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HOW TO ENABLE PRIVATE TOLL ROAD DEVELOPMENT

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EXECUTIVE SUMMARY

By using the private sector to finance and operate highway, bridge, and tunnel facilities, states can supplement limited public-sector resources. There are a number of possible modes of public/private partnerships, for both the creation of new facilities and the rebuilding or upgrading of existing facilities.

Public/private partnerships such as the use of private tollways offer significant economic benefits. Private capital can make up some or all of the shortfall in America's highway investment, thus resulting in improved transportation (via congestion relief and improved road quality). Thanks to provisions in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), states can now use private capital to match federal highway funds, bringing about significant additional investment. The sale or lease of some existing highway, bridge, or tunnel facilities can also provide a new source of state revenues for transportation or other purposes.

Thus far, five states and Puerto Rico have enacted private tollway legislation, and a number of others are considering doing so, especially following enactment of ISTEA's tollway public/private partnership provisions. Many leading engineering and construction firms and investment banking firms are already involved in privatized infrastructure projects, either at home or abroad.

This report addresses a number of key public policy issues involved with private tollways, including economic regulation, land acquisition, environmental reviews, labor issues, public control, and opposition to tolls. Also included are previous outlined tollway legislation and ways to avoid them. To this end, suggested model legislation which could be adapted to any state is included.

I. INTRODUCTION

One of the newest areas of state-level privatization is the provision of highway infrastructure. Beginning with Virginia's private tollway law in 1988, states have been experimenting with allowing the private sector to finance, build, and operate toll highways and bridges. This development reflects a worldwide trend toward private provision of transportation infrastructure. The most dramatic example of this trend is the \$14 billion Channel Tunnel between Britain and France, scheduled to open by the end of 1993. Other recent examples include the privately developed Terminal 3 at Toronto International Airport (1991) and the 180-mile private tollway under development to link Hong Kong with Guangzhou (Canton) and Macao in China.

In the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Congress broadened the scope of possible highway privatization. States may now use a portion of their federal highway funds to match private capital, thereby drawing in private funding to supplement state and federal resources. By leveraging private capital in this way, states can significantly increase investment in their highway systems. Under ISTEA, privatization may be applied to developing new highways, bridges, and tunnels, but in addition, it may be used to rebuild and/or expand existing highways, bridges, and tunnels.

This guide explains how to make use of privatization (or public private partnerships) in the highway sector.

II. PRIVATIZATION MODES

A. NEW FACILITIES

There are four principal alternatives for privatized development and operation of new toll facilities.

Perpetual Franchise. This model closely resembles the franchises typically granted to railroads and to electric and telephone utilities. Ownership, financing, and operation of the facility are the permanent responsibility of the private firm or consortium. In transportation, ferries have been provided by private firms under this type of franchise arrangement. Government generally regulates safety and some aspects of design standards, and in cases of monopoly (e.g., the only bridge for many miles) may regulate toll rates or profits.

Build-Operate-Transfer (BOT). Under this model, the private firm receives a long-term (20-50 years, typically) franchise, at the end of which it must turn the project over to the state (generally, at no charge and free of debt). The franchise length is negotiated to provide a long enough time for investors to recover their original investment plus a reasonable return. Title remains with the private firm for the

life of the franchise. Government generally sets out regulatory provisions in the franchise agreement. BOT is the most common method of infrastructure privatization worldwide.

Build-Transfer-Operate (BTO). This is a variant of the BOT model, under which title transfers at the time construction is completed. The intent is to insulate the private consortium from potential liability claims. The BTO model was first developed for California's initial private tollway program, and has since been used in Arizona. Except for the transfer of title, in nearly all other respects it is the same as the BOT model.

Lease-Purchase. Under this model, the private firm finances and builds the facility, then leases it to the state on an installment plan. Once the payment schedule has been completed, the state owns the facility. Since lease payments provide the revenue stream, the facility might not charge tolls; hence, this model is applicable to projects whose traffic levels would not support toll financing. Under Lease-Purchase, the project may be operated either by the private developer or by the state.

B.EXISTING FACILITIES

There are three basic alternatives for private takeover and upgrading of existing highways, bridges, and tunnels.

Buy-Develop-Operate (BDO). In this model, the private firm buys the existing facility, expands or modernizes it, and operates it under a long-term or perpetual franchise.

Lease-Develop-Operate (LDO). Under this arrangement, the state retains ownership, with the private firm leasing the facility for a sufficiently long period to recover its investment.

Wrap-Around Addition. In some cases, it may be easier (legally and politically) to have the private firm finance and construct only an addition to the existing facility (e.g., the addition of toll lanes to a freeway). In this model, only the addition is privately financed and operated, under either a lease or purchase arrangement.

III.COST SAVINGS AND ECONOMIC BENEFITS

A.NET NEW INVESTMENT

Governments are increasingly turning to highway privatization for economic reasons. As a nation, we are investing less in highway facilities than needed in order to keep pace with wear-and-tear, and in some portions of the country, with rapid growth. The Federal Highway Administration's most recent report on the conditions of the nation's highway infrastructure estimates that we should be investing \$45.7 billion per year just to maintain existing conditions and performance. It would take \$74.9 billion

per year to return highway conditions to what they were two decades ago (see Table 1). By contrast, 1989 highway investment totaled only \$33.3 billion.¹

Table 1

ANNUAL HIGHWAY & BRIDGE INVESTMENT REQUIREMENTS THROUGH 2009 (Billions of Dollars)		
SYSTEM	COST TO MAINTAIN	COST TO IMPROVE
Rural Highways	15.1	19.3
Urban Highways	26.4	49.3
Bridges	4.2	6.0
Total	45.7	74.9

SOURCE: Federal Highway Administration

Privatization makes possible net new investment in the highway sector, to supplement existing federal and state transportation funds. For example, California's 1988 private tollway law, AB 680, authorized four demonstration projects. The four that emerged from a competitive selection process represent \$2.5 billion in new private capital, a significant increase in investment. A 1992 study by the Reason Foundation estimated that if all 50 states took full advantage of the privatization provisions in ISTEA, they could attract an additional \$19 billion per year in private capital.²

B. NEW TAX REVENUES

In contrast to state or municipal highways and bridges, privatized projects—unless specifically exempted—will pay taxes like ordinary businesses (including investor-owned utilities). That means local property taxes, state income taxes, and any other taxes levied on companies doing business in the state. Price Waterhouse has estimated that the Toll Road Corporation of Virginia's \$250 million toll road in Loudon County, Virginia will pay some \$96 million in local property taxes and some \$450 million in state and federal taxes over the life of its 40-year franchise.³ That is more than \$2 in total tax revenues for every \$1 of capital invested.

