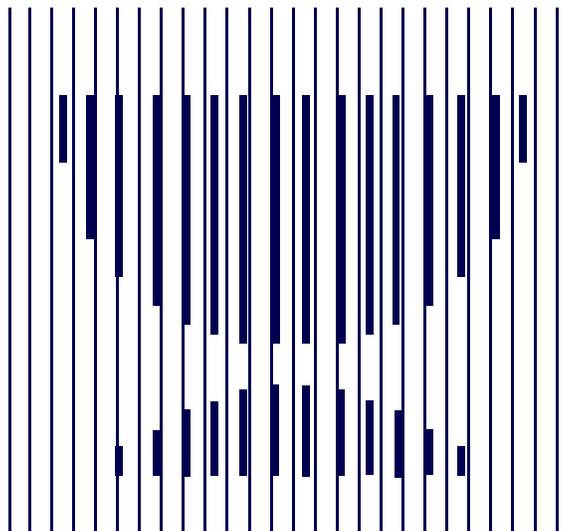




CBO MEMORANDUM

**TOLL ROADS:
A REVIEW OF
RECENT EXPERIENCE**

February 1997



CONGRESSIONAL BUDGET OFFICE



CBO

MEMORANDUM

**TOLL ROADS:
A REVIEW OF
RECENT EXPERIENCE**

February 1997



CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515

The Congressional Budget Office (CBO) is studying innovative ways of financing highways at the request of the Chairmen and Ranking Minority Member of the Senate Committee on Environment and Public Works and its Subcommittee on Transportation and Infrastructure. This memorandum presents preliminary findings from that study that relate to toll financing.

The memorandum describes efforts by state and local agencies and the private sector to develop new toll roads. In most cases, those efforts take advantage of changes in policy provided by the Intermodal Surface Transportation Efficiency Act of 1991 and the National Highway System Designation Act of 1995.

The memorandum also suggests that toll roads can help fill gaps in highway demands. Tolls are unlikely to generate substantial increases in highway funding over the next decade, however, unless they are imposed on existing roads to ease congestion—a measure now unpopular with motorists. Yet tolls might gain greater acceptance over the longer term, especially if the public begins to view them as an alternative (not an addition) to user taxes, and they could become an increasingly important source of revenue for highways.

The memorandum was prepared by Elizabeth Pinkston of CBO's Natural Resources and Commerce Division under the direction of Jan Paul Acton and Elliot Schwartz. Mark Booth, Karen McVey, Pearl Richardson, and Jean Wooster of CBO reviewed a draft and provided comments.

Paul L. Houts edited the manuscript. Rae Wiseman prepared the memorandum for production.

Questions about the memorandum may be addressed to Beth Pinkston at (202) 226-2940.

CONTENTS

SUMMARY	1
OVERVIEW OF THE FEDERAL-AID HIGHWAY PROGRAM AND TOLL-ROAD POLICIES	3
Traditional Federal Policies Toward Toll Roads	4
Toll Road Policies in the 1990s	5
TOLL ROADS IN THE 1990s	6
State Route 91 Express Lanes in California	7
Toll Roads In Orange County, California	8
President George Bush Turnpike, Texas	11
Minnesota Trunk Highway 212	11
Other Public-Private Toll Projects	12
The Dulles Greenway	12
BENEFITS OF TOLL-FINANCED ROADS	14
Tolls as a Source of Market-Based Efficiency	15
Tolls as a Source of Funding	15
OBSTACLES TO TOLL-FINANCED ROADS	16
Acquiring the Right of Way	17
Obtaining Environmental Permits	17
Obtaining Financing	18
Anticipating Tort Liability	19
Overcoming the Resistance of Motorists to Tolls	19
Obstacles and Public Policies	21
APPENDIX	
History of Federal Policy Toward Toll Roads	22

SUMMARY

The federal-aid highway program is due for reauthorization in 1997. In determining the future course of the program, the Congress has many issues to consider. Among them is to develop new ways to help states finance highways. This memorandum describes efforts by state and local governments to expedite the construction of new roads through greater use of private financing backed by toll revenues.

