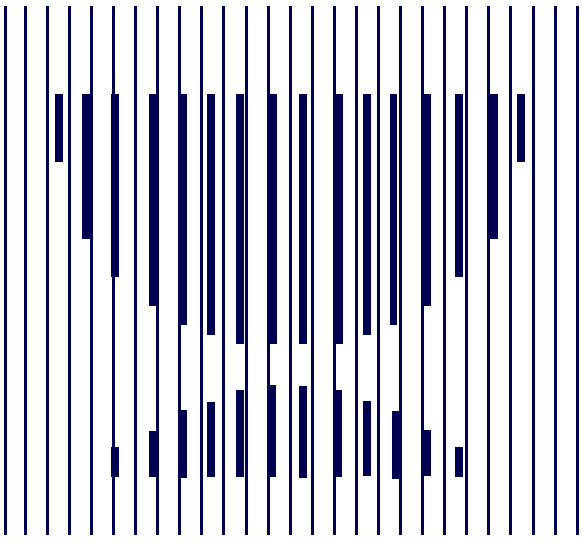
CBO MEMORANDUM

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).

Tolls as a Source of Market-Based Efficiency

Toll roads provide two types of incentives for efficient use of resources. First, to attract private financing, they must yield a competitive expected return on investment. The projected toll revenues must cover costs and provide investors and lenders with a high enough expected rate of return. It is difficult to obtain private financing for roads that cost more than the revenues they are expected to produce. Expectations can be incorrect, however, as in the case of the Greenway. The market does not prevent bad investments from being made, although it discourages them.

Second, the presence of tolls helps to allocate demand for scarce roadway capacity. In the case of the SR 91 Express Lanes, for example, in which tolls are higher at peak hours, motorists who value saving time can pay the toll and enjoy uncongested travel, while others spend more time in traffic but save the cost of the toll. To achieve that kind of efficiency in the use of resources, however, requires that the toll be set at a level that reflects the marginal social cost.[32]

Tolls as a Source of Funding

From the standpoint of state and local officials, the primary benefit of the toll roads discussed here is that they provide a new source of funding for roads. Toll roads offer a mechanism for tapping the resources of the private sector to build roads sooner than would be possible with traditional financing. If highway funds remain tight at the federal and state levels—reflecting higher priorities for projects other than highways and a reluctance to raise tax rates on fuel—governments may look increasingly to ways of raising money voluntarily from the private sector (that is, not through taxes). From the taxpayer's standpoint, letting private investors bear the risk and financial burden of building new roads is attractive.

The projects described above illustrate the gradations in balance between public and private sector. The Dulles Greenway used only private sources of funding, although it required state approvals of environmental permits, toll levels, and other matters. The Greenway will be operated and maintained privately for a specific length of time and eventually will be turned over to the state.

The 91 Express Lanes are also privately financed, but they follow a build-transfer-operate model. Because of concerns over liability, investors in the 91 Express Lanes turned ownership of the roadway over to the state once it opened

32. Ibid.

to traffic. The private firm will operate the express lanes for 35 years—and collect tolls to pay for maintenance, law enforcement, and other operating costs—after which all interest in the roadway reverts to the state.

The Orange County toll roads also are build-transfer-operate facilities for the same reason—namely, concern over tort liability. In their case, however, the state will assume the costs of operation and maintenance as each segment of roadway is opened to traffic. They also experience more governmental involvement than the 91 Express Lanes because the agencies created to develop them are instruments of the state. The agencies issued municipal bonds and levied fees on developers. In addition, taxpayers at the federal level are helping to subsidize those roads because interest on the bonds is exempt from federal income taxes.

Why are public-private partnerships attractive to the participants? For state and local governments, they present a way of getting some roads built sooner than otherwise because the initial capital comes from the private sector rather than constrained government budgets. If repayment is through tolls rather than taxes, it reduces the need to raise taxes. If the private sector operates and maintains roadways, some efficiencies may occur by avoiding burdensome procurement rules. Yet some of those rules are in place to ensure accountability and guard against corruption in awarding and overseeing contracts.