C. POTENTIAL SALE/LEASE REVENUES

Most transportation analysts believe that by far the largest fraction of new highway investment over the next decade, whether public or private, will go into rebuilding and expanding existing facilities, rather than into adding totally new highways, bridges, or tunnels. By selling or leasing existing facilities to the private sector, states can generate revenues and avoid large expenditures for capital improvement of the facilities.

A small number of states possess long-established toll road/turnpike systems, the majority of which were built more than 20 or 30 years ago (e.g., the Massachusetts Turnpike, the New York Thruway, etc. see Table 2). The bonds on these tollways have been largely paid off, yet they are generally in good condition. These tollways are considered attractive potential candidates for sale. Governors William

Weld in Massachusetts and Mario Cuomo in New York have both stated publicly that they would consider bids for the tollways, and the former has received several unsolicited offers.^{iv} A Reason Foundation assessment estimated that eight major turnpikes are worth on the order of \$7.4 billion.^v

It is more difficult to estimate how much of the existing state highway network would be suitable for privatization and toll financing. Segment-by-segment traffic counts are not readily available, and traffic levels would be reduced to an unknown degree by the addition of a toll. Furthermore, many of the facilities most in need of modernization and upgrading will require substantial new investment, which will limit what a private consortium will be willing to pay to acquire them.

D.LEVERAGING FEDERAL FUNDS VIA ISTEА

State legislators and state transportation department officials are accustomed to using federal highway funds only to match state funds. But the flexibility offered by ISTEА's privatization provisions offers the opportunity to make the federal funds go much farther. Every dollar of federal funds that attracts from \$1 to \$4 of private capital greatly expands the total funds available for highway investment, while leaving state highway funds available for projects which are not suitable for tolls or privatization (see Table 3). The Reason Foundation has published a paper which illustrates in principle how this leveraging of federal monies can work.^{vi}

Table 2

ESTIMATED TURNPIKE VALUATIONS		
FACILITY	LENGTH (In Miles)	ESTIMATED VALUE (Billions of \$)
Massachusetts Turnpike	135	0.5
New York Thruway	512	1.9
Ohio Turnpike	241	0.9
Indiana Turnpike	157	0.6
Kansas Turnpike	237	0.9
New Jersey Turnpike	80	0.3
Pennsylvania Turnpike	359	1.3
Florida Turnpike	270	1.0
TOTAL	1991	\$7.4

SOURCE: Reason Foundation, "Mining the Government Balance Sheet: What Cities and States Have to Sell," April 1992.

Table 3

STATE HIGHWAY FUNDING EXAMPLE (millions of \$)						
PROJECT	COST	CONVENTIONAL		PUBLIC/PRIVATE PARTNERSHIP		
		Federal	State	Federal	State	Private
A	\$100	—	—	\$25.0	—	\$75.0
B	\$70	—	—	\$17.5	—	\$52.5
C	\$60	—	—	\$15.0	—	\$45.0
D	\$50	\$40	\$10	\$12.5	—	\$37.5
E	\$40	—	—	\$10.0	—	\$30.0
F	\$40	\$32	\$8	\$10.0	—	\$30.0
G	\$40	—	\$40	—	\$40	—
H	\$30	—	\$30	—	\$30	—
I	\$20	\$16	\$4	\$5.0	—	\$15.0
J	\$20	\$12	\$8	\$5.0	—	\$15.0
K	\$20	—	—	—	\$20	—
L	\$10	—	—	—	\$10	—
TOTAL	\$500	\$100	\$100	\$100	\$100	\$300
PROJECTS BUILT			6			12
TOTAL INVESTED			\$200 million			\$500 million

In addition, the Federal Highway Administration (FHWA) has produced a booklet explaining the privatization and toll provisions of ISTEA.^{vi} It lists the following ways in which tolls can leverage new highway investment:

- ☑ 1 Ability to fund major reconstruction or renovation of currently free federal-aid bridges and roads through their conversion to toll facilities.
- ☑ 2 The opportunity to increase investment by matching federal aid with tolls and other non-state funds.
- ☑ 3 Generation of new state revenues through continuance of tolls after construction costs have been recovered.
- ☑ 4 Extending limited federal and state funds with private investments.
- ☑ 5 Recycling federal aid through loans to projects co-funded with private investment (e.g., via a revolving loan fund).
- ☑ 6 Leveraging federal aid through new financial mechanisms such as reserves and credit enhancements.
- ☑ 7 Reduced state matching requirements via “soft match” credit for toll revenue dedicated to capital investment in the facilities.

E. COST AND TIME SAVINGS

Privately developed projects can generally be developed in less time than public-sector projects and should experience lower operating costs. Both domestic and foreign experience with privatized infrastructure supports these claims.

Private projects are exempt from numerous government procurement regulations that greatly lengthen the time required to plan and develop a project. Typically, the private sector assembles a consortium of firms and makes use of a technique known as “design/build.” In this method, the design and construction stages are integrated, permitting the construction contractor(s) to work closely with the designers, thereby making the project less subject to costly and time-consuming design changes during construction. This type of process can shorten the development time by one-third to one-half. For example, the privately developed Terminal 3 project at the Toronto airport took only 3.5 years from start to finish, compared with Transport Canada’s estimate of 7 years had the agency developed it in the conventional government manner.

