

PRIVATE TOLLWAYS FOR WISCONSIN

by
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EXECUTIVE SUMMARY

Wisconsin's excellent highway system is the most important component of the state's transportation infrastructure. Yet this system is aging; the majority of the state's major highways—and especially the Milwaukee-area freeway system—will require major reconstruction over the next 25 years. Current funding sources are inadequate to this task. Studies by the Wisconsin Department of Transportation project a shortfall of \$8.9 billion over the next 25 years.

This study suggests a new approach to solve a major portion of this problem. Following the lead of a dozen other states and many other countries, Wisconsin could enlist private capital into its highway system. Specifically, the state could solicit bids from the private sector to invest \$3.1 billion in rebuilding and modernizing the rural and urban Interstate system, recovering this investment from tolls charged to users.

Public-private partnerships of this sort have provided the major motorway systems of France and Italy, and are now being used for major urban expressways in Australia, China, Hong Kong, Malaysia, and Thailand. Congress embraced this principle in the 1991 surface transportation act (ISTEA). Since 1988, 12 states and Puerto Rico have authorized public-private partnerships for highway projects; two new tollways of this type opened to traffic in 1995. Minnesota received five proposals for such tollways in November 1995.

Because current federal law permits tolling Interstates only under certain conditions, a portion of previous federal aid may have to be repaid if Wisconsin privatized and tolled its entire Interstate system. But even taking into account such repayment, the proposed conversion is financially feasible. Tolls for the rebuilt system would be comparable with those charged on other recent rural and urban toll projects. Nonstop electronic toll collection would be far more user-friendly than old-fashioned toll booths.

Besides avoiding over \$3 billion in rebuilding costs, the proposed public-private partnership would generate several billion dollars in additional revenues to the state over a 25-year period, which could be applied to the

projected \$8.9 billion shortfall and/or used to cover a portion of local roadway costs now paid for by property taxes. That would permit significant local property-tax relief.

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I. INTRODUCTION: WISCONSIN'S HIGHWAYS

Highways are the most important transportation infrastructure in Wisconsin. Automobiles carry 99 percent of all intercity passenger trips between Wisconsin communities and to nearby communities in adjacent states. Trucks carry 160 million tons of freight per year on these roads and highways.¹ **Altogether, Wisconsin has 11,130 route miles of state highways (including the Interstates) and 99,240 miles of local roadways. Just over half of the state's annual 48.8 billion vehicle miles traveled (VMT) occur on state highways, with the balance of 23.9 billion VMT taking place on local roads and streets.**²

Table 1:
Wisconsin
Roadway
Revenues
and
Expenditures,
1992

Source	Revenues (\$M)		Expenditures (\$M)	
Federal	Fuel Taxes ¹	\$390.2	State Highways ³	\$272.0
	Use Taxes ¹	13.6	Local Highways ³	48.9
	Truck/Tractor ¹	19.2	Other ³	2.7
	Other ¹	<u>5.6</u>		
	Subtotal	428.7		323.6
State	Fuel Taxes ²	\$567.9	State Hwys. ³	419.2
	Vehicle Regis. ²	236.1	Local Roads ³	269.4
	Drivers License	21.5	Other Admin. ³	133.1
	Other User Charges	<u>19.5</u>		
	Subtotal	845.1	Subtotal	821.7
Local	Property Taxes, Other ³	884.4	Roads and Streets ³	884.4
	TOTAL	\$2,158.2	TOTAL	\$2,029.7

¹*Translinks 21: A Multimodal Transportation Plan for Wisconsin's 21st Century*, Madison: Wisconsin Department of Transportation, February 1995.

²"1993 Highway Miles and Vehicle Miles of Travel by Administrative Jurisdiction," Madison: Wisconsin Department of Transportation, 1993.

Source: Cambridge Systematics, "Highway Cost and Pricing Study," Madison: Wisconsin Department of Transportation, Sept. 26, 1994.

The figures above come from the following tables: 1. Table 2.6 2. Table 2.2 3. Table 2.1

As in much of the rest of the United States, VMT in Wisconsin has been growing much faster than the population. Between 1960 and 1990, personal VMT increased by 138 percent, while commercial VMT grew by 401 percent.³ Among the causal factors were the coming of age of the baby boom generation and the large increase in women's participation in the work force. Because these trends are largely played out, WisDOT's current estimate is that VMT will increase only 58 percent between 1990 and 2020. In other words, while VMT increased at an annual rate of 4.6 percent in the previous 30-year period, the next 30 years should see annual increases averaging only 1.9 percent.

Likewise, Wisconsin trends in the use of automobiles are similar to national trends. The number of people commuting to work alone increased from 62 percent in 1970 to 75 percent in 1990. All other modes of commuting (car-pooling, mass transit, bicycling, walking) declined during those two decades.⁴

Wisconsin spends about \$2 billion per year on highways, as shown in Table 1. Highway users generate \$429 million in federal user taxes and \$845 million in state user taxes. In addition, local governments allocate \$884 million in property taxes and other sources for local streets and roads. As is clear from Table 1, federal and state highway user taxes exceed expenditures on highways by some \$128 million a year. The difference goes to subsidize mass transit, to help reduce the federal deficit, and for miscellaneous other non-Wisconsin highway purposes (including cross-subsidies to other states such as Alaska and Hawaii).

As of 1994, Wisconsin's highways and bridges were in relatively good shape. Table 2 shows how the state's roadways score on a measurement called Pavement Serviceability Index (PSI)—a measure of rideability carried out by WisDOT using a specially equipped vehicle. As can be seen, only 8.5 percent of the Interstate system was measured at 2.5 or below, considered the threshold for repair work. For non-Interstate highways, the fraction needing repair was 28 percent. A more stringent measure, the Pavement Distress Index (PDI), is shown in Table 3. On this measure (which reflects structural criteria and traffic levels), 12 percent of the Interstate system needs work (as indicated by a PDI above 75), as does 13 percent of the non-Interstate system. Table 4 gives WisDOT's evaluation of bridge conditions. A "rate score" of under 75 is the threshold for a bridge that "can be considered for improvement." By this standard, 6 percent of the Interstate bridges and 10 percent of non-Interstate bridges currently need work.

Table 2: Condition of Wisconsin Highways
(Pavement Serviceability Index)

³"Urban Highways," Madison: Wisconsin Department of Transportation, August 1994.

⁴*Ibid.*

PSI	Interstate	Non-Interstate
Above 3.50	61.5%	40%
3.01—3.50	20%	16%
2.51—3.00	10%	16%
2.01—2.50	4.5%	15%
Below 2.00	4%	13%

Table 3: Condition of Wisconsin Highways (Pavement Distress Index)

PDI	Interstate	Non-Interstate
Below 25	36%	45%
25—49	29%	23%
50—74	23%	19%
Above 75	12%	13%

Table 4: Condition of Wisconsin Bridges

Rate Score	Interstate	Non-Interstate
Above 75	94%	90%
65—75	3%	5%
55—64	2%	2%
Below 54	1%	3%

The current measurements of highway conditions are a snapshot of *current* conditions, however, not a projection of future needs. And these average snapshots mask some significant system deficiencies. The most important of these problems is the aging Milwaukee County freeways. Major portions of this system were built in the 1960s and are near the end of their useful lives. The current \$25 million per year spent on maintaining them is not sufficient for the reconstruction that will soon be required. Even without redesigning those portions of the system that are unsafe (such as left-side exits), WisDOT estimates that annual spending needs to increase to \$84 million per year by 2000; with modernization, that sum would increase to \$126 million per year by 2000.⁵

As part of its Translinks 21 planning process, WisDOT has defined certain key highway routes as its Corridors 2020 Backbone system. This includes the Interstate highways plus the multilane portions of US highways 41, 51, 53, and 151. Comprising just 9 percent of

⁵“Quality Highways: Key Preservation Needs on Wisconsin’s State Highway System,” Madison: Wisconsin Department of Transportation, July 1994.

total mileage, these routes carry 33 percent of all traffic. Much of this system is also old and needing replacement; for example, while 65 miles of this system had a PSI below 2.5 in 1994, WisDOT projects that 320 miles will be in this condition by 2005.⁶ Bringing these highways into proper condition is estimated to require an additional \$49 million per year between 1994 and 2005.⁷

Other potential needs for increased highway investment—not necessarily as critical as the foregoing two—were also identified in the Translink 21 process. These include deteriorating pavements on non-backbone routes (where the number of miles of rough pavement is expected to double from 800 to 1600, without an increase of \$25 million/year); 315 miles of state highways which have reduced weight limits in the spring (fixable for \$13 million per year over the next 10 years), and upgraded maintenance (defined as needing an added \$10 million per year).

Overall, the ambitious Translinks 21 plan calls for spending \$39 billion (in 1994 dollars) on transportation from 1995 to 2020. That is an increase of \$8.9 billion over projected spending from existing funding sources. No specific funding sources for this proposed increase are spelled out in the Translinks 21 plan.

Beyond the problem of inadequate funding to maintain and modernize the highway system, the state's urban areas (especially Milwaukee) are expected to face growing traffic congestion problems over the next 20-25 years. Translink 21 has identified 1,000 miles of state highway that are projected to experience serious traffic congestion through the year 2020. During 1995-96 a Congestion Management System analysis is being carried out between WisDOT and the state's Metropolitan Planning Organizations, to quantify the expected levels of congestion and evaluate alternatives means of addressing it.

As part of the Translinks 21 process, Cambridge Systematics carried out a study of potential pricing mechanisms that could be used both to control congestion and to raise revenues.⁸ Although the report was favorable to tolls as such a mechanism, the Translinks 21 report rejected pricing mechanisms, concluding that they would have little impact on travel but could “simply raise the cost of transportation in Wisconsin, putting our citizens and businesses at a severe economic disadvantage.”⁹ That premature dismissal will be reconsidered in this study.

