

Current Toll Road Activity in the U.S.

A Survey and Analysis



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By

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"Tolling is shaping up as one of the biggest philosophical changes in transportation policy since the toll-free Interstate highway system was created under President Dwight D. Eisenhower in 1956."

New York Times 4/28/2005

1.0 Introduction

At a time when the motor fuel tax – the primary Federal resource dedicated to the nation's transportation needs – is becoming increasingly constrained, it is essential to understand more fully the roll played by alternative funding sources at the state and local level. This issue is of special importance as the future of the federal aid program is under consideration – including both systems (the Interstate) and the federal aid program and funding.

The expanded use of tolling was promoted in the last two rounds of federal highway program reauthorization and today tolling is the subject of increasing interest as a potentially important funding source to cash-strapped state and local governments for transportation improvements.

And while there is considerable literature and reports on specific toll projects and toll and pricing-related issues, no comprehensive inventory of current toll road development activity exists. There is no existing consistent data source for toll roads that documents the current various stages of development and that covers projects being developed by both state and local entities and the private sector. And there has been no systematic attempt to gauge the current and evolving role of toll roads and toll finance in the overall national transportation program context including:

- The net contribution of toll projects to the highway network and to highway finance
- The trends in terms of project type, location, and characteristics, such as HOT and priced facilities
- The evolving roles of innovative finance, project sponsors, and development processes

This project provides a preliminary – but comprehensive – inventory and characterization of recent and on-going toll road development activity since the passage of ISTEA.

A recent survey conducted by PB Consult for the FHWA Office of Transportation Policy Studies indicates that 27 U.S. states and one U.S. territory have advanced toll road projects since the passage of ISTEA. A total of 168 new toll projects have moved into various stages of development including opened for operations and various stages of planning, design finance and construction. Together these projects represent over 3,773 centerline miles of highway and would provide over 14,565 lane miles of capacity. While cost information is incomplete, particularly for projects in the earlier stages of development, the cost estimates to date for the covered projects account for approximately \$80 billion. These statistics indicate that the rate of toll road development (measured in centerline miles) has increased significantly from about 50 to 75 miles per year in the decade after ISTEA (1991) to about 150 per year expected in the next decade (based on current projects in the design/finance, NEPA, and planning phases).

The rate of development, the type of projects being implemented and the development processes being used, suggest some important changes from past trends that merit closer consideration. Recent development towards "institutionalizing" toll finance within state DOTs suggests that the rate of toll-based project development may be expected to increase in those states that develop the capacity to



process multiple projects. In addition, the entry of international capital and toll facility development and operations expertise into the U.S. toll arena is introducing a set of financial and management innovations that may substantially increase the potential role of toll-related finance.

2.0 Point of Departure

The most recent FHWA statistics indicate that tolls are currently collected on roads in 25 states and one U.S. territory on 4,630 miles of the 162,000 mile National Highway System. Overall there are approximately 25 discrete Interstate toll roads and about 65 significant non-Interstate toll roads in operation – not including segments, extensions and connections. Most of these facilities were built during the pre-Interstate highway era when the need for controlled access, high-capacity, high-speed facilities was clear in heavily traveled corridors and toll roads represented the only practical way to finance them.

Today, state or metropolitan road networks with one or two toll roads are a well-known phenomenon. Only Florida and New Jersey receive over 15 percent of their total highway revenue from toll roads, and a few “toll states” (Texas, Pennsylvania, New York, and Illinois) receive from 5 to 10 percent of their total highway revenues from toll receipts (bridges and tunnels aside). Federal statistics do not separate toll revenues by source (bridges and tunnels versus roads). However, the combined revenues from all toll facilities included in the federal statistics amount to about \$6.5 billion, constituting 4.46% of the \$147 billion 2004 national highway-related expenditures of all levels of government.

