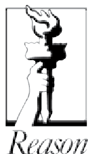

Privatization Watch

Celebrating 30 Years of Privatization and Government Reform

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Running on Fumes

Toll Road Financing... 3

Briefs... 2
Myths and Facts About Texas Toll Roads... 4
Leasing the Pennsylvania Turnpike... 6
21st Century Tolling... 7

Privatization Watch

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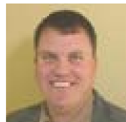

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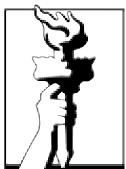

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Privatization Briefs

Legislation update from the around the United States

Florida: Governor Charlie Crist signed House Bill 985 into law in June 2007, revising the state's current PPP law to permit the lease of existing toll roads (except the Florida Turnpike). It also added some concession-related provisions to the existing PPP law—for example, limiting concession terms to 50 years unless the state DOT shows that a longer term (up to 75 years) is needed. The new law also requires regular toll increases by state and local toll agencies to keep up with inflation.

Indiana: Gov. Mitch Daniels in late March 2007 withdrew his proposal for two new PPP highways, one a beltway around Indianapolis and the other a joint project with Illinois. In both cases, strong opposition arose from landowners, which would likely have been the case regardless of whether the roads were proposed as toll roads or not.

Mississippi: The legislature in March 2007 passed a new PPP-enabling act, which will make that state the 22nd with such a law on its books. It permits the government or private contractors to design, finance, build, and operate new toll roads and bridges. Free alternative routes must be available, and the tolls must be removed after the construction debt has been paid off.

Letter from Editor, Geoffrey F. Segal

A backlash against public-private partnerships has emerged in the United States. Last year brought critiques from the long-term leases of the Chicago Skyway and Indiana Toll Road. New complaints have emerged and battles are being fought around the country. In response this issue of *Privatization Watch* is dedicated to debunking many of the myths and misunderstandings surrounding public-private partnerships in transportation.

The articles you'll read on the following pages represent a small fragment of Reason's work on transportation public-private partnerships; indeed, the articles themselves are shorter versions of much larger pieces. I invite you to visit our Web site, www.reason.org/transportation where you can find full-length versions of these articles in addition to our entire extensive catalog of work.

Running on Fumes: Toll Road Financing in the United States

By Geoffrey F. Segal

Congestion in America is bad and getting worse. The lack of adequate investment in road capacity has resulted in traffic congestion that costs Americans at least $168 billion each year. Vital centers of American life, including our cities, are increasingly clogged by traffic, making them unsustainable as centers of culture and economic activity.

America's congestion problem largely stems from the inadequacy of traditional financing mechanisms. Federal and state highway budgets are determined by government grants and funded by taxes on gasoline. The gas tax-and-grant system, a product of the period between 1920 and 1950, is running on fumes. First, as cars have become more fuel-efficient, the revenue generated by gas taxes has fallen relative to the need for more roadways. Second, since the completion of the Interstate Highway System in the 1980s, the federal gas tax has been used by politicians not to build needed roadways, but largely as a source of money for pork projects. Finally, while a sensible transportation financing policy would link revenue with road use, providing critical information about where new road construction is most critically needed, gas taxes are paid at the pump and, therefore, provide no information about where transportation construction is warranted.

Policymakers, however, have another tool to provide critical transportation infrastructure to their citizens at their disposal that reduces congestion, improves travel time, and conserves public resources.

Toll concessions, sometimes referred to as franchises, leases, or public-private partnerships, grant a private company the right to operate a toll business under specified conditions for a specified long-term period. Analogous in many ways to the long-term franchises granted to investor-owned utilities, such as electric utilities, today's toll concessions are a refinement of 19th century road and bridge charters that permitted private firms to build and operate infrastructure along public rights-of-way under terms outlined in the charter.

Toll concessions operated by businesses offer customers a specific service—the use of the road—in return for a fee (the toll). Toll facilities are businesses that thrive only if they provide a valuable service to customers, manage costs, and provide competitive rates of return to potential investors who provide the necessary capital for the construction of infrastructure.

Toll facilities' single-minded devotion to these factors means that over the long run they can provide transportation infrastructure more efficiently than government, which is often subject to many competing special and political interests.

The major advantages of tolls include:

1. Toll concessions offer greater access to capital;
2. Toll concessions encourage much-needed toll flexibility;
3. Toll concessionaires achieve greater cost savings; and
4. Toll concessionaires are able to spread risk and achieve synergies.

In the 20th century, America showed the world that investor-owned electric, gas, and telecom utilities worked better than the state-owned utilities carrying out these functions nearly everywhere else. Nearly every developed country has since privatized those utilities. Major roadways also make sense as investor-owned utilities, as pioneered in Australia, France, Italy, Portugal, Spain, and elsewhere. The global capital markets have recently discovered the U.S. highway market as an untapped business opportunity—just as consensus was developing that we have a major shortfall of highway investment.

Within just the past two decades the development of low-cost electronic tolling and other automatic vehicle identification technologies has made it far less costly to use tolling to finance roads, and less nuisance to motorists. Stopping to pay tolls has been made obsolete by technologies that allow tolls to be collected at full highway speeds. The harnessing of these new toll technologies to impose flexible market pricing in the

See FINANCING on Page 15

Tolling and Public-Private Partnerships in Texas: Separating Myth from Fact

By Robert W. Poole, Jr.

The enormous challenge of reducing traffic congestion over the next 35 years, while Texas adds 13 million people, led to enactment of sweeping legislation in 2003 to permit expanded use of tolling and public-private partnerships (PPPs). That law, as strengthened by amendments in 2005, has led to Texas attracting enormous potential private capital investment to expand its highway capacity beyond what would have been considered possible several years ago. The Texas policy has also been cited repeatedly as a model by other states enacting similar enabling legislation since 2003.

Nevertheless, now that major deals are starting to occur, serious questions have arisen about the wisdom of pursuing this path. Are long-term PPPs (called Comprehensive Development Agreements—or CDAs—in Texas) actually sound long-term transportation policy? Could existing public-sector toll agencies raise as much—or perhaps even more—funding for transportation as private toll road companies? Should the state enact a two-year moratorium on CDAs during which time it studies their efficacy? This policy brief aims to answer such questions as a guide for concerned citizens, media observers, and public officials.