II. PUBLIC-PRIVATE PARTNERSHIPS: A NEW OPTION

⁶*Ibid.*

⁷“Corridors 2020: Review and Update,” Madison: Wisconsin Department of Transportation, June 1994.

⁸“Highway Cost & Pricing Study,” Berkeley: Cambridge Systematics, Inc., September 1994.

⁹*Translinks 21, op cit.*

A. Overseas Precedents

Since World War II toll roads have become far more common in Europe and the Pacific Rim than in the United States. The International Bridge, Tunnel & Turnpike Association (IBTTA) identified 9,006 miles of toll roads in Europe as of 1990, compared with 4,657 in the United States. Most of the major intercity highways in Italy, France, and Spain are tollways, and many have been developed under a form of public-private partnership called build-operate-transfer (BOT).

The basic BOT concept is that government, via competitive bidding, awards a long-term franchise to a private consortium that finances, designs, builds, and operates a toll facility. At the end of the franchise period, title to the road reverts to government (which can either operate it itself or engage a new operator via a new competition). Nine-tenths of Italy's motorway system has been built via BOT, beginning soon after World War II. France began using the concept in the 1960s to develop its extensive motorway system; in 1990 the French concession law was amended to expand the BOT concept to urban tollways, and in 1991 the government announced that the majority of a planned 2,900-mile expansion of the motorways would be carried out privately.

Beginning in the late 1980s, the BOT tollway concept began spreading to numerous other countries. The largest such project is the \$15 billion Channel Tunnel between Britain and France. This risky project, which opened in 1994, was built entirely with private capital—and without any government guarantees. Britain now has several BOT toll bridges and a number of highway projects under way, and Spain is studying the expansion of its BOT tollway system. Even Germany's famed autobahns, long without tolls, are now being considered for tolling and privatization.¹⁰ **And the former communist countries of Hungary and Poland are moving rapidly to develop modern motorway systems, using the BOT approach.**

Latin America is also embracing this new paradigm. Argentina, Brazil, Chile, Colombia, and Mexico are among the countries which are turning over existing (mostly two-lane) highways to private consortia, which are modernizing them as tolled expressways using mostly private capital. Likewise, the fast-growing countries of East Asia—China, Hong Kong, Malaysia, and Thailand—all have BOT tollway projects under way (and some already in service). China opened its first private tollway in July 1994, the \$1.2 billion Hong Kong-Guangzhou Superhighway, developed by a Hong Kong firm on a BOT basis. China has some 40 other BOT tollway projects in the planning and development stages, valued at upwards of \$15 billion.¹¹

Australia and Canada are also making use of BOT for new highway capacity. Australia has two such tollways and one toll tunnel already in operation, and several others in the planning and development process, including major new tollways in both Sydney and Melbourne. In Canada, construction began in 1994 on its first BOT project, the Prince Edward Island Bridge, and several other BOT tollway projects are being considered.

Worldwide, an October 1994 tally of BOT projects identified 147 transportation projects (most of which involved roads and bridges) worth \$56 billion that had been financed

¹⁰“EU Road Pricing,” and “German Toll Road Studies,” *Public Works Financing*, June/July 1995.

¹¹John O'Leary (ed.), “Overseas Private Tollways,” *Privatization 1995*, Los Angeles: Reason Foundation, 1995.

since the mid-1980s and were either under construction or in operation. And another 346 transportation projects worth \$352 billion were under study as of that time.¹²

B. Private Tollways in the United States

Although many of the original highways in the United States were developed as private tollways¹³, **the idea had largely been abandoned by the dawn of the 20th century. The “good roads” movement in the early years of this century championed the idea of gasoline taxes as the best way to bring about paved roads, and that paradigm has prevailed for most of the country for most of the century (with the exception of major bridges and tunnels, for which tolls have generally been accepted). And investor ownership has likewise been mostly abandoned, with a few exceptions such as Detroit's Ambassador Bridge and Detroit-Windsor Tunnel and several of the major bridges in the San Francisco Bay Area (which were developed as BOT projects but taken over by the state during the Depression).**

The late 1980s witnessed a rebirth of the BOT private tollway approach in the United States. Virginia led the way, enacting the first modern private tollway law in 1988, followed by California in 1989; Puerto Rico in 1990; Arizona, Florida, and Texas in 1991, Florida in 1992, Minnesota and Washington in 1993. No new measures were enacted in 1994, though Massachusetts and South Carolina officials proposed specific BOT tollway projects. In 1995 Delaware and Oregon enacted private tollway laws, and several other states are actively exploring the idea.

As of the end of 1995, the status of projects in these states was as follows:

Arizona. Three pilot projects for new tollways were approved in 1992, but local opposition to tolls led to them being vetoed by the governor. The defeat of a highway sales tax measure in the Phoenix area in November 1994 led to a revision of the private tollways law in early 1995. Soon thereafter, a private consortium submitted an ambitious new proposal to complete the Phoenix ring-road as a BOT tollway,¹⁴ **and Arizona DOT invited competing proposals from other firms.**

California. Four pilot projects for new tollways were selected in 1990 and franchise agreements negotiated in 1991. The first project, adding four express lanes to the median of a freeway in Orange County, was financed in 1993 and opened in December 1995. A new tollway in San Diego County is in the final environmental review stages in 1995. The other two, riskier and more controversial, have not yet begun the environmental review process and might not get built.

¹²“1994 International Major Projects Survey,” *Public Works Financing*, October 1994.

¹³Daniel B. Klein and Gordon J. Fielding, “Private Toll Roads: Learning from the Nineteenth Century,” *Transportation Quarterly*, Vol. 46, No. 3, July 1992.

¹⁴“HDR Pushes the Envelope in Arizona,” *Public Works Financing*, August 1995.

Delaware. In the spring of 1995, Delaware's legislature unanimously enacted a measure that permits the state's transportation department to select up to four BOT-type transportation projects. Projects will be selected via a competitive process, beginning as early as fall 1995. The legislation includes provisions for a revolving loan fund to make federal money available for privatized projects.¹⁵

Florida. Two proposals for new tollways were submitted in 1992, but have not yet been approved by the state transportation department or the legislature. (Florida's law requires a legislative vote on each project.) In 1994 another group proposed a project, this one in the Miami area.

Massachusetts. Though lacking a specific BOT law, Massachusetts Transportation Secretary James Kerasiotes has proposed that congested Rt. 3 be modernized as a BOT tollway.

Minnesota. This state issued its initial request for proposals (RFP) for private tollway projects in July 1995 and received five proposals in November 1995. It has a major study under way of the potential for tolls and congestion pricing in the Twin Cities area.

Missouri. In 1990 Missouri enacted a measure to permit the creation of nonprofit transportation corporations which may issue revenue bonds and charge tolls. Thus far, no projects have been launched under this legislation.

Oregon. In the summer of 1995 the Oregon legislature enacted a measure authorizing private toll facilities on a BOT basis. It specifically provides for two initial projects, for which strong local support has been expressed, and permits others to be proposed, subject to further legislative approval.

Puerto Rico. The Commonwealth's first BOT project, the San Jose Lagoon Bridge, opened to traffic in 1993. Two BOT toll highways are under development.

South Carolina. The South Carolina DOT in mid-1995 began advertising for proposals from the private sector for two new toll roads. The state held a similar competition for the proposed Conway Bypass in late 1994, but selected as the winner a team proposing a project financed by a local sales tax instead of tolls.

Texas. Despite enacting a private tollways law in 1991, Texas has not yet issued an RFP or actively encouraged proposals. Most interest thus far has focused on border crossing projects, such as a proposed Camino Columbia bridge near Laredo. Prior to repeal of a 1913 private tollway law in 1991, private firms filed applications for nine projects which would be "grandfathered" under the old law's terms; none has thus far been developed. Texas DOT held a toll road symposium in August 1995 to elicit recommendations from the private sector.

¹⁵"States Lining Up for User-Fee Finance," *Public Works Financing*, Jule/July 1995.

Virginia. The first (and only) project under Virginia's 1988 law, the Dulles Greenway, opened in September 1995. In early 1995, the legislature enacted a replacement measure, removing BOT projects from regulation by the state's public utilities commission. A number of project proposals were expected to be submitted by the end of 1995.

Washington. Six projects, valued at \$2.5 billion were selected (from 14 proposals) in 1994 for franchise negotiation and development. Just as the franchise negotiations were nearing completion, the legislature enacted major amendments to the enabling legislation, tabling one of the projects pending further study and requiring referenda on the others. Two of the remaining five projects have been cancelled and the other three will be subject to local referenda in 1996.

A number of other states are looking into a greater use of tolls and/or privatization; among these are Maryland, New Jersey, and Ohio.

C. Federal Incentives and Assistance

In 1991 Congress enacted the Intermodal Surface Transportation Efficiency Act, better known as ISTEA. This legislation reversed more than 50 years of federal opposition to tolls, as well as endorsing private ownership and funding of federally aided highways. Specifically, ISTEA's provisions permit the tolling and private ownership or leasing of the following¹⁶:

Construction of *new* toll highways, bridges, and tunnels, *except* on the Interstate system.

Rebuilding *existing toll* highways, bridges, and tunnels, *including* those already on the Interstate system.

Rebuilding existing free highways as tollways, *except* on the Interstate system.

Rebuilding existing free bridges and tunnels as toll facilities, *including* those on the Interstate system.

Congestion pricing projects in urban areas (*including* up to three projects on urban Interstates).

Thus, these provisions apply both to many *existing* federal-aid facilities, which can be converted to tolls and private ownership and/or operation, and to potential *new* highways, bridges, and tunnels, which can be developed as BOT or BTO public/private partnerships. The only exception is existing non-tolled Interstate highway segments which are not bridges or tunnels. These are still exempt from tolls and privatization.