In construction, time is money. Reducing the time period in which capital is tied up translates directly into capital cost savings on the project. Moreover, a private consortium which develops a project it will also own and operate has strong incentives to design the project so it will be less costly to operate and maintain. Hence, operating costs are likely to be lower with a private project.

In most cases, a privately financed project will not be able to make use of tax-exempt debt. Since the interest rate on taxable debt is several percentage points higher, this difference will tend to increase the project's financing costs. But two factors work to offset this potential disadvantage. First, for the reasons noted above, the total capital cost that must be financed may well be smaller in a private project. Second, a private firm can deduct the costs of interest, thereby making the after-tax cost of financing comparable to that of the public sector using tax-exempt debt.

IV. JURISDICTIONS INVOLVED WITH PRIVATE TOLL PROJECTS

Before the enactment of ISTEA at the federal level, five states and Puerto Rico had already adopted legislation to permit private toll projects. Here is a brief summary of developments in those jurisdictions.

A. ARIZONA

Legislation enacted in 1991 authorizes up to four pilot projects, two on a BTO basis and two which may be on a BOT basis. A competitive process in 1992 led to the selection of three proposals, two in the Phoenix area and one in the northwest corner of the state. Protests against tolls led the governor to veto two of the projects as detailed proposals were being prepared. The state transportation department intends to solicit additional project proposals.

B. CALIFORNIA

The 1989 law, AB 680, authorized four pilot projects on a BTO basis. A 1990 competition produced eight detailed proposals, for seven different projects. Four were selected, and detailed franchise agreements were signed in January 1991. As of the end of 1992, one project had received environmental clearance and was completing its financing package, expecting to break ground early in 1993. The other three projects still had extensive design and environmental studies to complete.

C. FLORIDA

Unlike Arizona and California, Florida's law creates a general authorization for private toll projects (as opposed to a set number of pilot projects), but requires legislative approval of each specific project. It permits projects to be developed on a perpetual franchise basis, as well as BOT or BTO. The state transportation department's first annual deadline for proposals resulted in two proposed projects submitted in 1992 by a single firm.

D. TEXAS

Texas actually has two private tollway laws, a 1913 never-used statute, under which nine projects were proposed just prior to its repeal in 1991, and a new 1991 law that authorizes the state's turnpike authority and transportation department to work with private tollway developers.^{xiii} As of late 1992, the agencies were still developing implementing regulations, so no new projects have been authorized. The nine projects "grandfathered" under the old law must comply with new state requirements in order to be connected to the state highway system.

E. VIRGINIA

The nation's first modern private tollway law was enacted in 1988. Like Florida's, it provides general authorization for private toll projects, on a BOT basis. Unlike any of the other state measures thus far, Virginia's law subjects private tollway firms to traditional public utility regulation by the state agency that regulates other utilities. One project has been approved under the new law, the Dulles Toll Road Extension. As of late 1992, it was still seeking to assemble its financing in order to begin construction.

F. PUERTO RICO

The Commonwealth enacted BTO legislation in 1990. The first project is a \$124 million bridge across San Jose Lagoon, to provide a shorter link between San Juan and its international airport. Bonds for the project were sold in early 1992. The franchise for a second project—a \$500 million congestion-relief highway in San Juan's suburbs—has also been awarded.

Several other states have had serious proposals for private toll projects, including Colorado, Illinois, Missouri, Minnesota, and Mississippi. Following passage of ISTEA at the federal level, legislative measures to implement its provisions were being drafted in Georgia, Illinois, Minnesota, Mississippi, Nevada, North Carolina, Ohio, and Washington.

V. EXAMPLES OF PRIVATE PROVIDERS

Private toll projects tend to be major investments, with most projects in the \$100 million to over \$1 billion range. International experience has led to the concept of a consortium of firms, rather than a single company, as the preferred approach to developing such projects. The typical consortium includes:

- A large engineering and/or development firm;
- One or more investment banking firms;
- One or more specialist firms, in such areas as toll revenue studies;
- A major construction contractor;
- A toll system operating company; and
- A law firm.

The major firms involved in the projects and proposed projects in Arizona, California, Florida, Puerto Rico, Texas, and Virginia illustrate the kinds of firms taking the lead in this emerging business. The consortium leaders in these states are listed in table 4.

Table 4

MAJOR PLAYERS IN PRIVATE TOLLROADS	
STATE	CONSORTIUM LEADERS
Arizona	·Parsons Brinckerhoff Privatization ·Dragados y Construcciones ·HDR Engineering
California	·Kiewitt and Howard Needles Tammen & Bergendoff ·Parsons Corporation ·Perot Group ·Fluor Daniel and Parsons Brinckerhoff
Florida	·National Transportation Authority (joint venture of Perot Group and Greiner Engineering)
Puerto Rico	·Dragados y Construcciones and Rexach Construction
Texas	·National Transportation Authority ·Other consortia member firms not publicly known
Virginia	·Toll Road Corp. of Virginia and Kiewit Eastern

SOURCE: Reason Foundation

E

Other large firms which have expressed interest in private tollways and/or been part of consortia include Bechtel and Morrison Knudsen.

Many large U.S. and foreign investment banking firms have been part of tollway consortia. Among them are Babcock & Brown, Bank Nationale de Paris, Citicorp, First Boston, Goldman Sachs, Morgan Stanley, Paine Webber, Shearson Lehman, Smith Barney, and Westpac Banking.

VI. POLICY ISSUES

A. ECONOMIC REGULATION

Investor-owned toll roads have some of the characteristics of public utilities: they are highly capital intensive, the capital is fixed

in place, they provide a basic service, and they may have some aspects of monopoly. Hence, the question of economic regulation arises, and different jurisdictions have adopted different approaches.