Can Public-Sector Toll Agencies Generate More Value?

Perhaps the most explosive contention in the 2007 Texas toll roads debate is the idea that whatever benefits may be achievable via CDAs can also be delivered by existing public-sector toll agencies such as the Harris County Toll Road Authority (HCTRA) and the North Texas Tollway Authority (NTTA). Two variants of this claim have been made. The mild version is that a public authority could raise just as much, financially, as a private lease. That was the finding of the Citigroup/Siebert Report as interpreted by First Southwest Company for Harris County in June 2006. The bolder version of this proposition was put forth by consultant Dennis Enright in his independent study comparing a hypothetical NTTA proposal for the State Highway 121 (SH-121) project with the CDA proposal from Cintra. In what follows, we will refer to these two reports as the First Southwest report and the Enright report, respectively.

The Enright Report

This report addresses this question: For a brand-new "greenfield" toll road, could a public-sector toll agency such as NTTA generate more net funds for transportation investment than a CDA such as that proposed for the Dallas-area SH-121? Under the negotiated CDA, Cintra would finance and build the new toll road at its own expense, make a $2.1 billion up-front payment, make annual lease payments with a net present value of $700 million, and provide revenue sharing if the toll road exceeds certain traffic and revenue targets. Drawing on a letter from the North Texas Tollway Authority, Enright makes a comparison between the accepted Cintra proposal and a hypothetical NTTA deal. The latter would borrow against the entire NTTA toll road system, so as to come up with an equal $2.1 billion up-front payment. Enright goes on to conclude that the public-sector deal could produce nearly twice as much value as Cintra's CDA. This extraordinary claim deserves extraordinary scrutiny.

Enright's conclusion stems from several key elements of his analysis. The first is to assume that toll revenues over the 50-year period would be identical between NTTA and Cintra. This is very likely to be wrong, for two reasons.

1. Unrealistically aggressive traffic and revenue forecasts: Enright's analysis is based on a traffic and revenue forecast that is unrealistically aggressive for a public toll agency. Toll agency all-debt financings rely on conservative, investment-grade forecasts. The one produced by Wilbur Smith Associates (WSA) for SH-121 as a public-sector toll road projects $20.5 billion in nominal revenues over a 50-year period. But Enright uses WSA's alternative toll projection (totaling $34.7 billion), based on a more aggressive demographic forecast, which he and NTTA guess that Cintra may have used in their proposal. That higher-risk forecast is appropriate for equity investors, who do not need an investment-grade rating to finance such a project. But it's unlikely to pass muster with rating agencies

and tax-exempt bond buyers of an agency like NTTA, who expect investment-grade ratings.

2. Unrealistic projected toll increases: The other problem with Enright's toll-revenue projection is the assumption that a public toll agency would be able to increase tolls every year for 50 years, as authorized under a CDA with a private company. Political interference in toll-setting has plagued public toll agencies as long as they've been in existence. The only examples we have where a public agency is making regular toll increases are the relatively new E-470 in Denver, the TCA toll roads in Orange County, California, and the 91 Express Lanes, also in Orange County. In the last of these, the Orange County Transportation Authority understands that in order for value pricing to work to keep traffic flowing without congestion, toll rates must be kept at market-clearing levels, via an automatic process. As for E-470 and the TCA toll roads, their toll rates have been regularly increased thus far. But we have no guarantee in any of these cases that the toll road agencies will be allowed, politically, to keep doing this 20, 30, or 40 years from now. Thus far, no public agency has invented a foolproof mechanism for ensuring the kind of 50-year revenue flow made possible by a legally enforceable CDA.

In fact, there is a long history of political interference with toll-increase plans of public toll agencies. At present, both the Miami-Dade Expressway Authority and the West Virginia Parkways Authority are facing legislative threats to prevent toll increases, and such actions have occurred in recent years over proposed toll increases on the Delaware River bridges between Pennsylvania and New Jersey, as well as on the Massachusetts Turnpike. The financial markets are well aware of this risk, and take it into account in assessing plans for future toll increases by public toll authorities. In sharp contrast, when the government of Ontario, Canada attempted to prevent toll increases authorized by the long-term concession agreement for the 407ETR toll road in Toronto, the courts upheld the legitimacy of the toll increases. Financial markets noted that, as well.

Another factor leading to Enright's conclusion is his unexplained listing of the net present value of operations and maintenance costs over the 50-year period as being 42 percent higher for the private firm than for NTTA. By everything we've learned about private-sector service delivery over the years, the default assumption should be that the private sector would be leaner and more efficient than the public sector, not dramatically more costly.

Finally, there's the question of discount rates. In order to make a fair comparison of money flows over time, it is standard practice to use some kind of interest rate to discount future flows to present value. When a firm makes a decision about an investment, a key issue is the value of the resulting cash flows over time. From the firm's standpoint, the interest rate used reflects the level of risk associated with these future funds. An informed investor will select the appropriate rate to use, depending on the nature of the investment.

Here Enright totally misses the mark. As the ultimate beneficiary, representing the public, the "investor" in this case is the Regional Transportation Council (RTC). It has a choice

See TEXAS on Page 8

How CDAs Can Raise More Revenue than Conventional Toll Agency Finance

The first signed CDA is for the extension of the Central Texas Turnpike, SH-130 (Segments 5 and 6). The urban portion of SH 130 in and around Austin was conventionally toll-financed by the Texas Turnpike Authority. The 40-mile southward extension to San Antonio was projected as having lower traffic, and when Texas DOT did their traffic and revenue assessment they concluded that conventional toll finance could cover, at best, $600 million of the project's $1.3 billion cost. When the project was offered as a long-term concession, however, Cintra-Zachry offered to finance the entire $1.3 billion project. Not only that, they agreed to pay the state a $25 million up-front concession fee and to share in profits over the 50-year term of the deal.