The use of toll revenues is focused substantially on creating new roads. Since ISTEA, new projects have located in the larger and faster-growing metropolitan areas of the sunbelt states (might be helpful to identify states here) where state and local governments’ conventional funds are already stretched to meet the demands of systems preservation. At the state level, most toll projects have been developed and managed as “one off” facilities in settings of clear demand, reinforced by public support. Most of these projects have been developed through special-purpose state authorities or regional entities authorized by the state. During the last 10 years, an average of 50 to 75 miles a year of new access-controlled expressways has been constructed as toll roads out of an overall average of the 150 to 175 miles of urban expressways opened annually. Toll roads, therefore, have been responsible for 30 to 40 percent of new “high end” road mileage over the past decade.

While the past role of toll roads in most states has been modest and functionally specialized, the analysis of the survey results – as discussed below – suggest some of these trends may be bending – and that toll roads appear to be playing a larger and more varied role in highway systems development.

3.0 Methodology

The survey was based on a compilation and analysis of publicly available materials combined with interviews from key participants. The principal sources included:

- FHWA Office of Highway Policy Information June 2005 survey of Toll Facilities in the United States: Bridges-Roads-Tunnels-Ferries (<http://www.fhwa.dot.gov/ohim/tollpage.htm>) based on information provided to FHWA by State Departments of Transportation (DOTs) and provides listings of existing and “planned” tolled highways, bridges and tunnels under their jurisdiction
- A search of websites of all State DOTs, state and local turnpikes, toll and transit authorities to identify new projects being planned as toll facilities.
- A search of websites of private developers known to have developed toll facilities
- A review of individual project websites
- The InnovativeFinance.org and FHWA PPP Websites



- A review of information from industry journals, including:
 - Public Works Financing
 - TOLLROADS news
 - Tollways – Journal of the International Bridge, Tunnel and Turnpike Association
 - Reason Foundation Annual 2005 Privatization Report
 - Project Finance (Euromoney)

In some cases, follow up communications were held with local officials and transportation professionals to obtain further clarifications on specific projects or groups of projects.

4.0 The Data Base

The research effort identified a total of 168 toll projects that have been moved forward into the planning, NEPA review, design / finance, construction, or operation phase since 1992.

The information obtained on these 168 projects was imported into a spreadsheet database environment and organized geographically, first by state and then by city or region. The database contains the following fields:

Project characteristics

1. Name of Toll Facility
2. State
3. Location
4. Length (centerline miles)
5. Number of Lanes
6. Lane Miles
7. Project Status
8. Key Dates
9. Facility Type
10. Type of Pricing
11. Interstate Status
12. Project Type

Project Sponsors

1. Project Sponsor
2. Private Development and Financing Information

Project Finance

1. Capital Cost
2. Facility Characteristics
3. Type of Financing
4. Innovative Finance Tools
5. Toll Policy

Project Sources

1. Information Source
2. Comments
3. Website Links

The survey results have been compiled into a set of worksheets. These worksheets include a comprehensive list containing all the information that was obtained for the 168 projects and a set of data sorts that summarize the base data information.¹ These sorts were used to identify key trends in project location and sponsorship; velocity, status and scale; function, cost and financing.

¹ The worksheets are available on the FHWA PPP webpage at http://www.fhwa.dot.gov/ppp/toll_survey.htm .



5.0 Caveats

The limitations of these sources and methods and the uneven level of information readily available suggest that errors and omissions are possible at the individual project level. While more systematic analysis may be expected from FHWA and IBTTA in the future, this survey represents the most comprehensive data currently available.

Caution must be exercised regarding interpretation of the results. Many toll projects in early stages of development (planning and environmental review), may not prove to be financially feasible or attractive as toll projects. Therefore they may not be implemented.

6.0 Results

The survey indicates that – since ISTEA legislation in 1991 – 27 U.S. states and one U.S. territory have advanced toll road projects since the passage of ISTEA. A total of 168 new toll projects have moved into various stages of development including opened for operations and various stages of planning, design finance and construction. Together these projects represent over 3,770 centerline miles of highway and would provide over 14,560 lane miles of capacity.