In France, toll rates are controlled by the government. The government's failure to permit adequate rate increases during the 1970s, however, led to the bankruptcy of all but one of the French private tollway firms.¹⁴ Britain's new toll road program, by contrast, has avoided any economic regulation of toll highways, on the grounds that major highways inherently have competition from alternative routes, and that this competition affords adequate protection to users. On the other hand, for toll bridges without nearby competition, Britain will regulate the rates charged.

Thus far in the United States, Virginia is the only state that has subjected private tollways to conventional public utility regulation via the state's utility commission. Like an electric or gas utility, any Virginia tollway firm must submit rate schedules for approval or modification, based on the commission's calculation of the firm's rate of return on its investment. Besides being costly and time-consuming to administer, this type of regulation creates considerable uncertainty among investors, because future traffic levels are far less certain than future electricity use (since drivers have a choice of routes, while electricity consumers do not). Adding the risk that future regulatory decisions may be unfavorable to investors to the risk of below-target traffic, makes investing in such a tollway appear quite risky.

California, by contrast, has adopted a new type of economic regulation. Caltrans wished to permit maximum flexibility to tollway companies to use prices to manage demand and traffic flow; hence, conventional regulation of toll rates (which specifies exact price schedules for years in advance) was not feasible. Instead, the franchise agreement for each project is negotiated to include a ceiling on the allowed rate of return on investment, with any excess revenues going into the state highway fund. Arizona has adopted a variant of this approach.

Because of the high inherent risks to investors in tollway projects, capital will only be attracted if investors are permitted to earn returns that compensate them for the level of risk they assume. (In the California franchise agreements, the ceilings on rate of return range from 17 percent to 21.25 percent.) Incorporating a realistic ceiling into the franchise agreement is expected to reduce investor worries about what decisions a future utility commission might make, once the project becomes profitable. Regulation via franchise agreement avoids the uncertainties and risks involved in public utility commission regulation.

For projects subjected to competition from parallel routes, it is not clear that any economic regulation is warranted. For those situations where monopoly elements are present and regulation is found necessary, franchise-based regulation of rate of return seems clearly preferable to price controls and profit regulation by a utility commission.

B.LAND ACQUISITION

Obtaining right of way is a problem for any highway project, whether public or private. The question of *eminent domain*—the state's power to condemn land for public use—arises when private tollways are considered.

Again, states have taken somewhat different approaches to this question. The nation's first modern private tollway law (in Virginia) specified that private tollway firms would not have access to the state's land-condemnation power. In the first (and so far, the only) tollway project developed under this law, the company at first appeared to have obtained the cooperation of all of the small number of land owners along its desired 15-mile route. But ultimately the company faced a problem with holdouts at

one end of the route. When negotiations failed to produce a solution, the local county government (which wanted the project built) used its own condemnation powers to acquire the final parcels.

California's law, passed one year later, took a different approach. It specifies that the state's power of eminent domain may be exercised by Caltrans on behalf of an approved private project—but only as a last resort, after the firm has exhausted all reasonable alternatives. The high cost of land acquisition in California has helped to stimulate some innovative private-sector approaches that minimize the need for any use of condemnation powers. The two projects being developed in built-up Orange County are making use of existing government-owned rights of way. One project (SR 91) is adding four toll lanes to the wide median of an existing freeway. The other (SR 57) is planning to build an elevated tollway above and along the route of the flood control channel of the Santa Ana River.

It would be unwise to delegate the power of eminent domain to a private tollway firm (since this would give privatization opponents an easy target), even if this is permitted by state law. This power should be used sparingly, if at all, and only by the state as a last resort, with full compensation at market prices.

C. COMPETING ROUTES

Because of the large risks involved in private toll projects, investors are concerned that government agencies might, some years in the future, develop free routes that would divert significant amounts of traffic from the tollway, thereby destroying the tollway's economic viability. Hence, they request some form of protection from the threat of this kind of competition.

In California's initial private tollway effort, this took the form of an exclusive no-compete zone defined in each franchise agreement. As a contractual matter, Caltrans agreed that for the 35-year life of the franchise, it would neither build nor authorize to be built, a competing project within the geographical limits defined by these zones adjacent to the private tollways. The existence of these no-compete zones became a source of political controversy, leading to attacks on the program in both the state legislature and in newspapers.

Given the high costs involved and the risks to private capital, it seems unlikely that a second private firm would seek to develop a tollway project in close proximity to an existing private tollway—unless the demand were so strong that two projects made good economic sense. Hence, protection against this risk is probably superfluous. By contrast, the threat of the state developing a new free highway parallel to a successful private tollway is all too real. It seems reasonable to protect investors against this kind of unfair competition—and probably necessary in order to attract private capital.

An alternative to an absolute ban on competing projects over the life of the franchise might be a provision that prohibits such projects unless and until traffic growth in the corridor reaches some pre-defined level, spelled out in the franchise agreement. If such a threshold level can be agreed upon, it might be less of a political target than an absolute ban on competition.

D.PROJECT SELECTION

The state transportation agency may wish to pre-select certain projects as good candidates for privatization, especially if there are key facilities needing expansion or modernization which the state cannot afford to undertake in a timely fashion. But the state should also invite general proposals from the private sector for new private toll projects that might not be anticipated in the official state transportation plan. When California requested proposals in this open-ended way, three of the eight private-sector proposals were for projects which had not been thought of by Caltrans or the state transportation commission, but which made sufficient economic sense to attract private-investment interest.