Where does this huge difference come from? For one thing, the toll road company was less conservative in its projections of future traffic (and it alone bears the risk of being wrong on this). Second, the longer term (50 years versus the traditional 30-year tax-exempt financing) permits it to take into account longer-term development, new interchanges, and traffic growth. Third, there is clearly a greater willingness and ability by the company to keep toll rates growing in pace with economic growth over the life of the 50-year period. While governments could in theory plan to do likewise, political constraints would make this highly unlikely—and the financial markets recognize this and act accordingly. But under the CDA, the toll road company has a legally enforceable contract that permits toll increases, limited by an annual cap, for the duration of the agreement.

Leasing the Pennsylvania Turnpike: a Response to Critics

By Geoffrey F. Segal and Peter Samuel

Gov. Edward Rendell's proposal to lease the Pennsylvania Turnpike in a long-term concession has run into strong opposition, not least from the Turnpike Commission that currently controls it. Timothy J. Carson, Vice-Chairman of the Pennsylvania Turnpike Commission, has made the Commission's most comprehensive case against a private concession in the paper "The Pennsylvania Turnpike: a Golden Goose in the Brave New P3 World." Carson's paper captures most of the points made by critics, so the following point-by-point critique is an effort to assemble an exhaustive counter-counter argument.

1. Portraying Concessions as "Brave" and "New"

Carson's very title conveys a misconception. Private toll concessions are neither brave nor new. Entire toll motorway systems in countries like France, Italy, Spain, Portugal, Greece, and Ireland are operated with concessions. In addition, Australia, Canada, Brazil, Chile, China, Hungary, India, Mexico, South Korea, Taiwan, and Thailand, among others, have used concessions. In the United States they are less common but not unknown. In Detroit the Ambassador Bridge was built and has been operated under a concession by different private companies for 80 years. The Dulles Greenway in Northern Virginia, 91 Express Lanes and South Bay Expressway in southern California, and the Camino Columbia Toll Road in Laredo, Texas were developed under toll concessions. In Virginia the Pocahontas Parkway in Richmond was leased under a long-term concession in 2006, and a similar leasing is under way for the Northwest Parkway in Colorado. These are all in addition to the much-discussed long-term leases of the Chicago Skyway and Indiana Toll Road. About 20 states now have legislation encouraging concessions for toll roads, and many are actively considering proposals.

2. Misrepresenting the Term of Concessions

Carson also considers long terms as inherently bad. "As many as four generations of Pennsylvanians could be subject to any concession agreement that might be entered into today," he writes. Precisely because the future is hard to predict, all concession agreements provide a process for:

- Amendment of the provisions, based on the principle that neither party should be financially disadvantaged by the changes;
- Early termination of the concession at the convenience of either party, also based on compensation for the fair market value of the remaining term.

3. Sale Versus Lease

The distinction between sale and long-term lease is "largely illusory," Carson writes. But this, too, is incorrect. Sale involves transfer of ownership (title) in perpetuity and usually without conditions. The long-term leasing of a toll road under a concession keeps title in state hands, is for a finite specified term, and involves whatever set of conditions and controls that the state chooses to put in the concession agreement. The distinction is very real.

4. Where Does the Value Come From?

Carson purports to debunk the "myth of the free lunch" and the "magical unlocking of trapped value," which he says is nothing more than the ability of the concessionaire to charge higher tolls to motorists who have no choice but to pay.

Contrary to Carson, the value of a toll road comes not from toll revenues, as such, but from the surplus—if any—of revenues over costs. When costs consume most of the revenues of the Turnpike, there is little left to invest in new projects or provide a return on investment. The trapped value of public authority toll roads—the value that is unlocked in going to a concession—lies in the ability of the private sector to operate them more efficiently and to provide better service at lower cost. The private sector has the advantage of being focused single-mindedly on customer service and containing costs.

Moreover, as a state agency the Turnpike is unable to operate across state lines. Private companies achieve major efficiencies through operating nationally and internationally.

Private toll companies are able to hire and retain experienced management talent, whereas in a public authority

See TURNPIKE on Page 13

21st Century Tolling: Private Sector Innovations Stand to Transform Highway Finance

By Robert Poole

An amazing thing has happened during debates on PPP toll concessions during the first half of 2007. The old 20th-century model of tolls as simply the minimum amount needed to pay off construction bonds (which implies flat-rate tolls that remain unchanged for long periods of time) is being cast aside. In its place we are seeing robust, market-based tolling, increasingly viewed as a permanent funding source with powerful traffic-management capabilities. This change is profoundly important for highway finance.

The conventional wisdom among highway finance people over the last few years is that, yes, of course, tolling and PPPs can play a modest supplemental role in filling the huge funding gap in highway finance. But we have to be realistic: tolls currently provide only 8 percent of all U.S. highway revenue. So even with good PPP-enabling legislation and removal of legal obstacles, we'd be doing great if we could double tolling's share of highway revenues over, say, the next 20 years.

But that conventional wisdom was based on conventional (20th-century) flat-rate tolling. It ignores two crucial innovations introduced by the private sector: value pricing (pioneered by the private concession company that developed the 91 Express Lanes in Orange County, California) and inflation-indexed tolling (introduced in the long-term concessions for both Chicago Skyway and Indiana Toll Road). Both concepts lead to dramatically higher toll revenues over time, potentially dwarfing what would have been predicted based on traditional flat-rate tolling.

While value pricing has had to fight the "Lexus lane" battle over the past decade, thanks in part to solid research demonstrating the popular appeal of having an alternative to being stuck in awful congestion, this "Managed Lane" approach has gained widespread support. Inflation-indexed tolling has likewise had a rough introduction. In his several critiques of toll concessions, Dennis Enright has produced scary, but misleading, projections of several-hundred-dollar toll levels, thanks to the magic of compound interest over very long time periods. And tolling opponents like Rep. Peter DeFazio (D, OR), before whose Highways & Transit Subcommittee Enright and I both testified in February, has seized on such numbers to

attack toll road concessions. That has also been the theme of American Trucking Associations president Bill Graves in his increasingly vocal attacks on tolling and PPPs.