As noted above, the Orange County toll roads are turned over to the state for operation and maintenance as they are opened to traffic. That arrangement means that California must anticipate the need for funding those activities in the future. With relatively few such roads, those costs should not present a large burden on the state. However, if numerous roads were built under those conditions, they could impose a noticeable demand on the state's budget for maintaining roadways. To decide whether such an agreement is worthwhile, of course, a state would have to compare those costs with the benefits of substituting private for public capital for construction. The state also has an interest in seeing that the roads are built according to its standards so that they do not crumble prematurely or otherwise impose greater burdens on the state. The toll agencies share that incentive because they need the roads to be in good condition in order to attract motorists and keep toll revenues high.

OBSTACLES TO TOLL-FINANCED ROADS

Sponsors of toll roads must overcome many obstacles, some of which result from federal policies. The obstacles are often interrelated. Sponsors must obtain financing, rights of way, and environmental permits. Without environmental

approvals, a project may be too risky for private lenders or equity investors, but funds are needed up front to pay for environmental studies and applications. Some of the obstacles also apply to roads that are financed entirely with tax revenues, but when private funds are involved, the complexity increases.

Acquiring the Right of Way

Acquiring land for the right of way can be very difficult, especially in built-up areas where numerous property owners are involved. A single landowner who does not want to sell can stop a project or cause its costs to escalate. Governments generally have the right of eminent domain, which allows them to buy a property from an unwilling seller at a price deemed to reflect the fair market value, although exercising that right may be more costly politically than local officials are willing to bear. For a private venture or a public-private partnership that does not have the right of eminent domain, obtaining the right of way for a road can be daunting. Therefore, most new ventures will probably need governmental assistance in obtaining rights of way.

Obtaining Environmental Permits

If road developers succeed in obtaining land for the right of way, they must convince neighboring property owners as well as other members of the community that building a road will not harm the environment. People living near the right of way are often concerned about potential noise and other pollution that may affect their property values. That reaction is so common that it has generated its own acronym "NIMBY"—"not in my backyard." Overcoming NIMBY opposition is a major hurdle for highway developers.

The effect of additional highway capacity on regional air quality is also a concern. Environmentalists worry about encouraging more vehicles that will pollute the air, and they frequently argue that additional spending on transportation should be for mass transit—to get vehicles off the road—not for highways. If a new road would traverse wetlands or other environmentally sensitive areas, obtaining permission from the appropriate government agencies becomes even more difficult. From the standpoint of private developers, therefore, obtaining all the environmental permits required to proceed on a project holds considerable risk. Because of that risk, many participants in projects to develop roads consider some kind of governmental backing essential in the early stages. They suggest that governments put up their own funds or provide loan guarantees for the planning and initial engineering phases of the project. Once a project has received the

necessary environmental and other regulatory permits, the financial risk decreases substantially, making private investment (either equity or debt) more attractive.

Obtaining Financing

One common element of all toll roads financed at least in part by loans or equity from private investors is that the initial investment must be repaid. A key question is whether toll revenues will be sufficient to repay debt to bondholders and provide an attractive return on investors' equity. Although project costs are often subject to overruns, the revenues are generally more difficult to project because they entail more uncertainties about human behavior—will enough motorists be willing to pay tolls to use the road?—and because the revenue stream extends farther into the future and thus is subject to more unpredictable events that may affect the demand for the road.

Projecting revenues includes not only estimating the total volume of traffic but also the amount of traffic at various possible toll rates. Estimating the elasticity of demand—the percentage change in traffic from a 1 percent change in the toll—is always subject to error but all the more so given the relatively limited amount of experience to draw on.[33]

A study by J. P. Morgan Securities of 14 urban toll roads financed over the past 12 years compared actual revenues with the original forecast.[34] In only two of the projects did revenues exceed projections during the first four years of operation. For 10 projects, revenues fell short by 20 percent to 75 percent. For the remaining two projects, revenues for completed segments appeared close to projections but the results were not in for the entire projects. The findings of that study may prompt potential lenders and equity investors to take greater care in scrutinizing projections of traffic and revenues and to require government funding or financial guarantees to reduce the risk of investing, especially at the earliest and riskiest stages of the project.

