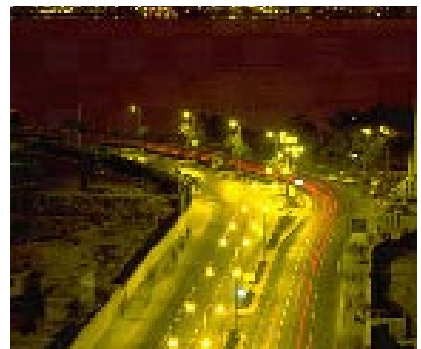
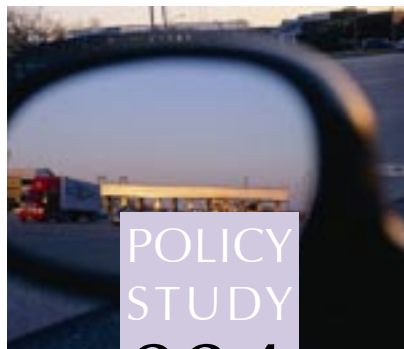




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SHOULD STATES SELL THEIR TOLL ROADS?

By Peter Samuel
Project Director: Robert W. Poole, Jr.



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Executive Summary

The 99-year lease of the Chicago Skyway for \$1.83 billion has put privatization of existing toll roads and turnpikes onto the public policy agenda. Was that transaction a special case, or would something similar make sense for other tolled bridges, tunnels, expressways, and long-distance toll roads?

This study provides context for the debate on toll roads privatization. It reviews the private sector's emerging role in developing new U.S. toll roads and summarizes the recent global experience with the sale of long-term concessions to operate and manage existing toll roads.

Next, the study explores the fiscal implications of toll road privatization. Whether such transactions make financial sense for the city or state involved depends critically on how the proceeds are used. Governments should follow the Chicago precedent and use the proceeds to strengthen their balance sheets (e.g., paying off debt, creating reserve funds, investing in one-time infrastructure projects) rather than to address short-term budget deficits.

Of at least equal importance is the question of whether privatizing a toll road would result in better outcomes for motorists. The study reviews the constraints and incentives faced by government toll authorities, and finds that it is difficult for them to provide the kind of customer service that we expect from market-driven businesses. It also contrasts project investment decision-making and financing alternatives in state toll agencies with companies operating under long-term concession agreements. The study also addresses a number of concerns that arise with privatization, and assesses several possible alternatives (such as making the toll agency operate more like a business or going the nonprofit corporation, public-private partnership route).

Finally, it provides a detailed set of guidelines for policymakers who conclude that privatizing an existing toll facility or agency is the preferred course of action. This includes procedural issues such as the typical steps involved, the need for outside professional assistance, and various lessons from Chicago's privatization process. The report also discusses a number of issues that must be addressed in the long-term concession agreement, such as toll rate controls, length of the concession term, employee transitions, and the need to provide for revisions and modifications during the life of the agreement.

This paper concludes that privatizing existing toll facilities and agencies is a viable option that can benefit governments and also toll road customers. But as with many other complex undertakings, the devil is in the details. This study is intended to provide the kinds of details needed to get the process done correctly.

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Part 1

Introduction and Overview

When \$1.83 billion was wired into the bank account of the city of Chicago at 2 PM (CST) on January 24, 2005, officials in other states started asking whether they should examine the privatization of their toll roads and bridges. That huge sum was the amount paid by a group of investors, chosen by competitive bid, for the right to own the business of the Chicago Skyway for 99 years. Now the Skyway is not an unimportant or unimpressive toll facility, but at just 7.8 miles in length and garnering annual toll revenues of \$45 million, it is well down the list in any ranking of U.S. toll facilities. Quite a few toll people themselves were amazed at the amount investors offered, and when the number was announced many were skeptical that the money would actually be raised and the Skyway deal consummated. They couldn't quite believe it. They do now.

Even before the financial close on the Skyway, the governor-elect of Indiana, Mitch Daniels, had suggested he would consider privatizing the Indiana Toll Road, a more significant turnpike. It runs 157 miles across the state and provides the main highway link between the midwest and the east coast. It is one of the country's most heavily trafficked trucking routes. Sixty percent of its \$85 million in annual toll revenues comes from trucks. Daniels said the state would need to sell assets it was not using productively. He called the Indiana Department of Transportation, of which the Indiana Toll Road is a part, one of the worst run agencies in state government and said that his new secretary of transportation would be looking at sale of the Indiana Toll Road, which is a division of the department.¹ The state had higher priorities than tying up capital in the state toll road, he said.

After the Skyway deal was done, attention moved to the two leading toll states, New York and New Jersey. In New Jersey Gov. Richard Codey said that he had asked the state treasurer to report on the feasibility of "leasing" to the private sector the state's toll facilities. "It makes sense that when you take over a business that's struggling you look at ways to leverage your assets. There's a lot of assets the state has. I'll look at anything."² New Jersey's state transportation trust fund is facing a \$4 billion deficit, state officials say, and virtually all the present state revenues are now earmarked for servicing debt.

In New York Governor Pataki's 2005 budget bill includes authorization for the state Department of Transportation, the state Thruway Authority and the Metropolitan Transportation Authority to "enter into partnership agreements with public and private entities and to utilize innovative financing techniques to fund transportation facilities in the new five-year transportation capital plan." The bill amends the Transportation Law and the Public Authorities Law to establish a "Transportation Facility Development Partnership Program"³ that would permit the state to sell or lease existing transportation infrastructure.

New York State's annual toll revenues are \$2.08 billion and New Jersey's are \$1.12 billion; together they are close to half of all U.S. toll revenue.⁴ Privatization in just those two states would change the face of U.S. tolling.

A. U.S. Toll Authorities Today

America's state toll authorities are quite prosperous these days, with many having put through large toll-rate increases. Toll road customers just aren't as conscious of tolls as they used to be. These days the regulars fly through the toll plazas using their electronic toll transponders. The bill pops up just once a month on their bank statement or credit card account, one of many items. It's very different from ten years ago. Then motorists had to assemble their toll with cash (or a token) every time, roll down the window, and pay. Often they had to queue and creep along behind others before paying. All this focused the mind of the motorist very sharply on the toll, causing crabby feelings and resentment.

But despite their healthy revenues, all isn't rosy for the toll authorities. Some are under fierce political attack. In Massachusetts, for example, the governor is going to the state superior court in an effort to fire the chairman of the Turnpike Commission. In Indiana the governor has called the Indiana Department of Transportation, of which the Indiana Toll Road is a part, "one of the worst run" agencies in the state. In Houston and Austin, Texas toll authorities are being assailed for being a "power unto themselves." The Pennsylvania Turnpike is regularly attacked by major newspapers and portrayed as a cesspit of patronage, special favors, and waste. In southern California the news is perpetually of the San Joaquin Hills toll road having long-term problems servicing its debt. Toll authority officials are regularly accused of junkets, extravagant expense accounts, and other self-indulgences. Top staff don't often last long.

Some of this just "goes with the territory," as they say. Some of it will blow over. But there is a siege mentality that takes its—pardon the pun—toll. State toll authorities are not the happiest places to work. Most of them don't produce much of a return on the taxpayer investment. In budget-tight times elected officials should be considering whether they can do better with the state toll properties—for the taxpayers who own them, for the motorists who drive them, and for the people who work at them.

Toll authorities have been built around their toll collectors. Manning toll booths 24/7 has required huge staffs. The larger ones have had staffs in the thousands and a corps of superintendents and supervisors, and support staffs in the back offices and money counting rooms. But not for much longer. Electronic toll collection is only 15 years old, but in the past six or seven years it has swept through the industry. Today over 60 percent of U.S. tolls are taken in those invisible pulses of wireless signals that pass between the motorist's windshield-mounted "transponder" and the toll authority's antenna ten feet or so overhead. And the share climbs steadily each year. The first toll roads without any cash collection at all are already in operation. In the next 10 or 20 years the toll collector in a toll booth may be an extinct occupation, like elevator operators became in the 1950s.

Privatization of state toll authorities is an option that states should consider in this context of change. Toll authorities, after all, conduct a business. If they provide a high-quality piece of road space, motorists will find the advantages of the speedy, reliable and safe ride sufficiently attractive relative to other means of transportation to pay the tolls, which will support the maintenance and service the capital tied up in the toll road. This enterprise has all the elements of a business—the need for sensitivity to customer needs, marketing skills, financing of capital expenditures, bill collection, and all the rest.

This paper is an effort to examine some of these business aspects and provide a context for thinking about privatization options. The term "public-private partnership" is the *nom du jour*, yet the word "partnership" is really quite misleading. It doesn't capture the essence of privatization, which requires that investors run the show—certainly using pre-agreed guidelines, and meeting contracted standards, and probably for an agreed

term. But within those constraints, if privatization is to work, it has to leave the business people free to run their business.

B. The Semantic Issue

We need to deal with a semantic issue immediately. Privatization offers a variety of arrangements under which for-profit owners can operate the toll facility. It could be an outright sale of the facility to investors. More usually, title to the property remains with the state. You can call it a lease, a toll concession, a franchise, or a tolling contract. No matter the terminology, what is sold is the right to do business on the facility for a specified term in return for an upfront fee paid to the state and the assumption of responsibilities for maintenance and operations.

The city of Chicago talks of having signed a “toll concession” with investors to run the Skyway. Indiana’s governor speaks of “selling” the state’s toll road. The New Jersey governor says he has asked for a report on the feasibility of “leasing” the state’s turnpike (which now includes the Garden State Parkway as well as the Turnpike itself). New York’s budget provides for “partnership” between public and private entities. What are the differences here? Far less than meets the ear. All these terms describe something rather similar. They all involve:

- A state-controlled process of selecting a preferred investor group and negotiating a contract for that group’s right to take over a toll road business for a specified time under specified conditions;
- Legal title to ownership of the facility remaining with the state;
- The investors’ right to the tolls in return for the obligation to maintain and operate the facility so long as they fulfill the contract conditions;
- Monitoring fulfillment of the contract’s terms;
- A process for arbitrating disputes over the contract; and
- Provisions under which the facility reverts to the state at the end of the contract term or earlier if the private partner defaults on the contract.

You can call it “privatization” since the business of the toll road is being privatized, at least for an extended period, typically somewhere between 35 and 99 years. Most people think of leases as being short-term arrangements. The most common leases are annually renewable, because most real estate leases are for a year, with terms and conditions renegotiable every 12 months. But of course there are longer-term leases, so it is legitimate to call privatization “leasing” since the physical assets of the road are being leased out to investors for them to use as a toll road business. Or you can call the arrangements a “public-private partnership” since the private group will have the toll facility as a business under a contract or “partnership” with the state. Or you can call it a “concession” because the contract underlying the arrangement is commonly called a franchise or a concession—the right to run a business under contractually agreed conditions. These terms describe the same situation, and for simplicity, this paper will just call the process “privatization.”⁵

Another semantic issue: we use the term “toll roads” here to include toll bridges and toll tunnels since all cater to motor vehicles and collect a toll for use of the facility.

Part 2

Toll Road Privatization in Practice

Upon first hearing, the idea of for-profit companies owning and operating toll roads may strike some readers as bizarre. Yet it has a long history, briefly summarized in Appendix A. And the idea has undergone a modest revival in the United States during the past 15 years, as states facing huge budget pressures have enacted laws under which private firms can finance, build, and operate new toll roads or toll lanes. Overseas, that practice is further developed. In Britain, Ireland, Greece, Spain, India, Australia, Malaysia, Norway, Philippines, South Africa, Chile, Brazil, Argentina, and Eastern Europe most major new highways are privately owned toll road, while in Italy, Portugal, Spain, and Canada established state toll authorities have been privatized. Later this year the world's largest state toll authorities in Japan are being reorganized to give them up to 50 percent investor ownership and large elements of investor involvement are envisaged for toll roads in France, China, Taiwan, Korea, Pakistan, Russia and Mexico.

A. Recent U.S. Private Toll Road Projects

In the past 15 years, the private sector has built several new toll roads under long-term franchise agreements with state governments.

[The Dulles Greenway](#) is a 14-mile toll road in Loudoun County, Virginia between VA-28 near the entrance of Washington Dulles International Airport and US 15 in Leesburg. Designated state route VA-267, the toll road and the land on which it is built are owned by TRIP-II, a company owned by local investors. In the Greenway's early years, traffic was well below projections, leading to a financial restructuring. But over the past five years, as development boomed in Loudon County, traffic has increased to such an extent that the Greenway is being widened.

[The 91 Express Lanes](#) project is a 10-mile long toll road within a freeway, built by California Private Transportation Company (CPTC) in the median of the SR 91 (the Riverside Freeway). The Express Lanes guarantee an uncongested trip or your money back. They manage traffic via periodic adjustments to toll rates, which are laid out in a variegated daily schedule, so that traffic never gets to the point where drivers hit their brakes and flow breaks down. By maintaining free-flow conditions during rush hours, the Express Lanes actually carry higher volumes per lane than the free and unmanaged lanes alongside, and thereby earn toll rates higher than \$7.00 (at the busiest rush hours) for the 10-mile journey. Average tolls are about \$3.00. Some 30,000 motorists drive in the toll lanes daily. CPTC was successful financially but ran into heavy political trouble over a non-compete clause in its contract with the state of California. The Express Lanes were purchased by Orange County Transportation Authority by negotiation in January 2003 for \$207

million, so they are now in public ownership. The toll road has received awards and other recognition for excellence in customer service.⁶

[The Camino-Colombia Toll Road](#) (CCTR) near Laredo, Texas is 22 miles long and extends from I-35 to the Colombia Solidarity Bridge (sometimes known as Bridge III) on the Rio Grande River, one of four Mexico-U.S. toll bridges in the Laredo-Nuevo Laredo area. The bridge was built for \$90 million by a company formed by big landowners along its route led by a businessman from a long-established local family. It opened in October 2000 hoping to attract significant truck traffic at a \$16 toll for 18-wheelers. The project was a dismal financial failure. The borrowers foreclosed and Camino Colombia ended up owned by Texas Department of Transportation for \$20 million. In sum, the state got a brand new toll road for 22 cents on the dollar.

[SR 125-South](#) is a 9.3-mile north-south toll road under construction along the eastern fringe of the San Diego metro area. As well as providing connectivity to the area freeways for residents, the toll road will provide an alternative for international traffic using the well-equipped Otay Mesa border crossing to Mexico. Owned by the Sydney, Australia-based Macquarie Infrastructure Group, SR 125-South is expected to cost about \$650 million.

There are about \$20 billion of new private sector toll projects in permitting process or the final stages of negotiation, with construction likely to start within the next two years. The largest is the Trans Texas Corridor-35 (TTC-35) where a CINTRA-led group has been chosen by the Texas DOT to build 316 miles of new toll road. CINTRA will spend about \$6 billion on construction plus a \$1.2 billion concession fee in return for the 50-year toll concession. This project will produce a completely new route between north of Dallas and south of San Antonio, providing an alternative to congested I-35. The new toll road will eventually be extended south to Mexico and north to the Oklahoma state line. The project is planned to separate cars and trucks and allow more productive longer combination vehicles. Texas Governor Rick Perry said: “(This) will go down as one of the most significant days in the history of transportation. Three years ago next month, I presented the most visionary transportation plans this state has ever seen. Not only will the proposal presented by CINTRA move the Trans Texas Corridor from concept to reality, it likely will forever change the way we build roads in Texas.”⁷

There are several billion-dollar-plus proposals being negotiated in Virginia: separate truck toll lanes on I-81, new HOT lanes on the Beltway (I-495) and I-95/I-395 in northern Virginia, and a new Crossing complex in Hampton Roads. Colorado is also soliciting private sector projects with some success, and the Carolinas, Georgia, and Minnesota are in the same game. Potentially large is California where the Schwarzenegger administration is supporting legislation (AB 850) to enable toll contracts with both private and public entities.

On the international scene, investor-built toll roads are far more common. In some countries they have become the conventional way to provide major new highway capacity. On both the national and international scene there is plenty of private-sector capability to own and operate what are now state-owned toll facilities, should states choose that option (see Appendix B).

B. Sale of Existing Toll Roads

A number of countries have followed the American state authority model with toll roads, notably Japan, Taiwan, and to some extent Italy, France, Spain, and Portugal. Canada represents a unique case. Increasingly, these countries have moved to privatize major parts of their state sector. Each country is somewhat different, starting from a different point.

1. Canada.

Ten years ago Canada had almost no toll roads. Several toll roads in Montreal had been de-tolled and there was only one toll road in the country—the Coquihalla Toll Road in the mountains of British Columbia. Since then Canada's Ontario province built one of the most impressive urban toll roads in the heart of the country's largest metro area, Toronto. The 407 ETR (Express Toll Route) is an east-west route that parallels existing freeways—Highway 401 and to the west the Queen Elizabeth Way—to their north, providing relief to those heavily trafficked routes and also adding much faster trips than the signalized arterials nearby. The 407 ETR's initial financing used a province-owned Ontario Transportation Capital Corporation (OTCC) similar in concept to the U.S. toll authority model. OTCC sold bonds to raise the C\$1.4 billion for the first 42⁸ miles and 30 interchanges, which opened in stages between June 7, 1997 and September 4, 1998. Toll collection began October 14 1997, a historic day for the toll road industry around the world. Employing technology developed by Hughes Aircraft (now Raytheon), 407 ETR pioneered fully automated toll collection with no need for toll collectors or coin machines on the road. Most regular users establish a transponder account. Others have their license plates photographed, and they get a bill in the mail after the toll road has done a computer search of the motor registry database for the name and address of the vehicle owner.