In the near term, the set of potentially successful road candidates for tolling is limited, primarily because of public resistance to imposing tolls on previously "free" roads. As a result, tolls are unlikely to generate substantial increases in highway funding over the next decade. During that time, however, the toll projects that are developed could help fill important gaps in highway facilities, allowing new roads to be opened sooner than with traditional financing. Over the longer term, if tolls gain greater public acceptance, a gradual shift from user taxes to toll financing could occur. Studies suggest that imposing tolls on existing roads to ease congestion could generate substantial additional revenues.

Toll roads can help meet highway demands by supplementing existing sources of federal, state, and local highway funds with private capital. In doing so, they enable state and local governments to build new capacity sooner than they otherwise would be able. Obtaining financing from private investors and lenders is a key element in the toll roads described in this memorandum. A blend of public and private investment and sponsorship is instrumental in providing more highway capacity with fewer public funds.

Toll roads can also help allocate resources efficiently. For example, if tolls were set in a way that reflected the cost of congestion, they could decrease traffic delays for motorists whose value of time is high and who are willing to pay, while other traffic would remain on toll-free—but more congested—roads. Toll roads also improve efficiency in investment. To attract private capital, they must meet the market test of offering a competitive rate of return. That test reduces the chances of building uneconomic roads.

Sponsors—public and private—of new toll roads face many obstacles. As with roads financed entirely with tax revenues, they must acquire rights of way, often over the objections of property owners, and they must obtain environmental approvals. The risks that those obstacles present may be greater than most investors want to bear, making private financing difficult to get in the initial stages of a highway project. Investors must also assess whether enough motorists will use a toll road to generate an adequate return on investment.

The most promising candidates for toll roads in the near term are new roads or additional lanes on existing roads, especially where those new lanes are separated from the older roadway or otherwise easily distinguished. Those are roads on which motorists have not become accustomed to driving for free. Moreover, because those roads are new, motorists have the alternative of taking the toll-free routes that they used before the new roads were built, thereby diminishing the effects on low-income motorists.

Efforts to build toll roads are affected by past and present federal policies. From 1916 to the late 1980s, because toll roads were considered an impediment to interstate commerce, federal policies discouraged states from building them or imposing tolls on existing roads. As a result, the nation has relatively little experience with toll facilities. But fiscal constraints at all levels of government (and advances in the technology of toll-taking) have generated renewed interest in toll roads and led to more liberal federal policies as a result of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the National Highway System Designation Act of 1995 (the NHS act).

The federal government could encourage greater use of financing with toll roads by removing restrictions on the use of federal aid. For example, it could allow states to use as much of their highway aid as they wanted to provide credit enhancements—such as loan guarantees, lines of credit, and interest-rate subsidies—that make bonds for toll projects more attractive to investors. Several states are already taking advantage of provisions of a pilot program authorized by the NHS act to establish state infrastructure banks (SIBs) to help finance transportation projects. Encouraging all states to use some of their grant money to make loans or establish lines of credit for toll (or other revenue-generating) projects could make federal aid go farther in meeting highway needs. The requirement that states provide a matching share to the federal funds could also be waived.

The federal government could also encourage toll roads by increasing restrictions on federal aid. For example, it could prohibit federal aid to build new highway capacity unless those roads or lanes were subject to tolls. Putting new projects to such a market test would help discourage uneconomic spending of public funds. New restrictions, however, run counter to the general trend of reducing federal intervention in state and local matters.

Some of the new toll roads take advantage of indirect federal aid in the form of tax-exempt financing. The federal government could support toll projects by expanding the use of tax-exempt debt, although that measure may reduce efficiency in capital markets and would make balancing the federal budget more difficult. As currently structured, such aid is essentially open-ended from the

standpoint of the federal government: as long as a project meets the requirements of the tax code, tax-exempt bonds can be issued, although such financing may be subject to state and local constitutional or statutory limits. In addition to the negative effect on the budget, tax-exempt financing distorts resources in capital markets by favoring public over private investment.