Despite the overly optimistic revenue projections, none of the toll roads in the J. P. Morgan study has defaulted on its debt. That is not the case, however,

---

33. Borivoje P. Dedeitch, Randy B. Machemehl, Mark A. Euritt, Robert Harrison, and C. Michael Walton, *Reliability of Toll Road Revenue Forecasts for Selected Toll Roads in the United States*, Research Report No. 1281-2 (research conducted by the Center for Transportation Research, University of Texas at Austin for the Texas Department of Transportation in cooperation with the U.S. Department of Transportation, Federal Highway Administration, July 1993).

34. Robert H. Muller, "Examining Tollroad Feasibility Studies," *Municipal Market Monitor* (New York: J.P. Morgan Securities, Inc., March 22, 1996).

for the Dulles Greenway in Virginia, where the traffic has fallen short of projections, and toll revenues have not been sufficient to meet interest payments. The J. P. Morgan study offers several insights, which are borne out in the Greenway experience. In general, the projections that proved to be most accurate were based on conservative assumptions about economic activity in the traffic corridor served by the toll road. Toll revenues were most likely to meet projections in corridors that were already congested—that is, where substantial potential demand already existed. Although suburban development is moving in the direction of the Greenway, the road has preceded demand. Traffic on the road will probably continue to grow, and eventually toll revenues should cover costs. That possibility may be of scant comfort to initial investors, however, who may not realize their expected return.

Finding toll projects involving new roads that private investors would consider investing in may prove difficult. If state and local governments have chosen highway projects according to their rate of return, then they have already undertaken the projects with the highest net benefits, leaving only projects that would be less able to recoup costs through tolls. All the most remunerative projects may already have been undertaken.

Private investors also bear a risk that their returns may be limited. When the state regulates the level of tolls or the rate of return, investors may not be able to realize the full fruits of their investment.

Anticipating Tort Liability

Another large risk for investors is potential tort liability. They might be sued for damages resulting from accidents. Moreover, the potential liability could be quite high for accidents involving deaths, injuries, and damage to the environment (as might result from multi-vehicle collisions involving trucks carrying hazardous materials). The California toll roads have dealt with this problem by turning ownership and operation of the roadway over to the state once the road was open to traffic. That way, blame for unsafe conditions or other factors leading to accidents falls on the state—not on private investors. That principle has not been tested in court, however.

Overcoming the Resistance of Motorists to Tolls

Federal policies discouraging states from imposing tolls have enabled motorists to enjoy toll-free use of limited-access highways for a long time, and few are eager to start paying tolls. Many motorists think that the motor fuel and other user taxes

and fees they have paid should be sufficient to meet the needs for highway capacity. Assessing the amount of financial resources necessary for highways is beyond the scope of this memorandum. But if additional funds are needed, they must come from either taxes or tolls, and right now public resistance to increases in taxes is formidable. That leaves tolls as an alternative.

Recent experience with toll roads suggests that motorists are willing to pay tolls if they see a clear benefit--such as having additional capacity available that enables them to avoid congestion and save time getting to their destinations. A recent study funded by the Texas Department of Transportation found public support for the use of tolls as an alternative to fuel tax increases on newly built roadway capacity.[35] Most Texans surveyed opposed the imposition of tolls on currently non-tolled roads, however, and they also opposed tolls as a mechanism for pricing for congestion. The last finding is an interesting one because the existing toll roads in Texas are in the Houston and Dallas areas where higher tolls during peak periods could reduce congestion, saving travel time for commuters willing to pay for it.

Opponents of toll roads often charge that such roads are unfair to motorists with low incomes who may not be able to afford them. That concern is intensified if it involves trips to work and the motorist has few alternatives. The Texas study, however, reported that the level of income of people surveyed did not affect their preference between fuel taxes and tolls, although people with higher incomes did tend to use toll roads more often than people with low incomes. Also, in the California SR 91 project, the income distribution of users mirrors the overall income distribution in the area.

Technology is helping to overcome one longstanding complaint about toll roads: wasting time waiting in line to pay the tolls. The new toll roads make use of electronic toll collection. Electronic tags placed in vehicles can be read by roadside sensors, and the amount of the toll can be debited automatically.[36] Although some observers have expressed concern about privacy, most motorists do not find that a problem. One way of addressing the problem is to give the motorists the option of paying a cash toll at a traditional toll booth (with the traditional delays) or of buying a debit card that does not identify the user.