But while all that shouting has been going on at the national level, out in the states where legislators and DOTs are actually trying to grapple with the funding shortfall, a very different take on 21st-century tolling has emerged. The epic battle over toll concessions in Texas this spring is a major case in point. What began as a populist attack on both tolling and foreign companies, ended up in a compromise for concessions and a huge victory for 21st-century tolling.

That battle began last year as rural landowners, upset by potentially large property takes for the grandiose Trans Texas Corridor, were egged on by right-wing populist conspiracy mongers who see the TTC as part of a plot to merge Canada and Mexico with the United States , abolishing the border. (TTC, these folks maintain, would be part of a NAFTA Superhighway for uncontrolled entry of Mexican trucks and workers—and worst of all, would be "owned" by some unaccountable foreign company.) As momentum grew for some kind of legislative restraint on toll roads and concessions, the well-run local toll agencies in Houston (HCTRA) and Dallas (NTTA) began to see themselves as threatened by the private sector, which they feared would grab the most lucrative new toll projects, leaving them with the dregs.

When the dust finally settled, the compromise bill gave first-dibs on new toll projects to local toll agencies, suspended new toll concession projects for a two-year time-out (except for a whole raft of projects that were already in some stages of competition), and made a number of other changes in how tolling and PPPs can be done. The most significant of these is the new requirement for a Market Valuation for every new toll project. TxDOT and the local toll agency must agree at

See TOLL TALE on Page 15

Continued from Page 5
TEXAS

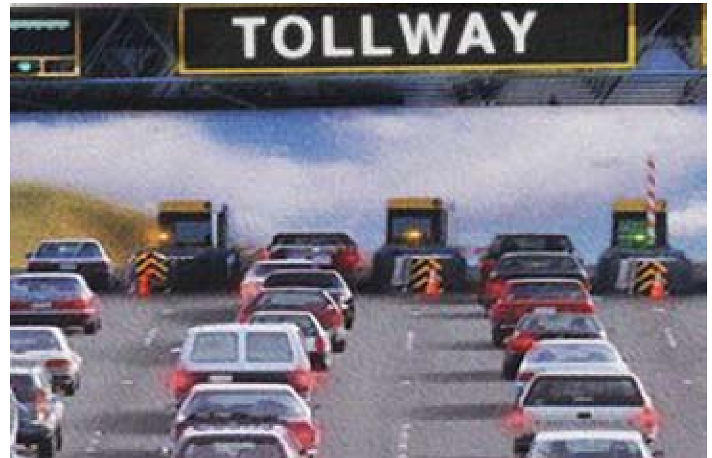
between two "investments": the proposal from Cintra and the hypothetical NTTA deal. Once the CDA is signed, the annual lease payment from Cintra is almost certain. It has the same priority for payment as operating and maintenance costs, and must be paid before debt service, taxes, or dividends to shareholders. But in the hypothetical NTTA deal, RTC's future payments would come only after the payment of operating costs, debt service, and a premium that NTTA will get—and only if there is money left over. A reasonable investor would be more skeptical about the value of these future payments than Cintra's, and would assign a higher discount rate than applied to the Cintra proposal. The discount rate is based on the future cash flow in lieu of the present value of the cash flow.

But Enright does just the opposite. He uses a 5 percent discount rate for NTTA, but 6.17 percent for Cintra, which is his estimate of their respective weighted average cost of capital. This, plus his over-estimation of Cintra's O&M costs, entirely accounts for his conclusion about greater value from the public-sector deal; otherwise (given his assumption of equal toll revenues in the two cases), his analysis would show the two deals producing equal value. But if you also re-do the calculation substituting the more appropriate lower (investment-grade) traffic and revenue forecast for NTTA, then the private CDA deal would clearly produce greater value.

Besides these basic errors, this kind of comparison leaves out a crucial difference between toll agencies and concession companies: the willingness and ability to take risks. Grandiose plans to "leverage" existing toll agencies assume that conservative rating agencies and their bond-buying customers will sit quietly for massive increases in debt and adoption of very aggressive traffic forecasts. That's unlikely to happen. Concession deals are not simply the same old, same old. They are a new and important phenomenon for U.S. transportation finance.

The First Southwest Report

The First Southwest report was aimed at answering a related but slightly different question: Would Harris County be better off selling or leasing the HCTRA toll road system, or could it realize comparable sums for transportation investment by, in effect, refinancing HCTRA? Three separate teams addressed these three alternatives (sale, lease, refinance), using common data on future traffic and possible toll revenues



developed by WSA. The Citigroup/Seibert team looked at the refinancing alternative.

An underlying WSA report presented three possible revenue projections for the HCTRA system, for use by all the participants:

A. Base Case, continuing traditional flat-rate tolls for the entire study period;
B. Inflation Case, in which toll rates are increased to keep pace with 2.5 percent annual inflation;
C. Revenue Maximization Case, in which tolls are reset regularly to whatever level would maximize toll revenue.

Citigroup/Siebert then looked into the extent to which HCTRA could raise more funding from its current asset base (its existing toll roads) by a more aggressive approach to toll increases and more aggressively leveraging (borrowing against) its assets. If HCTRA adopted inflation-indexed tolling (Case B), the researchers projected that it could fund $8.2 billion in new projects instead of the currently planned $4.5 billion. And by going to a revenue-maximizing toll policy (Case C), HCTRA could increase this total to $10.8 billion. But the report notes that those dollar totals also assume a decision "to leverage the system aggressively." That would mean reducing the current "coverage ratio" (the ratio of annual revenue to annual debt service), which the report notes would increase the cost of borrowing. The conclusion is that "Leveraging the system aggressively beyond today's levels would allow the County and HCTRA to approximate the present value proceeds of either an Asset Sale or Concession."

The first thing to note is that this is a much less ambitious claim than Enright makes. This analysis concerns only existing toll roads, not the more costly and higher-risk task of developing brand new ones. Second, it concludes that even in this

less-demanding challenge, the best the public-sector agency could do is to equal what a private-sector approach such as a concession/CDA/lease could do, not exceed it.