Yet while refraining from lifting the general ban on Interstate tolls, Congress did include provisions in ISTEA that open the door part-way. The measure authorized five congestion pricing pilot projects, for which federal assistance can be provided. Up to three of these five can be on urban Interstate segments. Though defined as pilot projects, there is no time limit on

¹⁶“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.

these projects, so the provision could be used to implement an ongoing pricing regime on an existing urban Interstate system.

Congress has already begun to revisit the tolls-on-Interstates issue. In the spring of 1995, Sen John Warner included a provision in the draft National Highway System bill that would have lifted the ban. However, the provision was deleted from the bill in the Senate Environment & Public Works Committee during final markup, after strong opposition from auto and truck interest groups.

III. PROS AND CONS OF TOLLING AND PUBLIC-PRIVATE PARTNERSHIPS

A. Potential Private Sector Benefits

Public-private partnerships in highway transportation have spread worldwide and across the United States because the private sector can bring a number of advantages to the table, helping to revitalize a highway system that has changed little since the Eisenhower era. Among these benefits are the following.

1. Highway Innovations

Automated Toll Collection. Modern electronics technology has made the conventional toll booth all but obsolete. Already in mass production and in use in several states are electronic tags that permit a vehicle's account number to be "read" by a low-power radio signal as the vehicle drives past a toll-collection point at highway speeds. This means the driver need not even slow down, let alone stop and wait in line, in order to pay the toll.

Such systems operate on either a debit or a credit basis (sometimes offering users a choice between the two). In a debit system, the user opens an account and is required to maintain a positive balance, against which each toll charge is deducted at the time of use. With a credit system, the user is billed periodically, just as with telephone or electricity service.

First-generation electronic toll collection (ETC) systems typically use a one-way communications link, in which the tag simply sends back its I.D. number to the roadside device. This kind of system is called Automatic Vehicle Identification (AVI). If used on a credit basis, AVI may raise privacy concerns, since a record of transactions (and hence the vehicle's locations) must generally be collected and maintained for billing purposes. A debit version of AVI can protect privacy by offering an anonymous account (as on the Dallas North Tollroad), which can be replenished with cash, for complete privacy.

More-advanced ETC systems, now in the testing stage, make use of a smart card upon which an account balance may be stored. The card is inserted into a dashboard-mounted transponder, so that the account balance can be read and debited as the vehicle passes a toll collection point. Since the identity of the transponder is irrelevant, this type of system is inherently protective of privacy.

ETC systems have been introduced into existing toll-collection systems in Florida, Louisiana, Illinois, New York, Oklahoma, and Texas over the past five years. In most cases, the roadside device has been retrofitted into an existing toll-plaza lane, which requires the driver to slow down because of the narrow width of the lane. But California and Oklahoma have introduced ETC on several new toll roads in configurations which permit users to bypass toll lanes altogether and maintain highway speeds; Illinois is in the process of doing likewise.

The private sector is taking ETC one step further than public agencies. California's first private toll road, the SR-91 Express Lanes is the world's first *fully-automated* toll road. Only those willing to make use of the electronic

tags are permitted onto these lanes. This design feature has significantly reduced the cost of this four-lane toll road, since there are no conventional toll booths or plazas to build and no toll-collector salaries and benefits to pay. We can expect further innovation of this sort as the private tollway industry develops.

Congestion Pricing. For more than 30 years transportation economists have advocated direct road pricing, with charges that vary with the time of day or the actual or expected level of congestion.¹⁷ **Thus far no government toll authority has been willing to put this idea into practice, though most transportation professionals acknowledge that it makes sense in principle.**

Here again, it is California's first private toll road, the SR-91 Express Lanes, that will pioneer congestion pricing. This commuter-oriented route will charge a price that varies in real time, based on limiting the amount of traffic to a level that will guarantee users the time savings promised them by using the Lanes. (SR-91 is being built in the wide median of a highly congested freeway.) In advance of the entrance to the lanes, drivers will encounter a changeable message sign which announces the current price to use the 10-mile route. Depending on her assessment of expected traffic conditions ahead, the user will decide whether or not to get in the approach lanes to the tollway or to remain on the freeway. Toll rates as high as 20 to 25 cents per mile are anticipated during certain portions of the peak commuting hours.

No rule or law prohibits a conventional toll agency from adopting congestion pricing, but the fact that the private sector is pioneering this approach suggests that this kind of risk-taking is more suitable to the private sector.

Creation of New Rights of Way. Recent experience with private tollroads has demonstrated new creativity in finding rights of way in urban areas. One important source of opposition to new freeway construction is the potential adverse impact on homes and businesses that are expropriated to make way for the new route. Wishing to minimize the huge costs and time delays involved in litigation over such proceedings, a number of private consortia have identified new ways to put together the needed rights of way.

Two of California's four authorized private tollway projects provide illustrations. The proposed SR 57 extension would fill in a missing link in the freeway system of Orange County by making use of the air rights above the flood-control channel of the Santa Ana River. Essentially, the firm proposes to build a 10-mile[ck] long bridge above this concrete-lined channel. To reduce construction and maintenance costs, the tollway would be limited to cars and light trucks. And, as previously noted, the SR-91 Express Lanes are being built in the wide median of an existing freeway in Orange County.

In France several urban tollway projects are going underground rather than seeking right-of-way on the surface. Marseilles has turned a no-longer-used rail tunnel into a four-lane (two-level) toll tunnel, aimed at diverting 4,000 cars per hour from congested city streets. The \$221 million project was privately funded and developed on a BOT basis. A suburb of Paris has

¹⁷National Research Council, *Curbing Gridlock: Peak-Hour Fees to Relieve Traffic Congestion*, Special Report 242, Washington, D.C.: Transportation Research Board, 1994.

granted a long-term BOT franchise for a \$5.4 billion, 31-mile congestion-relief toll tunnel system called MUSE, currently in the design stage. To keep tunneling costs reasonable, these projects will also limit vehicles to cars and light trucks, which reduces the tunnel volume which must be excavated by two-thirds.¹⁸

Yet another private-sector project is the Bangkok Elevated Transport System, a \$3 billion project being developed by Hopewell in Bangkok. This tollroad is being built above an existing urban rail right of way. The three-level project will provide parking and retail on the ground level, a mass-transit railway on the second level, and a tollway on the top level.

2. New Funding Sources

Wisconsin has not identified the funding sources for its proposed \$8.9 billion in additional transportation investment over the next 25 years, as noted in Section I. Tolls can provide a new revenue stream that makes it possible to attract three distinct sources of new capital.

The first of these is tax-exempt revenue bonds. Strictly speaking, this is not a new source of transportation capital for Wisconsin, since a portion of its highway investment now comes from that source. But tolls would provide an additional revenue stream that would permit further tapping this pool of capital.

Private tollway consortia (as opposed to a government toll authority) could tap into two additional pools of capital: taxable debt and equity. The first two private toll roads in the second half of the 20th century—Virginia's Dulles Greenway and California's SR-91 Express Lanes—were financed in this manner.

The short-term construction loans were provided by bank consortia, while the longer-term debt was provided mostly by large insurance companies, such as CIGNA and Prudential. Long-lived infrastructure projects with reliable future revenue streams are a good match for the investment needs of insurance firms. The equity was provided by the developers themselves.

Another potential source of taxable debt for tollway projects is America's pension funds. With \$5 trillion in assets, they, too, seek sound, long-term revenue-producing investments. They have not invested in conventional tollroads, because those highways are financed by tax-exempt debt. Since pension-fund earnings are themselves exempt from taxation, pension funds do not benefit from the tax-shelter provided by tax-exempt bonds and would suffer from the lower interest rates on such bonds. Once private toll roads become more established, it is expected that pension funds will be among their long-term providers of funding. This potential was recognized by the Infrastructure Investment Commission in 1993, which set forth recommendations for federal actions to encourage more such private infrastructure projects.¹⁹

Australia has recently seen the first provision of equity for private toll roads by means of a stock-market offering. The \$372 million M2 Motorway in Sydney had an initial stock offering in December 1992 and is now traded on the Australian stock exchange. The success of that offering has led to plans for similar financing of the much larger (\$1.4 billion) Melbourne City Link.

¹⁸Robert W. Poole, Jr., "Congestion-Relief Toll Tunnels," *Transportation Quarterly*, Vol. 48, No. 2, Spring 1994.

¹⁹Daniel V. Flanagan, Jr., et al., *Financing the Future*, Washington, D.C.: Commission to Promote Investment in America's Infrastructure, February 1993.

The precedent for Australia's equity offerings was the Channel Tunnel between England and France. It was financed by a mix of publicly traded equity and debt instruments, without any government funding or guarantees. Though this ambitious project has suffered huge cost overruns and might yet go under, no taxpayers' funds have been put at risk.

3. *Risk Transfer*

A principal reason why the World Bank is now urging privatization of major infrastructure in developing countries is to minimize the risk of unwise investment. Public works programs, both in the Western world and in developing countries, often include “white elephant” projects costing several times what they can generate in revenues. All too often, large-scale infrastructure project location and design features are dictated more by political considerations than by economics.

How and why does privatization make a difference in new-project development? The private firm must convince the suppliers of capital (both debt and equity) that the project makes economic sense, as determined by credible projections of a commercial return on investment. The risk that the project will either cost too much or generate too-little revenue is shifted from the taxpayers to the private investors. In order to minimize that risk, the potential providers of capital insist on a high degree of due diligence in reviewing the design and cost of the project, and especially on traffic and revenue forecasts that are “investment grade.”