---

35. Chungwon Lee, Christopher Oswald, Randy B. Machemehl, Mark Euritt, and Rob Harrison, "A Survey Approach for the Acceptability of Highway Tolling and Congestion Pricing in Texas," *Journal of the Transportation Research Forum*, vol. 36, no. 1 (1996), pp. 43-58.

36. For additional discussion of electronic toll collection, see Congressional Budget Office, *High-Tech Highways: Intelligent Transportation Systems and Policy* (October 1995).

Obstacles and Public Policies

The obstacles to toll roads increase the risk to potential investors. If the federal government wants to enhance the resources available for roads, it can adopt policies that encourage participation by the private sector. With passage of ISTEA and the NHS act in the 1990s, the Congress has redirected its stance from opposing to mildly encouraging toll roads. In reauthorizing ISTEA, the Congress can choose whether to continue along that course. The policies it adopts will influence the amount to which tolls will augment user taxes—the traditional source of funds for highways—in the 21st century.

APPENDIX: HISTORY OF FEDERAL POLICY TOWARD TOLL ROADS

The federal government has a long tradition of favoring "free" roads over toll roads. The Federal-Aid Road Act of 1916 established a policy prohibiting the use of federal aid for toll roads and bridges. Section 1 of that act provided that all roads built with federal aid be "free from tolls of all kinds."[37] The Federal Highway Act of 1921 reiterated that policy, which was codified as Section 301 of Title 23 of the U.S. Code.[38] As it currently stands, Section 301 states:

> Except as provided in section 129 of this title with respect to certain toll bridges and toll tunnels, all highways constructed under the provisions of this title shall be free from tolls of all kinds.

Over the years, policy changes have occurred as Section 129 of Title 23 has expanded.

BRIDGE BUILDING: THE 1927 BRIDGE EXCEPTION

Rivers presented a problem for proponents of a nationwide road system. By the 1920s, private entrepreneurs had built a number of bridges linking roads and communities on opposite banks of rivers. They charged tolls to recoup their investment and pay for operating and maintaining the bridges. As government road building proceeded in the 1920s, it often turned out that the roads that were economically desirable to improve were those leading up to bridges. That placed owners of bridges in the enviable stance of holding monopoly positions that government investment had made even more valuable. As partial redress, federal highway authorities sought and obtained a ruling from the Comptroller General that federal aid was prohibited on roads or highways leading to toll bridges.[39]

That ruling still left the problem of how to link highways across rivers—an essential component of a national highway system—and how to mitigate the detrimental aspects of bridge monopolies. In addition to presenting physical barriers, rivers often serve as boundaries between governmental jurisdictions, and building bridges between them requires achieving agreement on design, alignment,

---

37. Section 1 of the Act of July 11, 1916 (popularly known as the Federal-Aid Road Act of 1916), 39 Stat. 355. For a more detailed discussion, see statement made in the U.S. House of Representatives, *Relationship of Toll Facilities to the Federal-Aid Highway Program,* Hearings before the Special Subcommittee on the Federal-Aid Highway Program and the Subcommittee on Roads of the Committee on Public Works, 89th Congress, 2nd session (March-June 1966), Appendix A, pp. 912-929.

38. Section 9 of the Federal Highway Act of 1921, 42 Stat. 212.

39. *Relationship of Toll Facilities*, p. 912.

timing, financing, and many other matters. Creating interjurisdictional agencies with the authority to build and finance bridges appeared to offer a solution to some of those problems.

To encourage such bridge-building, the Congress in 1927 passed the Oldfield Act, which permitted federal aid to be used for constructing toll bridges owned and operated by states or their political subdivisions.[40] The act required, however, that toll revenues be used only for operation and maintenance and repayment of the debt. Once the debt was repaid, tolls were to be removed. The Federal-Aid Highway Act of 1956 made tunnels subject to that provision as well.[41]

POLICIES IN THE 1930s AND 1940s

The Depression of the 1930s presented both challenges and opportunities for road builders. On the one hand, government revenues were reduced, leaving less money for roads. On the other hand, land, labor, and materials were cheap. Moreover, road building was the kind of public works program favored by Keynesians to stimulate the economy, and federal officials touted the potential benefits of a nationwide system of highways to promote travel and commerce.