After further consideration of PPP alternatives, the report concludes that, under existing laws, "preliminary indications suggest that these [PPP] alternatives would produce an uncertain amount of additional present value benefit, if any, to the value that the County and HCTRA could receive under the aggressive scenarios." In other words, when it comes to existing toll roads such as those belonging to HCTRA, if the public sector were willing and able to adopt an aggressive tolling policy, and stick to it for 50 to 75 years, and if it were willing and able to aggressively leverage its assets (i.e., borrow a great deal more against them, at the likely penalty of a lower bond rating), it could possibly approach the value the county would receive by selling or leasing the system.

As noted previously in the Enright report discussion, neither of those assumptions is warranted. We do not know of any proven mechanism under which a public-sector toll agency can guarantee to investors that it will be able to increase toll rates regularly over a 50+ year period. Claims that an agency could do this will be treated as speculative by the financial markets. Second, as the Citigroup/Siebert report acknowledges, dramatically increasing a public toll agency's borrowing (aggressive leverage) will likely lead to a lowering of its bond rating, which will increase the rate of interest it must pay on its bonds.

Thus, for transportation investment, there is little credibility to claims that public-sector toll agencies can generate value equal to or greater than private companies operating under CDAs. Long-term toll road concessions (of which CDAs are one example) are not simply a private-sector version of a public-sector toll agency. They are a new and important innovation in U.S. highway finance, with a proven track record in Europe and Australia. They can mobilize more capital for a toll road project than traditional tax-exempt finance, while shifting significant risks from the public sector to investors.

Specific Concerns about CDAs

Citizen groups and concerned legislators have raised a number of concerns about meeting a significant portion of Texas's future highway needs via toll roads developed by private companies under CDAs. The concerns are all issues that need to be addressed. This section explains common misconceptions about the principal concerns that have emerged in this debate.

Sky-High Toll Rates

In responding to the challenge of raising many billions of dollars for new highway capacity, the investor-owned toll road companies offer a different approach to tolling than their traditional U.S. public agency counterparts (such as HCTRA and NTTA). Those agencies have traditionally issued toll revenue bonds based on flat-rate tolls, which remain unchanged either for the life of the bonds or for many years. By contrast, the investor-owned companies adjust toll rates regularly by some form of inflation index, often the consumer price index (CPI) or an index of economic growth such as GDP per capita. Thus, higher-than-traditional toll rates are part of the price to be paid for expanded investment in much-needed highway capacity—there is no free lunch.

But in fact, the case for small annual (or biennial) toll increases is quite sound. All of a toll road's costs (other than the initial construction) are affected by inflation: wages, maintenance, construction of additions, etc. Virtually no other business in America keeps its prices flat in dollar terms; instead, if they wish to stay in business, they generally keep their prices in step with inflation. Inflation, and the need for new construction, eventually catches up with public-sector toll agencies. Typically, after 10 or 12 years without a toll increase, they must then overcome political opposition to a 50 or 70 percent one-time increase, to catch up with current costs. That hits customers hard. It is actually more customer-friendly to enact modest annual increases, of the kind that people expect for most goods and services—which is what investor-owned toll roads do.

Critics of CDAs play a deceptive game, taking advantage of compound interest over a long period of time. For example, they will take a starting-year toll of 30 cents a mile, increase it by an assumed CPI of 3.5 percent per year and come up with a shocking $1.63/mile by the 50th year. That sounds like an outrageous amount—until you realize that wages and salaries generally increase faster than the CPI (so the year-50 toll will be more affordable than the starting-year toll), and that a cup of Starbucks, a movie ticket, a plane flight, or a house purchase will likely also increase by the same percentage.

All concession agreements (including CDAs) contain caps on toll rate increases and/or ceilings on the rate of return the toll company can earn. And the annual ceilings are just that: ceilings. The actual amount a company can charge will be only as much as people are willing to pay. If the toll road does not offer fast, reliable trips worth the amount of the toll, people will choose non-tolled alternatives (including the frontage

roads the private companies would likely be required to build alongside the toll road, as they have been in CDA agreements to date).

Too-Long Terms

Another oft-heard concern is that 50 years is simply too long a time for the state to contract with a private sector partner for operations and maintenance of a new toll road. Who knows whether cars and trucks on highways will still be our principal means of moving goods and people 50 years from now? But that uncertainty about the future is equally true of the public sector and the private sector. In a long-term CDA, the investor-owned company takes on the risk that its toll road might have less value in the future. Its investors are willing to bet that the roadway's value will increase over time, but they cannot know that, any more than Texas DOT or a regional planning agency can know what transportation will be like 50 years in the future.

For this reason, concession agreements such as CDAs typically contain provisions for amendment, in ways deemed fair to both parties. And because negotiating such changes does not always go smoothly, they also include provisions for negotiating and arbitrating disputes, and using objective third parties to make fair valuation estimates.

To be sure, concession agreements can be for shorter terms than 50 years. In Europe in the 1970s, many plain-vanilla rural toll road concessions were for 30 or 35 years. Even today in Australia, many urban toll road projects are being done under 35-year concessions, though the government does the land acquisition, environmental clearance, and preliminary design, thereby reducing the costs which must be financed out of toll revenues. More complex toll projects today in Europe have much longer concession terms—e.g., 70 years for the $2 billion A86 West tunnel near Paris and 78 years for the Millau Viaduct in France, the world's highest toll bridge.

Agreements less than 50 years can certainly be negotiated for many projects—but the impact of a reduced number of years during which investors can recover their investment will be significantly lower revenue to the public sector, whether in up-front concession fees, annual lease payments, or future revenue sharing (or all three). Here is one quantitative example. Credit Suisse in 2006 did a valuation analysis of a possible long-term lease of the Illinois Tollway System at the request of a legislative body. It reviewed a large number of scenarios, with different assumptions about toll rate increases, traffic growth, and length of term. One pair of scenarios differed only by the length of the concession. For a 25-year term, the valuation ranged from $1.6 to $2.2 billion. By changing only the number of years to 75 years, the valuation changed to between $5.8 and $8.4 billion. In other words, the additional 50 years led to 3.6 to 3.8 times as much net proceeds to the public sector.

Loss of Control of Highways

There has been much concern about the state losing control of its highways. Roads built using long-term concessions such as CDAs are not privately owned; the state still owns the roadway and protects the public interest through negotiating and enforcing the terms of the concession contract. When drafting this long-term contract (the CDA), the government must comprehensively protect taxpayers and road users by demanding full accountability.