OVERVIEW OF THE FEDERAL-AID HIGHWAY PROGRAM AND TOLL-ROAD POLICIES

The federal government makes grants to the states for building highways if the states meet certain conditions specified in law. The federal government now collects about \$20 billion a year in motor fuel and other taxes from highway users, but it sends most of that money back to the states. Several factors determine the amount of money apportioned to each state. Those factors are commonly referred to as "formulas," although no single mathematical expression determines the amount a state will receive, and they include the number of lane-miles and vehicle-miles traveled on the Interstate System and local air quality. Several additional provisions of the law attempt to achieve an equitable distribution of funds among the states.¹

Once the funds are apportioned to the states, the states are subject to federal law in distributing them. The law specifies the proportion of funds that can be spent on various parts of the highway program, such as the amounts to be spent in urban or rural areas, on bridges, and for other earmarked programs.² Federal law also requires states to match federal funds; the state share for most projects is 20 percent, though it is less in some instances and more in others.

In addition to redistributing funds, the federal government attempts to influence state highway programs and policies in other ways by imposing conditions on its aid. Many of those conditions are intended to ensure that the states use federal funds prudently—free of waste, fraud, and abuse—but most conditions are to further national policy goals, such as improving the environment, civil rights, and labor standards.

-
1. The U.S. Code makes distinctions between apportionments and allocations. For a technical description, see Federal Highway Administration, *Financing Federal-Aid Highways*, FHWA-PL-92-016 (May 1992), pp. 13-14.
 2. Federal Highway Administration, *Financing Federal-Aid Highways*, FHWA-PL-92-016 (May 1992), pp. 14-17.

Finding the money to finance highways is becoming an increasingly challenging task. Budgetary constraints at all levels of government have forced highway demands to compete with many other needs for fewer dollars. As the Congress considers reauthorizing the federal highway and transit programs in 1997, it must search for ways to make the limited funds available under the constraints of the Budget Enforcement Act of 1990 go as far as possible in meeting national transportation needs.

State and local government officials have been working with the federal government and private sources of funding to try to augment the funds now available from revenues from traditional user taxes at the federal and state levels and user and general taxes at the local level. Those officials are becoming increasingly interested in exploring toll financing.

A key issue in any discussion of highway financing is the relationship between funds that are specifically raised for highway use and actual spending on highways. The Congress, for example, is debating the merits of taking the Highway Trust Fund off-budget, which would make it easier to match annual spending and financing. This memorandum does not enter that debate. Instead, it starts from the assumption that both federal and state governments seek more funds specifically dedicated to financing highway spending and to obtaining those funds directly from highway users.

Traditional Federal Policies Toward Toll Roads

From early in the 20th century to 1991, federal law prohibited tolls on roads built with federal aid, with a few exceptions that increased gradually over the years. The historical rationale was that the federal government viewed roads as an important means of bringing the nation together, linking interior agricultural markets with manufacturing and trade at ports. Since all citizens benefited, using general tax revenues to support road-building was justifiable, as was prohibiting tolls that might impede interstate commerce.

Thus, when the Congress passed legislation providing federal aid for highways in 1916, it decreed that all roads built with federal aid be "free from tolls of all kinds."³ That policy was later codified in Title 23 of the U.S. Code. Over the years, as specific problems or challenges occurred, the federal government granted exceptions and allowed tolls under certain conditions.

3. Section 1 of the Act of July 11, 1916 (popularly known as the Federal-Aid Road Act of 1916), 39 Stat. 355.

The Federal-Aid Highway Act of 1956, which instituted the Interstate Highway System, reiterated the principle of toll-free highways and established the Highway Trust Fund.⁴ Revenues from federal taxes on motor fuels and other federal taxes on highway users were to be credited to the trust fund, from which spending on highways would be financed. Existing toll roads, bridges, and tunnels could be incorporated into the Interstate System provided that federal-aid funds were not spent on such facilities. During the 1960s and 1970s, the Congress passed several laws that allowed states to impose tolls on roads built with federal aid if the states repaid that money. (See the Appendix for a more detailed account of federal policies toward tolls.)