Throughout the 1930s and 1940s, the Bureau of Public Roads (forebear of the Federal Highway Administration) maintained staunch opposition to the idea of using federal aid for toll roads. As sometimes happens, however, the federal government did not speak with one voice on the issue. Two Depression-era agencies, the Public Works Administration and the Reconstruction Finance Corporation, jointly provided financing for the Pennsylvania Turnpike—a toll road that opened to traffic in 1940.[42]

Nevertheless, the position of the Bureau of Public Roads prevailed in defeating legislation introduced in the late 1930s to allow federal aid for toll roads. During World War II, the government took no further action on the issue.

In the decade following World War II, efforts to change federal policy toward toll roads were revived. The Bureau of Public Roads, aided by the Bureau of the Budget (predecessor of the Office of Management and Budget), continued to oppose federal aid for toll roads. Their arguments are interesting, especially in

---

40. Act of March 3, 1927, 23 U.S.C. 129(a), 44 Stat. 1398.

41. Section 113(d) of the Federal-Aid Highway Act of 1956, 23 U.S.C. 129, 70 Stat. 384.

42. *Relationship of Toll Facilities,* p. 916.

light of the subsequent program of massive federal aid for the Interstate highway program, and are similar to arguments heard today. The Bureau of Public Roads argued that:

- If toll roads were built, their owner-operators would resist building free roads that might compete;
- Imposing tolls on some roads and not on others creates geographical inequities;
- Using bond financing for toll roads is just another way to skirt government debt ceilings, and thus the preferred financing was pay-as-you-go; and
- The federal government should not get involved in activities that could be pursued more appropriately by the private sector and state and local governments.[43]

The Budget Bureau's main arguments were:

- Toll roads do not require federal aid because they would pay for themselves. Holding out the promise of federal aid might lead to construction of toll roads that do not meet sound economic criteria—that is, that would not generate enough revenues to cover costs and would become a burden on the federal government.
- Providing federal aid for toll roads would just draw resources from other projects that could not pay for themselves.[44]

The federal government's continued opposition to federal aid for toll roads did not discourage states from building them. In the late 1940s and early 1950s, some 30 states contemplated building toll roads because they needed more highway capacity and were encouraged by the success of the Pennsylvania Turnpike.[45]

---

43. Ibid., pp. 917-918.

44. Ibid.

45. Ibid., p. 917.

1956 INTERSTATE HIGHWAY ACT

The Federal-Aid Highway Act of 1956 created the National System of Interstate and Defense Highways.[46] The act authorized a 41,000-mile system of highways to promote interstate commerce, provide for more expeditious movement of military supplies and personnel, and expand and improve travel opportunities for citizens.[47] Interstate highways were to be free of tolls; instead, they were to be financed through taxes on motor fuel.[48] That principle was followed for the most part. However, the act allowed existing toll roads, bridges, and tunnels to be incorporated into the Interstate System, provided that federal-aid funds not be spent on such facilities.[49]

The 1956 act also called for a study of using federal-aid funds to reimburse states or other public authorities that had already built toll roads and thereafter to remove the tolls.[50] The resulting study recommended deferring any reimbursement until the Interstate System was completed.[51] That same recommendation was made in a 1980 study required under the 1978 Highway Act.[52]

FEDERAL HIGHWAY ACT OF 1960

Although federal officials favored reimbursing toll-road authorities and making the roads free of tolls, some states contemplated the opposite tack: reimbursing the federal government and turning freeways built with federal aid into toll roads. In something of a challenge to federal policies favoring freeways, Delaware and

---

46. Federal-Aid Highway Act of 1956, 70 Stat. 378. During World War II, the Congress had passed legislation outlining plans for building an Interstate System once the war was over (Section 7 of the Federal-Aid Highway Act of 1944, 58 Stat. 842).

47. President Eisenhower had favored such a system ever since participating as a young Army officer in a 1919 convoy across the country. He also envisioned the Interstate Highways as a way to evacuate people from cities in case of nuclear attack. See Stephen E. Ambrose, *Eisenhower, The President* (New York: Simon and Schuster, 1984), pp. 250-251.