Of these new projects, 104 involve the construction of new centerline miles of highway. These projects include 2,231 centerline miles of highway, providing a total of 9,500 lane miles of new capacity. The remaining toll projects include 23 projects involving the widening existing toll facilities, 35 projects involving HOT lane or express toll lane widenings, five HOT lane conversion projects, and one rail widening

Given the legislative restrictions on implementing tolls on the Interstate Highway System, 126 of these toll project involve non-Interstate facilities. Of these projects, 99 involve the construction of new centerline toll facilities. In addition, there are 12 toll road widenings, 12 HOT lane widenings, two HOT lane conversion projects and one involving the construction of a rail transit line in a toll road right of way.

Fourty-two of the toll projects identified in the survey involve Interstate Highway facilities and over half of these involve variably priced HOT lanes. This reflects the fact that until the passage of SAFETEA-LU in 2005, the only circumstance under which tolls could be introduced on un-tolled Interstate segments was in conjunction with variably priced HOT lane facilities. The survey identified three interstate HOT lane conversion projects and 23 HOT lane widening projects. In addition, the survey identified 11 widening projects involving the construction of new lanes on older toll facilities that were re-designated as part of the Interstate highway systems, as well as five projects extending similar facilities.

While cost information is incomplete, particularly for projects in the earlier stages of development, the cost estimates to date for the covered projects account for approximately \$80 billion.



**Table 1
Summary of Interstate and Non-Interstate Toll Road Activity by Type Since 1992**

PROJECT TYPE	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Interstate Toll Facilities						
HOT Conversion Projects	3	3	32.0	0.8%	51.0	\$12
HOT Widening Projects	23	9	493.9	13.1%	1,561.8	\$16,332
New Centerline Mile Projects	5	5	304.5	8.1%	1,203.0	\$2,780
Widening Projects	11	9	601.6	15.9%	1,913.5	\$7,821
Subtotals	42		1,432.0	N/A	4,729.3	\$26,945
Non-Interstate Toll Facilities						
HOT Conversion Projects	2	2	22.5	0.6%	31.5	\$14
HOT Widening Projects	12	7	179.0	4.7%	752.0	\$6,063
New Centerline Mile Projects	99	19	1,926.7	51.1%	8,297.6	\$43,524
Rail Widening	1	1	14.0	0.4%	NA	\$1,000
Widening Projects	12	7	199.7	5.3%	755.4	\$2,356
Subtotals	126		2,341.9	0.6%	9,836.5	\$52,958
Total for All Toll Facilities						
HOT Conversion Projects	5	4	54.5	1.4%	82.5	\$26
HOT Widening Projects	35	11	672.9	17.8%	2,313.8	\$22,395
New Centerline Mile Projects	104	21	2,231.2	59.1%	9,500.6	\$46,304
Rail Widening	1	1	14	0.4%	NA	\$1,000
Widening Projects	23	13	801.3	21.2%	2,668.9	\$10,177
TOTALS	168		3,773.9	100.0%	14,565.8	\$79,903

6.1 Tolling Activity since 1992 by State

The distribution of toll roads is very uneven and concentrated in a dozen states, as indicated in Table 1 on the subsequent pages. While these states are typically those undergoing significant metropolitan expansion or those with a long-standing toll tradition, tolls are also being used in several other states simply to respond to funding challenges. Table 2 shows tolling activity by state. Activities of the most aggressive states are characterized below:



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- Texas – With a total of 38 toll roads undertaken since ISTEA, Texas has the most toll activity of any state. This is not surprising in light of the Texas DOT policy of giving priority consideration to tolls for new capacity and aggressive promotion and institutionalization of public-private partnerships as well as the authorization of several new regional and metropolitan toll authorities. Thirteen of these projects were completed in the 1992 to 2005 period, and the remaining 25 are in other stages of development. These projects have been sponsored by the Texas Turnpike Authority, as well as local agencies including transit agencies, regional toll road authorities, and regional mobility authorities. Texas has also negotiated private concessions on a large-scale corridor basis. The huge I-35 and I-69 multimodal Trans-Texas Corridor projects – 800 and 650 miles in length, respectively – are to be developed on a market-driven, public-private partnership basis. The Corridors are not included in the data base since specific toll projects in those corridors are yet to be identified. While the two trans Texas Corridor projects would be parallel to existing Interstate Highway facilities, it is assumed that they would not be designated as part of the Interstate system.
 - Florida – Florida ranks second in tolling activity since the enactment of ISTEA, with 29 projects undertaken – including 10 that became operational in the 1992 to 2005 period. Florida toll roads are being developed by both the Florida Turnpike Enterprise as part of Florida DOT, as well as local expressway authorities in Miami, Tampa, Orange County, among others.
 - Virginia – Virginia has undertaken 13 toll projects since the passage of ISTEA, including 3 facilities which are now operational. Virginia's toll projects are being delivered through the states Public-Private Transportation Act (PPTA) of 1995 that allows private entities to enter into agreements to construct, improve, maintain and operate transportation facilities. A number of Virginia's toll projects, including the I-495 and the I-95/395 HOT lanes were first introduced in the form on unsolicited PPTA offers submitted to Virginia DOT by private sector toll road developers.
 - Colorado – Colorado follows Florida with a total of 12 toll projects in different stages of development. These include two operational facilities developed by public highway authorities established as political subdivisions of the state. One of these facilities is currently being expanded. The remaining nine projects in Colorado are sponsored by the Colorado Tolling Enterprise (a division of the Colorado DOT) that is currently carrying out a systematic feasibility studies.
 - California – California has initiated a total of 10 toll projects since the passage of ISTEA. Five of these are operational, and include three toll roads built by the Transportation Corridors Agency (TCA) in Orange County, a HOV to HOT conversion in San Diego, and a HOT lane initially build on a PPP basis through Assembly Bill 680. This facility was subsequently sold to TCA. Two additional toll projects are under construction, one authorized through A.B. 680 and an additional HOT extension. Three additional toll projects are undergoing NEPA review. They include two HOT lane projects and an extension of one of the TCA facilities.

The other most active states include North Carolina (seven projects underdevelopment); Pennsylvania (three projects completed and three in development); Alabama (five small privately-financed toll roads); Louisiana (two projects in design/finance and three in planning). In addition Georgia, Illinois, Maryland, Oklahoma, and Oregon, each has four toll road initiatives in development – all through public authorities state or local. Thirteen other states and one U.S. territory have undertaken one to three toll initiatives since 1992.



**Table 2
Summary Toll Road Activity by State Since 1992**

State	Total Toll Projects	Toll Projects in Planning	Toll Projects in NEPA Review	Toll Projects in Design / Finance	Toll Projects in Construction	Toll Projects in Operation
Texas	38	11	5	2	6	14
Florida	29	7	1	4	7	10
Colorado	12	2	6	0	2	2
Virginia	13	1	6	2	1	3
California	10	0	3	0	2	5
North Carolina	7	7	0	0	0	0
Pennsylvania	6	0	1	1	1	3
Alabama	5	1	0	0	0	4
Louisiana	5	3	0	2	0	0
Georgia	4*	1	2	0	0	0
Illinois	4	0	0	1	3	0
Maryland	4	0	4	0	0	0
Oklahoma	4	1	0	0	0	3
Oregon	4	0	4	0	0	0
Puerto Rico	3	0	0	2	1	0
Washington	3	1	1	1	0	0
Delaware	2	0	0	1	0	1
Maine	2	1	0	0	0	1
New Jersey	2	0	1	1	0	0
South Carolina	2	0	0	0	0	2
Utah	2	0	1	0	0	1
Arkansas	1	1	0	0	0	0
Kansas	1	0	0	0	1	0
Indiana	1	0	1	0	0	0
Minnesota	1	0	0	0	0	1
Ohio	1	0	0	0	1	0
New Mexico	1	1	0	0	0	0
West Virginia	1*	1	0	0	0	0