In the 1980s, views on toll roads gradually began to shift. In 1987, the Congress passed legislation establishing a pilot program in which a limited number of newly constructed toll roads would be eligible for federal aid.⁵ The legislation imposed a number of restrictions, however, that diminished their attractiveness to states. For example, it excluded highways on the Interstate System, and it provided only a 35-percent federal share for toll roads, compared with the 80-percent to 90-percent federal shares on nontoll roads.

Toll Road Policies in the 1990s

The 1990s have ushered in federal policies much more favorable toward toll roads than those of previous decades. Policymakers have taken new interest in tolls both as a way of financing roads and as a way of reducing congestion.

1991 Legislation. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provided flexibility in using federal-aid funds for toll roads, and it authorized a federal share of between 50 percent and 80 percent, depending on the type of facility.⁶ Section 1012 of ISTEA allows federal-aid funds to be used on any toll facility owned by a public entity and on approved private facilities. The act does not require that tolls be eliminated once the road is paid for. In fact, money left over after providing proper maintenance may be used for other highways.

4. Federal-Aid Highway Act of 1956, 23 U.S.C. 103, 70 Stat. 374.

5. Section 120 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, 23 U.S.C. 129, 101 Stat. 157.

6. Intermodal Surface Transportation Efficiency Act of 1991, 23 U.S.C. 129, 105 Stat. 1914.

The act broadened the set of toll projects eligible for federal aid. It made federal aid available for a wide variety of projects, including initial construction of toll facilities (except on Interstate highways); reconstruction, resurfacing, restoration, and rehabilitation work on toll facilities; reconstruction or replacement of free bridges or tunnels and conversion to toll facilities; reconstruction of free highways (except those on the Interstate System) and conversion to tollways; and preliminary studies to determine the feasibility of those projects.

ISTEA also permitted states to lend the federal share of a project's cost to a public or private entity for constructing a toll facility. That provision expands the opportunity of states to engage in debt financing and clears the way for greater participation by the private sector.

1995 Legislation. The National Highway System Designation Act of 1995 (NHS act) expanded the availability of federal aid for toll roads.⁷ Section 313(a) allows a federal matching share of up to 80 percent for all eligible projects, compared with ISTEA's 50 percent to 80 percent depending on the type of project. Setting the share at 80 percent puts toll roads on a par with most other federal-aid roads. In addition, Section 313 permits loans for any phase of a toll project, including engineering and work on the right of way.

TOLL ROADS IN THE 1990s

Because of historically restrictive federal policies, toll roads are relatively rare in the United States. The Federal Highway Administration counted 4,657 miles of toll roads, bridges, and tunnels as of January 1, 1995.⁸ About half of those miles were on the 45,583-mile Interstate System.⁹ The rest constituted a minuscule portion of the roughly 3.9 million miles of public roads and streets in the United States.¹⁰ In 1994, tolls brought in about \$3.8 billion—or about 4.2 percent of revenues used for highways at all levels of government.

However, in a fiscal environment in which policymakers want to avoid tax increases or use tax revenues for government services other than highways, tolls present a promising source of additional financing for highways. As a result of the

7. National Highway System Designation Act of 1995, 23 U.S.C. 129, 109 Stat. 568.

8. Federal Highway Administration, *Toll Facilities in the United States*, FHWA-PL-95-034 (February 1995), p. 1.

9. Federal Highway Administration, *Highway Statistics 1994*, Table HM-45, p. V-28.

10. *Ibid.*, Table HM-18, p. V-8.

shift in federal policies from discouragement to encouragement, state officials and private developers are expressing new interest in toll roads. Several states are taking advantage of the relaxed requirements of ISTEA and the NHS act and considering new toll roads or toll financing of existing roads. They are increasingly seeking private-sector participation in financing and developing highways. The Federal Highway Administration reports that 252 miles of toll roads have recently been completed at an estimated cost of about \$5 billion. Another 1,560 miles of toll roads costing about \$24.6 billion are being planned.¹¹

The confluence of legislation relaxing federal rules on financing highways, a scarcity of funds at the state and local levels, and the prospect of profitable toll projects has encouraged the private sector to explore investing in highways. The structure of private participation varies from one project to the next as to the extent of private debt and equity capital and the degree of involvement in building and operating toll roads. No single model has emerged as dominant. The structure of each project depends on specific aspects of the situation.