4. *New Tax Revenues*

In contrast to state or municipal highways and bridges, privatized projects (unless specifically exempted) will pay taxes like ordinary businesses (such as railroads and 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 \$250 million Dulles Greenway in 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.²⁰ That is more than \$2 in tax revenues for every \$1 of capital invested.

5. *Cost and Time Savings in Construction*

Privately owned and operated projects (and this applies both to brand-new roads as well as reconstruction of existing roads) can generally be developed in less time than public-sector projects, and are likely to experience lower operating costs. Both domestic and overseas experience supports these claims.

Private projects are generally exempt from numerous government procurement regulations that lengthen the time it takes to plan and build a project. Typically, on private projects a consortium is assembled at the outset, making use of a technique known as “design/build.” In this approach, the design and construction stages are integrated, permitting the construction firm(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 cut one-third to one-half from the overall development time. 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 manner.

²⁰*Legislative Initiatives for Public-Private Partnerships in Transportation*, Washington, D.C.: The Privatization Council, May 1991.

Time is money in construction. Reducing the length of time in which capital is tied up translates directly into capital cost savings on the project. Moreover, a private consortium which will own and operate the project it develops has strong incentives to design the project so that it will be less costly to operate and maintain. (In some cases, this might mean spending more at the outset—e.g., on thicker, longer-lived pavements—in order to reduce the life-cycle cost.)

6. Reduced Operating Costs

Because it is a business seeking to produce returns to its investors, a private tollways firm has strong incentives to operate efficiently. A good example that illustrates the potential savings from private tollway operation comes from the Orlando-Orange County Expressway Authority. In 1995 OOCEA privatized the operation of all toll collections on its 80-mile tollway system, selecting a private team via competitive bidding. The net result will be to reduce annual operating costs from \$12 million to \$9.4 million—approximately 25 percent. The cost savings result from lower administrative overhead, elimination of a number of assistant managers, and use of a larger fraction of part-time employees for entry-level positions. Wages and benefits will be comparable to those paid previously—a requirement of the RFP.²¹

Privately contracted highway maintenance has also produced large cost savings in such places as Massachusetts and British Columbia, where it has been used extensively. Massachusetts in 1992 began contracting out highway maintenance in Essex County; cost savings were 27 percent.²² In 1993 and 1994, contracting-out was expanded to seven counties in Eastern Massachusetts. British Columbia contracted out all highway maintenance in 1988; savings for the first three years averaged 7.5 percent.²³

7. Incentives for Better Performance

The incentives that drive a private tollway company's decision-making will produce more benefits than simply lower operating costs. Peter Samuel points out that public highway agencies tend to benefit, politically, from motorist frustration with construction delays, since that frustration can be translated into support for legislation to increase gasoline taxes. By contrast, the private firm has strong financial incentives to avoid construction delays (e.g., by scheduling repairs at off hours), since such delays will deter paying customers from using the tollway.²⁴

Another difference in incentives concerns life-cycle costs. The private tollway company will naturally select the pavement thickness that minimizes life-cycle costs, accepting a higher initial thickness (and hence, cost) if this will be offset by lower maintenance and reconstruction costs over the life of the facility. The public highway agency, by contrast, generally seeks to minimize initial cost, which comes out of separate budget allocations than ongoing maintenance expenses—even though this may lead to significantly higher

²¹Harold Worrall, "Toll Collection Privatization: Orlando-Orange County Expressway Authority," and William G. Reinhardt, "Public Owner Needs Private Flexibility," in *Public Works Financing*, September 1995.

²²"Doing More with Less," Boston: Massachusetts Department of Transportation, January 1994.

²³Andrew G. White, "Different Road to the Same Place," *Engineering News-Record*, October 5, 1992.

²⁴Peter Samuel, "Will Privatization Pave the Way for the Nation's Highways?" *Insight*, October 9, 1995.

life-cycle costs. Precisely this type of contrast occurred in 1995 in Orange County, California, where separate toll facilities were under construction by a public agency and a private firm. The public agency built their tollway to the minimal Caltrans pavement specifications, whereas the private tollway firm selected thicker pavements, based on lower life-cycle costs.²⁵

8. *Leveraging Federal Funds*

State legislators and transportation department officials are accustomed to using federal highway funds only to match state funds. But the flexibility offered by ISTEA's privatization provisions offers the opportunity to make the limited federal dollars 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.

A Reason Foundation report on this subject provided a hypothetical example of a state needing \$500 million to do 12 highway projects and \$100 million of federal aid available. Using the typical 80/20 federal/state matching ratio, and \$100 million of available state funds, six projects using the entire \$200 million could be funded. But if eight of the project lent themselves to tolling and could be funded 25% federal/75% private, then \$300 million in private capital would be attracted, supplementing the \$100 million in state and \$100 million in federal funds. The result was 12 projects worth \$500 million being fundable.²⁶

Under ISTEA's current provisions, this kind of leveraging could be applied to existing and new federally aided state highways, urban Interstates (if designated as congestion pricing pilot projects), and reconstruction of rural Interstate bridges. It would only be applicable, of course, to those facilities whose traffic levels made them suitable for tolling.

B. *Potential Private Sector Drawbacks*

While a number of states have enacted private tollway legislation since 1988, the number of projects actually financed and under way is very small. The BOT concept is still very new to public officials, opinion leaders, and the general public. Consequently, there are understandable concerns about moving rapidly to this new and different way of providing for highway capacity.

1. *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. Would roads actually get built where needed, or only where highly profitable? Would certain categories of users be excluded? Who would enforce traffic laws, and what laws would apply? Etc.

There need not be conflict between private ownership and/or management and public control. The key is to think through what public concerns must be addressed and then incorporate legally enforceable provisions into the franchise agreements. In most cases, highway and bridge projects will involve long-term franchises, akin to leases, rather than permanent private ownership. But even in the latter case, the government could either grant a perpetual franchise (monitored for ongoing compliance with public-interest provisions) or provide for the future

²⁵Carl Williams, Assistant Director of Caltrans, personal communication, Dec. 4, 1995.

²⁶Robert W. Poole, Jr., "Private Tollways: How States Can Leverage Federal Highway Funds," Policy Study No. 136, Los Angeles: Reason Foundation, February 1992.

via deed restrictions, mandating (for example) that the land remain in use as a transportation corridor open to the public.

Franchised 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 that term. As such, they will only work if the interests of both the public and the company are well-served by the contractual arrangements.

2. *Bankruptcy*

Despite the rigorous scrutiny provided in advance by investors in a privatized project, one cannot rule out the possibility that future circumstances might lead to a bankruptcy filing by the company. It is important to remember that a Chapter XI filing represents a reorganization, not a dissolution, of the enterprise. Under Chapter XI the firm would continue to operate the tollway, providing the same services to users as before the filing. And in the more serious case in which the firm must cease operating, under a Chapter VII filing, the physical facilities do not disappear. They remain in place, available for operation by new owners and managers. That new owner/operator could be the State of Wisconsin, or it could be another private firm, selected competitively.

Vital public facilities such as highways should be privatized only under the ongoing supervision of a long-term franchise (as provided for in ISTEA's public-private partnership provisions and in all the current state private tollway laws). The franchise agreement can provide ample protection for the public interest, to ensure that the state can step in to keep the facility in operation in the event the franchise holder encounters serious financial difficulties.

3. *Labor Issues*

Two different groups of unionized workers might have problems with a private tollway program: unionized WisDOT engineering staff and private-sector construction trades unions. Either could become a source of opposition to the program.

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

The same approach can be used to frame the issue with construction trade unions. In many cases, the construction jobs on private projects will go to unionized workers anyway, though this is not guaranteed. The fact that it is not guaranteed may induce some legislators to include a provision in the privatization law mandating that any existing state “prevailing wage” law that applies to public projects also apply to privatized ones. Such a measure (which was included in California's law) will in most cases increase the labor costs on private projects, but the political trade-offs must be addressed on a case-by-case basis. It should be noted in passing that construction trade unions strongly supported both the Minnesota and Washington public-private partnership acts passed in 1993 on the grounds that they would increase the amount of funds to be invested in highway projects.

4. *Higher Financing Costs*

In most cases a privately financed project will not be able to make use of tax-exempt debt (unless and until the tax laws are reformed to address this inequity²⁷). **Since the interest rate on taxable debt has been up to two percentage points (200 basis points) higher in recent years, this difference will tend to increase the project's financing costs. But two factors work to at least partially offset this potential disadvantage. First, for the reasons noted above, the total cost that must be financed may be smaller in a privatized project. Second, a private firm can deduct the costs of paying interest, thereby making the after-tax cost of financing more comparable to that of the public sector using tax-exempt debt. In addition, the prospect that a flat tax could replace the present income tax (under which interest earnings would no longer be taxed on private-sector bonds) in recent months has been narrowing the differential in interest rates between taxable and tax-exempt bonds. Under this type of flat tax, there would no longer be any difference in rates between bonds issued by government and private entities, given the same type of project and level of risk.**

C. **Disadvantages of Tolls**

There is no question that tolls will be controversial, especially in a state like Wisconsin with no current toll facilities. The most important factor in whether the approach outlined in this paper will prove workable is the political acceptability of tolls in Wisconsin.

1. *"Paying Twice"*

A major concern of drivers (who are also voters and taxpayers) is that paying tolls represents having to pay a second time for a road for which the driver has already paid via gasoline taxes. Since public opposition has already derailed some private tollway projects in Arizona and Washington, this concern needs to be addressed very seriously.

One relevant factor is that despite the indexation of Wisconsin's gasoline tax for inflation, there is still a large gap between the sums needed to properly maintain, modernize, and rebuild the state's highway system and the revenues being produced by the gasoline tax and other traditional funding sources. Thus, the addition of tolls to selected highways would provide a way of meeting this shortfall, not of simply extracting more funds from hapless motorists.