The provincial government decided at the time the initial 42-mile project was opened that the toll road should be privatized on the condition that investors complete the road over its full planned 67-mile route and also build out several intermediate interchanges. Expressions of interest in privatization went out on October 23, 1998, and after the bidders were winnowed to four and final bids considered, the winner was announced on April 13, 1999. A group led by the Spanish toll company CINTRA paid C\$3.1 billion and committed to build some C\$900 million of extensions, in return for a 99-year concession. When the deal closed on May 5, 1999 the province had nearly doubled its money, since it had borrowed C\$1.4 billion via the TCC and spent another C\$200 million earlier from tax monies for total of about C\$1.6 billion. It netted C\$1.7 billion after paying off the TCC debt, plus the investors' commitment to fund the completion of the road. The investors completed the extensions by Aug. 30, 2001. The 407 ETR served 272,000 motorists per day average (330,000 on weekdays) in 2004. Toll revenue in 2004 was C\$383 million and the company declared a loss of C\$87 million. It still carries a heavy debt load: C\$4.262 billion.⁹

The elections of late 2003 in Ontario brought a left-wing government to office. The new premier, Dalton McGuinty, had campaigned with a pledge to “roll back” tolls on the 407 ETR, but once in office he found that his government had no power to do that, due to the terms of the 99-year lease. The result has been constant litigation and fierce criticism of the toll road by government officials, especially the minister for transportation. They have attacked the contract as giving “unfettered right” to raise toll rates. That is incorrect. The contract gives the company the right to set its toll rates, but contains a congestion payment formula which levies penalties against the toll road if it doesn't attract sufficient traffic from parallel free roads, so its toll rates are indirectly controlled. The toll road also has an incentive to add lanes to maintain

traffic flows. The congestion payment provisions are rather obscurely worded¹⁰ and they were, inadvisedly, worked out in closed meetings. That gave rise to suspicions of an inside fix, but there is no real evidence of that. One widespread criticism of the privatization is that the toll road was “given away” to investors. That is a curious criticism when (1) there was open competitive bidding and the concession went to the highest bidder, (2) the province nearly doubled its money on its side of the deal, and (3) the concessionaire has yet to operate in the black. In the end all this political sound and fury matters little if the toll road has a legally solid contract and sufficient support of motorists each day.

2. Europe

Europe has privatized a number of toll roads as part of a two-decades-long effort to bring most of its state-owned businesses into the market sector—a general policy supported by the European Union, and increasingly mandated by EU directives on competition. The biggest toll road privatizations have been in Italy and Portugal, where the largest state toll authorities were privatized.

Italy. Autostrade SpA was an outgrowth of the state conglomerate IRI which goes back to the economic policies of Benito Mussolini in the 1930s, centralizing economic power in the Italian government. Autostrade, formed in 1950, was the leader in building the toll motorway system of that country, opening the spectacular 500-mile-long A1 Milan-Naples in 1964. Autostrade was listed on the Italian stock exchange in 1987, but the process of fully privatizing the company extended over 12 years, with the state ceding control and equity in stages until by 1999 it was fully owned by investors. With subsidiary toll companies the group operates 60 percent of the mileage of toll motorway in Italy, which amounts to 2,079 miles or about the equivalent mileage of the New Jersey Turnpike, the New York State Thruway and the Pennsylvania Turnpike combined. It conducts about 4 million toll transactions per day (about the same as the New Jersey Turnpike and the Garden State Parkway combined). In the three years after management went private, Autostrade’s operating costs as a percentage of revenues were reduced from 43 percent to 37 percent. With 65 percent electronic tolling transactions, Italy has the highest proportion of non-cash tolling in Europe, apart from the no-cash London and the Austrian and German truck toll systems. Autostrade’s profit in 2004 was \$500 million on annual toll and service stop revenues of \$3.5 billion.

The company has a \$13 billion capital plan to upgrade and extend its motorways in Italy with third and fourth-laning, new tunnels through the Appenine mountains, and intricate urban motorway design and construction. It was one of the leaders in popularizing electronic tolling, and until recently there were more toll transponders in use in Italy than in the rest of Europe combined. Autostrade’s Telepass transponder system is used by all 20 toll companies operating in Italy, constituting a single national system. The company is increasingly active internationally. It designed and now operates the truck toll system extending over 1,200 miles of motorway in Austria, which began operations early in 2004. It was a major participant in groups developing the Dulles Greenway in northern Virginia and the M6 Toll in Birmingham, UK.¹¹

Portugal. BRISA¹² is to Portugal what Autostrade is to Italy—the original state toll authority and the largest toll motorway operator in the country. As a state-owned toll authority, BRISA opened the country’s first motorway in the 1970s. It now operates 687 miles of tollway comprising 13 motorways. BRISA is one of six Portuguese toll operators. It shares the concessioned mileage of toll roads in the country about half and half with the other five operators. Some 600 miles of new tollway have been concessioned and are either under construction or in design. Privatized in stages in the late 1990s for \$2 billion, BRISA now has a market capitalization of \$4 billion. It is the fourth largest company listed on the Lisbon stock exchange. Its revenues

last year were \$740 million and profits were \$243 million on 260,000 toll transactions per day. It has interests in toll companies in Latin America and in Spain and Italy. BRISA developed an electronic toll system with a Norwegian pioneer, and that system is now used by all Portuguese toll operators. Over 50 percent of toll transactions are now done by transponder. The company is developing a new seven-mile long toll bridge over the Tagus River and a new north-south link along the eastern periphery of the Lisbon area.

France. Most of the country's ten toll operators are constituted as companies, but their stock is closely held by the state and state agencies like civil service pension funds. (Cofiroute, the fourth largest toll operator, is an exception and was investor-owned from its founding.) There has been some creeping privatization, without any apparent worked-out policy. For example, the largest toll operator, ASF,¹³ sold tranches of shares at different points and is now 50.3 percent state and 49.7 percent investor-owned (split among Vinci Holdings with 23 percent, employees 2 percent, and the remainder smaller holdings by individual investors). Vinci Holdings, France's largest road building company, which also operates some smaller toll concessions, last year demanded a seat on the ASF board of directors (who to that point were mostly state appointees). It then offered to buy out the state interest entirely, in effect a takeover bid. The French government was being forced to have a policy on privatization. There was no decision for 10 months. There were strong disagreements between pro-privatization finance ministry officials and traditional civil servants. What finally emerged was a compromise privatization policy: maybe-but-not-for-now. The government agreed to Vinci getting a seat on the board of ASF, but in return Vinci agreed not to increase its stake in ASF beyond 23 percent until the end of 2007, unless a third party got more than 10 percent of the shares or the government stake dropped below 50 percent, in which case all bets were off.

ASF meanwhile does well financially and is looking to do business outside France. It has, for example, the major interest in the new toll road in Jamaica.

Spain. In Spain a state toll agency, ENA Infraestructuras SA, was put up for bid and acquired by Sacyr Vallehermoso in 2003, netting the state \$1.8 billion. Some five toll roads totaling 288 miles and doing about 220,000 toll transactions a day were privatized via this transaction. Most of Spain's other toll operators were already investor-owned companies.

3. Japan

Brookings Institution's famous transport economist, the late Wilfred Owen, was, more than anyone else responsible for Japan adopting the American public authority model for toll roads. Hired as a consultant to advise in the aftermath of World War II, Owen recommended that a major state toll authority be formed to build a toll road network by borrowing long-term from international aid banks and issuing toll revenue bonds.¹⁴ The Japan Highway Public Corporation (JHPC or Nihon Doro Kodan) was formed as a result of Owen's advice, and in the last half century has grown into the world's largest toll agency with 5,109 miles¹⁵ of toll road—almost all the interurban expressways of the country plus some fringe urban highways. That is about the same length of toll road as all U.S. toll roads combined, though it needs to be remembered that Japan has almost no un-tolled expressways. JHPC collects 4.8 million tolls per day and garners about \$20 billion per year in toll revenue—about three times all the U.S. toll agencies together. The two largest metro areas of the country each have their own government-owned toll authorities, which operate the main urban toll road networks of 171 miles in the case of Tokyo and 145 miles in the Hanshin (Osaka-Kobe-Kyoto) area. The fourth state authority is a Honshu-Shikoku Bridge Authority, which financed the major highway

and bridge networks in the Inland Sea linking the main island Honshu to the secondary island of Shikoku. This consists of some 15 major island-hopping bridges.

Early highway projects of JHPC in the busiest corridors were quite productive and profitable, but more recently an increasing number of expensive highways have been built which have attracted little traffic. Part of the problem is a government decision back in 1972 that provides for “pooling” of tolls and cross-subsidization of weak roads by strong ones. The large profits on the early heavily trafficked projects have allowed special interests to get the agency to build some grossly uneconomic roads and bridges. As the strong ones become a smaller fraction of the total, the finances of the enterprise get increasingly fragile.

Most of the bonds sold by JHPC since its founding have been fully guaranteed by the Japanese government, guarantees which relieve lenders of responsibility for assessing the financial soundness of the projects they are funding. JPHC now has outstanding debt of over \$200 billion and the four toll authorities together a total of \$430 billion of debt.¹⁶ Interest rates are low but analysts point out the dangers of such large debt if they should rise.

Prime Minister Junichiro Koizuma came to power in April 2001 largely on the basis of his promises to either privatize or close down numerous state-owned enterprises, among which the four toll authorities were prominent. The campaign was rife with cries of “money guzzlers” and “devil’s mansions” which shook the political establishment severely. The state enterprises were presented by a number of serious analysts as a significant factor in Japan’s economic stagnation and the growing tax burden.

The accounting of the toll authorities has been criticized heavily. In 2002 auditors rejected JHPC’s financial report for the year and on one occasion accounting firms declined to seek the job of looking after its books. Scandals also tarnished the image of JHPC.¹⁷ Newspapers reported systemic bid-rigging schemes on major construction projects. Stories of waste were legion. For example, Koizumi highlighted a system of emergency telephones on the expressway system that cost \$500 million. He claimed that costs of operation at JHPC overall would be halved by privatization.¹⁸

One of Koizumi’s campaign lines was “what the private sector can do should be left to the private sector.” Another was: “There will be no growth (in the Japanese economy) without reform (of state enterprises.)” Public sentiment is overwhelmingly in favor of privatization of the state toll authorities. An opinion survey found 81 percent support privatization of Japan Highway Public Corp with only 8 percent in opposition.¹⁹

Under a law passed in June 2004 all four of these public toll authorities will be dissolved in 2005 and replaced by six semi-private corporations listed on the stock exchanges. Japan Highway PC will be replaced by three regional toll road companies and the two metro area toll authorities and the bridge authority will all be replaced by publicly listed corporations. A new debt management corporation will be formed to assume the massive \$430 billion of debt of the four present toll authorities. The debt will be paid down from some of the profits of the six new toll companies, along with some government contribution.

Part 3

The Fiscal Implications of Toll Agency Privatization

The obvious attraction of privatization is the large infusion of capital it can provide, as illustrated by the sale of the Chicago Skyway. The \$1.83 billion realized by the city of Chicago on the Skyway compares with its annual general-fund budget of \$2.59 billion, which is funded by \$1.19 billion in taxes and \$1.41 billion in other revenues. So the sale produced the equivalent of 70 percent of the annual city budget. The Skyway proceeds dwarf the individual departmental budgets: \$1.05 billion for police, \$377 million for fire, \$240 million for streets and sanitation.²⁰ Prior to the sale, the city wrestled with a \$220 million budget “shortfall.”²¹ And Chicago has an overall general obligation debt of \$5.3 billion.²²

There are several general rationales for asset sales by city and state governments. One is that certain assets or enterprises are not core functions. Chicago Mayor Richard M. Daley explained the Skyway sale: “Running a toll road is not a core function of City government. And as you all know, the City faces financial challenges this year and for the next several years.” He called the sale to investors “a great result for the taxpayers of the City.”²³

But how does one decide if it makes fiscal sense to part with such an asset? After all, the Skyway (like most toll roads) was making money under city ownership. The general principle is to compare the value of having the sale proceeds today with the value of having an ongoing stream of annual net revenues if the asset remains in government ownership. Financial analysts do this by calculating the net present value (NPV) of the future revenue stream to the cash value of the sale proceeds. A quick way to get a handle on that comparison is to compute the return on investment from the asset, under government ownership.

Since we now know the Skyway was worth \$1.8 billion, we can figure out what kind of return Chicago was getting on this valuable asset. In the last year for which we have accounts it made \$43.2 million in toll revenues while incurring expenses of \$34.8 million for a profit of \$8.4 million.²⁴ That is a return of 0.4 percent on the capital value as revealed by the successful investor bid. So clearly the city and its taxpayers are better off having the cash. They can use it to pay down debt on which the city has been paying about 5 percent—12 times the rate they were getting by running the Skyway.

Until the Skyway sale many officials around the country had probably not considered their toll properties as such valuable assets capable of improving their finances. If they have capital assets that are producing a poor rate of return, or if, simply, they don’t see why they should be in that line of business, then it makes financial sense for them to sell. This is routinely done with government-owned land and buildings. Underused office equipment, furniture and vehicles are routinely auctioned off. Toll facilities are of course much larger in

scale, but the principle should be the same. If they aren't yielding benefits commensurate with their costs in government ownership then their value should be realized by sale.

A. Wise Use of the Proceeds

Proposals for privatization are often considered a foolish expedient, characterized by metaphors like “selling the family silver.” Some even make the Old Testament allusion to Isaac's son, Esau, who, in a moment of hunger, sold his birthright (leadership of the tribe) to his younger brother Jacob for a “mess of pottage” (a commonplace lentil and rice meal). Of course if the sums offered for the purchase of a state toll business are indeed a “mess of pottage” relative to the value of the asset, then sale is foolish. Government owners should set themselves a reserve price, and while they may not reveal the details to maintain their negotiating position, they can make clear that they won't sell unless that minimum is met. The city of Chicago was always clear that it had a minimum price for the Skyway and would retain the facility in city ownership if investors didn't meet that minimum.

An associated criticism is that, like that proverbial “mess of pottage,” the proceeds of privatization will be quickly squandered. Anything is possible of course, but chances are that elected officials know a move such as privatization will be carefully scrutinized by opponents, critics, and pundits. They will therefore want to be able to demonstrate good fiscal stewardship. Ideally the proceeds of privatization will be used to pay off a major portion of government debt. Without that debt to service in future years, there will be a stream of future benefits from the lesser debt burden being carried forward. Each year through the term of the retired debt, the city or state budget will benefit by the lower annual interest and repayment bill. There will be less pressure to raise taxes and less need to reduce expenditures considered vital.

As the first large-scale privatizer of a toll facility, Chicago has set a relatively good example by its use of the proceeds. The \$1,830 million from the Skyway sale is being used as follows:

- \$436 million to pay off outstanding debt on the Skyway;
- \$258 million to pay down city short-term debt;
- \$134 million to pay off other city long-term debt;
- \$500 million to be invested as a reserve fund which will meanwhile earn some \$25 million per year for the city;
- \$325 million for an annuity to provide budget relief over the next several years; and
- \$100 million for various one-time neighborhood improvement projects including homeless shelters, seniors facilities, libraries and welfare services²⁵

These are all what might be called “balance sheet” transactions, as they all strengthen the city's fiscal position. In no case is the city using the proceeds for operating expenses, which would simply postpone operating-budget problems and could be legitimately criticized as frittering away the proceeds.

B. Implications of Chicago Skyway for Other State Toll Properties

Every state toll property is unique. Each has its own customer base with a different level of income, and mix of commuters, trucks, and long-distance versus short-distance traffic. Each has a somewhat different geographic setting. Costs of operation will vary somewhat from one to another, with incidence of snow a major factor. Needs for renovation will vary. Some will have plenty of spare capacity; others will need investment to enhance capacity. An established toll facility is always more predictable than a new one, but future growth may be difficult to estimate or fairly straightforward. So risk will vary, though it will almost always be less than for a brand new toll road. Competition from free alternate routes will also vary. In short there is no substitute for a careful evaluation of each toll road property on its own merits.

Having made those qualifications, the sum paid for the Chicago Skyway does provide some guidance as to what other toll facilities might bring. The ratio of price paid to current revenue was \$1,830 million/\$43 million, a ratio of 42.6. Operating costs of the Skyway have been running at about \$10 million so earnings before interest, taxes, depreciation, and amortization (EBITDA) is about \$33 million, which makes the price/EBITDA ratio 55.5.

Two other qualified bidders bid far less than CINTRA/Macquarie: Canadian Highways/Borealis bid \$701 million and Spanish toll road operator Abertis bid \$505 million. A city spokesman called the two smaller bids “not serious” and below the floor price the city had set. That reserve price has not been revealed but is thought to have been in the \$1 to \$1.2 billion range.²⁶

CINTRA and Macquarie spokesmen have spoken and given presentations to explain their thinking about the Skyway. The main points they make are:

- The Skyway is an operating asset with an established traffic history since 1959.
- The toll franchise is for 99 years.
- Allowed toll increases are reasonable (more or less the CPI or slightly over).
- The Skyway has significant spare capacity while competing routes are congested.
- The Skyway provides significant time savings (e.g., 20 minutes or so in peak hours).
- The Skyway structure is in good condition following \$260 million renovations by the city just prior to the sale.

Against these positives, there are some less encouraging points about the Skyway:

- Its primary customer base of northwest Indiana motorists is below average income²⁷ and therefore is likely to have less willingness to pay tolls based on time savings.
- The “rust belt”-type industries that were concentrated in this area have still not been fully replaced, and growth has been slower than elsewhere in the greater Chicago area.
- Population growth of only 43,000 people or 5.7 percent is forecast in the next 30 years²⁸ versus a projected growth for the whole Chicago area of 1,943,000 people or 24 percent.²⁹
- The free expressways are getting added capacity through a major program of widening, interchange rebuilds and collector-distributor lanes³⁰ which seem likely to increase capacity about 35 to 40 percent.

- The strongest growth in employment in the Chicago area for northwest Indiana residents will be well west of the downtown Loop served by the Skyway so demand will be strongest for road space on I-80 and I-294, the Tristate Tollway.