The following detailed review of several projects illustrates the range of private-sector involvement and the ways the public and private sectors have interacted.¹² One feature is present in all cases: a belief in the need for additional roadway capacity combined with insufficient government funding to provide it in a timely manner. Governments view private participation as a source of additional capital, and private investors view toll projects as potential moneymakers. As suggested below, however, those expectations are not always realized.

State Route 91 Express Lanes in California

In 1995, a 10-mile toll section of State Route 91 (the Riverside Freeway) in southern California was opened. The privately financed toll portion, known as the SR 91 Express Lanes, is in the median of the freeway from which it is separated by barriers. Tolls are collected electronically and vary by time of day. Initially, the operators considered varying the tolls instantly depending on the flow of traffic: if too many vehicles entered the express lanes, the toll would rise in order to ration the demand and prevent the toll portion from becoming congested. Research into attitudes about such instant adjustments in tolls revealed that commuters wanted to know the cost before they started their trips. The planners

11. Federal Highway Administration, *Innovative Finance and Statewide Financial Planning* (1996), Unit 2, pp. 20-21.

12. Readers who are less interested in the details of specific projects than in the general lessons they provide may wish to take the express lane to the discussion of the benefits of toll roads, beginning on page 14.

then developed a toll structure with relatively low tolls in the middle of the night, high tolls at peak hours, and a series of steps leading up to and down from the peaks.

The California legislature authorized the SR 91 Express Lanes in 1989. The developer and operator is the California Private Transportation Company (CPTC), a limited partnership led by the large construction company Peter Kiewit Sons, Inc. Other partners are a French toll road company, Cofiroute, and a local company, Granite Construction, Inc.¹³ It raised \$120 million in financing from several sources: \$65 million in variable-rate loans from Citibank and two French banks; \$35 million in a 24-year loan from Cigna; and \$20 million in CPTC's equity.¹⁴

The SR 91 Express Lanes are a build-transfer-operate facility. On completion, the developers transferred ownership to the state. CPTC will operate the express lanes for 35 years—and pay for maintenance, law enforcement, and other operating costs. After that time, the roadway reverts to the state. The principal reason for transferring ownership to the state is concern about tort liability. The investors wanted the state to be liable for damages associated with operating the toll lanes.

The state does not directly regulate tolls, but it limits the company to a rate of return of 17 percent. Because the express lanes are adjacent to a heavily congested highway, a ready-made demand was present from the day it opened.

Toll Roads In Orange County, California

In 1986, the California legislature authorized local governments to create “joint powers agencies” with the right to finance and build roads and collect tolls and development impact fees.¹⁵ Orange County responded by creating two Transportation Corridor Agencies (TCAs)—San Joaquin Hills TCA and

13. Peter Samuel, *Highway Aggravation: The Case for Privatizing Highways* (Washington, D.C.: Cato Institute, Policy Analysis No. 231, June 27, 1995), p. 15.

14. Ibid.

15. Federal Highway Administration, *Implications of Changes in Procedures and Laws to Advance Public-Private Partnerships*, FHWA-PL-95-026; HPP-13/4-95 (4M) E (April 30, 1995), p. 32.

Foothill/Eastern TCA. The agencies consist of elected representatives from 15 cities and three supervisorial districts within the county.¹⁶

The San Joaquin Hills TCA has built a 15-mile, six-lane toll road linking Newport Beach and San Juan Capistrano.¹⁷ About half of the corridor was opened to traffic in July 1996 and the remainder in November 1996.¹⁸ As each segment opened, ownership was transferred to the state highway system, along with the responsibility for operation and maintenance, although the TCA retains ownership of the toll collection system until all debt is retired.