Second, it would be wise to target the introduction of tolls to those portions of the highway system where visible improvements will be brought about by the increased funding. In this way, the perception of paying twice will be counteracted.

Third, to the extent that tolling and privatization of portions of the highway system produced more revenue than needed for increased maintenance and required modernization, it would be important to use any excess revenues to provide tax relief elsewhere in the system, either by reducing state gasoline taxes or providing property tax relief to local governments for the portion of their property tax funds spent on roads.

In short, while the concern over paying twice is legitimate, policies can be adopted and communicated to the public that should alleviate much of this concern.

²⁷Robert W. Poole, Jr., "Revitalizing State and Local Infrastructure," Policy Study No. 190, Los Angeles: Reason Foundation, May 1990.

2. *Dislike of Toll Payment Methods*

Much of the opposition to tolls that shows up in surveys and focus groups is based on the inconvenience of paying tolls in the old-fashioned way, by lining up to wait at a toll plaza and throwing coins into a bin. The general public, and even most reporters and opinion leaders, are only dimly aware, if that, of the existence of nonstop electronic toll collection (ETC), not as a science-fiction idea for the future but as an off-the-shelf technology already in use in a number of states.

A significant fraction of the opposition to tolls may be able to be overcome via widespread educational efforts that make clear that with ETC:

Drivers need not stop or even slow down at toll collection points.

Drivers need not carry cash or have to worry about having exact change.

Drivers need not worry about rear-end collisions in toll lanes.

Drivers may receive discounts for driving at off-peak hours or (possibly) for ride-sharing.

Drivers may opt for a prepaid system, under which no records need be kept of when and where they paid tolls.

Drivers may opt for a credit-type system, under which they can have itemized bills, if they desire.

In other words, if people can first be persuaded that tolls do not mean “paying twice,” then their principal remaining objections—about the actual methods of toll collection—should be able to be dispelled via the user-friendliness of present and near-future ETC systems.

3. *Diversion onto Local Roads*

Another legitimate concern about tolls is that if tolls are put onto major highways, a fraction of those who previously used the highway will divert onto local roads, increasing both congestion and wear-and-tear on those roads. Diversion is a well-known phenomenon with any toll road. Those planning such a facility spend considerable effort doing surveys and computer modeling to predict the extent of diversion, which is strongly a function of the toll rate being charged (as well as other factors).

The good news is that most toll projects judged feasible need to charge tolls that the majority of potential users will find acceptable—in other words, because of time savings, better highway quality, etc., users find that the value gained by paying the toll is greater than the value of the money paid for using the road. At such toll levels, the percentage of traffic diverted tends to be in the teens (e.g. 11-20 percent). This is generally not enough to cause major congestion or wear-and-tear problems. Where it is, mitigation measures can be taken, funded (in part or in whole) by a portion of the toll revenues. In some cases, local roads can be strengthened or widened to accommodate the new traffic. In other cases, traffic-control measures can be taken to discourage diversion—e.g., additional traffic signals, speed humps, through-traffic barriers, and other “traffic-calming” methods.

4. *Opposition by Trucking Industry*

Another common objection to the introduction of tolling is the concern that the trucking industry will mount formidable political opposition, given its historic hostility to tolls and toll roads. While this is a legitimate concern, there are sound reasons for the trucking industry to rethink its position on this issue.

Successful truck freight transportation depends on high-quality roads. To the extent that Wisconsin's highway needs (for reconstruction and proper maintenance) go unmet over the next 25 years, the trucking industry will suffer. Indeed, a 1986 study by Apogee Research points out that because toll roads are in better shape than

comparable tax-funded roads, large combination trucks save an average of 1.3 cents/mile in operating costs on toll roads.²⁸ (**Adjusting for inflation, that saving would be 1.8 cents/mile in 1995**).

There are signs that the trucking industry is rethinking its opposition. For one thing, the advent of electronic toll collection and related weigh-in-motion systems, which permit trucks to bypass weigh stations and pay fees automatically, has attracted trucking industry participation in various pilot projects. NAFTA is leading to further interest in electronic systems that permit automatic payment and bypassing of congested border inspection stations. And in recent testimony on an infrastructure privatization measure before the House Subcommittee on Government Management, Information, and Technology, the American Trucking Associations supported tolling and privatization “when the effort increases highway capacity and productivity or pays for major reconstruction projects.”²⁹ Although the ATA statement excluded Interstate highways (in keeping with the current federal ban on tolling Interstates), this statement is a significant indication of the trucking industry's coming to terms with tolls and privatization.

5. *Repayment of Federal Grants*

Historically, for most of the 20th century if a state wished to convert a federal-aid highway or bridge to tolls, it was required to get Congress to enact special legislation and to repay all previous federal aid that had gone into the facility. Two such cases occurred prior to the Interstate program (in Connecticut and New Jersey, both of which paid back federal funds so as to incorporate federally aided highways into state turnpikes³⁰). In the Interstate era, Maryland and Delaware received congressional approval to repay planning and engineering funds spent on a proposed Interstate, in order to build the route as a turnpike instead. Indiana and Virginia obtained legislation allowing them to repay federal funds so as to have the right to continue collecting tolls on the Indiana Toll Road and the Richmond-Petersburg Turnpike after their construction debt was retired; the congressional measures freed them from Sec. 129 agreements that had required the cessation of tolls on these Interstates once the initial bonds were paid off. As of 1985, a Congressional Budget Office study identified 15 Interstate highways and bridges (including Chicago's Calumet Skyway and the Kansas Turnpike) with outstanding Sec. 129 agreements with FHWA, permitting tolls until the construction bonds are paid off.³¹

This problem has been significantly reduced via the sharp change in federal policy on tolls reflected in 1991's ISTEA measure. Today, the only cases in which grant repayment

²⁸Richard Mudge, “How Toll Roads Can benefit the Trucking Industry: The Economic Case,” Washington, D.C.: Apogee Research, July 1986.

²⁹John J. Collins, “Statement of the American Trucking Associations, Inc. on H.R. 1907, Federal-Aid Facility Privatization Act of 1995,” U.S. House of Representatives Subcommittee on Government Management, Information, and Technology, November 15, 1995.

³⁰Letter from Wisconsin Department of Transportation to Sen. Tim Cullen, January 26, 1982. These details appear on p. 3 of appended material titled “Wisconsin Interstate Rehabilitation Needs.”

³¹*Toll Financing of U.S. Highways*, Washington, D.C.: Congressional Budget Office, December 1985, pp. 42—43.

is apparently required involve highway segments on the Interstate system. (Interstate bridges and tunnels can now be rebuilt as toll facilities.) And even that restriction might be reduced or eliminated in the ISTEA reauthorization bill in 1997. To be sure, repayment of federal grants would be a significant cost of converting Interstate facilities to toll roads, but not necessarily a crippling cost.

D. Advantages of Toll Roads

1. Better-Maintained Roads

One well-known advantage of toll roads is their generally better condition, compared with equivalent “free” highways.³² **The main reason for this is that a toll road's bondholders insist on legally bonding covenants in the bond agreements mandating proper levels of maintenance, so as to protect their investment until the bonds are paid off. By contrast, state highway agencies have no such guardian angel ensuring that a “free” highway is properly maintained. Maintenance budgets must be appropriated by the legislature, competing for funds with hundreds or thousands of other needs. It is therefore hardly surprising to find significant portions of the nation's highway system suffering from “deferred maintenance.” While Wisconsin's highways are currently in relatively good shape compared to those of other states, as noted in Tables 2-4, non-trivial fractions are in less than optimum condition. This is unlikely to happen with tolled highways.**

2. Greater Safety Levels

Better average physical condition, a higher level of policing, and limitations on access (which prohibits farm vehicles and discourages poorly maintained vehicles) all lead to better safety records on toll roads than on comparable non-tolled roads. In addition, the liability which private firms must insure against also provides strong incentives to maintain safe conditions on such toll roads. Statistics compiled by the International Bridge, Tunnel and Turnpike Association show that the accident rate on toll roads is 0.6 fatalities per 100 million vehicle miles, compared with 0.9 on the (non-tolled) Interstate system—33 percent better.³³

3. Congestion Relief

As noted previously, congestion pricing is one of the most promising and cost-effective approaches for dealing with traffic congestion. The basic idea is simply to charge a price for using the congested facility that keeps demand (at a particular time of day) in balance with supply (i.e., the amount of capacity for smoothly flowing traffic). Singapore has been using an early form of congestion pricing since 1975, dramatically improving access to the central business district.³⁴ That city-state is now in the process of converting to a fully ETC-based automated congestion pricing system. Norway's three largest cities have also put in place “toll rings” around their downtowns, using the toll revenues principally to expand highway capacity.

³²*Ibid*, Appendix.

³³Cited in Gabriel Roth, *Roads in a Market Economy*, Brookfield, VT: Ashgate Publishing, 1996, p. 55.

³⁴Jose A. Gomez-Ibanez and Kenneth A. Small, *Road Pricing for Congestion Management: A Survey of International Practice*, NCHRP synthesis of Highway Practice 210, Washington, D.C.: Transportation Research Board, 1994.

In 1994 the National Academy of Sciences' Transportation Research Board published the results of a year-long study of congestion pricing by a team of transportation experts. They concluded that it was a feasible and cost-effective approach to dealing with urban traffic congestion, especially freeway congestion.³⁵ A book by long-time urban policy researcher Anthony Downs, called *Stuck in Traffic*, analyzed all proposed alternative ways of coping with urban traffic congestion and concluded that congestion pricing would be the most cost-effective, in part because it was the only approach that effectively addressed the issue of latent demand.³⁶

Congress recognized the potential of congestion pricing by including provisions in the 1991 ISTEA legislation urging urban areas to make use of it. Specifically, it authorizes FHWA to provide grant assistance for up to five pilot projects in urban areas, three of which can involve urban Interstate facilities.