Concession agreements are typically several hundred pages long, and may incorporate other documents (e.g., detailed highway performance standards) by reference. The public interest is protected by incorporating detailed provisions and requirements into the agreement to cover such issues as:

- Who pays for future expansions and reconstruction;
- How decisions on the scope and timing of those projects will be reached;
- What performance will be required of the toll road and the toll road company;
- How the contract can be amended without unfairness to either party;
- How to deal with failures to comply with the agreement;
- Provisions for early termination of the agreement;
- What protections, if any, will be provided to the company from state-funded competing routes (see next page, "Non-Compete Provisions");
- How to determine the value of the toll road in case of early termination; and,

- What the limits on toll rates or rate of return will be.

The first two CDAs developed thus far in Texas cover these points and many more. All the terms of a CDA are enforceable via the judicial process.

The alternative to using the private sector (via CDAs) to develop lots of new toll road capacity would be to greatly expand Texas DOT and local toll road agencies to do such projects. But as discussed previously in this paper, those agencies cannot raise as much money as toll road companies can, and they tend to be less efficient and less innovative than toll road companies.

Non-Compete Provisions

Nearly all toll roads—both public-sector and private-sector—request and obtain some degree of protection from unlimited competition from taxpayer-provided "free" roads. Otherwise, if the government could build unlimited amounts of high-quality freeway right next to the toll road, it would be very difficult if not impossible to sell the toll revenue bonds. (Would you buy such bonds?)

The question is one of striking the right balance between the benefits of large new investment in needed highway projects (from new toll road capacity) and protection of the public's interest in mobility and having a choice between presumably higher-quality (hence, worth paying to use) roadway service and lower-quality but inexpensive roadway service. Modern day "competing facilities" provisions seek to attain this balance. They seldom, if ever, ban all "free road" additions near the toll road. And they usually provide for compensation for reduced traffic, rather than forbidding public-sector roadway additions.

In the case of the CDA for SH-121 in Dallas, the agreement defines a "competing facilities zone" on either side of the toll road. Certain additions of taxpayer-funded highway capacity within this zone would be subject to compensation, if the toll road company can demonstrate reduced traffic and revenue from those new roads. But excluded from such compensation are:

- All portions of major freeways, including I-35E, I-635, President George Bush Turnpike, U.S. 75, and U.S. 380;
- All limited-access highway lanes;
- All projects in the 2006-08 State Transportation Improvement Plan;
- All projects in the state's Unified Transportation Program;
- All projects in the NCTCOG Mobility 2025 Plan;
- All projects in the NCTCOG Mobility 2030 Plan.

To repeat, the toll road company, under the provisions of the CDA, has no right to prohibit any future road development. Its only remedy is compensation, if it can prove loss of revenue. And that remedy only applies to a narrow category of road projects other than the major projects listed above. Moreover, symmetrically with the company's right to compensation for loss of revenue, the agreement also gives Texas DOT the right to extra toll revenues attributable to positive impacts on the toll road from Texas DOT's own roadway improvements.

It is true that a 50-year CDA extends farther into the future than typical metro area long-range transportation plans. But the reality is (to take the SH 121 example, again) that by 2030, the area near SH 121 will be so built out as to make it extremely costly for anyone—public or private—to add new highways beyond those already planned. An example of such an area is the land near the Chicago Skyway, a toll bridge which the city leased for 99 years. The concession agreement in this case includes no protections from competition, since the area is so heavily developed as to make new roadways extremely unlikely.

To be sure, as with length of terms, some CDAs could be negotiated with little or no protections from competition. But that would further increase the toll road company's risk, and would presumably decrease the amount of revenue it could commit to sharing with the public sector.

Foreign Firms Controlling Our Highways

In the last several years, the financial markets have discovered U.S. infrastructure as an important new asset class. Potential investors include pension funds, insurance companies, and various specialized equity investors. In response, governments (including Texas) have passed enabling legislation, to permit toll road companies—funded by the financial markets—to develop and operate toll roads. When a public-sector agency seeks to responsibly identify well-qualified firms to build, operate, and maintain toll roads for a long period of time, it must seek out the best-qualified firms. That means firms with a demonstrated track record of solid performance at building, operating, and maintaining toll roads.

The fact is, because of the long U.S. tradition of public-sector toll agencies, there is no domestic toll road industry in the United States today. By contrast, in Europe and Australia, such industries have been allowed to develop, and now possess

world-class expertise in these tasks. That is why most of the important toll road concession deals in the United States (and in Canada) thus far have involved companies from places like Australia, France, Italy, and Spain, all of which have thriving private-sector toll road industries. (A growing number of such deals do involve U.S. partners, e.g. Cintra/Zachry in Texas and Fluor/Transurban in Virginia.)

Those countries are all strong political and military allies of the United States. And by making long-term investments in immovable transportation infrastructure, they are showing very serious confidence in the legal and political environment of the United States. Ask yourself if you would tie up a billion dollars for 50 years in an immovable toll road in (name your choice of developing countries). Probably not, since the legal and political risks (as well as inflation risks) would seem far too high. Long-term investments in much-needed transportation infrastructure by companies domiciled in long-time U.S. allies, should be welcomed every bit as much as investments by Japanese auto companies and Korean electronics companies.

Seizure of Land

A completely understandable concern relates to the involuntary purchase of private property to obtain the right of way needed for a new road. The U.S. Constitution permits this to be done by the state, but only upon payment of just compensation. Some opponents of CDAs have claimed that the enabling legislation permits Texas DOT to delegate this power to toll road companies. That is absolutely not true. This power of eminent domain remains solely with the state where it belongs. Since the right of way for toll roads developed under CDAs will always be state-owned, only the state will acquire such land, where necessary, using eminent domain.

Private companies have a strong interest in limiting the amount of eminent domain used on their projects and the bad publicity, lawsuits, delays, and public opposition that go along with it. On a proposal for HOT lanes on the Beltway in northern Virginia, the private firm re-designed the additional capacity desired by Virginia DOT to drastically reduce potential public-use land takings.