The Foothill/Eastern TCA has opened 7.5 miles of roadway and is working on another 44.5 miles. The segment open to traffic runs from Portola Parkway North near Irvine to Antonio Parkway in Rancho Santa Margarita. When completed, the Foothill corridor will extend from North Irvine to Interstate 5 south of San Clemente. The eastern corridor connects SR 91 and Irvine, where it splits into two legs: the eastern one connecting with the Laguna Freeway south of Interstate 5, and the western one merging with Jamboree Road south of Interstate 5 in Irvine.¹⁹

The San Joaquin and Foothill/Eastern TCAs have identical organizational structures, powers, and staff, and they are involved in similar financing arrangements. They are separate agencies with separate books because they cover different geographic areas and hence have different areas on which they can levy development fees. The debt issued by the agencies is separate.

For the two agencies combined, project costs funded to date total about \$3.6 billion. About 77 percent of project financing comes from bonds, 7 percent from development impact fees, 9 percent from interest, 5 percent from the state, and 2 percent from other sources.²⁰ The bonds are nonrecourse: bondholders can look only to toll revenues, development fees, and interest earnings for repayment. The bonds are not backed by local or state government. They do qualify,

16. The information presented here is drawn largely from the Transportation Corridor Agencies' site located on the *World Wide Web* at <http://www.tcagencies.com>. Additional information was provided in a briefing by TCA officials and their advisors arranged by the U.S. Office of Management and Budget (November 25, 1996).

17. San Joaquin Hills Transportation Corridor Agency, *The Journey Begins* (undated brochure).

18. Transportation Corridor Agencies' site on the *World Wide Web* (<http://www.tcagencies.com>).

19. *Ibid.*

20. *Ibid.*

however, as municipal bonds, the interest of which is exempt from federal income taxes.

Development impact fees are one-time fees levied on both residential and nonresidential development within the established area of benefit. The fees are based on the number of trips on the toll roads that development is projected to generate. Geographic locations close to the roads carry higher development impact fees than those farther away. For residential development, rates are higher for single-family houses than for multiple-unit buildings. Commercial development fees are based on square footage.

The development impact fees have played a key role in financing the Orange County toll roads. They have provided the seed capital for the projects. Because the initial stages of highway projects are risky—especially getting the necessary environmental permits—private investors shy away from committing capital until the project gets all the required approvals from government regulators.

Like SR 91, the Orange County toll roads are transferred to the state of California once they are opened to traffic. The state gives the TCAs the toll franchise until the debt is paid off; the bonds have 40-year maturities. The state also assumes tort liability, but unlike SR 91, it also assumes responsibility for all operation and maintenance (except as related to toll collection).

The federal government gave each of the Transportation Corridor Agencies a line of credit of \$120 million, which enhanced the marketability of the bonds. Current traffic and revenue projections suggest that the TCAs will not have to draw on those lines of credit.

Federal taxpayers are also helping to subsidize the projects through the federal income tax exemption for interest on municipal bonds. That exemption helps the agencies market debt at a lower interest rate than if the bond interest was taxable. Because the amount of tax-exempt debt issued by the TCAs was relatively small, the resulting loss of federal tax revenue is negligible. Still, from the standpoint of the federal government, the tax exemption is open-ended, and if many other agencies were to follow the lead of the Orange County toll roads, the amount of revenue forgone could climb.²¹ The revenue loss is limited, however, by two factors: the market's capacity to absorb additional tax-exempt issues and debt ceilings established by state and local governments. Hence, instead of

21. The open-ended tax exemption applies when bonds qualify as public purpose. Federal law limits the volume of bonds issued by state or local agencies for private purposes. In addition, interest on private-purpose obligations is subject to the alternative minimum tax.

reducing federal tax revenues, new bonds for toll roads might crowd out bonds for school construction or other public works.