The selection process should generally include a series of steps along the following lines:

Seven-Step Proposal Selection Process

- 1.**Advertise.** Ask for letters of interest from firms interested in developing private tolled facilities.
- 2.**Seminar.** Invite everyone on the mailing list from the first step to an informal seminar to discuss the proposed selection process, answer questions, get feedback.
- 3.**Request for Qualifications.** Define the requirements and qualifications expected in consortia that will be eligible to develop and operate toll projects.
- 4.**Short List.** Evaluate the responses to (3) and decide upon the set of qualified consortia. For the rest of the process, deal only with these firms.
- 5.**Request for Proposals.** Hold a bidder's conference for the qualified consortia and issue the formal request for proposals, spelling out what information must be submitted on the project(s) they propose and what requirements and standards the projects will have to meet.
- 6.**Evaluation.** Using the objective criteria spelled out in the RFP, conduct a rigorous assessment of the proposals, assigning numerical scores to the various elements on which they are to be judged, and rank the proposals in order of total scores.
- 7.**Franchise Negotiation.** Engage in detailed negotiations with the top-ranked consortia, drawing up the legal document which defines the ongoing relationship between the state and the consortium.

Overall, this process can be expected to take between 9 and 18 months, depending on the size and complexity of the competition.

VII.OVERCOMING OBSTACLES

A.ENVIRONMENTAL REVIEW

One of the greatest risks to the private sector is putting large sums and extensive time (up to several years in some cases) into the detailed environmental studies for a tollway project, only to have the project vetoed on environmental grounds at the end. Several ideas have been proposed to reduce the extent of this risk, and thereby make private projects more attractive.

University of California researchers G. J. Fielding and Daniel Klein have suggested that the state transportation agency select projects and do the initial environmental review work, bringing them to the point of environmental clearance, and then solicit bids from the private sector to finance, develop, and operate them.^x A disadvantage of this approach is that it precludes possible innovative projects that might be identified by the private sector. The authors discuss how this problem might be overcome by a two-stage procedure in which proposals are made and then franchise bidding occurs for the selected and cleared projects.

An alternative proposal has been suggested by Caltrans and may be incorporated in state legislation to implement ISTEA's privatization provisions. The state transportation agency might make grants to consortia with which it has signed franchise agreements sufficient to cover part or all of the costs of the environmental review process. If and when environmental clearance is obtained and the project goes forward, the grant would be converted to a loan which would have to be repaid in later years out of project revenues.

B.LABOR ISSUES

Two different groups of unionized workers may have problems with a private tollway program: state highway department engineers and private-sector construction trade unions. Either could become a source of opposition to the program.

State-employed engineers view the design work done by the consortia as work that would otherwise be done in-house. Since in most cases privatization will represent a net addition of highway investment (whether it is used to develop new roads or to modernize existing ones), the best approach is to stress the fact that the size of the pie is being made larger, offering portions for everyone.

The same approach could be used to frame the issue with construction trade unions. In a number of cases, the construction jobs on private projects will go to union workers anyway, though this is not guaranteed. The fact that it is not guaranteed may lead to efforts by some legislators to include a provision in the privatization law mandating that any existing state "prevailing wage" laws that apply to

public projects also apply to privatized ones. Such a measure (which was included in California's AB 680 program) will in most cases increase the labor costs on private projects, but the political trade-offs must be assessed on a case-by-case basis.

C.CONTRACTOR ISSUES

As noted previously, one of the key private-sector innovations in project development is the Design/Build method. Besides being used in infrastructure projects, the same kind of collaborative effort has been used by such industrial firms as Boeing (on the 777 airliner) and Chrysler (on its new LH line of cars) to shorten development time and produce designs that are easier to manufacture.

By contrast, much of America's public works industry is very used to dealing with conventional government public-works procurement methods, in which contractors are selected after the design is completed, often on the basis of the lowest-priced bid, and in which subcontractors are also selected on a competitive-bid basis. By contrast, in the Design/Build method, a consortium's team is assembled more informally, sometimes by negotiation. Many contractors, especially small subcontractors, therefore oppose Design/Build, and can be expected to lobby against measures which would lead to an increase in its use.

Legislators should strongly resist attempts to impose public-sector-style procurement procedures on private-sector tollway consortia. The latter are risking their own funds on the project and therefore have every incentive to do business in ways that save time and money. The elaborate, time-consuming steps involved in public-sector procurement have evolved in order to safeguard public funds against waste and fraud by contractors whose only interest is to get a one-time contract. This is a totally different situation from that involving a private consortium risking private funds on a project.

D.OPPOSITION TO TOLLS

A private tollway program can only occur if the public is willing to accept tolls as a reasonable way of paying for the use of roads and bridges. Although toll roads have made a strong comeback in the past decade, they still represent only a small portion of U.S. highway mileage and are uncommon in many states and urban areas. Hence, a strong educational effort on the benefits of tolls is an essential aspect of creating a private tollway program.

One of the most important points to stress to the public is that tolls provide a means of making up for the shortfall in public funds, so that needed highway improvements can be provided in a timely fashion. This can be especially important in areas where existing facilities are badly in need of repair or where road construction has failed to keep pace with growth. But in addition, tolls are attractive for the following reasons:

- With tolls, only those who use a highway or bridge have to pay for it; conversely, you know that when you pay a toll, you receive a direct benefit.
- User-funded tollways have their own built-in source of funding to ensure proper ongoing maintenance and repair. Studies have shown that tollways are better maintained than non-toll facilities.^{xi}
- Tolls can be used to control traffic congestion, by charging higher amounts during peak hours and lower amounts at off-peak hours.
- Today's electronic toll collection technology permits nonstop toll collection, without the need for old-fashioned toll booths. A small electronic tag on each car can be “read” by a radio scanner to debit each user's toll account automatically.

E.LOSS OF PUBLIC CONTROL

There is understandable concern that a vital public facility operated by a private, for-profit company may end up serving private interests rather than those of the public. But there need be no conflict between the two objectives.

The key is to think through what public concerns must be addressed and to incorporate legally enforceable provisions into the franchise agreement. In most cases, highway and bridge projects will probably involve long-term franchises, akin to leases, rather than permanent private ownership. But even in the latter case, government can provide for the long term via deed restrictions, mandating (for example) that the land remain in use as a transportation corridor open to the public.