In short, tolls are increasingly being seen, correctly, as not simply a means of paying for the construction of highways. Rather, they can be an effective way to manage the operation of potentially congested highways, and a source of finance for ongoing operation and maintenance of the highway which is tolled (and potentially for other portions of the transportation system).

IV. POTENTIAL PRIVATE TOLLWAYS FOR WISCONSIN

A. Best Candidates for Tolls and Privatization

In most states which have authorized new toll roads and highway privatization via public-private partnerships, the motivating factors have been either (1) rapid development in certain areas, leading to a severe shortage of highway capacity (e.g. Virginia suburbs of Washington, DC; Orlando area in Florida), or (2) severe congestion on existing freeways (Orange County, California), creating a demand for congestion-relief facilities. Neither of these conditions appears to be the case in Wisconsin. While several areas (Dane County, Fox Cities) are experiencing growth, existing highway capacity does not appear to be overstressed to the degree that would make the development of new tollways feasible. WisDOT has no projected new freeway corridors in its Translinks 21 plan. In addition, although rising levels of congestion are forecast for the Milwaukee area freeways in the coming decade, existing traffic levels are not perceived as constituting a serious near-term congestion problem.

Rather, as noted in Section I, the principal problem in Wisconsin is an aging highway system which, over the next 25 years will need to be substantially reconstructed, at a cost far above what will be generated by the current set of funding sources. Hence, the principal opportunity for tolling and privatization in Wisconsin lies in the reconstruction and modernization of existing highways. Since a toll facility, to be financially feasible, must generate sufficient traffic to provide a return to its investors, it is the highest-traffic facilities that are the best candidates.

³⁵National Research Council, *op. cit.*

³⁶Anthony Downs, *Stuck in Traffic*, Washington, D.C.: The Brookings Institution, 1992.

In researching the issue with assistance from WisDOT, it became clear that the most likely feasible candidates for tolling and privatization, based on traffic volumes, are the existing Interstate highway facilities in Wisconsin: I-43, I-90, I-94, I-794, and I-894. Other state highways with at least 10,000 average daily traffic, which might have some potential for toll-road conversion, include much of US 51, US 10 between Appleton and Stevens Point, and much of US 151 between Madison and Fond Du Lac. But because traffic volumes are so much higher on the Interstate system, this is clearly the most attractive candidate for tolling and privatization. The remainder of this report focuses solely on that system.

B. Previous Tolling Studies

In 1981 State Sen. Tim Cullen requested WisDOT to prepare a brief analysis of toll roads and alternatives. The result was an informal assessment that looked into the financial and legal feasibility of converting the rural Interstate system into a tolled system. It considered three alternative types of toll road systems—closed, barrier ramp, and barrier—and concluded that the barrier system would be the most feasible, since it would involve the lowest conversion and operating costs, while producing almost as much net revenue as the barrier ramp system.³⁷

This informal study stimulated enough interest that a more thorough feasibility study was carried out in 1983 by Wilbur Smith & Associates (WSA), with assistance from Howard, Needles, Tammen & Bergendoff.³⁸ This study examined the rural Interstate system in great detail, as well as conducting a less-detailed study of the urban Interstate system within Milwaukee County. Based on the previous WisDOT study, it assumed the use of a barrier toll configuration, trading off its lower costs for a higher level of diversion of traffic around the barrier-type toll plazas (in comparison with barrier-ramp or closed configurations).

The conclusions of the study were striking. For both rural and urban Interstates, WSA found that tolling the Interstates—even at admittedly low toll rates—would be financially feasible. In the rural case, their financial model explicitly took into account paying for the construction and operation of the toll plazas, taking over all operations and maintenance costs of the highways themselves (and at a significantly increased level of maintenance and patrol, as would be expected of a toll road), and repayment of the federal investment in the tolled sections.

A basic factor in assessing financial feasibility is the debt coverage ratio—i.e., the ratio between annual net revenue and annual debt service payments. Generally, investors require a coverage ratio of at least 1.25. For the various scenarios (involving different financing assumptions) which included all operations and maintenance costs, coverage ratios ranged from a low of 1.89 to a high of 7.54. For the most stringent case, in which financing made use of revenue bonds (which are more costly than general-obligation bonds), and in which federal repayment was required, coverage ratios for the three alternative toll concepts were 1.89, 2.57, and 2.94.

³⁷Letter from WisDOT to Sen. Cullen, *op cit*.

³⁸Wilbur Smith & Associates, Inc., *Feasibility of Converting Wisconsin's Interstate to a Toll Road*; prepared for Wisconsin Dept. of Transportation, New Haven: Wilbur Smith & Associates, August 1983.

Not included in the financial model was the cost of periodic reconstruction of the tolled routes, nor the cost of any improvements to alternative routes that would be impacted by traffic diverted from the tolled Interstates. But the average annual surplus—which would be potentially available for such capital needs—ranged from \$31 million to nearly \$79 million over the various scenarios modeled. Even with federal repayment and the use of revenue bonds, the average annual surplus was between \$31 million and \$60 million.

For the less-detailed urban Interstate analysis, the results were also very positive. In this case, the financial model did not include the costs of highway operation and maintenance (only the costs of building and operating the toll plazas). Nor did it include any costs for federal repayment. But despite the very high projected costs of adding toll plazas in built-up Milwaukee, the average annual surplus of the four alternatives studied ranged from \$13 million to \$23 million. That would be more than enough to pay the current costs of routine maintenance of the Milwaukee County Interstate system (\$4.3 million per year) plus the current cost of patrolling it (estimated at \$6.7 million per year). But there would probably not be enough left over to cover any required federal repayment.

As WSA noted, the average toll rates assumed in its urban Interstate scenarios (between 2 and 4 cents per mile) were below typical urban toll rates even in 1983; they suggested (but did not analyze) that tolls of 4 to 5 cents per mile “could reasonably be imposed.” Though somewhat greater diversion would result from those higher tolls, the net revenue would be significantly greater, possibly enough to cover federal repayment, as well.

WSA also addressed the impact of tolls on tourism. The toll levels assumed in its analysis would average one-half of one percent of the typical tourist trip cost. Such a small cost increment would have a negligible (0.24 percent) impact on the number of tourist trips. On the other hand, because so much of the traffic on Wisconsin Interstates is by out-of-staters, between 32 and 38 percent of toll revenues would come from non-residents.

C. What Has Changed Since 1983

A number of factors that shaped the WSA analysis have changed over the past 12 years. The Interstate system itself has expanded, with the building of I-43 from Beloit to Milwaukee. Today the system includes 113 miles of urban and 526 miles of rural Interstate; there are 67 urban and 109 rural interchanges. In addition, federal aid has continued to flow to Wisconsin's Interstate facilities; since 1983 an additional \$501 million in federal aid has gone into the Wisconsin Interstates (through the end of 1994).

But what has also changed is the technology of toll roads. A toll highway need no longer be synonymous with 22-lane toll plazas (as assumed in some cases in the Wilbur Smith analysis). The availability (and rapid spread) of electronic toll collection systems had led to a revolution in toll-road design, with major implications for reduced costs and greater user-friendliness. New toll roads being designed and built today range from fully automated (California's private SR-91) to a mixture of nonstop main lanes and off-line toll lanes (the newer portions of the Oklahoma turnpike system).

The conversion of either the urban or the rural portions of Wisconsin's Interstate system to tolls—especially if done by a private firm under a public-private partnership agreement—would seek to maximize the use of ETC and reduce conventional toll booths to an absolute minimum. In most cases, especially in urban areas serving mostly regular users, the number of required toll-plaza lanes could be reduced at least by half. That would cut

both the capital costs (land acquisition, construction) and the operating costs, by slashing the required number of toll collection personnel. Based on the simultaneous development of public and private toll roads in California, it appears likely that the private sector would be more aggressive in making maximum use of ETC.

The other very significant change is the enactment of ISTEA's provisions permitting the tolling of many types of federally aided highways upon reconstruction, including Interstate bridges, and the availability of FHWA's congestion pricing pilot program. Under the former, tolls could be charged at the locations of any and all Interstate bridges which are reconstructed. Under the latter, congestion prices could be added to some or all of the Milwaukee Interstates. *In neither case would any federal repayment be required.* Thus, major portions of Wisconsin's Interstates could be converted to tolls in the 1990s that could not be so converted in the 1980s (except by obtaining federal legislation permitting the relevant federal aid to be repaid).

It should be noted in this regard that the WSA analysis did not assume the repayment of *all* federal aid spent on the Interstate system through 1983. Rather, it took advantage of the barrier toll concept to argue that the only section legally being "tolled" was the distance from each barrier toll plaza to the nearest entrance or exit point. Since drivers are free to exit the highway in advance of the barrier and return to it at the next entrance after the barrier, it is literally the case that only the segments on either side of the barriers have been tolled. Hence, their three alternative concepts for the rural Interstates involved having to repay the federal government for only 130.5 miles, 130 miles, or 91 miles, respectively, out of 531 miles of rural Interstate.

Under today's ISTEA provisions, as many rural Interstate toll collection points as possible would be located at reconstructed bridges, with any additional toll barriers added using the Wilbur Smith approach. For the urban Interstate system, if Milwaukee were to request and receive designation as a congestion pricing pilot site, its entire urban Interstate system could be tolled without triggering any repayment requirement. Failing that, the bridge reconstruction approach (given the need to rebuild interchanges) should permit most of the needed toll points to be established without triggering repayment requirements.