President George Bush Turnpike, Texas

Texas is using the ISTEA toll provisions to build the President George Bush Turnpike (formerly known as State Highway 190) on the north side of Dallas, which will link four freeways and the Dallas North Tollway. The initial 26-mile section will be financed and constructed jointly by the Texas Turnpike Authority and the Texas Department of Transportation (TxDOT). Of the estimated cost of \$696.3 million, \$446.4 million (64 percent) will come from the proceeds of revenue bonds and \$135.0 million (19 percent) from an ISTEA Section 1012 loan.²² According to TxDOT, the combination of federal and state funding and bond proceeds will enable the turnpike to be completed about 15 years earlier than with traditional financing. Since the 1960s, TxDOT had included the project in its long-range plans, initially as State Highway 190. The flexibility offered by ISTEA made converting the project to a toll road an attractive option for getting it built sooner.

Minnesota Trunk Highway 212

The Minnesota Department of Transportation (Mn/DOT) established an Office of Alternative Transportation Financing to explore opportunities available under ISTEA and the NHS Act.²³ In July 1995, Mn/DOT issued requests for proposals to develop toll facilities. It received five responses, and in May 1996 selected one—a 20-mile highway from Eden Prairie to Cologne on the southern side of the Twin Cities known as Trunk Highway 212 (TH 212).²⁴ Over the summer of 1996, Mn/DOT worked on an agreement with the developers—a local not-for-profit association, the 212 Community Highway Association, and private for-profit firms led by Interwest/DLR Group Infrastructure Corporation. One of the ground rules was that a project could be vetoed by any community involved with the road, and in September 1996, one of those communities exercised that veto. As of January

22. The rest of the financing is from interest earnings, private donations of right-of-way, and funds from the Texas Turnpike Authority. U.S. Department of Transportation, "Secretary Peña Announces Approval of 32 New Transportation Projects In 22 States Worth \$2 Billion" (Press Release 15-96, Washington, D. C., February 6, 1996).

23. Minnesota Department of Transportation site on the *World Wide Web* (<http://www.dot.state.mn.us/>).

24. "Minnesota Is Set to Get Its First Toll Highway," *Engineering News-Record* (New York: McGraw-Hill, May 27, 1996), p. 16.

1997, the sponsors still held out hope that the opposition could be overcome. The opposing community's primary concern appears to be a "not in my backyard" objection, common to new highways.²⁵ Some people have also complained about imposing tolls in one part of the metropolitan area when other sections have highways free of tolls.

If backers of the TH 212 project are able to address the concerns of opponents, it is likely to be Minnesota's first toll road. The plan is for the \$220 million project to issue tax-exempt bonds backed by tolls. That financing would enable the road to be built sooner than it would be with conventional pay-as-you-go financing. As for the proposals rejected in the first round, Mn/DOT left the door open to consider modifications to the proposals if they can overcome the lack of support by the communities affected, environmental concerns, and questions about financial and technical feasibility.

Other Public-Private Toll Road Projects

Toll roads with private-sector financing are under consideration in other states. Some toll roads that were proposed early have encountered obstacles, and their future is uncertain. For example, several toll road projects have been proposed in Arizona but have faltered for lack of public support.²⁶ Two projects in the Phoenix area are still under consideration, however. In South Carolina, developers are working with the state on a 17.5-mile toll road called the Southern Connector in the Greenville area. A feasibility report has been completed, and the sponsors hope to obtain all necessary government approvals in the spring of 1997. One potential roadblock is the question of whether the bond issue requires voter approval in a county referendum.

The Dulles Greenway

The toll roads described above resulted from partnerships between the public and private sectors. In contrast, the Dulles Greenway in northern Virginia is a private enterprise—although governmental approvals were necessary before it could be built, and the state regulates its tolls.

25. Adeel Lari, Director, Office of Alternative Transportation Financing, Minnesota Department of Transportation (paper presented at the annual meeting of the Transportation Research Board, Washington, D.C., January 13, 1997).

26. Federal Highway Administration, *Implications of Changes in Procedures and Laws to Advance Public-Private Partnerships* (April 30, 1995), p. 5.

In 1988, in response to the private sector's growing interest in transportation facilities, Virginia's General Assembly authorized private development of toll roads in the commonwealth. A group of investors—the Toll Road Investors Partnership II (TRIP II)—thought that a toll road linking Washington Dulles International Airport and Leesburg, Virginia, would be a promising investment because residential and commercial growth in that corridor was causing increasing congestion on existing arterial highways serving that corridor.