6.2 Development Status of Toll Projects Initiated Since 1992

The current inventory of active toll projects is in various stages of development. Table 3 shows the development status of the 168 toll facilities studied and/or implemented since the passage of ISTEA. Of the total 3,773.9 center line miles of new capacity that these facilities would provide, approximately 20 percent are open, 14 percent are under construction, 7 percent are in design/finance (defined as post record of decision (ROD), 34 percent are in NEPA review (pre-ROD), 1 percent are in deferral, and 24 percent are in planning. As noted in Section 5 of this report, many of the projects in planning and NEPA review may not move to construction as toll roads. Therefore the tables tend to overstate the total number of projects likely to emerge in the next decade (although these same projects may be developed with conventional funding). Nevertheless, with this many projects in the early stages of development, it is certain that the rate of new toll road development in the next ten years will increase significantly.

Table 3
Status of Toll Road Projects Initiated Since 1992

STATUS	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Toll Projects in Planning	32	13	909.2	24.1%	3,379.4	\$6,448
Toll projects deferred	2	2	46.7	1.2%	249.4	\$877
Toll Projects Undergoing NEPA Review	36	13	1,292.0	34.2%	5,061.3	\$43,473
Toll Projects in Design/Finance	17	10	258.5	6.8%	949.2	\$8,824
Toll Projects Under Construction	25	10	529.1	14.0%	1,945.6	\$9,995
Toll Projects Open	50	13	738.4	19.6%	2,980.9	\$10,286
TOTAL	168	-	3,773.9	100.0%	14,565.8	\$79,903

6.3 Toll Projects Initiated Since 1992 by Type of Tolling

Tolls are now being applied in a range of contexts related to service policy as well as road finance. As shown in Table 4, most of the 168 toll facilities are general purpose toll projects on their own right of way – either new projects where all lanes are tolled, or the widening of existing toll facilities.

However tolls are now being utilized for purposes beyond new connections – as part of a “managed lane” strategy in the form of priced lane additions to existing free roads. About 28 percent of the projects in process have special management functions. These include:

- Express toll lanes (ETL) variably priced to provide premium service despite congestion in adjacent free lanes
- High Occupancy Toll lanes (HOT) priced for single occupant vehicles and allowing preferential use by qualified HOV and transit vehicles



- Truck-only lanes to provide dedicated capacity for commercial vehicles

In these contexts, the application of tolls is may or may not be directly related to project revenue financing. With these project pricing is used as a means to manage highway congestion, as well as a revenue source.

Of the 3,773.9 centerline miles of toll road projects proposed since 1992, 7 percent are express toll lanes, 12 percent are HOT lanes; 24 percent are toll road projects, 9 percent are truck toll projects, and 1 percent have yet to be determined.

Table 4
Toll Road Projects Initiated Since 1992 by Type of Tolling

TOLL TYPE	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Express Toll Lane Projects	14	5	253.0	6.7%	833.0	\$4,700
HOT Lane Projects	25	8	439.4	11.6%	1,318.3	\$15,221
Toll Road Projects	126	26	2,719.5	72.1%	10,863.5	\$51,167
Undetermined Toll Project	1	1	35.0	0.9%	245.0	\$2,500
Truck Toll Projects	2	2	327.0	8.7%	1,306.0	\$6,314
TOTAL	168	-	3,773.9	100.0%	14,565.8	\$79,903

6.4 Toll Projects Initiated Since 1992 by Facility Type

Toll roads historically were developed only where traffic volumes were sufficient to generate sufficient toll revenues for the toll roads to be self-supporting – no other sources of revenues were required to insure bond coverage or adequate reserves. With higher toll rates and the legal ability to commingle toll revenues and other state and federal funds, the range of applications has broadened. Of the 168 toll projects proposed since 1992, 36 have been intercity facilities. While the distinctions are sometimes hard to make, 64 appear to be urban circumferential or “by-pass” routes, and 68 urban radial routes. However, intercity facilities tend to be much longer than most non-radial and radial toll road facilities. In terms of centerline miles, therefore, 42 percent of the toll projects proposed since 1992 are intercity toll facilities, 31 percent are non-radial facilities, and 27 percent are radial toll roads. This information is outlined in Table 5 on the subsequent page.