Private toll roads that connect to the state highway system, comply with state highway laws, and (in some cases) receive partial public funding, are not “private” in the sense that General Motors is private. Rather, they are public/private partnerships in the true sense of the term. As such, they will only work if the interests of both the public and the private consortia are well-served by the arrangements.

F.“SELLING THE FAMILY SILVER”

A common concern about the sale of state-owned enterprises or assets is that this constitutes “selling the family silver.” In other words, the sale is considered an unwise, short-term expedient. Indeed, if the proceeds of an asset sale are used simply to meet current government operating expenses, the transaction does raise legitimate questions.

The case for asset sales is much stronger if the proceeds are used for long-term purposes. In this way, asset sales represent a restructuring of government assets—converting physical capital into financial capital to be used for other investment purposes.

One way to do this is to use the proceeds from the sale of a highway or bridge to create an endowment fund. The principal in this fund is invested, and only the annual earnings are spent. The use of these endowment earnings may be limited, by law, to certain specific purposes (e.g., law enforcement, highway maintenance, social services) or it may be used to support the government's general fund.

Another approach to preserving the capital value is to earmark the proceeds of a highway sale (or lease) for investment in other needed infrastructure, for which funds would otherwise not be available.

VIII.MISTAKES TO AVOID WHEN CRAFTING PRIVATE TOLLING LEGISLATION

The very useful handbook on public/private partnerships published by the Washington, D.C.-based Privatization Council lists a number of legislative provisions that could discourage private investment.^{xii} These provisions are as follows:

- Requiring legislative approvals of individual projects (as Florida's privatization law does; this risks legislative micromanagement and attempts to redesign proposed projects);
- Requiring the posting of excessive bonds that may be forfeited for reasons not entirely within the consortium's control;
- Requiring an excessive amount of private insurance;
- Allowing uninhibited government competition with the project in future years;
- Ad-hoc regulation of toll rates or rate of return, particularly by a public utilities commission (as Virginia has done, which has helped to make Virginia's first private tollway difficult to finance);
- State prohibitions against local government financial (and other) support of the project;
- Requiring the consortium to use government subcontracting and procurement methods;
- Implying that government selection/negotiation bypasses regular environmental rules; and
- Prohibiting the start of construction until after the state has approved very detailed design specifications.

IX.LEGAL CONSIDERATIONS

A.ENABLING LEGISLATION

Public/private partnerships of the kind discussed in this paper are generally not legally possible without state enabling legislation. Such legislation would spell out:

- 1.What types of partnership will be permitted;
2. What standards and requirements such projects would have to meet;
- 3.How such projects would relate to the state transportation agency and transportation planning process;
- 4.Whether (and how) they would make use of ISTEA's public/private partnership provisions;
- 5.Whether or not the state's eminent domain power would be used on behalf of the projects; and
- 6.What degree of economic regulation would take place; and similar issues.

As noted previously, five states and Puerto Rico enacted legislation of this kind prior to ISTEA's enactment. Those acts would have to be amended or supplemented by other legislation in order to make projects eligible for ISTEA's provisions. The Federal Highway Administration is developing model state enabling legislation, which should be available in early 1993.

A draft legislative measure is included as Appendix A of this paper, adapted from a Caltrans draft.

B.ISTEA ELIGIBILITY

Just as not all highways are economically or politically suitable for tolls, not all potential toll projects are eligible for federal assistance under ISTEA's public/private partnership provisions.

In general, Interstate highways that do not currently have tolls cannot be converted to tolls, but Interstate bridges and tunnels can be. Any other federally aided highways, bridges, and tunnels can be converted to tolls under these provisions. For initial construction, only non-Interstate highways, bridges, and tunnels are eligible. All facilities that already have tolls in place (both Interstate and non-Interstate) can be reconstructed under these provisions. The maximum federal share is 50 percent for eligible toll highway projects and 80 percent for bridges and tunnels.

X.CONCLUSION

Though still a relatively new concept in the United States, private tollways (via public/private partnerships) are a viable alternative for meeting transportation needs. State governments can take advantage of the tollway public/private partnership provisions of ISTEA to leverage their federal

highway funds with private capital, reserving limited state highway funds for projects that are not suitable for tolls or private operation.

Many public policy issues arise in incorporating the private sector into highway ownership and operation. These issues are being dealt with, both overseas, and in the limited number of states that have pioneered private tollway programs in the past several years. They require careful attention in implementing legislation, but none of them presents a serious obstacle to serious private-sector involvement.

State legislation is needed to permit public/private partnerships for highway, bridge, and tunnel projects, and model legislation for this purpose is included as Appendix A of this report.

ABOUT THE AUTHOR

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APPENDIX

Model Legislation for Public/Private Partnerships in Transportation Infrastructure (Adapted from a Draft California Measure)

The people of [state name] do enact as follows:

SECTION I. Declarations

- (a) It is essential for the economic well-being of the State and the maintenance of a high quality of life that the people of the State of [state name] have a high quality transportation system.
- (b) Public sources of revenues to provide an efficient transportation system have not kept pace with [state name]'s growing transportation needs, and all available alternative sources of funding should be utilized to the extent available to supplement available public sources of revenues. The State must seek all available sources of funding to keep up with the need for improvement of transportation facilities.
- (c) Because the State does not have sufficient funds to meet all of its transportation needs, private funding of transportation facilities should be encouraged as an alternative.
- (d) Two important alternatives are privately funded Build-Operate-Transfer (BOT) and Build-Transfer-Operate (BTO) projects whereby private entities obtain exclusive agreements to build, with private funds, all or a portion of transportation projects for the citizens of [state name].
- (e) During the term of the development agreement, the private entity will have the right to an ownership or leasehold interest from the State and the right to charge tolls sufficient to retire the private investment in the project (including a reasonable profit), operate and police the facility, maintain the facility, and retire any outstanding bonds or other debt issued in support of the facility.
- (f) Joint ventures of public and private entities do the following:
 - (1) Take advantage of private sector efficiencies in designing, constructing, and operating transportation projects.
 - (2) Allow for the rapid formation of capital necessary for funding transportation projects.
 - (3) Require continued compliance with environmental requirements and applicable State and federal laws that all publicly financed projects must address.
- (g) Another important alternative is the use of federal funds pursuant to Section 129(a) of Title 23 of the United States Code, as amended by Section 112 of the Intermodal Surface Transportation Efficiency Act of 1991 which established a program authorizing federal participation in, among other things, construction of publicly or privately owned toll highways, bridges, and tunnels.