Obscene Profits/Guaranteed Profits

Some participants in the Texas debate on CDAs have decried such agreements for guaranteeing a toll road company a 12.5 percent return on its investment. In fact, the Texas agreements, like those in other states, do not guarantee any return on investment. One of the major risks that is being assumed by such companies is the risk that traffic and revenue may be far below their projections. New (“greenfield”) toll roads have a history of underperforming their forecasts, especially in their early “ramp-up” years. Recessions in the United States or regional economy can depress driving and revenues; so can the failure of projected real estate development to occur within the expected time frame. Numbers like 12.5 percent are only estimates of what such a company might be able to achieve if all goes well over many years of toll road operation.

And what if such a firm did succeed in achieving a return in the low double digits? Would that be “obscene”? Here one cannot ignore the relevant global market for infrastructure investments. The money that Texas has been (so far) attracting to invest in toll roads could equally well be invested in other states, other countries, and other types of infrastructure (port terminals, airports, electric transmission lines, etc.), and rates of return in the low double digits are expected in infrastructure in developed countries. If governments in a particular jurisdiction decide that competitive rates of return will not be allowed, much of that capital will go elsewhere—to other jurisdictions and other types of infrastructure.

Buyout Provisions

Every concession agreement needs provisions dealing with “termination for convenience”—the ability to end the agreement before its expiration date. Such terms need to be fair to both parties. Some versions of the proposed moratorium would change the provisions now being used by Texas DOT so as to prohibit a buyout formula from being based on the market value of the concession. The fair market value of a long-term concession agreement is the net present value of its net revenues over the remaining years of its term.

This was exactly the method used to arrive at a mutually acceptable value when the Orange County Transportation Authority repurchased the 91 Express Lanes from the toll road company that had developed this project, terminating the concession with 28 years remaining. The third-party valuation study was based on the net present value of projected net revenue over those years. Any buyout at less than fair market value is a form of expropriation. Including such a provision in the law regulating CDAs would have very negative consequences, since toll road companies would be unlikely to enter into long-term deals that involve billions of dollars if much of the value of such a deal could be recaptured by the state at a fraction of its value. ■

Continued from Page 6
TURNPIKE

the chief executive is likely to change with every change in administration. Many chief executives of public toll authorities come to the job with no toll road experience at all. Not only are they forced to make decisions in ignorance of the industry, but they find it difficult to retain experienced people. If the top position is virtually guaranteed to a politician, the managers immediately below lack an incentive to make a career of toll road management.

5. Sky-High Toll Rates

"That'll be $533, Ma'am." Carson quotes an unnamed consultant as calculating that applying the terms of the toll road cap from the Chicago Skyway and the Indiana Toll Road concessions to the Pennsylvania Turnpike since the year it opened, the toll for a car going the length of the Turnpike would be $533 now instead of the actual $22.75.

This is ridiculous. Initial tolls on the Pennsylvania Turnpike, in 1940, were set high relative to the prices and income levels of the time because they assumed a volume of traffic about a tenth of that which eventuated. By contrast when it was decided to lease the Chicago Skyway and Indiana Toll Road, those were long-established toll facilities with absurdly low toll rates. Even if a toll road were allowed to charge a several-hundred-dollar toll today, it wouldn't—because it would get no traffic. People will only pay a toll that is less than the value they get from using the toll road (generally based on time savings and other aspects of service quality).

As an alternative to competing with the private sector in bids for a concession from the state, the Turnpike Commission proposes six "strategic initiatives" which Carson discusses under headings A through F.

A. "Public-Public" Partnerships

The Commission proposes "public-public" partnerships, as Carson describes it, which might involve cooperative projects between the Turnpike and the state DOT or between the Turnpike and a regional authority.

This is perfectly reasonable. State agencies should work collaboratively with one another and with local government. Currently, there is no legal obstacle to such cooperation. If there are benefits, why hasn't the Turnpike isn't already engaged in such partnerships?

B. Tolling Non-Tolled Interstates

Under the rubric of "Strategic expansion of toll facilities," the Turnpike proposes that tolling be imposed to finance the rehabilitation and selective expansion of I-80, I-81, I-83, I-79, I-78, I-76 (Schuylkill Expressway) and I-95.

These are all ideas worth exploring but they would require extensive study, public outreach, alternatives analysis, traffic forecasts, and environmental impact review. There is generally strong opposition to imposing tolls on existing non-tolled roads, and there are also legal obstacles. SAFETEA-LU includes a pilot program under which three states may rebuild an Interstate using tolls, if they can show that doing so is the only realistic way to operate. Getting federal permission to do this for seven Interstates in Pennsylvania is a very long shot, even it there were a critical mass of support for doing so within the state. And it is not clear why the Turnpike Commission would be the most appropriate party to carry out these toll-financed reconstruction projects, when this is the kind of thing long-term toll concessions are good for. Indeed, why not open all of these opportunities up to competition?

C. More State Debt Issuance

The Tunpike argues it can raise money, prudently, via issuing more debt based on revenues like motor license fees. What this initiative seems to be about is for the state to borrow more based on the future revenue stream of various state taxes and charges (like license and registration fees) to support non-tolled roads and mass transit. Greater reliance on borrowing always entails risk. Carson says the borrowing would not be backed by the Commonwealth's general fund, yet still he opines it "would likely" gain a high rating in the bond markets.

The real trouble with borrowing for projects that generate no revenue stream is that they require ever-increasing taxes and charges to support the debt service. License fees imposed annually regardless of road use are a deadweight cost to those people and businesses that use their vehicle little, and make few demands on the road system and the environment. They are exactly the wrong way to support borrowing for given-away transportation services.

D. A New Toll for Mass Transit

The Turnpike Commission proposes generating around $150 million a year for mass transit via a new $1 toll levied at entry and exit in urban areas. This toll is intended "to encourage use of mass transit" in Carson's words.