**Table 5
Toll Road Projects Initiated Since 1992 by Type of Facility**

FACILITY TYPE	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Intercity Toll Roads	36	19	1,589.0	42.1%	5,904.7	\$19,236
Non-Radial Toll Road Projects	64	15	1,158.5	30.7%	4,607.2	\$31,721
Radial Toll Road Projects	68	16	1,026.4	27.2%	4,053.9	\$28,945
TOTAL	168	-	3,773.9	100.0%	14,565.8	\$79,903

6.5 Toll Projects Initiated Since 1992 Using Public-Private Partnerships

About one-half of the toll roads developed or under development since ISTEA involve public-private partnerships (PPPs) through which a private entity is responsible for toll road development, operations, and – in some cases – finance and operations. While projects still in the early planning stages have not always determined the development model, 28 projects appear committed to the PPP model and the PPP approach is being considered for another 22 projects. Ninety-one projects will be built without private involvement and sponsorship is yet undetermined for 28 projects. This information is outlined in Table 6 below.

**Table 6
Toll Road Projects Initiated Since 1992 Using Public-Private Partnerships**

PRIVATE DEVELOPMENT	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Toll Projects with Private Involvement yet to be Determined	28	8	854.1	22.6%	3,182.7	\$13,653
Toll Projects with No Private Involvement	91	19	1,639.2	43.4%	6,482.1	\$31,511
De-Privatized Toll Road	1	1	10.0	0.3%	40.0	\$134
Toll Projects with Possible Private Involvement	22	10	645.5	17.1%	2,653.2	\$19,562
Tollroads with Private Involvement	26	8	625.5	16.6%	2,207.8	\$15,043
TOTAL	168	-	3,773.9	100.0%	14,707	\$79,786

While with this survey it has not been possible to consistently determine the project-specific financing mix and structure, it is apparent that the role of the private sector in toll road development and finance is in flux in several areas including:



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- Innovations in recent legislation regarding the tax treatment of private finance in a toll road context and experimental flexibility in the accommodation of procurement and environmental regulations will undoubtedly impact this situation.
 - States are beginning to recognize that increasing the level of toll project development activities requires “institutionalizing” toll project development procedures, so that each project is not a unique analysis, negotiation and management challenge. In several states many promising projects have been delayed for lack of staff capacity and expertise to confidently conclude agreements. Standardized procurement procedures, performance criteria, term sheets, contract provisions, are needed to efficiently replicate the toll project development process. Staff capability must be enhanced with specialized program and project management and finance capability – either through staff development or outsourcing.
 - The introduction of international practices into US toll project finance (financial structure, time frames, equity interests) and toll road operations may substantially transform the envelope of financial viability as traditionally considered under the US municipal finance model.

7.0 Implications of Current Trends

The survey provides a benchmark in support of gauging the current level of activity in toll road development. Some of these changes can be put in context for their future implications.

7.1 Changes in the Rate of Toll Road Development

Tolls currently play a specialized role in the nation's highway program, heavily focused on the creation of new roads. Over the last decade 50 to 75 out of an average nationwide total of approximately 150 miles per year of new access-controlled expressways (Interstate, other freeways and expressways) have resulted from new toll road development. Toll roads, therefore, are already responsible for approximately 30 to 40 percent of new upper level road system mileage. However, it appears that the rate of toll road development (measured in centerline miles) has increased significantly from about 50 to 75 miles per year in the decade after ISTEA (1991) to about 150 per year expected in the next decade (based on current projects in the finance/design, NEPA and planning stages of development).

7.2 The Financial Potential of Toll Revenues

Despite the more than 50 percent increase in total (nominal) highway funds since ISTEA, the proportion of the total transportation funding represented by user fees (fuel taxes, tolls and fares) has remained about constant. Table 7 illustrates the general breakdown of revenues used for highways in 2003.