The Skyway is not entirely reliant on this northwest Indiana traffic, which joins it at the state line. It picks up some traffic from ramps along the toll road itself from the southside suburbs of Chicago, and it also gets traffic from the Indiana Toll Road which makes connections interstate to Michigan, Ohio and points east. This long-distance traffic is likely to grow considerably more rapidly than the base northwest Indiana traffic. However there is still something of a question mark hanging over the concessionaire's optimistic traffic projections. The Skyway's susceptibility to competition from the slightly longer free alternative route was demonstrated in the early years of the Skyway.³¹ CINTRA-Macquarie has no non-compete clauses limiting additions of capacity to the free expressways, though after their current widening to four lanes each direction,³² any further capacity enhancement will be difficult and very expensive. The Skyway's profitability revolves around whether and how soon demand will grow beyond 25 percent, absorbing the extra capacity provided by the Illinois and Indiana fourth-laning and ancillary improvements to the free expressways.³³

With these reservations in mind it may be prudent to take the value of the Skyway at about the city's apparent reserve price of \$1.1 billion rather than the amount paid by CINTRA-Macquarie, reducing the ratio of price payable-to-toll-revenue to 24 and the ratio of price/EBITDA to 33.

C. New Jersey as a Case Study

Here we examine the situation in one state with large state toll authorities, with big financial trouble, and with great potential for privatization. The issue is whether capital tied up in the state authorities can be used more productively. Also in the case of New Jersey there is a danger that, in the absence of a solution to its financial problems, it will seriously hike taxes and drive some business away.

New Jersey's roads serve most of the transportation needs of the state's own 8.4 million people. But because of the state's modest size and intermediate location midway within the urban corridor Washington-Philadelphia-New York-Boston, New Jersey's roads also serve large volumes of pass-through traffic, for example people traveling the modest 91-mile trip New York to Philadelphia, or a truck delivering goods from Port Elizabeth, New Jersey 130 miles to Hartford, Connecticut. Roads financed from state taxes on gasoline and other local goods and services provide a free ride to interstate traffic, so the two major north-south highways, the New Jersey Turnpike and the Garden State Parkway, are financed with tolls. That way everyone using the roads pays, not just locals. Resistance to raising taxes in New Jersey for transportation makes perfectly good sense. Taxes, as well as being an inescapable imposition, involve New Jersey residents in subsidizing outsiders' use of their facilities.

After the last election, then-Gov. James E. McGreevey appointed a commission to make recommendations on how to fund transportation needs. The resulting "Blue Ribbon Commission Report"³⁴ referred to a "financial crisis" in the state adding:

The State's Transportation Trust Fund (TTF), which has been the primary funding mechanism for State transportation dollars since 1984, now faces insolvency. Without a significant influx of new revenues it will cease to fund any capital projects at the New Jersey Department of Transportation (NJDOT) and

*NJ TRANSIT beginning in FY2006, eliminating any possibility of improving transportation in New Jersey.*³⁵

This comes at a time when, according to the Commission, \$1 billion per year is needed for the next 10 years (\$10 billion) to rehabilitate 15,000 lane-miles of highway, \$7 billion is needed to rehabilitate structurally deficient bridges, and \$5.5 billion is needed over 10 years to relieve traffic congestion as well as for safety programs. The Commission explained: “The impending insolvency of the TTF is directly linked to decisions made over the past twelve years to increase reliance on bonding, to extend the term of bonds from 10 to 20 years, and to raise spending caps without additional revenues to keep pace with needs and inflation.” It recommended the problem be solved by an increase in the state motor fuel tax of 12.5 cents to 15 cents per gallon.³⁶

The proposal was, as they say, dead on arrival. The governor who had appointed the commission said that a tax increase would damage the recovery of the state’s economy. New Jersey is a “high tax state whose budgetary problems have become severe in the last three fiscal years,” according to a report by the Urban Institute.³⁷ Its budget deficit is over \$4 billion and it has got into the habit of using borrowings to fund operating expenditures.

The state’s transportation trust fund problem is in essence that borrowing has been done for projects which don’t generate their own revenues—largely new passenger rail lines, but also existing (non-tolled) highways. Debt service is mounting and absorbing a larger and larger proportion of the state’s dedicated transportation revenues. As the Commission put it: “Beginning in FY2006, the state-financed transportation capital program in New Jersey will go from a current level of \$1.2 billion to zero, meaning no new state-funded projects can be authorized.”³⁸

The New Jersey Legislature’s Office of Legislative Services, in its latest review of the Trust Fund, sums its history up this way:

*Throughout the program's history, and in greater amounts in the most recent program, spending planned for the program has exceeded supporting revenue from appropriations. There has been a historical pattern of appropriating less revenue to the TTF than is statutorily dedicated, and authorizing a capital program in excess of the statutory maximum. The difference has been addressed through bonded indebtedness, and the steady rise of debt service has been consuming more of the available flat revenue stream. As this trend continues, the pay-as-you-go, stable transportation fund envisioned in 1984 has diminishing funds available to support growing transportation needs.*³⁹

The New Jersey TTF, launched in 1984 as a pay-as-you-go operation, has been turned into one of the state’s largest borrowing entities. In FY 2005 the TTF Authority is planning to sell \$946 million in new bonds adding to its accumulated indebtedness of \$9.5 billion in FY2004. Debt service expense this year is projected at \$528 million compared to revenues of \$805 million.⁴⁰

New Jersey’s toll facilities consist of the New Jersey Turnpike, the Garden State Parkway, and the Atlantic City Expressway and a half interest in a whole bunch of interstate toll bridges and tunnels linking the state to its neighbors, New York, Pennsylvania and Delaware, across the deep estuaries and rivers that form its borders.⁴¹ All are potentially privatizable, but obviously the half-share facilities would be more complicated because they would need bi-state negotiation. The largest revenue generator by far is the New Jersey Turnpike Authority. Now that it has taken over the Garden State Parkway and operates both giant toll roads,

it is collecting 3.2 million tolls per day resulting in about \$750 million a year in revenues⁴² compared with the Chicago Skyway's 50,000 daily tolls and \$43 million in annual revenues.

Crudely scaling up the Skyway bid by the gross revenue differences suggests the New Jersey Turnpike could sell for \$19.2 billion.⁴³ What do the "shareholders" (taxpayers of New Jersey) presently get by way of return on capital? The latest annual accounts report an operating surplus of \$336 million and, after debt service of \$221 million, a profit of \$115 million. The accounts are questionable in that there is no depreciation charge on Turnpike assets—one of those quirks of laws that allow government entities to make their own rules! Even without reducing the reported profit number by depreciation charges, New Jersey taxpayers are only getting a return of 0.6 percent on capital of \$19.2 billion. That 0.6 percent return compares with revenue bonds outstanding on which the Turnpike is paying between 3.0 and 6.5 percent. Debt service is costing twice what the Turnpike is earning in absolute terms and it is costing about six times the rate of interest on capital. The Turnpike has outstanding debt of \$7.631 billion⁴⁴ so the state's potential net in selling the Turnpike clear and free of debt is about \$11.6 billion.

D. New York

New York State has similar potential in privatization of state and local toll authorities. The New York State Thruway Authority, with one of America's longest toll roads at 536 miles, is currently grossing \$466 million in tolls.⁴⁵ With responsibility for operating a 524-mile historic/tourist canal system and non-tolled highways (105 miles of I-84, the Cross Westchester Expressway, and open road in the Buffalo/Niagara area) as well as its tolled road, and an in-house staff large even within the toll road business, the Thruway has operating expenses of \$318 million or 68 percent of its revenue.⁴⁶

On the basis of the price-to-revenue ratio of 24, the Thruway would be valued at \$11.2 billion. It has \$1.7 billion in debt,⁴⁷ so after retiring its debt the state of New York could clear \$9.5 billion, if our adjusted figure for the Skyway were applicable.

Perhaps a better near-term candidate for privatization would be a toll franchise for the Tappan Zee Bridge, its major Hudson River Crossing that is in serious need of replacement and lane addition.⁴⁸ Unfortunately rail enthusiasts have latched onto the Tappan Zee Bridge replacement project as a vehicle to advance rail subsidization and want to combine the reconstruction of the bridge with a money-losing rail line, subsidized by tolls, which would complicate a privatization. However those in charge of the alternatives analysis are trying to present all the alternatives. Bus operations are being presented as an alternative and show the greatest potential ridership and the lowest cost. The project ranges between \$4 and \$5 billion for the new bridge itself and a similar amount for the added rail system (if approved). A dose of financial realism would be added to the process if it were made self-financing by involving a toll concessionaire.

The nation's largest grossing toll authority is the Triboro Bridge and Tunnel Authority (TBTA), which operates seven toll tunnels and two toll bridges in New York City. It is a huge profit center for the loss-making subways and other transit services of the New York Metropolitan Transportation Authority of which it is now a subsidiary business arm. TBTA was bringing in about \$1.1 billion annually in tolls before a recent toll increase, against operating expenses of \$329 million. Based on the same price-to-revenue ratio of 24 that we used before, it would sell for \$26.4 billion. Total MTA debt is \$12.2 billion so after retiring all MTA's debt there would be about \$14.2 billion net proceeds. Of course unlike most state toll agencies TBTA makes very large profits—again how large depends on implementing commercial accounting standards—but since

it is generating several hundred million dollars a year to subsidize mass transit, some alternative financing or savings would be needed.

Other states with major state-, city- or county-owned toll authorities with potential for privatization include: Virginia, Maryland, Delaware, West Virginia, Pennsylvania, Massachusetts, New Hampshire, Maine, Florida, Texas, Oklahoma, Kansas, Ohio, Indiana, Illinois, Colorado, Georgia, and California.

Part 4

The Implications for Motorists

Privatizing a toll authority may well make good sense in dollars and cents terms, for the government and the taxpayers, as discussed in the previous section. But what about road users, the customers of the toll road? Privatization should only be done if it also makes sense as sound transportation policy. If privatization helps some honest business people and investors to make some money, that's fine too, but it is a subsidiary issue. Investors have plenty of other avenues for their investment. They don't need privatization of roads. Road users do. This section focuses on how toll road privatization can advance the interests of toll road customers.

A. Better Customer Service

Government toll authorities vary greatly in their style and orientation, reflecting their political standing. Popular expectations affect their mode of operation. In one long-standing tradition toll authorities are constituted merely to finance and build the road, and to collect just enough tolls over a number of years to pay off the original debt, then disband as they hand the road over to a state department of transportation. This occurred with the Richmond-Petersburg Turnpike (Virginia), the Dallas-Fort Worth Turnpike (Texas) and the Denver-Boulder Turnpike (Colorado). Operations and customer service cannot be the top priority in a state toll authority that is merely a temporary expedient for financing construction.

At the other extreme, some state toll agencies have been set up from the start to operate and manage their toll roads indefinitely. These include the New Jersey Turnpike, the Garden State Parkway, the bridges and crossings in New York City, Baltimore and the San Francisco Bay area, Florida's Turnpike, the Dallas and Houston toll systems, and the Pennsylvania, Delaware, Kansas, Oklahoma, and Maine Turnpikes. Other authorities live in a state of uncertainty facing periodic challenges to their existence. For example:

- In 1991 there were moves to abolish the Ohio Turnpike;
- In 1999 the Massachusetts Turnpike was threatened when the governor supported a ballot move to end tolls and got publicity using a sledgehammer on a toll booth;
- The mayor of Miami led a move in 1999 to abolish the Miami-Dade Expressway Authority and end tolls;
- In Illinois, the governor moved to abolish the toll authority in 1999;
- In New York State there was long debate in the 1980s about ending the Thruway;

- In 2002 all three candidates for governor in New Jersey said the Garden State Parkway should be de-tolled.

Most such challenges to the existence of state toll authorities fail because of the difficulty of finding alternate revenue sources. However this whole debate about whether the state should raise money for roads by taxes or tolls has the political fallout of casting the toll authorities as mere tax collectors. And tax collectors are not in the business of providing a service in return for payment of the tax.

Good customer service requires not a tax mentality but the sense that the organization is there to provide a service of such value that motorists will be attracted to pay more than that service costs to provide. It requires that the organization be seen as a legitimate long-term business with full responsibility for all aspects of operations—the initial financing, future improvements, and day-to-day operations. Management needs to be free to take initiatives to market the toll road, hire and fire staff, and adjust services provided according to what customers are prepared to pay for.

Too many state toll authorities are doomed to an atmosphere in which top elected officials make operational decisions, and the toll authorities themselves are cast as merely the checkout part of the store, the people who collect the money. In Illinois and New Jersey, for example, the state governors figure prominently in week-by-week announcements of the toll authority—about several new electronic toll lanes being opened, or a new interchange, or new hours for trucks. Annual reports likewise feature the state governor as the chief executive. No organization can function as a business when it is as overtly political as this.

1. Government Efforts to Improve Service

Government agencies in the past decade or so have made many efforts to improve their often-poor customer service. Members of the public are now referred to as “customers.” Customer service is being professionalized, and staff are being trained in this. Services are being outsourced to bring business skills to the customer interface. Even the Internal Revenue Service has loosened up, made its forms more accessible, improved telephone accessibility, and employed marketing and communications consultants. Some state toll authorities have emulated these practices. The newer toll authorities are more commercial in their approach than the larger and well-established ones. The Toll Roads of Orange County, California, some of the Florida toll authorities, and E-470 in Denver are exceptional in their attention to customer service. They produce first-rate flyers, Web sites, signage, and newsletters. They have systems to quickly assist broken-down vehicles. But those are exceptions. Most toll authorities are better than state departments of transportation at responding to customer needs, but often not a great deal better. Marketing, focus groups, outreach, and customer relations are still seen as frills, only needed for special events like a drive to gain a toll increase, to publicize the opening of a new road, or a 50-year anniversary; not something to do on a continuous basis so that customer needs feed back into management policy.

In the end, government-owned toll authorities are mainly answerable to those governments and therefore to the political exigencies of the moment. People in government tend to be most concerned about repercussions in the next election. By contrast an investor-owned company answers to its shareholders for whom it has to generate income and wealth long-term. It generates that income not by catering to special interests and lobbyists but by single-minded attention to its customers, the motorists in the case of a toll road.

2. 91 Express Lanes' Customer Service

Marketing and serious customer relations come more naturally to a business than to a government agency because voluntary purchases by customers form a business's only source of revenue. The 91 Express Lanes (91X) approach is illustrative. Owner California Private Transportation Company (CPTC) started from the premise that customers deserve a premium service when they pay a toll (especially a toll as high as they charged!)⁴⁹ They worked to make everything from enrolling and issuing the transponder to toll rate information, customer assistance patrols, and communication with customers satisfying in order to gain their loyalty. They worked to reinforce understanding about the benefits of the service. They have some 160,000 transponders in service but less than a fifth are used daily. The service is expensive (ranging between \$1.75 and \$7.00 or 17.5c and 70c/mile daytimes) and with the free lanes right alongside, use of 91X is discretionary. They did market research surveys regularly to find new customers, conducted customer satisfaction surveys, gave roundtable lunches for customers, and implemented affinity programs and incentives—"friendship rewards." Always they were trying to establish what they could do to solidify their existing customer base, and gain new business. They instituted a money-back guarantee if for any reason they had not provided the uncongested trip they promise. They communicated via emails, Web site, a printed newsletter, variable message signs, and a walk-in customer service center.

Orange County Transportation Authority (OCTA) bought out CPTC in 2003 and has continued the strong customer service orientation pioneered by the private company. It employs most of the same staff under an operations contract with Cofiroute, one of the partners in CPTC. The annual report says: "OCTA assists its 91 Express Lanes customers where and when they need it most — whether making a FasTrak bill adjustment or repairing a flat tire. This customer-first focus not only keeps toll road motorists on the move, but ensures happy customers off the road as well. Customers who call in or log on for service are treated to world-class service levels, as measured by the Purdue University Center for Customer Driven Quality. Even with the number of calls exceeding 440,000 in fiscal year 2004, the 91 Express Lanes call center was ranked highly among peers with similar levels of demand."⁵⁰

Prof. Ed Sullivan of Cal Poly State University at San Luis Obispo, the principal researcher in studies of the 91X for the USDOT and California DOT, comments: "I was quite impressed with both the early public relations and continuing customer service efforts of CPTC. It now appears that high quality customer service has carried over to the new management, OCTA and its contractor.... As a customer since nearly its inception, I've personally been impressed with their treatment of me, including the flexibility in available account types and their prompt, painless response on the occasion when my first transponder's battery died."⁵¹

Many state toll authorities, especially the newer ones, attempt to replicate a commercial approach to operations by contracting out many of their operations. Some are little more than a handful of contract managers. The Toll Roads of Orange County at one point had a single contractor (Lockheed Martin) doing all their operations from customer service centers through cash toll collection, electronic toll equipment, trash collection, grass mowing, the lot.⁵² After a couple of years the contract was abruptly terminated. Toll authority officials felt they lacked control and contact with their customers. The 407 ETR in Toronto had similar problems with contracting out as a provincial toll authority, and when the present investor group took over they discontinued the subcontracts and hired their own staffs. So while contracting out can provide a government authority with some of the qualities of a business approach, it has its own problems.

3. Abolishing “Earthquake Pricing”

State toll authorities tend to engage in very disruptive pricing. They typically have toll rates frozen for many years and then do huge increases.⁵³ This is “earthquake pricing.” Nothing moves for a long period, then all of a sudden, the earthquake. The long periods of gradually declining “real” tolls (eroding with inflation) tend to persist until a financial crisis looms. Pressure on the toll authority budget has gradually built, and its margins are under increasing pressure; then it finds it can’t finance much-needed widenings or bridge replacements or new interchanges in that developing area. The bond rating agencies run the toll authority’s numbers and say: “Without a toll increase you can’t service any new debt. In fact without a toll increase you can’t service the debt you have.” That’s it; they just have to bite the toll rate bullet.