There is often a case for variable tolls in urban areas both to manage traffic flow and to help fund increased roadway capacity. The siren song of getting commuters out of their cars onto mass transit is old and is discredited by the continued shift away from transit to roads. Cars and buses, with the roads they operate on, are America's mass transportation system. The use of rail transit has steadily diminished as a percentage of both commuting trips and of all urban trips—despite huge continuing subsidies. Rail now serves 2 or 3 percent of person-trips within Pennsylvania's metro areas and virtually none of the freight and service trips. Any toll revenues levied on urban motorists should be channeled back into road improvements that benefit car drivers, freight, and road-based transit—i.e., buses. Carson's plan amounts to a tax on road users to further subsidize rail transit.

E. Increased Fuel Taxes and License Fees

Carson's fifth proposed strategic initiative is to "revisit" the funding recommendations of the Transportation Funding and Reform Commission, at least its recommendations on raising the gas tax by 12.5c/gallon and increasing the surplus from license fees by $150 million.

There are major problems with the higher gas tax and license fees. License fees should cover the costs of administering the licensing system, the purpose of which is to keep unsafe drivers and unsafe vehicles off the roads, not road maintenance.

Fuel taxes at least bear some relationship to miles traveled on the roads and the demands motorists are making. They are a crude proxy for direct road charges. They have these shortcomings:

1. With the vehicle fleet moving to more fuel-efficient and "green" vehicles, the revenue yield of fuel taxes is in decline.
2. Fuel taxes do not help with management of traffic in urban areas and fall unfairly on off-peak and rural travelers whose use of uncongested roads does not generate the need for extra roadway capacity.
3. Fuel tax increases are not supported by the public.

F. "Monetization" of the Turnpike

Instead of being leased under a long-term concession, Carson wants the Turnpike "monetized" or used as the basis for extra borrowing. He argues that if the state decides as a matter of public policy that there should be "greatly increased future tolls" then they should be paid to the Turnpike, because the revenues will flow back into "badly needed infrastructure" providing a "public ownership dividend" rather than going to private profits.

First it isn't clear that greatly increased tolls would be feasible in Pennsylvania under a private concession or the Turnpike Commission. Tolls on the Pennsylvania Turnpike are already quite high, at least relative to tolls on the Indiana Toll Road.

Second, tolls paid to the Turnpike Commission will likely flow more into the bloated costs of this political machine than into badly needed infrastructure. Under a competitively bid concession, a base toll rate and controlled increases can be set. This would force the concessionaire to focus on customer service to attract more traffic and on smart, economical operations to save on costs. Any profits reaped by a concessionaire would send tax money into public coffers to serve the community.

The Turnpike belongs not to the Commission but to the people of Pennsylvania.

If Carson's formulation (that the state can run key businesses better than the private sector) were realistic, then all the utilities of the state—electricity, telecommunications, gas, railroads—would be run by state-owned authorities rather than by for-profit businesses. Companies bring managerial expertise, an interstate and international range of abilities, the potential to raise equity capital as well as debt, and a set of internal incentives that makes for better service at lower cost than a government authority despite paying profits to shareholders.

Carson is correct that a private concession for the Pennsylvania Turnpike is not a "magic bullet." However, properly structured and competitively bid, it might offer substantial advantages to the people and economy of the state. That is sufficient reason to justify the governor's plan to formally seek proposals. If those private sector proposals don't measure up, by all means let the Commission work to get its act together with other state agencies, as Carson suggests.

Unfortunately the Turnpike seems desperate to avoid competition and does not want the state to get competitive proposals. However the Commission is a political entity. The Turnpike belongs not to the Commission but to the people of Pennsylvania who would be wise to explore whether private enterprise could offer them a better deal under a long-term concession. ■

Continued from Page 7
21st CENTURY TOLLING

the outset on a starting toll rate, a toll-increase formula, and a traffic & revenue forecast, which are used to establish the project's Market Valuation. On the basis of that, the agency must commit to invest that market value in transportation projects in the region. Or, if the agency decides not to do the project, TxDOT can take it over, either via a toll concession (if the legislature reauthorizes them after the two-year time-out) or via an availability payments concession.

Basically, what this does is to institutionalize 21st-century tolling in Texas, whether done by local toll agencies, by private firms under toll concessions, or by TxDOT doing the tolling on a project but paying the concession company via availability payments. On the basis of this new framework, TxDOT on June 14th released an ambitious list of 87 toll projects, estimated to cost $56 billion. And both HCTRA and NTTA are moving forward with their planned projects, assuming inflation-indexed tolls from now on. So what began as a populist revolt against tolling and private companies has ended up solidifying tolling as the major source of highway capital spending in Texas , and retaining a large role for the private sector.

And it's not just Texas. We already have inflation-indexed tolls on the Chicago Skyway and Indiana Toll Road, thanks to their long-term leases. And all the HOT and Managed Lane projects moving through the approval process in various metro areas depend on value pricing. Beyond that, the revisions to Florida 's PPP law signed by Gov. Charlie Crist in mid-June require all toll roads in the state to inflation-adjust their tolls on a regular basis. And the competing plans being debated in Pennsylvania for leasing or otherwise "monetizing" the Pennsylvania Turnpike all assume inflation-indexed tolls. And it's highly likely that if similar plans move forward in Illinois or New Jersey, they will also be based on inflation-indexed tolls.

In short, the 21st-century tolling revolution is well under way, thanks to the role played by private companies over the past few years. All previous estimates of how much of the highway funding shortfall can be dealt with via tolling need to be re-done, to take this major change into account. This item should be high on the agenda of the new National Surface Transportation Infrastructure Financing Commission.

Robert Poole is director of transportation at Reason Foundation. This article originally appeared in Public Works Financing. ■

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Continued from Page 3
TOLL FINANCING

form of toll rates, which vary according to road space available, has made possible management of roads to flow smoothly and fast even under peak-hour conditions. Dynamic pricing allows road service providers to offer a valuable new service to motorists—something they will pay previously unheard of tolls rates to take advantage of.

Now that the equity-based long-term concession model has been introduced into the United States, we have an opportunity to re-invent the 19th-century private turnpike in 21st century form. The challenge for legislators and transportation agencies is to remove the obstacles to private investment and devise the regulatory guidelines that will make it possible to take full advantage of this opportunity.

The full study is available here: www.reason.org/ps359.pdf. ■

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