Tolls continue to contribute between four and five percent of total highway revenues. The dollar increase (all levels of government) has been from \$3.0 billion in 1993 to \$6.2 billion in 2003. Preliminary figures for 2004 show an increase to about \$6.5 billion constituting 4.46 percent of a \$147 billion 2004 national highway program.

While toll revenues are still a relatively small part of the U.S. highway program (\$6.5 billion out of \$147 billion), tolls are already an important source of income for some state DOTs. Bellwether projects in several growing states have shown that tolls can play a significant role in state and local network development. Regarding revenues from state and local toll roads (not including bridges), five states have over \$400 million in toll road receipts – Florida and New Jersey with between \$800 and 900 million, and Texas, Pennsylvania, New York, Illinois each with around \$400 to 500 million. These receipts are often used as the basis of bond issues and therefore are translated into significantly higher toll-derived revenues used for highways in any given year.



**Table 7
Revenues (\$B) Used for Highways 2003 (by Collecting Agencies)**

Revenue Source	Total Federal	State Agencies	Local Governments	Total
Motor-Fuel Taxes	\$25/18%	\$28/20%	\$2/2%*	\$58/40%
Motor Vehicle Taxes	\$3/2%	\$16/12%	See note below	\$16/14%
Tolls	-	\$5/4%	\$1/1%	\$6/5%
Property Taxes and Assessments	-	-	\$7/5%	\$7/5%
General Fund Appropriations	\$2/1%	\$3/2%	\$15/12%	\$21/15%
Other Taxes and Fees	<\$1/0%	\$3/2%	\$4/3%	\$8/6%
Investment Income and Other Receipts	<\$1/0%	\$3/2%	\$5/3%	\$8/6%
Bond Issue Proceeds	-	\$9/7%	\$5/3%	\$14/10%
Grand Total Receipts	\$30/21%	\$68/49%	\$40/30%	\$138/100%

In many cases toll revenues are being mixed with other sources – state and local. A few states are moving beyond the traditional ad hoc approach to institutionalizing toll road development and PPP processes that suggest a potential for increased rate of development. Texas, for example, has now integrated toll revenues and toll matching into its overall financial program. The high visibility of these approaches is already having a band-wagon approach as methods and players migrate among regions.

As federal and state revenues (not including local) rise during SAFETEA-LU to the \$130 billion level, toll revenues appear likely to maintain their current share in the short run. The implied rate of investment for the 3,770 miles toll road and HOT lane facilities included in this survey is \$4 to 6 billion per year over the next 5 to 10 years compared to the total federal and state current capital investment in new capacity estimated to be about \$13 to 17 billion, thus maintaining its current share as overall spending increases. At this level, the revenues at current toll rates might reach the \$7 to 10 billion level. Rising above this level – and increasing in proportional share – is not out of the question, but depends on the response to the several issues highlighted in Section 8 on the subsequent page.

8.0 What the Future May Hold

While toll revenues are still a relatively small part of the U.S. highway program, the survey indicates some important trends that may indicate a significantly greater role for toll roads in the future:

- The growing financial and management sophistication in the toll arena – The states with multiple toll projects are gaining financial and management experience with project debt finance and with the procurement and management of privately-outsourced finance and development including institutionalizing the procurement and contracting procedures to reduce the otherwise significant soft costs. Global capital (equity as well as debt) and international finance structures and practices are also having a significant impact and are demonstrating significant advantages over the U.S. tradition of tax-exempt municipal finance approaches. FHWA is supporting the development of capacity building at the state level through technology transfer and its own staffing. In addition recent legislation (SAFETEA-LU) provides for the continuation of federal loans, guarantees and credits to large-scale revenue-based projects, including those with private participation including allowing state and local governments to use up to an aggregate total of \$15 billion in private activity, tax-exempt bonds to pay for projects over \$50 million. In addition, there has been some success in streamlining the environmental process for toll projects planning and permitting including the expanded use of “experimental programs” on an exception basis to allow states to develop new approaches to financing, project development and permitting.
- Tolling the federal aid systems is encouraged by recent legislation – The ongoing consideration of the future role of the federal aid program and federal tax-related issues will play a major role in determining the response of state government – and future federal aid program features – to the importance of tolling. A static federal funding level will increase the rate at which tolling becomes a formal part of highway finance programs on a nationwide basis. Under current federal law, new toll roads can be created using tax funds, tolls or a mix of tolls, federal aid and other sources, and existing non-Interstate federal aid highways can be converted to toll roads in the context of reconstruction, rehabilitation or capacity expansion. The constraints on conversion of Interstate highway facilities to toll facilities has been breached slightly via the Interstate System Reconstruction and Rehabilitation Program (which allows for three Interstate facilities to be tolled) and the new Interstate System Construction Pilot Program, which has been added in SAFETEA-LU, and is designed to permit tolling to finance construction of new Interstate highways (again, there is a limit of three such facilities allowed to be tolled). Given the history of concern on this issue, it remains to be seen if this will incentivize use. At present, while about eight and a half percent of the urban NHS is tolled, only seven percent of urban Interstate is tolled, principally projects grandfathered into the Interstate 50 years ago.
- The lure of pricing and new technology for congestion management – The public policy focus on congestion and system performance and the related growing interest in congestion pricing, HOT lanes and ETL networks supports the development of toll experience – both on the part of travelers and infrastructure owners. As pricing moves beyond the current few pilot projects – stimulated both by experience and technology – it may add momentum to the interest in the toll projects. Variable pricing is already an established concept through the development of HOT lanes, which are now permitted anywhere in the U.S. under Section 1121 of SAFETEA-LU. SAFETEA-LU also continues the Value Pricing Pilot Program of TEA-21, which allows an unlimited number of Interstate and non-Interstate federal-aid facilities to be tolled for the purpose of relieving congestion. SAFETEA-LU also establishes a new Express Lanes Demonstration Program
- The use of long-term concessions – Another innovation likely to impact the role of the private sector and the importance of tolls is the use of so-called “deep future” (50 years-plus) concessions when a

private entity purchases a long-term lease to operate an existing toll facility and collect tolls in return for an upfront payment. To date, agreements have been reached for the privatization and cash purchase of two major public toll facilities. The first of these is the 99-year lease to an Australian-Spanish joint venture of the Chicago Skyway, a 7.8 mile toll road involving an up-front cash payment of \$1.8 billion. The second is the proposed 75-year \$3.85 billion lease of the 157 mile Indiana Toll Road to the same concession group. Other potential facilities that have been discussed as subject to private concessions include the New Jersey Turnpike, Delaware SR1 and the Delaware Turnpike, and Harris County Toll Road Authority network in Houston, Texas.

- The lure of up-front cash payments – The dramatic headlined cash payments to states associated with toll road privatization on the concession model are likely to attract broad public attention – including outside the transportation community. The potential of long term concessions as part of private sector investment portfolios and the attraction of global equity into road development could radically alter the highway finance landscape. Whether through existing road take-overs or new development, the involvement of experienced and competitive international toll road development players may provide an irresistible lure – even to states with little or no toll tradition. While the cash offers have focused on the lower risk operating facilities, the commercial interest in concessions for new facilities in Texas, Virginia, Georgia and elsewhere may be the beginning of an important trend. The scale of these payments suggests that the financial and operational technology and international markets utilized supports a monetization of these assets at levels considerably above conventional US practice. Long term concessions are also under negotiation for new toll roads, as in the case of a proposed \$1.2 billion concession fee offered to TxDOT in return for development rights on a 400 mile portion of the Trans-Texas Corridor. Whether for existing or new facilities, these concessions are providing capital for highway development otherwise not available to the current owners.

Taken together, these trends suggest that as the Nation reaches the 50th anniversary of the Interstate – and considers the future of the Highway Trust Fund, we may be on the verge of transitioning to a robust mix of highway funding options in which tolls play a significant role.