Toll rate-setting being all politics in a government authority, it needs a crisis before management will take up the challenge of justifying the new toll rates. So they have kept letting it slip, and slip.

When the price earthquake comes there is unnecessary disruption. Traffic, particularly trucks, tends to divert onto local roads, at least for some months or a year or two after the big toll rate hike. There is great local annoyance, there are more accidents, and transport efficiency is reduced with trucks traveling on slower roads. The toll authority itself goes from poverty to riches with all the accompanying temptations to add to the payroll and self-indulge in other ways.

Company price changes tend to be done far more regularly but in much smaller and less disruptive increments. Private owners of the Chicago Skyway plan an annual toll rate increase, approximately in line with inflation. The 407 ETR in Toronto and Australian and European toll roads do the same thing. Truckers aren’t likely to divert to Main Street when tolls are going up often but modestly, but they do divert when faced with earthquake price hikes.⁵⁴

4. Ending Favoritism for Selected User Groups

Many state toll authorities suffer from irrational pricing imposed on them by lobbyists for special interests. In the process they add to the complexity of managing tolls. This is usually done by establishing a new class of vehicle for the favored group, so that over years of lobbying, classes of vehicle proliferate, each with its own toll rate. Motor home association lobbyists have been especially busy, but they are not alone. Tow truck operators have some places managed to get a whole set of “saddlemount” classes.

The New York State Thruway now has 43 classes of vehicle! For one combination it charges two tolls, messing up its data on transaction numbers. It becomes mind-boggling for toll collectors to learn the classes and, with the best will in the world, to apply the correct toll.

As toll collection becomes automated with electronic tolling, vehicle classification is often the biggest challenge because the different classes of vehicle are dictated by politicians with no regard for the feasibility of using sensors—electromagnetic signature, lasers, video pattern recognition and so forth—to establish vehicle class.

With so many classes and rules to apply, auditing is a nightmare. Customers get cranky when they are charged inconsistently, and customer service representatives have their time tied up dealing with complaints. Each new class created generates an anomaly which is the basis for new demands from other groups.

B. Operating as a Real Business

Another ongoing problem of state toll organizations is their lack of comprehensive responsibility. The extreme of this is probably the Bay Area Toll Authority (BATA) in San Francisco, which according to its own description “administers, programs, and allocates revenues” from tolls. BATA doesn’t have any say in setting toll rates. It doesn’t actually collect any tolls, employ any toll collectors, employ any bridge operations staff itself, operate any customer service patrols, decide on lane closures, schedule repaving, make decisions on signage or deal in any way with motorists.⁵⁵ All these things are the responsibility of other agencies of government, which makes it quite impossible for BATA to make the toll facilities customer-friendly. If you don’t make policy on toll collection, or employ toll collectors, or have maintenance staff under your control, it’s tough to work at getting it performed efficiently and in a manner responsive to customer needs. If you don’t interface with the customers then it’s hard to have that done well either.

Not all toll authorities are as systemically constrained in their authority as BATA, but an extraordinary number of state toll authorities leave toll rate setting to the politicians and maintenance and policing to other state agencies, as if these are subsidiary issues. Yet what impacts most heavily on customers of a toll road is the toll rates and the service received in return for those tolls. For a motorist it matters a great deal, for example, whether maintenance work is scheduled outside of peak travel hours rather than when it suits the crew to go out there, because a lane has to be closed. How quickly debris from a lost load is cleared from the roadway often makes the difference between a safe day and a crash. Snow clearance, maintenance of drains, lighting, and signage all affect the level of service to the customers.

The promise of privatization is that it offers the opportunity to set a toll road up as a comprehensive business unit with the opportunity to serve customers free of political distraction, and so long as it maintains prescribed standards of service, it is secure to plan for the full term of the concession. This applies to many aspects of the business.

1. Replacing Patronage with Professionals

One problem afflicting some toll authorities is a tradition of providing jobs for friends and relatives of those in power in the state. These charges are frequently made about the Pennsylvania Turnpike, among others. In response to charges of patronage appointments, Turnpike officials usually deny it. The most interesting aspect of the recent newspaper-Turnpike clash was that a veteran Pennsylvania Turnpike commissioner, Jim Dodaro, acknowledged it, and claimed there was nothing wrong in it.⁵⁶ This is a sad admission that, to the extent that these charges are true, the toll road agency is not operating like a business interested in delivering the best value to its customers.

2. Unlocking In-House Talent

The long-established state toll authorities tend to develop considerable in-house talent but it is often misused. The New York State Thruway Authority, for example, is rather famous in the industry for “reinventing the wheel” by meticulously researching and developing technologies which are already on the market and proven. They did system integration of electronic tolling entirely in-house though there are a number of companies out there which specialize in this, and it is normally done by contract. To be sure, there are some advantages in having the developers of a system in-house on a continuing basis, but it is liable to be much

more costly than contracting out to the specialists. The Thruway is taking the same slow and expensive in-house route to open road tolling.

State toll authorities are heavily circumscribed by their jurisdictional boundaries. The Pennsylvania Turnpike can only operate in Pennsylvania, the Ohio Turnpike in Ohio, etc. This limits their ability to use their in-house talent and to add to the competitive pool.

On January 1, 2004 Austria brought on line an open-road electronic toll system called GoMaut covering the whole of its previously free 1,240-mile motorway system. All trucks over 3.5 tons are being tolled. The system was tolling 2 million transactions per day from day one. GoMaut was designed, built, and is being operated by Autostrade, the privatized Italian toll company now taking its capabilities international. With about 15 years experience developing Europe's best electronic toll system inside Italy, as a privatized company it can now go worldwide. The New York State Thruway, being state-owned, cannot compete for work even in New Jersey, let alone go international. By privatizing its big toll authority, Italy has given Autostrade employees more rewarding career paths, allowed the company to earn foreign exchange through its overseas operations, and added to the pool of talent competing for work on the international toll scene.

So here we have a role reversal. Usually we think of America being more competitive than Europe, and correctly so. A recent book⁵⁷ by Paul A. London, a Commerce Department official in the Clinton administration, argues at length that the key to America's economic success in the past decade or so has been the intensity of competition which has forced costs down, restructured whole industries, rapidly diffused new technologies, and attracted enormous investment, all adding to economic welfare and national strength. He looks at automobiles, steel, telecom, airlines, finance, and retailing as areas where the power of competition has been unleashed. Lagging sectors, he says, are education and health care which lack competition because they are dominated by state monopolies and regulation. To those two he could have added roads!

3. Paying for Top Talent

The culture of government authorities tends to be somewhat egalitarian. While lower-level people are often paid more than market pay rates, top personnel are often paid too little to attract or hold the best. It is a staple of journalistic criticism of government toll authority executives for a reporter to get details of their travel to the latest international toll industry association (IBTTA) conference in a supposedly exotic locale such as San Francisco, Paris or Madrid and to describe the event as some kind of self-indulgent scandal. These conferences, which the author attends, are useful for exchange of information, both in the formal presentations and in informal networking. The costs are trivial compared to the benefits. Journalists who like to have a good time as much as anyone assume the phony tone of puritan kill-joys in describing these conferences. They would never write the same way about private sector management, but because the organization is government-owned they seem to hold it to monastic standards of abstemiousness.

Cleveland newspapers have brought down two executive directors of the Ohio Turnpike with endless sensationalistic reporting of quite normal and modest business expenses and acceptance of small gratuities—like the odd ticket to a sporting event, an \$80 lunch, or paying the fee for a round of golf.⁵⁸ The *New York Times*,⁵⁹ a supposedly serious newspaper, recently headlined a news report “Facing deficit, MTA gave a 22% raise to its director” when four top executives were getting their first pay increase for several years. The total cost of the pay increases was about \$160,000 per year whereas the deficit being discussed was several billion dollars. The pay of the executive director of the Triboro Authority,⁶⁰ which collects about \$1.2 billion in

tolls, was being raised from \$157,000 to \$182,000. There are small businesses that pay the top person that nowadays. But nowhere did the *Times* ask what comparable pay was for managers of similar large organizations.

The prospect of being subjected to campaigns of vilification based on such petty-minded populism has to deter some of the best people from working for government authorities. So top appointments tend to be by political connection and of people seeking political advancement rather than people with professional careers. Even in independent toll authorities there is reluctance to get out of line with civil service job classifications and pay schedules and their rules and regulations.

4. Controlling Costs

A competitive business has a powerful incentive to work efficiently and to pay no more than necessary for its goods and services. That way it gets to keep more. Business is allowed to make profits. Government authorities, by contrast, have to spend everything they earn, or they are in trouble politically. The logic of public discussion runs: If they are making a “surplus” they must be charging too much!

Even before it closed on the Chicago Skyway, the private concessionaire had begun to reduce its costs. It hired a large parking building operator to provide toll collection services, since collecting parking fees isn't much different from collecting tolls. This subcontractor found he could hire toll collectors for \$12 an hour, less than two-thirds the prevailing pay rate at the city and among state toll authorities.⁶¹ State toll authorities are notorious over-payers, at least in the northeast and midwest, as evidenced by the flood of applications they get for vacant jobs on the rare occasions one isn't filled by an insider. Higher employee pay means higher tolls.

The Skyway contract for toll collector services is short-term, because the private concessionaire wants to get electronic tolling onto the Skyway. Electronic tolling⁶² has huge potential to reduce costs as well as to reduce the hassle to the motorist of paying tolls. In some places it has reduced toll collection costs by as much as 90 percent; in others hardly at all. There it is advocated on the basis of its customer benefits alone.

5. Integrating New Technology into Operations

The very different experiences in cost reduction are because electronic tolling is not just a new technology but a whole new way of doing business. Suddenly instead of faces at the toll booth with cash who pay and are gone, the customers are people with known vehicles and addresses, with email, with credit cards or bank accounts. Instead of thinking of the toll as something they keep their spare change for in the car ashtray, the users of the toll road view their accounts monthly and think of them as another utility bill. They are people who have to be supplied with the transponder, instructed to install it correctly, and dealt with when they have problems. All these issues can be handled well or poorly. When they are handled poorly, the customers have to be dealt with on the telephone, and large call center staffs are required. In some worst-case scenarios call center costs with electronic tolling can rival toll collector costs with cash toll collection, and there is no labor saving at all. (Technician maintenance costs, trivial by comparison with the cost of the customer interface staff, remain rather similar.)

With cash toll collection and a high incidence of vehicles often queuing to pay the toll, differentiated toll rates are awkward. The nightmare customer relations problem is of the motorist delayed by a queue who

finds the queuing takes him from an off-peak charge time into a peak charging time, and gets very angry. The prospect looms of real road rage at the toll plaza!

The new technologies change all this. For a start there's no need for any queuing with electronic tolling, at least not in the open road format where vehicles don't even need to slow down from normal highway speeds. The gantry spans multiple lanes so lane-changing is OK as on any other stretch of highway. Second, trip times are more predictable and so motorists are less liable to find themselves in a different charging period through no fault of their own. Third, if they do discover they hit the peak charge there will be road rage expressed on the telephone after viewing the monthly account, not on the road!

So the new technologies make it feasible to apply more sophisticated pricing than cash toll collection—peak/off-peak price differentials, frequent user bonuses, even dynamic pricing on busy facilities to prevent congestion occurring. With cash collection, toll rates tend to make big jumps—for example from 50c to 75c—because quarters are easiest to handle. With electronic tolling tolls can be adjusted precisely by the rate of inflation—say 3.12 percent this year, 3.63 percent the next—because the computer application does the arithmetic on the monthly bill. Or the system can do “specials” at times when the road is not crowded and the toll road wants to show itself off to potential customers. License plate readers toll motorists who don't yet have a transponder.

State toll authorities vary greatly in the extent to which they use the new technology and how well they use it. A few hardly use it at all. While electronic tolling does 70 percent and more of toll transactions in New York City, neither the Ohio Turnpike nor the Indiana Toll Road, major roads, has it at all. New Hampshire has taken years to implement it largely because of cumbersome civil service procurement rules to which the Bureau of Turnpikes must conform as part of the state department of transportation. And while New York City's Triboro Bridge and Tunnel Authority has high usage of electronic tolling on its city bridges and tunnels,⁶³ it has vigorously resisted using its potential creatively. Differentiated prices by time of day are a no-brainer in congested New York City. The Port Authority⁶⁴ on its crossings on the western edge of New York City has successfully implemented differential pricing, and managed to spread the peaks and reduce congestion as a result. The New Jersey Turnpike made a similar move but with insufficient price differences. And toll authorities vary greatly in their success in selling electronic toll collection. It's available but they don't market it properly or make it attractive enough to their customers to get them to use it.

Commercial-style marketing and pricing often requires more flexibility for management than government toll authorities are allowed.

C. Better Investment and Financing Decisions

1. Selecting Viable New Projects

The Pennsylvania Turnpike has come under heavy criticism in the past several years for its heavy spending on low-traffic extensions in and around Pittsburgh.⁶⁵ It has spent about a billion dollars on three toll-assisted roads,⁶⁶ whose costs are way above the ability of tolls to finance. Therefore it is issuing long-term bonds secured to the revenue of the profitable main line, and also seeking federal grants. The critics argue that the money would be better spent on upgrading the main line. They have a point, but it is perhaps unfair to direct the criticism at the Turnpike Commission. As a state agency it is constituted as a servant of the legislature.

As for the “pork pikes,” it was specifically directed by the state legislature to build the three criticized toll roads around Pittsburgh. State authorities normally do what they are told by lawmakers.

Those who support the loss-making turnpikes argue that they are justified by the economic development they will bring to the depressed areas they traverse.⁶⁷ It is unclear how much economic development has actually occurred as a result of the construction of these roads, although it is unlikely there would be much economic development without them. In many cases state toll authorities subsidize such loss-making toll roads from the revenues of their profitable pikes, but the Pennsylvania legislature recognized that this would weaken the finances of their mainline turnpike. They provided separate funding for the low-revenue toll roads by providing dedicated taxes to service their bonds - an oil company franchise tax, and a portion of vehicle registration fees.⁶⁸

A more market-oriented toll road industry will be one where financial viability of each project is used as a screening test. That will avoid the wasteful cross-subsidization of non-viable toll roads by older going concerns. WalMart doesn't build losing stores just because it's got cash available to do so. Each new store has to pull its weight. It should generally be the same with toll roads. Of course there are network benefits which sometimes justify an extension that would not stand on its own, because of its potential contribution to the revenues of the rest of the system. Business investments will pick up on these.

2. Tapping New Sources of Capital

State toll authorities are big clients of the private capital markets in bonds—fixed interest borrowing. In fact from the Pennsylvania Turnpike onward the state toll authorities have built their toll roads primarily by issuance of long-term bonds to private investors. Investor-owned toll roads can do that too, though at the moment they suffer a federal tax penalty as compared to state authority borrowing. What fully state toll authorities cannot do is to issue or accumulate equity. They don't have any stock. They are not set up legally to issue any stock.

This is a serious handicap because many toll projects need patient capital where there is no contractual obligation for payment of dividends. The success of a toll road is often difficult to predict in its early years. So a substantial element of risk capital is needed. Most government-owned toll roads are too heavily “leveraged” in the sense that the debt is too large relative to other sources of capital, so they default on their bonds if traffic is lower than in the business plan. A case in point is the San Joaquin Hills Toll Road in southern California. Its debt overload has tied county government in knots for about two years and no solution has been found. The road would have had a more robust financial picture if it had been financed by investors partly with debt and partly with equity capital. A possible future solution could be to privatize it with a debt plus equity capital structure, but the local governments which own it would have to accept a major capital write-off. They chose to take the traffic risk, and lost, and now have to come to terms with that.

In theory a state government could employ a kind of equity investment. They could allocate, say, one-quarter of the cost of a toll road project as “equity” and appropriate that money from the state budget or use surpluses from other toll roads. With that “equity” they could borrow at lower interest rates, because the risk to the bondholders would be lower with that leverage of three to one. In Texas the new tolling and public-private partnership law explicitly allows for the state to contribute such equity for new toll projects.

But there are two problems with this. The first is that in the real world of politics, governments tend not to run the budget surpluses necessary to make equity investments. They tend to have trouble avoiding budget deficits. Secondly, there is the question of prudence with taxpayers' money. Equity is risk capital. It's what goes down the tubes first when the project is a disappointment and the traffic and revenue don't measure up to expectations. Whenever a state puts capital into a toll road, the taxpayers' money is at risk. Rather than commandeer taxpayers' money, it seems fairer and wiser to let investors put their own money at risk.

Privatization therefore can tap a large new source of capital—initial public offerings and subsequent share offerings—that is not available when a government uses the American-style government authority model.

A halfway house or transition to privatization is “corporatization” in which a toll road enterprise is set up as a joint stock company or a private company able to issue shares but with the government retaining a majority of the stock. That's the way most French toll roads are set up. (The big exception is the fully investor-owned Cofiroute.) Such corporatization has some advantages over an American-style state authority. As companies they are held to higher standards of financial reporting, and the presence of some private owners of stock makes management rather more commercial and market-oriented in outlook. But the ability of such government-dominated toll corporations to issue equity stock is severely limited by their desire to retain majority control. And that majority control of the board also opens them up to many of the problems of a fully government toll authority. Autostrade did a gradual privatization in which it went in stages from majority government stockholding in a joint stock corporation to minority government stockholding to no government stock at all.