- (h) The federal legislation allows for a mix of public federal funding and private funding of transportation facilities, allowing the states to leverage available federal funds as a means for attracting private capital.
- (i) The [state transportation agency] should be permitted and encouraged to test the feasibility of utilizing the authorization for federal participation provided by 23 USC Section 129 by developing a private sector initiative program involving exclusive development agreements with private entities to undertake project development, financing, construction, operation, and maintenance of transportation facilities utilizing such federal participation on ten [or some other suitable number] demonstration projects.

SECTION 2. Section [number] is added to the [applicable section of state highway law], to read:

- (a) The [transportation agency] may solicit proposals and enter into exclusive development agreements with private entities, or consortia thereof, to develop, design, finance, construct, operate, and maintain not more than [authorized number] transportation demonstration projects pursuant to 23 USC Section 129(a). The proposals and any projects selected for implementation need not be included in the existing State Transportation Improvement Program.
- (b) The [agency] is authorized to enter into agreements with the Secretary of Transportation pursuant to 23 USC Section 129(a)(3) in order to permit federal participation in toll revenue transportation projects.
- (c) There is hereby created in the State Transportation Fund the State Transportation Revolving Account. There shall be transferred to, or deposited in, the State Transportation Revolving account up to \$[amount] million as determined appropriate by [agency or transportation commission, if any] from such monies made available by the federal government pursuant to 23 USC Section 129 or from the State Highway Account. All monies returned from projects representing loan repayments including principal and interest, loan origination fees, and return on and of equity pursuant to this Section shall be deposited in the State Transportation Revolving Account but will not be subject to the \$[amount] million limit. All money in the State Transportation Revolving Account is continuously appropriated to, and shall be available for expenditure by, the [agency] for the purposes of this Section.
- (d) The [agency] is authorized to extend credit and to make loans to public or private entities, or consortia thereof, of the federal share for toll projects authorized under 23 USC Section 129(a)(7). The private-sector matching share for the total project costs shall be no less than 50 percent of the project cost. No state funds other than funds from the State Transportation Revolving account shall be used for any project under this Section. In addition to loans, financing arrangements including, but not limited to, a letter of credit, a guarantee of all or part of credit extended by

others, a certificate of participation, a bond, a direct cash loan, or a certificate of stand-by credit are permitted.

- (e) Loans made from the State Transportation Revolving Fund shall be fixed-rate loans bearing interest at the average rate of interest earned by the [name of state pooled money investment fund] over the 12 months preceding the start of repayment. Loan repayment shall begin no later than five years from the date that the facility is opened to toll traffic and shall be completed by no later than 30 years from the time the loan was obligated. The amount loaned by the state may be subordinated to other debt financing for the facility other than loans made by any other public entity. In addition to interest, the [agency] may charge reasonable origination fees for any financing arrangement made pursuant to this Section. Guarantees, letters of credit, or other stand-by credit enhancements shall require revolving fund balances in a ratio recommended by bond counsel and shall comport with industry standards. Notwithstanding any provision of law, a guarantee, letter of credit, or other stand-by credit enhancement may not exceed the available balance in the State Transportation Revolving Account. The state shall not be obligated to pay beyond the available balance in the State Transportation Revolving Account.
- (f) The [agency] is authorized to make grants from the State Transportation Revolving Account to public or private entities, or consortia thereof, of the federal share for toll projects authorized under 23 USC Section 129(a) for the purposes of preliminary studies including but not limited to feasibility studies and studies required for environmental review and permit approval in accordance with 23 USC Section 129(a)(1)(E). The State Transportation Revolving Account share shall not exceed 50 percent. If the preliminary studies result in a project agreement pursuant to 23 USC Section 129(a)(2)(B), and after all relevant federal environmental requirements have been complied with and permits obtained, the amount of any grant pursuant to this subsection shall be added to the amount of any loan made by the state pursuant to 23 USC Section 129(a)(7).
- (g) The [agency] may, at [agency] expense, prepare or cause to be prepared the appropriate environmental document for the projects pursuant to [state environmental-impact law]. When the environmental document has been prepared at [agency] expense, the reimbursement of environmental costs to the [agency] shall be one of the selection criteria used to award projects.
- (h) The [agency] may exercise any power possessed by it with respect to the development and construction of state transportation projects to facilitate the development and construction of transportation projects pursuant to this Section. Agreements for services entered into pursuant to this Section shall provide for full reimbursement for services rendered by the [agency] or other state agencies. The [agency] may provide services for which it is reimbursed with respect to preliminary planning, environmental certification, preliminary and final design of such projects, right of way acquisition and clearance, construction, maintenance, and operation.