The product of their investment is the Dulles Greenway, a 14-mile limited-access highway extending from the state-owned Dulles Toll Road, which carries traffic between the Washington Beltway and Dulles Airport, and Leesburg.²⁷ The two roads connect at a toll plaza. Drivers pay one toll, which the operators of the two facilities divide. Vehicles equipped with prepaid electronic tags may drive through "Fastoll" lanes without having to stop at a toll booth; their tags are read and debited automatically.

To finance the Greenway, investors put up \$40 million in cash and secured \$310 million in private financing.²⁸ Ten institutional investors led by Cigna Investments Incorporated, Prudential Power Funding Associates (a unit of the Prudential Insurance Company of America), and John Hancock Mutual Life Insurance Company provided \$258 million in long-term fixed-rate notes (due in 2022 and 2026). Three banks (Barclays Bank PLC, NationsBank Corporation, and Deutsche Bank AG) agreed to provide part of the construction funding and \$40 million in revolving credit. Loans are to be repaid with toll revenues, and the financing is secured by a first mortgage plus security claim in the developer's right, title, and interest.²⁹

Construction of the Greenway was completed ahead of schedule, and it was opened to traffic in September 1995. The toll was set at \$1.75 each way. Virginia's State Corporation Commission limits the rate of return to 18 percent but, unfortunately for the investors, that does not appear to be a binding constraint

27. The Dulles Toll Road was opened in 1984 to serve the rapidly growing suburbs between the Capital Beltway and Dulles Airport. By serving local traffic, it augmented the adjacent Dulles Access Road, which the federal government had built in 1962 to carry traffic to the airport. The original roadway had no outbound exits nor inbound entrances between the beltway and the airport, and was not intended to carry local traffic.

28. Those investors are Maggie Bryant, a local resident, and her son, Michael R. Crane; Autostrade International SpA, an Italian company that operates the road; and Brown & Root, a Houston-based construction company, which built the road.

29. Dulles Greenway Home Page, sponsored by Toll Road Investors Partnership II, L.P., on the *World Wide Web* (<http://www.his.com/~cwealth/greenway/index.html>).

in the near term. Fewer drivers than projected have used the road, and even a reduction in tolls to \$1.00 has failed to attract enough additional users to increase total revenues. (By way of comparison, the 10-mile Dulles Toll Road with which the Greenway connects has a maximum toll of 85 cents.)

The investors had projected toll revenues for the first year to be \$27 million, of which \$7 million was to go for operating costs and \$20 million to go toward the \$30 million in annual interest. Those revenues did not materialize, and as of November 1996, the investors had missed two quarterly interest payments of \$7 million and were negotiating with their creditors to avoid foreclosure.³⁰

The 1988 enabling legislation prohibits the state from bailing out the Greenway or other such facilities. After the disappointing results of the first few months of the Greenway's operation, the Virginia legislature considered but rejected a bailout. However, in an effort to attract more motorists, it did vote to allow the speed limit on the Greenway to rise from 55 miles per hour to 65 miles per hour.

The Greenway is a build-operate-transfer facility. The road becomes the property of the state after 42.5 years. Thus, the developers get the right to profits (assuming the market eventually provides profits) for a long enough period to recoup their investment, and the people of Virginia get a road built sooner than otherwise and financed through tolls, not taxes.

BENEFITS OF TOLL-FINANCED ROADS

Although user taxes—dominated by taxes on motor fuels—are likely to provide the lion's share of funding for highways in the foreseeable future, toll financing provides a way to augment resources and make it possible to construct new highway capacity sooner than would be feasible with traditional financing. Tolls not only provide revenues to help finance roads but also help allocate resources more efficiently.³¹

30. Peter Pae, "Struggling Dulles Greenway to Raise Toll," *Washington Post*, November 2, 1996, p. B5.

31. For a more detailed discussion of how road pricing could increase efficiency, see Congressional Budget Office, *Paying for Highways, Airways, and Waterways: How Can Users Be Charged?* (May 1992).