Part 5

Problems and Objections

A. Government Irresponsibility?

One commonly voiced objection to privatization is that it puts too much money in “irresponsible hands” and is likely to be badly spent. Of course well spent and badly spent are matters of judgment. It doesn’t make much sense to trust a government to run a toll road wisely, but not trust that government to handle the proceeds of a privatization properly. If a government is irresponsible then there’s a bigger problem than the privatization. A more positive response to this problem is to suggest some priorities for spending the proceeds: (1) pay down debt, (2) reduce some taxes with particularly unfortunate incidence, (3) improve congested or unsafe roads, and (4) establish a rainy-day budget fund with an annuity. A further possible measure would be to structure the privatization so that the franchise fee was payable in stages rather than all in one lump sum. No one we know of has done this but in theory there is no reason why a concession fee shouldn’t be payable annually over the life of the concession.

It could be argued, however, that this objection doesn’t withstand scrutiny. Officials seeking re-election do indeed face some temptations to use the proceeds of a privatization to help particular constituencies whose votes they want. At the same time they need to look to be responsible to voters at large. If the proceeds were to be used to grant big pay raises to civil servants this would likely lose them the next election. Democracy’s checks and balances should make this manageable.

The city of Chicago under Mayor Daley seems to have gotten toll road privatization off to a good start. Most of the proceeds of the Skyway went to reducing debt and establishing a fund for supporting the budget in a recession.

B. Making Government Authorities More Businesslike?

One response to proposals for privatization is to suggest that if private management can make money out of a toll road where government isn’t currently making (much) money, then the government should learn to run the toll road “like a private business.” The state toll authority should “shape up” and emulate businesslike practices, so it is urged, and generate a healthy bottom line.

That is easily said but difficult to do.

1. Most government toll authorities have an established history of aiming to recover costs and no more.⁶⁹ They haven't aimed for any surplus or net return on capital. Changing that under government ownership is difficult because there is no tradition of governments running operations for profit. When a profit is made by a state toll authority it is never called that in the financial accounts. It is called an "operating surplus" or an "interagency transfer."⁷⁰ Profit-making is just not recognized as legitimate for government agencies.
2. In order to generate profits, profit-seeking entities need to reward their top people with bonuses or stock options related to the business's results for the year. Government entities never work like. They pay fixed salaries, so the top management has no incentive to maximize profits.
3. Government entities rarely conform to commercial accounting conventions. Their accounts often fail to make charges for depreciation of assets, so by commercial standards many would report operating at a loss. Getting to real profitability would be even more difficult than their present accounts suggest.
4. Since they have no stock that is bought and sold, there is no capital market valuation of government authorities against which to measure their performance.
5. Toll authorities have their governing board appointed by government. Government officials face re-election at regular intervals, so they have an interest in the toll authority's ability to keep toll rates down, regardless of profitability.
6. Businesses have great flexibility about hiring and firing, contracting, acquiring and divesting assets, raising capital, and marketing, whereas government entities have huge manuals of rules and regulations to follow.
7. Perhaps the most fundamental problem of government entities is that no one feels any sense of ownership. In theory every citizen of the state has a stake in a state-owned toll authority. However that stake is so tiny for each individual that no one feels like a real owner. Moreover real owners are allowed to sell their asset if they have better uses for their money. Real owners can also buy a larger share if they like an asset—again, not possible with a government authority. Government ownership locks them in with their one tiny share they cannot realize. Such insignificantly small, almost powerless owners have no reason or means to influence management to seek a return on capital. Active markets in tradeable capital are needed for that.

There really is no substitute for investor ownership if getting a return on investment is the aim. Businesses are sometimes coy about their pricing, talking of price rises as dictated only by increased costs. In fact they make profit from the difference between price and cost, their so-called margin. So their incentives are always directed toward holding or reducing costs wherever possible—by building revenue, by finding new business, and by nudging prices upward. They will look for ways to add value to their services in order to gain that extra profit margin. If they can come up with a new solution to a problem that has defeated others they stand to make especially good profits. So they have stronger incentives to innovate than government entities. In France, for example, it took an investor-owned company (Cofiroute) to propose the long, deep-bored tunnel solution to the long-stalled final link (through—or rather beneath—historic Versailles) in the A86 outer beltway of the Paris region.

C. Other Issues

1. Monopoly Power

In some instances toll facilities have a degree of monopoly power. An example would be a single bridge to an island. To the extent there is monopoly power, the public interest will require some kind of price ceilings or profit-sharing. The most common form of toll rate control allows an annual increase in maximum toll rates in line with some measure of inflation in the economy. Price controls of course have their downside. They can keep prices below market rates, causing shortages and other distortions. Profit-sharing may be better—a provision that beyond a set rate of return the granting agency shares in the profit.

2. Identity

Some toll facilities are major items of local identity, signature structures, or even national icons. Think of the George Washington Bridge on the east coast or the Golden Gate on the west. The New Jersey Turnpike, love it or hate it, is deeply embedded in the national consciousness, and it is therefore a natural as the opening visual theme for every episode of “The Sopranos” on TV. Privatization would have no effect on the cultural value of these facilities since it is only the business of operations and financing which would be privatized. The Ambassador Bridge is no less a part of the Detroit landscape and urban identity because it is privately owned and operated. No one thinks of the Empire State Building as being less anchored in the identity of New York City because a government entity doesn’t own it. Where color and appearance are of great public importance—as for example in the case of the Golden Gate Bridge—then the preservation and public control of that should be carefully specified in any toll concession agreement. It is the business side of the facility which needs to go into the private sector. One approach that might address this concern would be to offer shares widely to the public, while reserving a meaningful stake (e.g., 40 percent) to a strategic investor with global experience owning and operating toll roads (see Appendix B).

3. Facility Privatization

Rather than privatizing an entire toll authority, another valid approach might be to conduct privatization of individual facilities. This would make privatization less of a once-and-for-all exercise and allow a pilot project, so to speak. If the first went smoothly and was a success, subsequent privatizations could follow, incorporating any lessons learned.

Toll facilities often have logically separate parts. For example the Indiana Toll Road is two different kinds of facility—(1) the extreme western end⁷¹ serves a large number of commuters to Chicago and levies tolls at points along the road, and (2) the major portion of the Toll Road serves long-distance traffic with a high percentage of trucks. It could logically comprise two privatizations.

Similarly the New Jersey Turnpike is two somewhat different roads north and south of Exit 8A in Jamesburg. North of 8A the Turnpike is a mature four-roadway facility of 10 to 14 lanes with high volumes of commuters. South of Exit 8A it is an older 4- and 6-lane facility in urgent need of widening and traffic management. The predominant traffic revenue in the southern portion is commercial and longer-distance traffic. (Local traffic has the free I-295.) Vacation travelers are the main clientele by volume. The state governor has called for a \$1.3 billion widening of 20 miles of this southern portion between Exit 8A and Exit 6 in Burlington and complete rebuilds of the interchanges. The area—just east of Trenton—is becoming a

major home for warehousing and the staging of freight deliveries to as far as Washington D.C./Baltimore, Philadelphia and the New York region. So while the northern Turnpike is commuters plus trucks, and the southern Turnpike trucking and visitors, the Garden State Parkway is a wholly different facility again. It has no trucks permitted in its busiest section. These three could be separately privatized.

Where there are multiple crossings—as in the San Francisco Bay area, Baltimore or New York and the Hudson River crossings—one option would be privatizing individual crossings. The New York State Thruway is already looking at privatizing just one facility: the Tappan Zee Bridge. Opened in late 1955, it now needs to be rebuilt and enlarged, a project that could be wrapped into a privatization. Maryland’s Chesapeake Bay Bridge is another facility needing new management⁷² and a new span with extra lanes. The two Baltimore Harbor tunnels, by contrast, work rather closely together and share maintenance equipment, yards and staff. They would logically stay under one management.

D. The Nonprofit Alternative

Some U.S. design-build projects are being presented as “privatization” apparently for public relations reasons. In these projects, the private sector designs and builds the road, but it is financed and owned by a non-profit corporation. The private developer may or may not be given a relatively short-term management contract for the first few years’ operation of the toll road.

This kind of arrangement offers almost none of the advantages of real privatization, as discussed in this report. The test of privatization should be whether investors end up owning the road business and taking responsibility for it long term, reaping rewards if the road does well, or taking losses if it doesn’t. Real privatization takes the road off the back of taxpayers and out of the sphere of politics, putting it in the hands of management which must deal with customers who can choose whether or not it provides them value for money.

Current federal tax laws permit only government authorities and nonprofit corporations to borrow at tax-exempt rates. Private owners must do their financing at taxable rates (though a proposal to change this is being considered by Congress as this is written). The current tax laws have encouraged several dubious “public-private” toll roads in which the investors make their money in construction profits and project management fees recouped from the nonprofit corporation on completion of construction. The “nonprofit” nominal owners of the road have no say in the design of the project. The nonprofit holds the full traffic and revenue risk once the road is opened. But nonprofits in their nature cannot issue stock like government authorities, only bonds. Hence, these companies are faced with rigid, 100 percent debt service obligations. All the risk is loaded onto the bondholders. Moreover the nonprofit board, having personally nothing to lose, is liable to simply blame the developer if things go wrong.

Two toll roads have been built by developers and turned over to nonprofit corporations in recent years. They are the Southern Connector in Greenville, South Carolina and the Pocahontas Parkway in Richmond, Virginia. The first is a financial failure already; the second looks shaky. Most likely the bondholders will lose out and future nonprofits of this kind will pay a higher risk premium. Though hailed by some as “innovative financing,” this development-oriented kind of project seems full of hazards. It doesn’t tap patient equity capital or attract management committed to operating the road as a long-term business. As with government toll authorities, the nonprofits can’t provide the set of incentives which ownership of the business provides.

Part 6

Guidelines for Privatizing Toll Roads

Privatization of government-owned toll roads is part of a much broader movement worldwide for governments to get away from owning and managing businesses. For about 25 years governments have been getting out of owning banks, insurance companies, telephone services, railways, electricity, oil, steel plants, ship building, airlines, automobile manufacture, airports, ports and many others. Americans are not as aware of this privatization trend because in America very few of these industries were government-owned to start with. We didn't have as much to privatize, so privatization wasn't such a big deal here. But the Europeans, Latin America, Asia, Australia, New Zealand, and South Africa have all seen major and sustained privatization drives over several decades. In Europe even the cumbersome institutions of the European Community are firmly directed toward privatizing state enterprises.

Almost no state enterprise is exempt from the privatization movement on the world scene. Benjamin Franklin, our first Postmaster General, would be amazed. Even postal services are being privatized in several countries.

When governments divest themselves of businesses, along with the change in ownership come other changes. Government enterprises tend to be local in nature. They tend to hire local people, buy locally, operate locally and raise capital locally. Businesses are more footloose and increasingly global. The group that bought the business of the Chicago Skyway is half based in Madrid and the other half in Sydney. While strictly accurate, that characterization doesn't really convey their essence. They are both international in character with operations and employees hired and located in different countries. The emerging economy, thanks to email and Internet connections, is breaking down barriers to global communications and transactions. The most dynamic companies now pull in resources and find business all over the world. Geographically constrained organizations find it difficult to compete in this environment.

Like anything else, privatization can be done well or badly. It can be done gradually or quickly, fully or partially. It can be done with many conditions attached, or few, or none.

A. Typical Steps in Privatizing a Toll Road

The following list of steps is similar to those followed by the city of Chicago with the sale of the Skyway. These steps are also similar to those one sees in the divestiture of many other kinds of state-owned enterprise via a sale to the highest bidder. Some of these are outright sales, whereas in toll roads we are talking about the sale of a long-term franchise or concession.

1. Appoint a qualified and respected selection/negotiating panel, and announce this publicly.
2. Create and publish a timetable for the selection process.
3. Prepare informational materials on the history and present state of the facility.
4. Commission a professional traffic and revenue study from a qualified specialist firm.
5. Issue a widely publicized request for expressions of interest from potential proposers.
6. Provide informational materials to potential proposers; these should be public documents.
7. Receive traffic and revenue studies and make them available to the potential proposers.
8. Issue request-for-concept proposals and qualifications of potential proposers.
9. Select the three to five best potential proposers (short list) and formally ask them for detailed proposals by a due date.
10. Review proposals with a selection panel.
 - (a) Proposals are scored and ranked. If one is clearly considered best value it is announced as the selection with a detailed contract to be negotiated, with the others kept in reserve in case negotiation of contract or financial closing cannot be consummated.
 - (b) If several proposals are close, those proposers may each be asked for a best and final offer, after which selection is made as in 10(a).
 - (c) If the proposals have different features and the selection panel finds a mix and match of features desirable, the mix-and-match proposal is sent to the short list for price bids. The highest bid is selected and announced and a formal deal is negotiated and financial close effected, keeping #2 in reserve in the meantime.

B. The Need for Professional Advice

Privatizing an asset worth half a billion dollars or more is not a process to be taken lightly. A city or state undertaking such a process needs to understand the importance of carrying out this activity as carefully, thoroughly, and professionally as possible. This will nearly always require the services of specialist advisory firms, to ensure that the state or city has expertise on its side of the table as experienced and as competent as that likely to be on the private sector side of the table. This expertise is needed not just in negotiating the terms of the franchise agreement, but at every step in the process outlined above.

The two most critical types of ongoing expertise are legal and financial. The legal and finance departments of a city or state will almost certainly not possess the kind of specialized knowledge of long-term toll road concessions that is necessary. Therefore, the state or city must be prepared to contract for such advisory services, typically using a national law firm with expertise in infrastructure finance and an investment banking firm with mergers-and-acquisitions expertise. In addition, it will need one of the several highly specialized firms that do toll road traffic and revenue studies for that particular step in the process.

C. The Need for Openness

The more open the process the better, except in that there will always be a need for some temporary confidentiality. The state will want the bids to be sealed so the bidders bid what they are prepared to pay, not just enough to beat the next bidder. So bid amounts should be kept confidential until the winning deal is complete. Then details of the other bids should be released. Some proposers will insist on some of their ideas remaining confidential until after all proposals are submitted. That is reasonable too. Otherwise some bidders would hold back, steal the good ideas of the early proposers, and present them as their own.

At the same time the public needs to be assured that there is no favoritism in the selection of the concessionaire, so confidentiality should be kept to a minimum and be maintained only as long as essential.

D. Lessons from Chicago

Advisors hired by the city of Chicago appear to have contributed significantly to making the privatization of the Skyway a success. They established what they called a “virtual data room”—a password controlled Web site—accessible to the qualified bidders where they placed historical information on the Skyway, engineering and financial reports, traffic and revenue studies, details of contracts and agreements affecting it, together with other materials generated in the privatization process. They worked on the premise that bidders needed the maximum information and the minimum uncertainty to make good bids. The virtual data room allowed a five-month-long interactive process in which the bidders were able to ask questions and have them answered—and then ask more questions about the answers—with the questions and answers being accessible to all bidders. The city’s lawyers said that bidder input into the process was critical because of its novelty and because the city needed to get an idea of how the price would vary with the provisions of the agreement. Draft agreements were placed on the Web site for comment, then amended as considered necessary. The Web site generated emails on new postings. The final bids were on a common contract.

Mayor Daley said if he had relied on city staff to conduct the privatization “It might never get done,” so he employed outside counsel to conduct the process.⁷³

E. Length of Concession Term

The most common arrangement for building new toll roads around the world is now a concession, or franchise, or contract (different words, same meaning) with an investor-owned group to design, finance, build, and operate the road in return for the right to collect tolls from the motorists for a long period of time. The term of traditional concessions was the term of most long-term bonds. At the end of the term there is an obligation to turn the toll road over to the state in good condition. There is nothing sacred about a 35-year term, but it is pretty much a minimum term to make most investments pay as investments in the operations of a road as opposed to just construction.

More recently, there is a global trend toward longer concession terms. Texas seems to be settling on 50 years as its preferred concession term for the Trans Texas Corridor concession projects. Both the Chicago Skyway and 407 ETR in Toronto are 99-year concessions. The longer the term over which the investors can collect tolls, the higher the bids are likely to be, other things being equal. Indeed there is no reason why a

concession cannot be in perpetuity. The oldest known interstate bridge (Dingman's Ferry Bridge on the Delaware River) and the Ambassador Bridge over the Detroit River are both private concessions in perpetuity.

The decision on the term of a toll concession is an issue for public discussion and for decision by the state. There is no reason why the state should not ask for bids for say 30 years, 99 years and 'in perpetuity' and make the decision after the bids are in.

F. Extension of Terms

It is becoming more common for terms of concessions to be variable, either by formula or varied by negotiation. In some cases concession terms are varied according to the rate of return. If the return is higher than a base rate then the term ends sooner. The first Dartford Crossing concession in the United Kingdom was of this kind. Traffic and revenue were higher than expected, so the concession ended several years earlier than the base term. In other cases, if traffic and revenue are below a base rate, then the term for tolling will be extended by a formula contained in the contract concession. A number of toll roads have extended terms in this way, especially in Latin America and Europe. Most toll road concessions are either extended or rebid at the end of their term. In the case of the Dartford Crossing, for example, a new concessionaire won the bid for the new concession.

Terms of concessions are often extended as part of negotiations over capital works. In return for investing in, for example, widening and new interchanges, the concessionaire may argue that the expansion will not pay him without a longer term over which to amortize the investment. This occurred recently very close to the author's home. The Dulles Greenway in northern Virginia negotiated a 20-year extension to their concession (from 40 years to 60 years) and higher tolls as part of an agreement to widen the highway from two lanes to three (in each direction) and to add and improve interchanges.

G. The Need for Modifications

There is a saying that work on a house is never done. So it is with roads. There is always work to be done on them, sometimes small but important fixing of small problems which can become big ones if neglected, other times big works like widening, replacing bridge decks, new interchanges, and sometimes extensions of the road. The toll concession has to describe an equitable and effective way of handling this. Many improvements, especially early in the term of the concession, will be in the concessionaire's interest to undertake but some won't, and the state may have a legitimate interest in having those done. Toward the end of the term the concessionaire will only have an interest in doing works that will maintain the facility to the standard prescribed for handing it back.

