important one, is the change in the incentives of the individual employee through stock ownership. I think that can be a critical factor not in the decision to get it started but in overcoming internal opposition and giving you a real shot at changing the corporate culture.



Has anybody done any analytical work on the issue of pricing and profits versus length of lease?



There are bits and pieces of analytical work being done. There was a special issue of *Transportation Quarterly* dealing with the implementation of congestion pricing within the last six months, and it's very much figuring in studies and plans that are going on in California today. The California Air

Resources Board, which is our statewide air pollution umbrella agency, has a year-long study that's doing detailed simulation modeling for Los Angeles, San Francisco, Sacramento and San Diego on the potential impact of congestion pricing for mode shifting. Among the other things that study will be doing will be looking at how to make use of the revenues in ways that are both politically feasible and that reinforce the kind of transportation behavior and transportation system developments that we want to have. Figures that have actually been generated from earlier simulation modeling in greater Los Angeles show that if we had a pricing system on all the freeways in the greater Los Angeles area, we would generate something on the order of \$3 billion a year, which is not a trivial amount of money, and the question is what's the best use of those funds? I think a consensus is emerging that a significant part of that would need, in effect, to be rebated back to the users through reductions in some of the other transportation taxes they're paying and the balance should be spent directly on transportation system improvements, to make the overall transportation system work better. That kind of a consensus, combined with the magnitude of those revenues, may well lead to judgments that this kind of thing is politically feasible, particularly given the need in cities like Los Angeles (and probably Boston) to be seriously addressing the air quality problem as well as the traffic congestion problem.

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