- (i) Agreements entered into pursuant to this Section shall authorize the private entity to set and impose tolls for use of a facility constructed by it, and shall require that over the term of the ownership or lease the toll revenues be applied to payment of the private entity's capital outlay costs for the project including interest expense, the costs associated with operations, toll collection, administration of the facility, reimbursement to the state for the costs of project review and oversight, technical and law enforcement services, and a reasonable return on investment to the private entity. The agreement shall require that any toll revenue in excess of project costs and a reasonable return on investment be applied to any indebtedness incurred by the private entity with respect to the project, be paid into the state Transportation Revolving Account, be returned directly to the regional transportation planning agency in the project area, or any combination thereof. The agreement may provide either for state ownership of the transportation facility and lease to the private entity, or private ownership of the facility by the private entity during the term of the agreement.
- (j) The agreement shall also provide that the term of the ownership or leasehold interest of the private entity in the transportation facility shall be for a period that is mutually agreeable to by the [agency] and the private entity, but in no case shall the agreement extend longer than 50 years. In consideration therefor, the agreement shall provide for complete reversion of the privately constructed facility to the state at the expiration of the term of ownership or leasehold interest at no charge to the state.
- (k) For the purpose of facilitating these projects and to assist the private sector in constructing these transportation facilities, the agreements entered into pursuant to this Section may include provisions authorizing the private entity to lease airspace for transportation facilities or for commercial development within, over, or under state highway rights of way and the connections thereto within project limits, for the granting of necessary easements, and for the issuance of permits or other authorizations to enable the private entity to construct the transportation facility. The agreement shall provide for the use of those facilities by the private entity during the term of the agreement and shall provide for complete reversion of all privately constructed facilities to the state no later than at the expiration of the agreement at no cost to the state. In consideration for the reversion rights in these privately constructed facilities, the [agency] may charge a nominal value for the lease of airspace rights during the term of the agreement. If, after the expiration of this period, the department continues to lease these airspace rights, it shall do so only at fair market value.
- (l) The plans and specifications for each project constructed pursuant to this Section shall comply with the [agency]'s standards for state transportation projects. All state costs for review and oversight services to assure that the project meets state standards shall be fully reimbursed. Facilities constructed by and leased or owned by a private entity shall, from the commencement of operations, be deemed to be a part of the state highway system for purposes of identification, maintenance, and enforcement of traffic laws.

- (m) Agreements pursuant to this Section may include any reasonable contractual provision that is necessary to protect the project revenues required to repay the costs incurred to study, plan, design, finance, acquire, build, install, operate, enforce laws, and maintain toll highways, bridges, and tunnels and which will not unreasonably inhibit or prohibit the development of additional public transportation systems and facilities. Nothing herein shall be deemed to limit the right of the [agency] and its agents to render such advice and to make such recommendations as they deem to be in the best interests of the state and the public.**
- (n) After termination of the franchise agreement, the facility shall revert to the state, and the state may elect to continue to impose tolls for the use of the facility.**
- (o) Construction of transportation facilities pursuant to this Section is not subject to the provisions of the [state contract act, dealing with public-sector procurement].**

ENDNOTES

- i. *The 1991 Status of the Nation's Highways and Bridges: Conditions, Performance, and Capital Investment Requirements* (Washington, D.C.: Federal Highway Administration, U.S. Department of Transportation, November 1991).
- ii. Robert W. Poole, Jr., "Private Tollways: How States Can Leverage Federal Highway Funds," *Policy Study* No. 136 (Los Angeles: Reason Foundation, February 1992).
- iii. *Legislative Initiatives for Public-Private Partnerships in Transportation* (Washington, D.C.: The Privatization Council, May 1991).
- iv. "Three Firms Submit Bids for Privatization of the Massachusetts Turnpike," *Privatization Watch*, January 1992.
- v. Robert W. Poole, Jr., David Haarmeyer, and Lynn Scarlett, "Mining the Government Balance Sheet: What Cities and States Have to Sell," *Policy Study* No. 139 (Los Angeles: Reason Foundation, April 1992).
- vi. "Private Tollways: How States Can Leverage Federal Highway Funds," *op. cit.*

Table 3

STATE HIGHWAY FUNDING EXAMPLE (millions of \$)						
PROJECT	COST	CONVENTIONAL		PUBLIC/PRIVATE PARTNERSHIP		
		Federal	State	Federal	State	Private
A	\$100	—	—	\$25.0	—	\$75.0
B	\$70	—	—	\$17.5	—	\$52.5
C	\$60	—	—	\$15.0	—	\$45.0
D	\$50	\$40	\$10	\$12.5	—	\$37.5
E	\$40	—	—	\$10.0	—	\$30.0

F	\$40	\$32	\$8	\$10.0	—	\$30.0
G	\$40	—	\$40	—	\$40	—
H	\$30	—	\$30	—	\$30	—
I	\$20	\$16	\$4	\$5.0	—	\$15.0
J	\$20	\$12	\$8	\$5.0	—	\$15.0
K	\$20	—	—	—	\$20	—
L	\$10	—	—	—	\$10	—
TOTAL	\$500	\$100	\$100	\$100	\$100	\$300
PROJECTS BUILT			6			12
TOTAL INVESTED			\$200 million			\$500 million

vii. “Building a Better Partnership: Public/Private Cost-Sharing and Toll Financing Provisions of the Intermodal Surface Transportation Efficiency Act of 1991,” Pub. No. FHWA-PL-92-009 (Washington, D.C.: Federal Highway Administration, U.S. Department of Transportation, 1992).

viii. Michael J. Weaver, Alan M. Glen, and John C. Boehm, Jr., “Texas Steps Toward Highway Privatization,” *Public Works Financing*, November 1992.

ix. Jose A. Gomez-Ibanez and John R. Meyer, “Toll Roads and Private Concessions in France and Spain” (Cambridge, Mass.: Taubman Center, Kennedy School of Government, Harvard University, February 1992).

x. Gordon J. Fielding and Daniel Klein, “How to Franchise Highways,” Forthcoming in the *Journal of Transport Economics and Policy* (London: School of Economics, June 1993).

xi. "Toll Financing of U.S. Highways Appendix" (Washington, D.C.: Congressional Budget Office, December 1985).

xii. Privatization Council, *op. cit.*

Draft

How to Enable Private Toll Road Development

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