One approach is to prescribe a program of widening, extensions and other enhancements as part of the original concession. The 407 ETR's franchise contract provided for major extensions east and west of the highway the province had built. The concessionaire was happy to build the west extension because he calculated it was a paying addition and the opportunity added value to the whole concession. But the required eastern extension was into sparsely populated areas and was most unlikely to pay for itself, the concessionaire calculated. So the bid amount was lowered slightly to reflect a cost without a payoff.

The need for widening and other capacity enhancements is sometimes dealt with by a formula based on maintaining a given level of service, according to the traffic engineer's ratings A through F.

H. Privatization Conditions

Most privatization contracts are quite wordy. That is because they spell out the details of the immediate transaction and also the many ongoing obligations and rights of each party under many different circumstances, and procedures for arbitrating any disagreements over the contract. Breach of the contract if not remedied, may lead to the facility reverting to state control once a legal process for declaring a default of contract has been followed. There is usually provision for negotiation of differences first, then appointment of a jointly agreed arbitrator. If the result of the arbitrator's decision is not accepted it becomes a matter of civil law.

Most privatizations require the facility to be kept in good and safe physical condition throughout the term of the concession, to be operated safely, and to allow and sometimes fund policing. The condition of the facility may have to be inspected by an independent inspector and reported upon on a regular basis.

The private concessionaire may be required to allow some vehicles to travel toll-free. This invariably includes emergency services when attending an emergency—police, ambulances and fire vehicles with sirens and lights active. Beyond that any requirements for free travel may become a burden on the concessionaire and reduce the amounts bid. Concessionaires will sometimes allow toll-free passage for public relations reasons—funeral processions for example.⁷⁴

If there is uncertainty about the acceptability of privatization conditions, then it is possible to have those conditions “priced” by the bidders. Bids could be solicited with and without, say, union-only employment requirements, non-compete clauses on competing free capacity, toll rate controls or “clawback” (or profit-sharing) provisions, etc. As one global firm told the author, “When in doubt about a condition, just put it in the concession and we'll price it.” Then the government can decide whether or not the condition is worthwhile.

I. Toll Rate Controls

Concession contracts may or may not control toll rates. The most common concession agreements allow increased toll rates on an annual basis in line with inflation. Others provide for toll-setting by a state utilities regulatory body. Others have complex formulae that usually include inflation and various other factors like productivity. Most European toll concessions have a formula approach for maximum toll rates, with inflation one variable of several. None we know of provide for the government of the day to just set toll rates as they see fit—too much of a temptation for officials running for re-election to play “friend of the motorist” at the expense of the financial viability of the project.⁷⁵ Some have no direct controls over toll rate setting.

The 407 ETR in Ontario has no direct toll rate controls but the contract puts an indirect ceiling on toll rates through a set of congestion penalties that make the toll road set rates which attract traffic. The provision is somewhat complex and controversial but it effectively prevents the operator from running a high-cost, low-traffic toll road.

Others don't control toll rates but have "clawback" or sharing provisions. So on the 91 Express Lanes the concessionaire would have to share profits with the state beyond a certain rate of return on capital. The SR 125-South toll road under construction in the San Diego area also has this "clawback," which was a part of the AB680 law under which the concession was written.

Eastern Europe, Israel and Asia have had toll concessions in which the state provides the concessionaire with certain guaranteed levels of traffic and revenue and provides compensatory payments if they do not meet the forecast. Such concessions are usually balanced with provisions for the state to benefit financially by traffic and revenue exceeding forecasts.

Some contracts are premised on the notion that no toll rate controls are needed since motorists will not be attracted to the road in sufficient numbers if the toll rates are too high, and that market competition is the best price setter. The M6 Toll in Birmingham, England has no contractual limits on toll rates. It competes with the free M6 to which it is connected at either end and with many local roads. There are no toll rate controls on the Ambassador Bridge. The bridge under its charter is required only to give public notice of a toll increase and to respond to any complaints, but having done that it is free to set its tolls. Again, there are alternative routes so competition acts as a brake on profiteering.

Most contracts require traffic, revenue and other audited financial accounts to be published annually. Some require the operator's books to be open to inspection. Obviously any concession contracts involving profit-sharing need good, open accounts.

J. Bankruptcy

What if the concessionaire goes broke? Most concessions are written so that if the concessionaire cannot continue to operate the toll road, then the concession is at an end and the state takes it back. It is then free to find another concessionaire or can resume operating the toll facility itself. There is no loss to the state. Indeed it has still profited from the upfront concession fee.

K. Employee Transitions

What happens to the toll authority workers? Most concessionaires will likely want the freedom to hire their own workers. Former employees of the state toll authority will have advantages in getting hired—their experience. But there will usually be no guarantees they won't lose their jobs. It has to be said that manual toll collection—the major job category on toll roads—looks like a dying occupation regardless of ownership. Manual toll booths are being replaced by electronic toll lanes every week, and toll collector staffs are declining steadily. Use of cash is declining in all industries as people make payments more and more by credit cards and bank cards. Most supermarket and gasoline sales are now by card. Fast foods are one of the last bastions of cash but by the end of 2005 most McDonalds will be accepting cards. Transit and parking are using cards. Insurance, telephone, water, and electric utilities are increasingly paid via Web accounts. Toll roads could not stand against this trend away from cash.

Still if a state wanted to protect the jobs of toll authority workers it could make this a condition of a concession—appreciating that conditions considered onerous will reduce the value of bids from investors. Or the state could pledge some of the proceeds of the privatization to a fund to help displaced workers.

L. Renegotiation

Can the terms of the toll concession contract be renegotiated? Most toll concessions recognize the need for flexibility to renegotiate the contract during its term. However such provisions usually contain the proviso that the changes in the contract must not adversely affect either party. In other words renegotiation cannot be used by the state to squeeze the concessionaire, or by the concessionaire to squeeze the state. So, for example, if the state wants a new interchange added to connect the toll road to a new development, under renegotiation terms the concessionaire must make a good faith effort to satisfy the state request. If the interchange does not add toll revenue sufficient to justify the concessionaire paying for it, then some cost-sharing arrangement must be worked out, such that the state only pays that portion of the cost not recovered by the concessionaire.

Part 7

Conclusions

Technology, government finances, and the difficulties of government ownership are all converging to make it sensible to consider privatization of state-owned toll authorities. Government ownership carries with it the burdens of political control and the paraphernalia of state bureaucracy that too often stymie good management of toll roads. Tax financing of roads is in trouble because so much fuel tax has been diverted to other purposes that the public won't support higher taxes. They don't think they get value for their money. The yield of fuel taxes becomes increasingly problematic as we move to hybrid propulsion and other fuel-efficient engines. The poor are the last to buy smart new fuel-efficient vehicles so reliance on fuel taxes becomes increasingly inequitable.

Tolls offer the opportunity not only to finance roads but to manage traffic. The 91 Express Lanes project in California demonstrates every day the value of differentiating the price for road space relative to demand, so as to maintain free-flow conditions. Motorists will pay high toll rates for the opportunity to buy a smooth, uncongested ride and a predictable, quick journey. Designing, financing, operating, marketing, and managing such modern toll facilities, however, is an entrepreneurial activity which can best be done by management with access to risk capital and the flexibility that is associated with business organizations.

Today's technology makes it practical to price expensive-to-build highway facilities in a businesslike manner with close attention to tailoring services to different motorist needs. State toll authorities were mostly formed to finance and build toll roads at a time when toll collection was cumbersome and a last resort. Some have embraced the new technology with enthusiasm but its full potential may only be realized if they are given some of the freedoms to manage themselves in ways most easily accommodated in the private sector.

The private sector can access all the capital markets and bring equity capital to a toll road business. Some investor groups have successfully made local initial public offerings, giving local people a sense of ownership they can never have with a state toll authority. Pension funds and insurance companies looking for long-term investments with some upside potential are an obvious source of capital. Construction companies will be especially attracted to toll facilities with major capacity expansion or reconstruction needed. Some of the most interesting private sector companies want to provide initial design and construction services and also follow-up maintenance and operations—full lifecycle management. They are obvious investors.

The essence of privatization is that the business of the toll road be investor-owned with the rewards of profit and capital gain for winners, and losses the result for losers. And they must be free to run the business within prescribed guidelines. With those core elements many different conditions may be laid down. Toll facilities can be fully owned by investors in perpetuity like the Ambassador Bridge and Detroit-Windsor Tunnel, and

without any government controls. It can work. Both those privately owned facilities work so smoothly most people don't even know they are investor-owned.

More commonly governments will choose to retain title to the toll road property and to concession or lease out the business under a toll concession contract. That contract can lay down whatever conditions the government considers to be in the public interest. The conditions will be a matter of judgment by elected officials. They can get conditions "priced" by bidders and make explicit the tradeoffs involved.

State toll authorities own very valuable business property. New highways are extremely difficult and expensive to build so an established road in a busy urban area or a turnpike on a heavily trafficked interurban corridor will often command higher toll rates than have been set by the political processes of state authorities.

The new toll collection technologies allow costs to be greatly reduced and service improved, again adding value to toll roads. Cash toll collection on the road seems destined to become very small if it doesn't disappear completely, so toll roads need new capital to rebuild and install the new technology. Their relationship with customers is quite different now that there are accounts to be established and managed rather than anonymous motorists depositing coins in a basket or handing a bill to a person in a toll booth. No longer will toll roads provide a comfortable home for hundreds of political cronies to do undemanding and secure jobs.

Governments will want to get maximum value for taxpayers and best value for motorists. They will look at privatization first of all because they currently get small returns on the capital invested, and can usually strengthen their budgets by realizing the value of the state toll business and retiring debt. Second, they should look at privatization as a means of shifting business risk to investors who can bear it better than taxpayers. Third, the toll roads can tap equity capital, increasing their financial soundness. Fourth, governments can reduce the politicization of a business enterprise that is inherent in state ownership. And fifth, because tolling is a rapidly changing business with new opportunities, it will be best managed as a business within a contractual framework.

Appendix A

Historical Background: Public and Private Toll Roads

Development of toll roads by the private sector has a long history. The first recorded crossing over the River Thames, known as Old London Bridge, opened in 1209 and was built under a toll concession granted by King Henry II to Peter of Colechurch.⁷⁶ Peter was an officer of the Church of St. Mary Colechurch nearby. What would be dubbed today a public-private partnership existed between the King and this particular church to finance and build the bridge in return for the right to collect tolls on it—from pedestrians as well as riders. This solidly constructed 20-span bridge also became the source of significant non-toll revenues, with many stores and residences built atop it. The bridge sponsored jousts and entertainment. It also collected fees from fishermen who used it.

Toll concessions became a common method of getting roads and bridges built from medieval times onward in Europe and beyond. In the United States there were thousands of toll or turnpike concessions in the early days of the republic. Daniel B. Klein and John Majewski, the premier historians of American toll roads, have estimated that between 2,500 and 3,200 companies financed, built and operated between 30,000 and 52,000 miles of U.S. toll roads during the 19th century.⁷⁷ In New York State it was reported that the most common joint stock companies in the 1830s were toll roads.

A. Private U.S. Toll Roads

Private sponsorship of toll roads has occurred on a limited scale in the United States in the automobile era. The very first American toll road designed specifically for motor vehicles—the Long Island Motor Parkway (LIMP)—was private.⁷⁸ Opened in stages between 1907 and 1911, it ran 48 miles from Flushing Queens to Islip in the center of Long Island. It operated as a toll road until 1938 when the company went broke and its assets were ceded to the county governments in a tax settlement. Parts were incorporated into the state's Northern State Parkway. The major sponsor was William K. Vanderbilt II (1878-1944), great grandson of the railroad tycoon “Commodore” Cornelius Vanderbilt. “Willie K” and friends formed the Long Island Motor Parkway Corporation and sold \$6 million in stock and bonds to buy right of way and build what was America's first modern motorway and toll road. Although it had only two lanes (undivided), it was fully access-controlled, grade-separated, and built entirely of concrete pavement. It was often closed to normal traffic on a weekend for car racing, of which Vanderbilt was an early enthusiast and promoter. Most of the time it functioned as a toll road and collected tolls at 12 architecturally celebrated tollhouses.

Vanderbilt's motor parkway set the standard for the better known publicly sponsored parkways—initially tolled—that followed elsewhere in Queens, on Long Island, in Westchester and Putnam Counties, New York and in Connecticut and the Washington D.C. area.⁷⁹ These include the Bronx River Parkway and upwards of 20 parkways built under government authority sponsorship in the era of Robert Moses.

In the 1920s banker Joseph A. Bower sponsored construction of a toll bridge across the Detroit River between Detroit and Windsor (Ontario). Breaking ground in May 1927 the 4-lane suspension bridge opened in November 1929, at which time it was the longest suspension bridge in the world.⁸⁰ Known now as the Ambassador Bridge, it has been in continuous private ownership and constitutes the busiest trucking route between Canada and the United States. It takes in tolls from about 9,000 trucks and 18,000 cars per day. A single operation with single ownership, it is held through two private companies, the Detroit International Bridge Company owning the property under U.S. jurisdiction and the Canadian Transit Company the portion of the bridge located in Canada. The parallel Detroit-Windsor Tunnel has also always been in private ownership.

B. Origins of State Toll Authorities

A small number of today's toll bridges were built by private investors under long-term franchises, and most of those—for example on the upper Hudson and Delaware Rivers of the northeast—were taken over by the now-familiar state or bi-state or county agencies.⁸¹ Private ownership got a bad name in the Tammany Hall era in New York City when crooked politicians and businessmen used it to enrich themselves with taxpayer money. Most notorious was the New York Bridge Company, which got a state charter in April 1867 to build a bridge over the East River to link Brooklyn and New York, now known as the Brooklyn Bridge. Under its charter this grand toll bridge was supposed to be jointly financed by investors and the cities of New York and Brooklyn, but the company books were finagled so that city taxpayers put up all the capital while the investors actually put up nothing, while using their control of the company to steer non-competed contracts to their cronies. The racketeering of William “Boss” Tweed and others in connection with the Brooklyn Bridge and other major public works was one of the great newspaper and political dramas of the era.⁸² Once the abuses of this early “public private partnership” were exposed by the press and an official investigation had documented the abuses, the private bridge charter was revoked by the New York legislature in May 1875 and the corrupt bridge company dissolved.⁸³ What started as a private venture was opened as a state-controlled bridge.

The Brooklyn Bridge saga helped spawn a “good government” movement that pushed for the creation of state bridge and toll road authorities run by supposedly independent boards and staffed by impartial civil servants in the public interest, free of both political and corporate influence.⁸⁴ Robert Moses, the legendary New York official, founded and ran the Triboro Bridge and Tunnel Authority,⁸⁵ which to this day is America's largest toll authority as measured by toll revenue. Moses's large-scale building accomplishments between 1925 and 1965 through various state authorities financed by borrowing made it a model for the Golden Gate Bridge and other major new bridges on the Hudson, Delaware, Detroit, Rio Grande and other rivers. The state authority model pioneered by Moses was also adopted for the Pennsylvania Turnpike in the late 1930s and the many other turnpike and toll authorities that followed in the 1940s and 1950s.

It was always a utopian notion that perfectly selfless and independent persons could be appointed by governments to direct these authorities or that they would have some special insight into what constitutes “the public interest.” The independence of the authorities soon resulted in their being unaccountable and a

power unto themselves. To many critics they were seen as self-serving, self-perpetuating institutions, and this is today a very powerful source of public antagonism to toll agencies. Robert Moses himself ran into increasing opposition as his career proceeded, accused of authoritarian methods and insufficient concern for property rights. Most of the authorities have lost their initial independence. Some have been abolished as separate institutions and folded into the state department of transportation.⁸⁶ Others have been brought under increasingly close control by governors. In some cases the governor has veto power over major decisions, while in almost all it is accepted that the board of directors and senior staff change with governor.

Appendix B

The Global Toll Roads Industry

What if a governor put a state toll road on the market? Would there be well-qualified bidders, and actual competition to make the acquisition? Over the last three decades a global investor-owned toll industry has developed. Until the Chicago Skyway offering, all the action was overseas so there was little incentive for overseas companies to pay attention to the U.S. market. A number of U.S. engineering and construction firms have gotten into development of toll roads and HOT lanes projects in the past 15 years, and they would be logical partners for global companies that have actual ownership and operating experience in the toll road business. Among these U.S. firms are Bechtel, Fluor, Kiewit, Parsons Corp., Parsons Brinckerhoff, Shirley Construction, Washington Group International, and Zachry Construction.

But thus far only overseas companies have serious, hands-on experience as owner-operators of toll roads. Thumbnail sketches of the global firms prominent in developing, owning, and operating toll roads will give an idea of the potential international bidders available.

- **Abertis:** Headquartered in Barcelona, Spain, Abertis comprises some 60 companies which own, manage and operate toll roads, car parks, warehouses, airports and telecom backbone. It was created in 2003 via the merger of three longstanding Spanish toll companies Acesa Infraestructuras, Aurea Concesiones de Infraestructuras, and Iberpistas. Abertis has a stock market capitalization \$10.4 billion, 6,000 employees, and, 10,000 shareholders. It manages 915 miles of toll road and 90,000 parking spaces, the majority in Spain. It also has toll road interests in Latin America and was an unsuccessful bidder for the Chicago Skyway. Toll revenues are about \$1.5 billion per year. (see www.abertis.com)
- **ACS:** By absorbing Dragados in October 2003, ACS became one of the largest European infrastructure development groups with a toll road portfolio. In 2003 it had overall sales of \$14 billion, profits of \$650 million and 33,000 employees. Market capitalization at the end of 2004 was \$7.7 billion. ACS owns gas pipelines, electric power plants and lines, telecommunications, water systems, landfills, and toll roads. It has interests in toll roads in Spain, the United Kingdom, Ireland, Argentina, Chile, and South Africa. (see www.grupoacs.com)
- **Autostrade:** Italy's largest toll motorway operator is also the largest in Europe. Autostrade has 2,080 miles of tollways, about half of Italy's national motorway network. As a state enterprise it built the first motorways in Italy in 1925 and the longest: the A1 from Milan to Naples. It has major shares in other toll companies. It collects 4 million tolls each day and its annual revenues are \$3.2 billion. Its international activities include a share in the Dulles Greenway in Virginia (which it subsequently sold but continues as contract operator) and M6 Toll in Birmingham, United Kingdom. Autostrade designed

and now operates the GoMaut open road electronic tolling system for trucks operating on the entire 1,240-mile motorway system of Austria. It was a pioneer in electronic tolling and operates Telepass, a nationwide system in Italy, both on its own motorways and on those of the other dozen toll companies of that country. It is actively seeking and securing new toll concessions including toll beltways, and has a \$12.6 billion program focused heavily on widening and modernizing its older motorways. This includes construction of some of the largest tunnels in the world through the Appennine Mountains between Bologne and Florence. Autostrade was privatized, with most of the switch to investor ownership occurring in 1999.