V. FEASIBILITY ASSESSMENT

To determine the potential financial feasibility of privatizing and tolling the Interstates, the WSA analysis from 1983 was used as a starting point for a preliminary feasibility assessment. Cost estimates were revised from WSA's 1983 levels, using changes in the consumer price index since that time. Up-to-date traffic data were obtained from WisDOT, along with projections for the 1995-2020 period. All future costs and prices (including toll rates) were assumed to increase at the rate of four percent per annum. The same open-barrier toll system posited by WSA was assumed, but in each case the number of toll-plaza lanes was reduced by half, to take into account the use of electronic toll collection by at least half the users. A period of 25 years (1996-2020) was used for the analysis.

A. Toll Rates and Revenues

As noted previously, WSA made very conservative assumptions about the level of toll to charge. For the rural Interstates, WSA used an average toll of 60 cents/plaza, which works out to 2.76 cents/mi. in 1983 dollars. Adjusted to 1995 dollars, that is the equivalent of 4.2 cents/mi. Table 5 provides comparative data for both the older toll roads in nearby Illinois and Indiana and a number of newer toll roads in other states. The average rate for the older roads is 2.8 cents/mi, whereas the newer roads average 7.7 cents/mi. While a rebuilt Wisconsin Interstate system would be nearly the equivalent of a new toll road, thereby justifying a toll in the 7-10 cent range, political realities would probably not permit that high a charge, given that people are accustomed to using these highways without any direct charge. Hence, the feasibility assessment uses a rate of 5 cents/mi. as a compromise figure.

For the urban Interstates (basically, the Milwaukee metro area freeway system), the need for massive reconstruction, along with the usefulness of tolls in moderating future traffic congestion, argues for higher

charges than on rural Interstates. Table 6 presents data on toll charges for a set of urban tollways recently built or under development. Their average toll rate is 10.5 cents/mi. The feasibility assessment uses this average rate as a reasonable starting point. This number is 36 percent higher than the inflation-adjusted 7.7 cents/mi. (in 1995 dollars) that WSA proposed.

Table 5: Toll Rate Comparisons in Rural Areas (Passenger Cars)

	¢ / mile
Rural–Older	
Indiana Toll Road	3.0
Tri-State Tollway (IL)	2.9
Northwest Tollway (IL)	2.6
East-West Tollway (IL)	<u>2.8</u>
Average	2.8
Rural–Newer	
North-South Tollway (IL)	5.9
Creek Turnpike (OK)	7.2
I-95/Myrtle Beach (SC)	5.0
Bucaneer Trail (FL)	9.5
Mid-State Tollway (CA)	10.0*
Mon Valley Tollway (PA)	<u>8.6*</u>
Average	7.7

* Not yet in service.

Source: "Toll Rate Summary, July 1992," International Bridge, Tunnel, and Turnpike Association.

Table 6: Toll Rate Comparisons in Urban Areas (Passenger Cars)

	¢ / mile
Urban–Newer	
Hardy Toll Road (TX)	8.8
San Houston Toll Road (TX)	10.9
E-470 (CO)	9.8
Kilpatrick Turnpike (OK)	7.9
Dallas North (TX)	7.2
Dulles Greenway (VA)	12.5
Miami E-W (FL)	12.5
Orlando Central Connector (FL)	12.5
NW Hillsborough Expressway	8.4*

(FL)

WISCONSIN TOLL ROADS	25
(CA) San Diego Expressway (SR125)	10.0*
SR-91 Express Lanes (CA)	<u>15.0*</u>
Average	10.5

* Not yet in service.

Source: "Toll Rate Summary, July 1992," International Bridge, Tunnel, and Turnpike Association.

Projections of toll revenues were made, using current WisDOT traffic levels and projections for the Interstate system, together with the assumed initial rural (5 cent/mi.) and urban (10.5 cent/mi.) toll rates. To alleviate objections to paying for improvements before they are delivered, it was assumed that tolling is phased in during the first five years (as plazas and ETC equipment are installed) on the rural system. Hence, 100 percent of the traffic would not be paying tolls until year five. For the urban system, however, financial feasibility requires charging tolls on the entire system as quickly as possible, due to the much higher costs of reconstruction incurred during the early years. In this case, it was assumed that tolls are phased in during the first three years, as quickly as all required toll plazas and equipment could be installed. All toll rates are increased each year by the assumed four percent rate of inflation (i.e., they remain constant in real, inflation-adjusted terms).

B. Required Capital Outlays

For the rural Interstate system, the Translinks 21 report "Quality Highways" provided the starting point on reconstruction needs.³⁹ **Some 52 percent of the bridges and multilane "backbone" highways were built in the 1950s and 1960s and need reconstruction over the next decade at a cost of \$108 million/year; another 33 percent will need reconstruction in the following decade. Since Interstates constitute approximately 55 percent of these multilane routes, it was assumed that \$59 million per year (adjusted each year for inflation) was needed for the next 10 years, and annual sums about 63 percent of that amount in each of the subsequent 10 years. Toll plaza construction costs, modified from WSA figures, were assumed to be incurred during the first five years. In addition, some \$220 million in federal grants was assumed to be paid back to the federal government in the first year. This number was computed following WSA's assumptions, but taking into account the additional federal aid used for rural Interstates from 1984 through 1995.**

For the urban Interstate system, the Translinks 21 report on the Milwaukee County Freeway System provides several alternatives for reconstructing this critical component of urban transportation.⁴⁰ The first two—maintenance only or rebuilding the existing structures to the same obsolete design—were rejected as inconsistent with the improved quality of service users expect when paying a toll. Alternative III calls for replacing existing interchanges with safer, state-of-the-art designs, while Alternative IV would, in addition, add high-occupancy vehicle or busway lanes to the major segments of this freeway system. The total capital outlay for Alt. III would be \$1.9 billion; for Alt. IV the

³⁹Translinks 21, "Quality Highways: Key Preservation Needs on Wisconsin's State Highway System," Madison: Wisconsin Department of Transportation, July 1994, pp. 9—12.

⁴⁰Translinks 21, "The Critical Role of the Milwaukee County Freeway System in the Urban Transportation System," Madison: Wisconsin Department of Transportation, July 1994, pp. 22—25.

total would be \$3 billion. Both of these alternatives were evaluated, in each case with all outlays occurring during the next 20 years. In addition, toll plaza construction costs were assumed to be incurred during the first three years. No federal grant repayment was included for the urban Interstates, on the assumption that Wisconsin would apply for and be granted federal designation as a congestion pricing pilot project, thereby permitting tolls to be imposed on an urban Interstate system without penalty.

C. Operating Costs

There are three main categories of operating costs: routine highway maintenance, toll plaza operating costs, and highway patrol costs. As WSA's report pointed out, users of toll roads generally expect a higher level of maintenance and patrol than users of non-tolled highways; hence, higher levels were estimated. WSA's recommended higher maintenance levels, adjusted for inflation, were assumed in the analysis. Since the 1983 WSA report, patrol expenditures have increased to the levels recommended by WSA, so no further adjustments were made (other than for inflation). And toll plaza operating costs were corrected for the smaller sizes of toll plazas noted previously. All operating costs were assumed to increase at four percent per year over the 25-year period.

D. Financing

A long-term (25-year) franchise arrangement was assumed, under which one or more private firms would be selected via a competitive process to finance, rebuild, and operate various segments of the Interstate system as tollways. Since the arrangement would take the form of a lease, under current federal tax law, tax-exempt debt could not be used. Hence, taxable revenue bond financing was assumed. For purposes of the calculations, a capital structure of 80 percent debt and 20 percent equity was assumed, although an actual project might involve alternative mixtures of debt and equity.

E. Results and Assessment

Appendix I shows the financial models used to analyze the financial feasibility of tolling and privatizing Wisconsin's Interstates. The rural toll project is clearly feasible under the assumptions used, including a toll of 5 cents/mi. It would produce a commercial rate of return for the developer/operator, while also generating billions of dollars in surplus revenue for the state over 25 years.

The first version of the urban toll project, Scenario 1, has a strongly positive net present value and is therefore financially feasible. This Scenario provides for the reconstruction of Milwaukee's freeway system to a safer, more-modern design over the next 20 years, at a total cost (in current dollars) of \$1.9 billion. The assumed average initial toll is 10.5 cents/mi. (actual tolls should vary by time of day, in the form of congestion prices). Scenario 1 corresponds to WisDOT's Alternative III for the Milwaukee freeways, as discussed above in subsection B, except financed by tolls.

Urban Scenario 2 (WisDOT Alternative IV) adds to the reconstruction of the freeways a comprehensive system of HOV/transitways, bringing the total reconstruction cost to \$3 billion. In order to make this scenario financially feasible, it was necessary to increase the average initial toll level to 15 cents/mi.—still within the range of recent and planned urban toll projects elsewhere in the nation. With the 50 percent higher toll level, this project had a net present value just slightly larger than zero, evidencing marginal feasibility.

The implication of this analysis is that the Milwaukee area can realize the benefits of a totally reconstructed, modernized freeway system, eliminating all the present unsafe design aspects, in exchange for tolls averaging 10.5 cents/mi. (higher at rush hour, lower at off-peak times). If the more-costly approach of including transitways on all major freeways is preferred, the price would be tolls averaging at least 15 cents/mi. (again, higher at rush hour and lower at other hours). Those time-varying tolls, in turn, would provide a strong

economic incentive for more people to use transit on the transitways, to car-pool, to shift their trips to off-peak hours, and to telecommute. On the other hand, these positive effects from congestion pricing suggest that many of the positive benefits for transit and reduced congestion could be achieved without the additional \$1.1 billion expense of the Scenario 2 approach, with its 50 percent higher toll levels. Without congestion-priced tolls, transitways might well be essential 20 years from now to give commuters a way of bypassing congestion. But with congestion pricing and the more-modest toll levels of Scenario 1, it should be possible to keep traffic moving smoothly at rush hour, while increasing transit's mode-share (due to the increased cost of driving alone).