(see www.autostrade.it)

- **BRISA:** Portugal's largest toll company has 610 miles of toll road in operation, including the backbone north-south A2 and the main east-west Lisbon-Spain A6, belt routes around the Lisbon metro area and some east-west spurs. With a market capitalization of \$4 billion, it is the fifth-largest listed company in Portugal. It claims a 48 percent share of motorway revenue in the country. Revenues are \$610 million. BRISA has a 17 percent stake in CCR, the largest toll operator in Brazil. Its S&P rating is A+, Moody's A3. BRISA was founded in 1972 as a state toll authority. It was set up as a corporation with all its shares held by IPE, a state-owned holding company. It was privatized in stages between 1997 and 2001 with majority investor ownership achieved in 1998. It has undergone major reorganization since then. (see www.brisa.pt)
- **CINTRA:** The name is a Spanish acronym for concessions in transport infrastructure. A creation of the Ferrovial construction group headquartered in Madrid, CINTRA was for a short while jointly owned by Ferrovial and Macquarie. In June 2004 CINTRA was spun off as a public company on the Madrid stock exchange with an initial public offering of \$2 billion, although Ferrovial retains a majority stake. Ferrovial is one of Europe's largest construction groups with capitalization of \$7.8 billion and 45,000 employees. CINTRA's largest toll road investment is its interest in 407 ETR in Toronto Canada. It is also the lead partner in the Chicago Skyway concession and in the Trans Texas Corridor 35 (TTC-35) project (CINTRA has 85 percent and Texas construction firm Zachry has 15 percent of a 50-year concession to develop and operate up to 800 miles of north-south road, rail and possibly utilities between the lower Rio Grande (McAllen) and the Oklahoma state line—a relief road for I-35). The potentially \$30 billion project will be built in many stages. The contract with Texas DOT gives the CINTRA group the preferential right to develop five sections of toll road totaling 315 miles and estimated to cost \$5.96 billion. These will extend the SH-130 toll road in the Austin area northward to and around Dallas and south to San Antonio. CINTRA is studying toll road concession projects mainly in Europe (Portugal, Ireland, Greece, Italy and Poland) and the United States. Ferrovial has 35 years' experience in the infrastructure market since it obtained the Bilbao-Behobia toll road concession through a consortium in 1968. Through CINTRA it has \$2.4 billion euros in 16 toll roads covering about 1,000 miles in Spain, Portugal, Ireland, Chile and Canada. It also owns 13 airports under concessions (in Australia, the United Kingdom, Mexico and Chile), and over 180,000 parking spaces (most in Spain). (see www.ferrovial.com)
- **Cofiroute:** This is a fully investor-owned toll road company in France. Founded in 1970 by a group of construction companies and banks, it operates 577 miles of toll motorway, about one-eighth the French toll road network. It is now a subsidiary of the Vinci group of companies, which are heavily involved worldwide in construction and management of buildings. Cofiroute developed the A10 and A11 motorways to the west and southwest of Paris. It has since added the A71, A81, A85 and A28. It was a pioneer in developing a radio service dedicated to motorists (Autoroute FM.) Its most ambitious and

novel project is the A86 West, the missing link in an outer beltway around the Paris region. Almost entirely in deep-mined tunnel, this project is the largest public works project currently under construction in Europe. The full \$2.2 billion cost of the project is being borne by Cofiroute shareholders in return for the 70-year tolling concession. Cofiroute was a partner in the 91 Express Lanes in California and its U.S. subsidiary now operates the Express Lanes for Orange County. It is a partner with DaimlerChrysler and Deutsche Telekom in the Toll Collect GPS-based truck toll system operating on 7,460 miles of German motorway. It owns Britain's largest toll concession, the M25 Thames Crossing east of London at Dartford, consisting of two tunnels and a high-level bridge. The group owns one of Chile's largest toll roads, the 100-mile long Chillian-Collipulli motorway. It has smaller toll operations in Brazil, Benin, Mexico, South Africa, Greece, Ireland, Norway and Russia. With 2,000 employees worldwide the company last year earned revenues of \$1.08 billion. (see www.cofiroute.fr)

- **Macquarie:** The Macquarie Group, with 6,000 employees spread over 23 countries, is a product of the 1980s' financial deregulation in Australia, which allowed investment banks to thrive. Founded in 1992 it is heavily involved in developing, financing, and owning properties of all kinds. Most of its toll properties are held by Macquarie Infrastructure Group (MIG), which reports assets worth \$9.5 billion and liabilities of \$4.7 billion for net stockholder interest of \$4.8 billion.⁸⁷ Market capitalization is \$5.5 billion. Its biggest single holdings are a majority interest and rights to purchase the whole of Midland Expressway Ltd., operator of the M6 Toll, Britain's first toll road in the automobile era (opened in December 2003,) and a 45 percent interest in 407ETR in Toronto Canada. It holds major interests in six private toll roads in the metro areas of Sydney and Melbourne Australia, two toll bridges in Lisbon, Portugal, two toll roads in Spain, and a toll tunnel in Germany.⁸⁸ MIG owns San Diego Expressway Partnership, which is building the only private toll road currently in construction in the United States: the California SR 125 South. It has a 30 percent interest in the Chicago Skyway Concession Company. In December 2004 Macquarie launched Macquarie Infrastructure Company registered in the United States and trading on the New York Stock Exchange. MIC is investing in airport services, district energy, water, telecommunications and motorways. It has a 50 percent interest in Connect M1-A1 Ltd, a 19-mile shadow toll operation on the south side of Leeds, England.

The Macquarie Group is unusual in the degree to which it engages the local investing public by public share offerings in local subsidiaries and by establishing trusts. This is helpful in providing large injections of patient equity capital when borrowing would make a project financially fragile. Its most common mode is to partner with a local company, though it has several wholly owned toll properties. The company is named after Lachlan Macquarie a British governor in the early 19th century who is regarded as something of cross between George Washington and Alexander Hamilton for his encouragement of nationalism and economic development in what was previously just a convict settlement.

(see www.macquarie.com.au/mig/index.html)

- **Sacyr Vallehermoso:** Known as SyV, this major Spanish construction company has an active concessions division. This division operates toll roads in Spain (682 miles), Chile (360 miles), Portugal (146 miles) and Brazil (421 miles) for a total of 1,609 miles. Toll revenues in 2004 were \$420 million. It recently acquired a major share in the 37-mile San Jose-San Ramon toll road project in Costa Rica. SyV acquired three toll roads and a major share in two others from the government of Spain in 2003 when that government divested itself of ENA, the major state toll company. The group itself is the result of the merger of an old housebuilding firm Vallehermoso with Sacyr, which has specialized in heavy

construction. The company says: “The Group intends to continue to grow in infrastructure concessions both in Spain and abroad, moving into new markets such as Greece, Ireland, Mexico and Italy, besides taking part in the coming tenders in Spain.”

(see www.gruposyv.com)

Table: Major Global Toll Road Players		
Company	Market Capitalization*	Miles of Toll Road**
Abertis	\$10.4 billion	915
ACS	\$ 7.7 billion	See note***
Autostrade	\$10.4 billion	2,080
BRISA	\$ 4.0 billion	610
CINTRA	\$ 2.0 billion	1,000
Cofiroute	\$ 1.5 billion	577
Macquarie	\$ 5.5 billion	930
SyV	\$ 4.3 billion	1,609

*Market capitalization is for the most recent available year and is for the whole company. In some cases, toll road activity is a small part of the total while in others it is the major or total business activity. Euros are converted to U.S. dollars at \$1.30 = E1, and Australian dollars at A\$ = \$0.80.

**Many private toll roads have multiple owners. The list presented here is the miles of toll road in which the company reports some share of ownership; hence, there is some degree of double-counting.

***ACS does not break out mileage numbers, but reports that it has “more than 50 toll concessions.”

Other International Players

The table lists the major global players in the investor-owned toll roads industry, with a few summary statistics. In addition to these very large firms, a number of other international firms are potentially interested in the U.S. toll road market. Among them are the following:

- [CHIC](#) is the Canadian Highway Infrastructure Corporation, jointly owned by Aecon Group (Canada) and Hochtief (Germany). CHIC built the Toronto 407 ETR, the Cobequid Pass toll road (Nova Scotia) as design-build projects, and went on to develop the Trans Israel Highway on a long-term concession basis. (see www.chichwys.com).
- [Hopewell Holdings Ltd.](#) is a Hong Kong company that has developed several major toll road concession projects in booming Guangdong province in China (the Pearl River delta area). Despite having a bad experience with a failed concession project in Thailand, HHL continues to explore toll projects outside China. Founder Gordon Wu is a Princeton graduate whose toll road interest was sparked by the New Jersey Turnpike.
- [John Laing, plc.](#) is the largest British infrastructure firm, which develops, operates, and owns a wide variety of public facilities under long-term contracts. In the 1970s it built Spain’s first investor-owned toll road, and in the 1980s did the Second Severn Crossing between England and Wales. Its division, Laing Roads, is involved with toll road concessions in Finland, Germany, Hungary, Ireland, Norway, and Poland.

- [Skanska](#) is Sweden's largest publicly traded construction company. Its Skanska BOT division is the developer (with ACS) of a major concessioned toll road project in Santiago, Chile. It is active in toll road ventures in the United Kingdom and the United States. (see www.skanska.com)
- [Transurban](#) is the developer of Australia's Melbourne CityLink and has a major interest in the Westlink M7 toll road under development in Sydney and the F-M-F toll project in Melbourne. It has teamed with U.S. companies on several recent toll road proposals in this country. (see www.transurban.com.au)

About the Authors

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Peter Samuel received his B.Comm. (Honors) majoring in economics from the University of Melbourne, Australia, where he also studied city planning. He taught economics at Monash University, then moved into journalism with the *Canberra Times* and later the newsweekly, *The Bulletin*. Based in the United States since 1980, he founded and edited *Toll Roads Newsletter*, now replaced by the comprehensive Web site, www.tollroadsnews.com. He has been a contributing editor to *World Highways* and *Intelligent Transportation Systems International*.

Related Reason Foundation Studies

Robert W. Poole, Jr., Peter Samuel, and Brian F. Chase, *Building for the Future: Easing California's Transportation Crisis with Tolls and Public-Private Partnerships*, Policy Study No. 324, January 2005.

Robert W. Poole, Jr., and Peter Samuel, *Corridors for Toll Truckways: Suggested Locations for Pilot Projects*, Policy Study No. 316, February 2004.

Robert W. Poole, Jr. and C. Kenneth Orski, *HOT Networks: A New Plan for Congestion Relief and Better Transit*, Policy Study No. 305, February 2003.

Peter Samuel, Robert W. Poole, Jr., and Jose Holguin-Veras, *Toll Truckways: A New Path Toward Safer and More Efficient Freight Transportation*, Policy Study No. 294, June 2002.

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Peter Samuel, *Putting Customers in the Driver's Seat: The Case for Tolls*, Policy Study No. 274, November 2000.

Peter Samuel, *How to "Build Our Way Out of Congestion": Innovative Approaches to Expanding Urban Highway Capacity*, Policy Study No. 250, January 1999.

Endnotes

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- ¹ Press conference December 31, 2004. See “FOR SALE: Indiana Toll Road May Be Sold—New Governor” *tollroadsnews*, 2005-01-01, <http://www.tollroadsnews.com/cgi-bin/a.cgi/oPhdqFyNEdmcEIJ61nsxIA>
 - ² “State looks at leasing Turnpike” *The Star-Ledger*, January 23, 2005.
 - ³ “2005-06 New York State Executive Budget Overview” page 29, <http://publications.budget.state.ny.us/executive.html>.
 - ⁴ Annual reports and financial statements of the MTA Bridges and Tunnels, New York State Thruway, New York State Bridge Authority, New Jersey Turnpike, South Jersey Transportation Authority, and the Port Authority New York New Jersey Tunnels, Bridges and Terminals Division. The Port Authority operates toll bridges and tunnels that link the two states and these numbers split the toll revenues of the PANYNJ equally between them.
 - ⁵ The term “public-private partnership” (PPP) is now in very common use. This author doesn’t like the term, and tries to avoid it because partners work together in the one enterprise on a day-by-day basis with shared accounts, and shared staff. A partnership is a single operation. PPPs are never partnerships in that sense. If the term is meant to signify a situation with separate organizations with clearly defined roles that work together collaboratively, then that relationship is best covered by the term “contract.” In a loose sense, perhaps the term “partnership” is just meant to indicate groups working harmoniously together. But a number of toll concessions function well enough even with a highly adversarial relationship, which it is strange to term a partnership. The concessionaire’s relationship with the provincial government on 407 ETR in Toronto is such a situation.
 - ⁶ See www.91expresslanes.com
 - ⁷ “Statement of Gov. Rick Perry on the Texas Transportation Corridor,” Dec. 16, 2004 (www.governor.state.tx.us/divisions/press/pressreleases/PressRelease.2004-12-16.5115)
 - ⁸ About two miles at the eastern end was built but not opened for nine months because of arguments over connections to local streets.
 - ⁹ From annual filings with SEDAR, the Canadian securities commission.
 - ¹⁰ The concession or sale agreement is available for download at http://www.407etr.com/investors/sale_agreement.asp. The provisions for congestion payments are detailed in Schedule 22.
 - ¹¹ See www.autostrade.it
 - ¹² Full company name is Brisa Auto-estradas de Portugal. See www.brisa.pt
 - ¹³ ASF stands for Autoroutes du Sud de la France or Motorways of the South of France, see www.asf.fr
 - ¹⁴ Owen told the author in a telephone conversation in the late 1990s that in his long career as a transport policy analyst, having gained a Harvard prize for an article on highway economics in 1934, he almost never traced anything that any government did to any advice he gave. The striking exception was his

advice on Japanese toll roads, given during a visit to Japan as a policy consultant in the early 1950s. No one else had any ideas, he said, and Japanese officials embraced his proposal with enthusiasm. American and international officials did too. In the United States at the time several states had established state toll authorities that were successfully building toll roads by issuing toll revenue bonds, so the proposal to emulate that in Japan was something of a no-brainer, Owen suggested. Japan at the time needed to refocus its industry from manufacturing war equipment to consumer goods. Dispersed manufacturing plants needed a speedy truck network to bring parts together for assembly and move them to ports for export. The rail network served to move people, and heavy raw materials, he said, but Japan needed to move light trucks to support its manufacturing and get goods to and from ports. The crowded surface streets trapped trucks at pedestrian speeds, he said, and rail wasn't suitable. They needed basic elevated expressways for trucks, and tolls to pay for them. Fuel taxes were not a useful source of road financing revenue because there were so few motor vehicles.

¹⁵ From Japan Highway Public Corporation, Annual Report 2004, data as of March 31, 2004.

¹⁶ We are rounding the numbers from 100Y=\$1 but changes in exchange rates make comparisons over time troublesome.

¹⁷ One senior financial officer was arrested on extortion charges and another hanged himself after a kickbacks scheme was revealed relating to JHPC's bond issuing business. See *Toll Roads Newsletter* #24, February 1998.

¹⁸ He managed to show that telephones could have been gotten for one-sixth the cost.

¹⁹ A poll with a sample of 6,100 drivers conducted by Japan Management Association Research Institute, as reported in *Mainichi Shimbun* August 4, 2002.

²⁰ PreliminaryBudgetTab#36F225.pdf from city of Chicago Web site (www.cityofchicago.org).

²¹ "City of Chicago Releases 2005 Preliminary Budget," Press Release July 30, 2004 (www.cityofchicago.org).

²² Lisa Schrader, Office of Finance, city of Chicago telephone 05/19/2005.

²³ Press release, Mayor's Office, October 15 2004 (www.cityofchicago.org).

²⁴ "City of Chicago, Illinois Skyway Basic Financial Statements for the years ended December 31 2002 and 2001," DeLoitte & Touche, page 5.

²⁵ Chicago's Budget 2005 (www.cityofchicago.org)

²⁶ "Cintra-Macquarie made only viable bid for Chicago Skyway – City" www.tollroadsnews.com, 2005.03.01

²⁷ 2000 U.S. Census data from <http://quickfacts.census.gov/qfd/> and click on county.

²⁸ "Connections 2030," the long term transportation plan, Northwest Indiana Regional Planning Commission www.nirpc.org

²⁹ Northeast Illinois Planning Commission, "2030 Forecasts of Population Households and Employment," www.nipl.org

³⁰ Major capacity enhancement is under way on the Dan Ryan (I-94, north of the Skyway co-signed I-90), Borman (I-80/90) and Kingery (I-80/90) expressways and is about to begin on the Tristate Tollway (I-294, I-80). That leaves the Bishop Ford Expressway (I-94) as the only link in the free expressway chain not yet planned for added capacity.

³¹ As a fully bond-financed facility owned by the city, the Skyway defaulted on its bonds in 1963, a year after the Dan Ryan/Bishop For/Kingery expressway link was completed and remained in default until the mid-1990s. With a large equity element in its financing now, lenders will be better protected.

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- ³² Addition of lanes to the Borman, Kingery and Dan Ryan expressways is under way and the wider free roadway will open in the period 2007 to 2009. That will leave an 11-mile stretch of the Bishop Ford Expressway (I-94) at its existing 2x3 lanes. With daily traffic already in the 125,000 to 155,000 range, this will be something of a bottleneck, and a help to the Skyway, until it gets an extra lane.
- ³³ Capacity of the Skyway and the free expressways at present is 12 lanes x 25,000 AADT or 300,000. With 2 extra lanes plus interchange improvements, the free expressways should be able to carry 200,000 or 33 percent more before the Skyway benefits from spillover. That will occur when total traffic grows from the present 200,000 beyond 250,000, or 25 percent.
- ³⁴ “Blue Ribbon Commission Report: Recommendations for Ensuring a Strong Transportation Network for the 21st Century.” A Report to Governor James E. McGreevey and the New Jersey Legislature, November 2003.
- ³⁵ Ibid, p. 2.
- ³⁶ Ibid, p.4.
- ³⁷ Randall R. Bovbjerg, *State Responses to Budget Crises in 2004: New Jersey* (Washington, D.C., Urban Institute, February 2004), page 1.
- ³⁸ “Blue Ribbon Commission Report,” page 39.
- ³⁹ “Analysis of the New Jersey Budget: Department of Transportation and Motor Vehicle Commission Fiscal Year 2004-2005.” Office of Legislative Services, New Jersey Legislature, April 2004, page 4.
- ⁴⁰ “Background Paper: Transportation Trust Fund Authority” Office of Legislative Services, New Jersey Legislature, pages 19 to 24.
- ⁴¹ The toll authorities controlling New Jersey’s half-share toll facilities are: Port Authority of New York New Jersey half-owned with New York and operator of the Hudson River and NJ-Staten Island crossings that connect to New York City, the Delaware River Joint Toll Bridge Commission, which operates the toll bridges from Trenton upstream on the white water segment of the Delaware River, and the Delaware River Port Authority, which operates four major Philadelphia area bridges jointly owned with Pennsylvania, and the Delaware River Bay Authority jointly owned with Delaware, which operates the twin suspension span Delaware Memorial Bridge.
- ⁴² These estimates are based on the latest annual report, the 2003-year report, of the New Jersey Turnpike Authority. On July 9th of the year in question the NJTA took charge of the Garden State Parkway, so it is necessary to project nearly twice the GSP numbers to get full year equivalent data.
- ⁴³ $(\$1100m/\$43m) \times \$750m = 19,186m$.
- ⁴⁴ New Jersey Turnpike Authority, First Consolidated Toll Road Annual Report 2003.
- ⁴⁵ Numbers for 2004 from “New York State Thruway financial requirements and proposed toll adjustments 2005-2010” prepared for New York State Thruway by Vollmer Associates, December 2004.
- ⁴⁶ The Thruway has 3120 full time equivalent employees consisting of 2750 fulltimers and part-timers equivalent to another 370, according to an email to the author from the Thruway media relations department 4/18/2005.
- ⁴⁷ Debt outstanding as reported for end-2003 in the latest published annual report.
- ⁴⁸ The present Tappan Zee Bridge is seven tight lanes with a moveable barrier for 4 lanes in the peak direction. The bridge is three miles long but the deck has no breakdown lane at all, so incidents are hugely disruptive. Its approaches at each end are sharply curved slowing traffic and reducing capacity. The bridge has heavy truck traffic, some going between New Jersey and New England, avoiding the congestion on the Cross Bronx Expressway in New York City. See www.tbzsite.com

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- ⁴⁹ Powerpoint presentation by general manager Greg Hulsizer at toll industry's IBTTA annual meeting in Paris 2003.
- ⁵⁰ OCTA Annual Report 2004, p7.
- ⁵¹ Email to the author February 24, 2005.
- ⁵² Formal name is Transportation Corridors Agencies.
- ⁵³ A few examples of recent toll increases: Golden Gate Bridge increased their tolls 67% (\$3 to \$5 for cars) September 2002, Illinois Tollway doubled its tolls for cars January 2005, Mackinac Bridge MI increased tolls 67% (\$1.50 to \$2.50) May 2003, Ohio Turnpike increased tolls 82% 1995-1998, Pennsylvania Turnpike increased tolls 44% (from 4.1c/mile to 5.9c/mile) August 2004, New York State Thruway increasing tolls 25% for cars and 35% for trucks May 2005. Source: Toll Roads Newsletter and TOLLROADSnews.com.
- ⁵⁴ Diversion has been a huge issue for the Ohio Turnpike following its near doubling of toll rates in the late 1990s. It was also a big issue at the New Jersey Turnpike after a March 1991 increase in tolls of 70 percent for cars and about 100 percent for trucks. There was a big increase in truck traffic particularly on parallel US-1. Traffic did not recover its 1990 level until 1997. Diversion is obviously much more of an issue where there is a major parallel route. It is not an issue where any parallel routes are grossly inferior in average speed. In the case of the Ohio Turnpike diversion was also encouraged by upgrades to expressway standard of long stretches of the parallel free routes, notably OH2 along the Lake Erie shore and of US20 a few miles to the south of the Turnpike.
- ⁵⁵ See under "Responsibilities" at <http://bata.mtc.ca.gov/about.htm>
- ⁵⁶ Extracts from "They've got a friend in Pennsylvania" by Brad Bumstead, *Pittsburgh Tribune-Review*, January 3 2005: "Jim Dodaro left a legacy at the Pennsylvania Turnpike Commission. A long line of people, including his son, owe their jobs to Dodaro, who stepped down last year after 20 years on the commission. Dodaro, who was paid \$28,000 a year as one of five appointed turnpike commissioners, says he helped friends, relatives, politicians, neighbors, 'people in need.' The White Oak lawyer says he helped '30 or 40 people' get jobs at the turnpike. At the turnpike, patronage is almost as routine a practice as handing out tickets at a tollbooth. It ranges from hiring groundskeepers to more lucrative pinstripe patronage of selecting politically connected lawyers to oversee financial matters. 'It's a patronage pit,' said John Hanger, chief executive of PennFuture, a group opposing the turnpike's plans for the Mon-Fayette Expressway. Take Robert Boyle, a groundskeeper in the turnpike's western regional office who is paid \$39,332 a year. Boyle also cuts Dodaro's grass. 'Hell, yeah, I helped him,' Dodaro said. 'I'm proud of it. I've helped a lot of people. I'm very proud of it.' Dodaro says he helped political allies. In some cases, he says, he helped people down on their luck. As a commissioner, Dodaro also helped his son, Daniel, get a job as an operations auditor. Hired in 2003, he's paid \$55,795. Dodaro said the hiring of his son was an isolated instance of nepotism. He later said he helped only one other relative get a job—a cousin - about 10 years ago. 'I own up to it,' Dodaro said of helping his son. 'To the extent I can legally and ethically help him, I'll do it, providing he's qualified. Then it's his responsibility to work to the best of his ability...'
- ⁵⁷ A roster of pinstripe patronage would include the name of Michael Palermo, a friend of state Democratic Sen. Vincent Fumo, of Philadelphia. Palermo is paid \$120,000 a year as a turnpike consultant. He is a former turnpike associate executive director. The turnpike's \$10,000-a-month payments to Palermo's company, M&P Consulting, began in March. It was a sole source contract according to agency records. That means the turnpike didn't look anywhere else. The turnpike refused to provide any studies or progress reports that M&P Consulting has produced for its fee. Taxpayers also paid Palermo's company \$45,000 last year as a transportation consultant to Fumo and the other Democrats on the Senate Appropriations Committee, Senate records show. The state contract was not renewed, said Gary Tuma, a spokesman for Fumo. Tuma declined to comment when asked whether Fumo, the committee's senior Democrat, helped Palermo get the turnpike contract. Fumo would not answer other questions about the turnpike... The turnpike's 2,300-person payroll in some cases reads like a "who's who" of the politically

connected.” There followed a list of Turnpike employees and their political connections.

- ⁵⁷ Paul A. London, *The Competition Solution: the Bipartisan Secret behind American Prosperity* (Washington, D.C.: American Enterprise Institute, 2005).
- ⁵⁸ “Ohio Pike: Cleveland Dealer’s plain flim-flam,” *Toll Roads Newsletter* #7, September 1996 and “Ohio ‘pike ED Zomparelli fired for taking small gifts,” *Toll Roads Newsletter* #60, September 2000.
- ⁵⁹ *New York Times*, December 12, 2004.
- ⁶⁰ Triboro Bridge and Tunnel Authority is the correct legal name of America’s largest toll authority. However it is operated as a revenue generating arm of the Metropolitan Transportation Authority (MTA). The MTA is the New York state transit and toll conglomerate which operates the subways, buses and commuter rail. One of its divisions is the Triboro Bridge and Tunnel Authority known at the MTA as MTA Bridges and Tunnels.
- ⁶¹ “Central Parking gets toll collection job at Chicago Skyway—cuts costs.” www.tollroadsnews.com 01/08/2005.
- ⁶² Electronic tolling uses short range but high frequency and directional radio signals transmitted between a transponder or electronic tag attached to the windshield of the motorist’s vehicle and an antenna mounted on an overhead gantry over the roadway or in the roof canopy of a toll plaza. Those radio signals identify a prepaid toll account of the customer and debit that account, dispensing with the need for the motorist to stop to pay a collector with cash or to throw coins in a coin machine basket. Electronic tolling in the United States is still mainly conducted within toll collection plazas designed for manual collection and stopping vehicles. In that environment it is unsafe to have transponder-equipped traffic moving through at more than about 15 mph. But in new toll roads, and where toll plazas can be completely rebuilt for the era of electronic tolling, its full advantages can be gained with a central roadway in which motorists travel through at normal highway speeds. Such “open road tolling” as it is called in the industry is clearly the wave of the future. The days of cash collection as anything but a subsidiary extra option in a few places are clearly numbered.
- ⁶³ Principal MTA-Triboro Bridge and Tunnel Authority facilities are the Triboro, Bronx-Whitestone, Throgs Neck, Verrazano Narrows, and Henry Hudson Bridges and the Queens-Midtown and Brooklyn Battery Tunnels.
- ⁶⁴ Port Authority of New York New Jersey operates three Hudson River crossings—the George Washington Bridge, Lincoln Tunnel, and Holland Tunnel—and three Staten Island to New Jersey bridges. These are high volume facilities, the George Washington Bridge being the busiest bridge in the world at about 300,000 vehicles per day.
- ⁶⁵ WTEA, “A Team 4 Investigation finds other government agencies are finding ways to cut costs, but the Turnpike Commission keeps getting bigger,” Nov. 24, 2003, and “Tolls on the Pennsylvania Turnpike are going up by a sky-high 44 percent Aug. 1. With that kind of a hike, you might expect jobs at the turnpike are hard to come by. Not if you’re a relative or friend of a turnpike executive” May 25, 2004, “Toll road projects criticized for cost, lack of return” AP Jan. 2, 2005, “Expensive projects inflate tolls, gas tax,” “Turnpike Commission spends desperately needed cash,” “Well-connected firms get no-bid legal work. They’ve got a friend in Pennsylvania,” “Chairman’s expenses total \$72,000,” “Expensive projects inflate tolls, gas tax,” *Pittsburgh Tribune-Review*, Jan. 3, 2005.
- ⁶⁶ The three “pork pikes” under criticism are the Greensburg Bypass (PA66) southeast of Pittsburgh, the Beaver Valley Expressway (PA60) northwest of Pittsburgh, and the Mon-Fayette Expressway (PA43) south of Pittsburgh. The southern segment of the Mon-Fayette constructed first has quite light traffic, but the northern segment being built last has good traffic potential and deserves to be exempt from the derogatory “pork pike” term. Unlike the southern segments designed to attract development, the northern segment is located within the Pittsburgh metro area and will offer a great alternative to slow and crowded surface arterials in the southern suburbs and also relieve traffic on the tunnel-constrained Parkway East or I-367.

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- ⁶⁷ The Mon-Fayette Expressway and the Beaver Valley Expressway at least do serve rundown townships based on an obsolete iron and steel and other heavy industry.
- ⁶⁸ Peter Samuel, 102 W 3rd St #1, Frederick MD 21701, tel (1) 301 631 1148 mob (1) 240 446 9736, petersamuel@mac.com
- ⁶⁹ The New Hampshire Turnpike for example says explicitly that its toll rates have been set to recover operating cost and support debt service. See <http://www.nh.gov/dot/turnpikes/tpkmap.htm>
- ⁷⁰ The New York MTA's Triboro Bridge and Tunnel Authority operated as the Bridges and Tunnels division of MTA is the nation's largest profitmaking toll agency by a longshot. Its financial reports nowhere use the term "profit" but couch the result simply as "transfers" to other modes.
- ⁷¹ The "barrier" or point tolling occurs between Mile Post 1 at the Illinois line and MP23 in Portage, while the "ticket" or trip toll system operates from MP24 all the way east to Eastpoint at the Ohio line at MP153.
- ⁷² Maryland Transportation Authority which presently operates the bridge managed to botch resurfacing the deck of the westbound span last summer, requiring much work to be redone. This created a political furor since months of extra lane closures were needed and the cost soared. The incident cast serious doubt on the state agency's ability to manage a major construction project like a new bridge span.
- ⁷³ This account is drawn largely from materials produced for a conference on the Skyway transaction in Chicago, March 23, 2005 available at <http://www.projfinlaw.com/news/>
- ⁷⁴ All toll-free passes have their hazards. In medieval times toll roads in Europe were required to give clergy free passage, and observers saw a great increase in the number of travelers in the garb of clergy. In Kentucky during prohibition bootleggers regularly transported illicit booze inside coffins in hearses—avoiding the toll as well as the G-men because hearses had free passage.
- ⁷⁵ The present Liberal government of Ontario, for example, promised in its election campaign of 2003 to "roll back" the toll rates on 407 ETR if elected to office. In office they have discovered they don't have the legal power to do this though the issue continues to be litigated.
- ⁷⁶ Report "HOLY TOLLS: Churches in toll business on London Bridge" www.tollroadsnews.com 2003-03-10 drawing heavily on book *London Bridge: a Visual History*, Peter Jackson, Historical Publications Ltd, 1971, 2002. See www.tollroadsnews.com/cgi-bin/a.cgi/7fuAKgGkEdi3mYp62BK2NQ
- ⁷⁷ "America's Toll Roads heritage: the Achievements of Private Initiative in the 19th Century." Daniel B. Klein and John Majewski, chapter in book edited by Gabriel Roth, *Street Smart: Competition, Entrepreneurship and the Future of Roads* (New Brunswick, N.J.: Transaction Publishers).
- ⁷⁸ Willie Vanderbilt's Long Island Motor Parkway see www.tollroadsnews.com/cgi-bin/a.cgi/WwfTqpUyEdiRW6r2jfFwDw Most highway histories either ignore completely the LIMP and write as if the Bronx River Parkway was the first, when it was clearly modeled on the pre-existing Vanderbilt road. Or else they mention it briefly as a "speedway" or belittle Vanderbilt as an "indolent" heir. Speed, however, is surely something we all seek in roads along with safety, which was precisely what Vanderbilt pioneered with banked curves. The indolence charge against Vanderbilt is made by several historians but never substantiated. By his record in building and financing the parkway and the many car races he sponsored he was in fact a man of considerable creativity and energy.
- ⁷⁹ Vanderbilt's motor parkway also set a standard of landscaping and environmental sensibility in placing his road in a wide naturalistic setting slightly remote from nearby houses, a feature which was picked up by the state parkways which followed.
- ⁸⁰ Philip P. Mason, *The Ambassador Bridge* (Detroit, MI: Wayne State University Press, 1987).
- ⁸¹ An exception is the busiest crossing between the United States and Canada, the Ambassador Bridge, Detroit, Michigan to Windsor, Ontario which remains in investor ownership. The oldest operating toll

bridge between Pennsylvania and New Jersey, the 2-lane Dingman's Ferry Toll Bridge operates privately under charters of the two states issued in 1834.

- ⁸² By some accounts the line of patter "I have a bridge I want to sell you" is attributed to some of the shenanigans of people around Tweed. It also apparently derives from some lesser scams in which connen with no connection to the Tweed or the bridge company used it to claim they had bridge stock which was simply forgery.
- ⁸³ David McCullough, *The Great Bridge: the Epic Story of Building the Brooklyn Bridge* (New York, N.Y.: Simon and Schuster, 1972).
- ⁸⁴ The most prominent product of the good government movement that began in the late 19th century was Robert Moses whose state park commissions and bridge authorities built most of the parkways, expressways and toll tunnels and bridges around New York City. His career is described in rather hostile biography by Robert Caro, *The Power Broker: Robert Moses and the Fall of New York*. Random House 1974. The ethic of the good government public authority is expounded best in *Empire on the Hudson: Entrepreneurial Vision and Political Power at the Port of New York Authority*. James W. Doig, Columbia University Press, 2001.
- ⁸⁵ Strictly it was the Triboro Bridge Authority when founded but it had the "and Tunnel" added after construction of the Queens-Midtown and Brooklyn-Battery tunnels.
- ⁸⁶ Indiana, New Hampshire, Florida, Texas, and Delaware have all lost their independent toll authority and toll operations are now conducted by a toll division of the state DOT.
- ⁸⁷ Applying A\$1.00=US\$0.78 to December 2004 interim report.
- ⁸⁸ The Warnow Tunnel in the port of Dresden, Germany has seen disappointing traffic. After a year Macquarie wrote off its investment completely, valuing this asset at zero in its accounts.



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