F. Use of Surplus Revenues

Privatizing Wisconsin's rural and urban Interstates would free up substantial funds that are now used to maintain this major portion of the state's highway system. Of the approximately \$691 million per year spent on state highways, an estimated nine percent is used for the Interstate portion of the system. Thus, \$63 million per year would be freed up by converting the Interstates to self-support via tolls. That sum, combined with profit-sharing from the rural portion of the system, could be used to relieve a portion of counties' road and street costs, which are now met largely out of property tax revenues. This would permit some degree of property-tax relief at the county level.

Of greater significance, this proposal would produce surplus revenues of several billion dollars over the 25-year life of the franchise. These funds could be applied to WisDOT's modernization program, covering a significant portion of the projected \$8.9 billion shortfall. A portion of this surplus revenue could also be allocated toward local roads and streets, permitting additional property tax relief.

G. Legal Assessment

1. State Law

According to an assessment by William Ford, senior staff attorney with the Wisconsin Legislature, "There do not appear to be any state constitutional or statutory restrictions on financing highways with toll revenues."⁴¹ **Chapter 84, Stats., which governs the construction and maintenance of state trunk highways, does not prohibit the use of toll financing. And various other provisions of the statutes make references to tolled facilities.**

There is also a never-used 1953 Wisconsin Turnpike Corporation Act, which permits the incorporation on nonprofit, nonstock corporations which are empowered to construct, maintain, repair, police, and operate turnpike projects on routes approved by WisDOT, with the written consent of the Governor. While this law could be used to permit the creation of a turnpike authority, it is not suited to the kind of privatization approach being followed in the dozen states summarized in Section II, since it does not permit the development or operation of toll roads by for-profit entities.

To follow the course outlined in this study, therefore, Wisconsin would have to enact enabling legislation along the lines of that enacted in those other states, permitting private-sector firms to enter into partnership agreements with WisDOT to rebuild existing highways and develop new ones as toll facilities. Section VI (below) offers guidelines for such legislation.

⁴¹William Ford, Memorandum to Sen. Margaret Farrow on Toll Roads, May 24, 1995.

2. **Federal Law**

As noted previously, the 1991 ISTEA legislation reverses much of the federal government's historic opposition to tolls, but still exempts much of the Interstate system from either privatization or tolling. The two exceptions to this general prohibition on tolling and privatizing existing non-tolled Interstates are:

Urban interstates may seek designation by the Federal Highway Administration as congestion pricing pilot projects, in which case tolls may be charged;

Non-tolled bridges on the Interstate system may be reconstructed as toll facilities.

These provisions would make it possible to put tolls on the greater Milwaukee freeway system and on those sections of the rural Interstate system whose bridges are rebuilt. To go beyond this to general tolling of rural Interstates, appears to require (a) federal permission and (b) repayment of federal grants.

As a general principle, any federal grantee has a unilateral right to terminate such grant arrangements, according to competent legal authorities.⁴² **However, the federal government generally has the right to ask for its grant money back in such cases. Moreover, as noted in Section III, in those few previous cases when states wished to convert planned Interstate highways to tollways, they were required not only to repay previous Interstate grant funds for those highways, but were also required to obtain the permission of Congress. Two questions are relevant here: Whose permission is actually required, and what amount must be repaid?**

The ISTEA legislation requires the permission of the Secretary of Transportation for those cases of conversion to tolls that it explicitly authorizes. William Ford's memorandum reports that the Wisconsin Division Office of the FHWA believes the same approval requirement would apply to any request to repay federal grants in order to toll Interstates. But since ISTEA's revision of Sec. 129 of federal highway law removed 1968 language under which the DOT Secretary was generally required to disapprove tolling requests, it could be argued that Congress intended to take such approval power away from the Secretary, reserving it to itself, as had been the case prior to 1968 (when the previous cases of repayment of grants in order to charge tolls had occurred).⁴³

As to the amount to be repaid, all federal agencies since 1988 have been governed by a "common rule" promulgated by the Office of Management & Budget concerning grant agreements with the states. In 1992, President Bush issued Executive Order 12803, intended to encourage the privatization, by sale or lease, of federally aided infrastructure, including highways. EO 12803 modifies the common rule by providing that, when an infrastructure asset is sold or leased, grant payback is limited in two ways: (1) it can only be carried out if there are proceeds from the sale or lease remaining after the state or local government has first recovered its own investment in the facility, and (2) only that portion of the grant value remaining after accelerated depreciation has been

⁴²Paul G. Dembling & Malcolm S. Mason, "Unilateral Termination by the Grantee," in *Essentials of Grant Law Practice*, Philadelphia: American Law Institute-American Bar Association, Committee on Continuing Professional Education, 1991.

⁴³Mike Hartmann, legal memorandum to Bob Poole examining certain federal and state toll-road laws and administrative regulations, Madison: Wisconsin Policy Research Institute, July 21, 1995.

taken into account need be repaid. Although EO 12803 has not yet been applied to a highway facility, it was clearly intended to include this type of infrastructure. Accordingly, the amount of grant repayment estimated in the preceding feasibility assessment (which did not adjust for either of the above conditions) most likely overstates the actual amount that would have to be repaid. Moreover, legislation is pending in Congress that would codify the provisions of EO 12803, but remove the grant repayment requirement altogether.

VI. NEXT STEPS

This study has shown that it would be feasible to convert Wisconsin's Interstate highway system to tolls, generating ample funds to rebuild it to a safer and more modern design and to operate it at a higher level of service. Enough additional revenues would be generated to assist counties with the cost of maintaining local roads, thereby permitting some local property tax relief.

Should Wisconsin be interested in pursuing this course, several follow-up steps should be taken in the near future.

A. Detailed Feasibility Study

This preliminary study, of necessity given the time and resources available, was done with a broad brush, to assess the general legal and financial feasibility of the concept. Since the numbers appear quite robust, and since no significant legal obstacles were discovered, the next step should be a detailed feasibility study, of at least the depth of the 1983 tolling study by Wilbur Smith Associates. Such a study could examine in far greater detail possible tolling configurations, alternative pricing structures and sensitivities, more detailed segment-specific traffic forecasts, and alternative organizational arrangements. It would provide a firm basis for launching a competitive process to seek actual proposals from the private sector for the rebuilding, modernization, and operation of the Interstate system.

B. State Legislation

As noted previously, Wisconsin lacks an adequate legal framework for public-private partnerships in the highway area. Rather than simply authorizing tolling and privatization for the Interstate system, Wisconsin would be wiser to create a broader framework for the private sector to participate in providing needed transportation infrastructure, including selected additions to the system in high-growth areas of the state.

Much has been learned over the past five years, as states have enacted such legislation and found some approaches to work far better than others. For example, after Virginia found it difficult to finance its lone private tollway project, it enacted a much broader law applying to modernization of existing highways as well as development of totally new facilities. It also changed regulatory jurisdiction from its state public utilities commission (it had been the only state to involve such a commission with private tollways), substituting franchise-based regulation administered by its state transportation department. Florida has yet to launch a single project, apparently due to the risk and uncertainty created among would-be providers by the requirement in its law that each and every project be approved by the legislature. Arizona and Washington have selected projects and negotiated franchise agreements, only to see major public protests (which might have been avoided had serious public participation taken place prior to the award of the franchise). And a much-needed (but high-risk) project in California is stalled because the developer cannot afford to risk the funds needed for costly environmental studies—money which would be down the drain if the project fails to receive permission to be built.

Based on the experience of a dozen states and the private sector, the following provisions should be included in a Wisconsin public-private partnership law for highways:

Permit both the development of new facilities and the sale or lease of existing facilities requiring modernization and/or reconstruction.

Permit both solicited and unsolicited proposals, with no limit on the number of each, and with appropriate protection of proposers' intellectual property rights.

Select solicited proposals by competitive bid, generally via a two-stage process: first, a request for qualifications, to develop a short-list of qualified firms; second, a request for proposals, submitted by those on the short list.

Do not subject projects to utility commission regulation; rather, follow the practice of other states in building regulatory supervision into the franchise agreement, to be administered by WisDOT.

Do not regulate toll rates themselves; rather, limit the overall rate of return, via the franchise agreement; excess revenues should be turned over to the state highway fund.

Take full advantage of ISTEA provisions permitting the leveraging of federal highway funds with private funds.

Authorize WisDOT to pay for any required environmental reviews; if the project then goes forward, the cost of the review becomes a loan to the developer/operator; if the project does not proceed, the cost is borne by WisDOT.

Provide for extensive public input prior to negotiating franchise agreements.

C. Federal Legislation

While the approach outlined in this study can be carried out without any required changes in federal law, several changes would reduce its cost and clarify certain ambiguities.

The first of these is pending legislation (H.R. 1907) sponsored by Rep. David McIntosh (R., Ind.) to codify the provisions of EO 12803 but eliminate any requirement to repay federal grants in the event of the sale or lease of a federally aided facility. Enactment of such legislation would remove the need for federal permission and would eliminate up to \$220 million in up-front costs (the federal payback) in tolling and privatizing the Interstates in Wisconsin.

The second possible change is simply to repeal the remaining ban on tolling Interstates, when ISTEA is reauthorized in 1997. Sen. John Warner (R., Va.) attempted to do this as part of the 1995 National Highway System legislation, but his amendment failed to reach the floor of the Senate. It is likely to be reintroduced during the ISTEA reauthorization process.

These changes in federal law would give Wisconsin far more flexibility in making use of such mechanisms as tolls and public-private partnerships.

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APPENDIX: FINANCIAL FEASIBILITY SPREADSHEETS