48. President Eisenhower had favored tolls but was advised that tolls would bring enough revenue only in the densely populated East and West Coasts. Ambrose, *Eisenhower,* p. 251.

49. Section 113 of the Federal-Aid Highway Act of 1956, 23 U.S.C. 129, 70 Stat. 384.

50. Ibid., Section 114.

51. Eugene McCormick (then Deputy Federal Highway Administrator), "Federal-Aid Toll Policy—Past, Present, and Future Directions" (remarks presented at the 58th Annual Meeting of the International Bridge, Tunnel, and Turnpike Association, Norfolk, Va., April 30, 1990), p. 4.

52. Ibid.

Maryland sought permission to collect tolls on sections of Interstate 95 in their states. In 1960, the Congress authorized them to do so provided they repay the federal aid that had been used to build those sections of highway.[53] Once the aid was repaid, the road segments would be free of the restrictions that accompanied federal aid, including the prohibition on imposing tolls. Interestingly, the funds repaid were to be apportioned to the states so that, in effect, the funds were simply shifted from I-95 to other highways in Maryland and Delaware. The states did not lose any funds. In fact, state residents probably gained at the expense of out-of-state motorists, since I-95 is the main route for motor vehicle travel between Washington and New York.[54]

1978 LEGISLATION

In 1978, the Congress passed legislation creating a program of resurfacing, restoring, and rehabilitating (so-called 3R projects) Interstate highways that had been in use for more than five years. Federal funds were authorized for 3R projects on toll roads designated as part of the Interstate System if the states agreed to remove the tolls when the debt was repaid and when the cost of operation, maintenance, and debt service during the period of tolls was covered.[55] The agreements became known as "Section 105 Secretarial agreements" after the provision in the law. If states did not eliminate the tolls, they would have to repay the federal funds used on that toll road.

Reminiscent of the 1960 legislation that allowed Delaware and Maryland to repay federal aid and impose tolls on I-95, the 1978 act allowed the state of Maine or the Maine Turnpike Authority to impose tolls on the Maine Turnpike, after repaying the amount of federal aid that had been used to construct various interchanges. The amount repaid was to be deposited to the credit of the Highway Trust Fund and to be apportioned to Maine for other federal-aid highways, and so, as with Maryland and Delaware, the state did not lose any federal aid. After repayment, the Maine Turnpike would be free of the requirements of Title 23.[56]

---

53. Section 6 of the Federal Highway Act of 1960, 74 Stat. 523.

54. That effect was accentuated when Delaware removed tolls at the interchanges between Wilmington and Newark and raised the toll at the Maryland state line--which by definition only interstate travelers would use.

55. Section 105 of the Surface Transportation Assistance Act of 1978, 92 Stat. 2692-2693.

56. Section 145 of the Surface Transportation Assistance Act of 1978, 92 Stat. 2713.

1979 LEGISLATION

Following close on the heels of toll relief for Maine was legislation allowing Indiana to repay federal funds it had received for constructing three interchanges of the East-West Toll Road (Interstate 80/Interstate 90) and, providing the state met specified requirements, permitting it to charge tolls.[57] Once again, the amount repaid was credited to the state for other highways.

1987 LEGISLATION

Legislation passed in 1987 marked the first departure from the general federal policy opposing toll roads. That year, the Congress authorized a pilot program in which seven newly constructed (or reconstructed with expanded capacity) toll roads would be eligible for federal-aid highway funds.[58] The act designated five states—California, Florida, Pennsylvania, South Carolina, and Texas—and authorized the Secretary of Transportation to designate two other states. The Secretary designated Colorado and Delaware. Georgia and West Virginia were added as a result of provisions in appropriation legislation for 1988 and 1989.[59]

The 1987 act imposed several restrictions that reduced the attractiveness of toll roads to the states. It excluded highways on the Interstate System. It required that toll revenues be applied to new construction or reconstruction, and to the costs of operation, maintenance, and debt service. Finally, the act set the federal matching share at 35 percent, compared with federal shares of 80 percent to 90 percent on nontoll roads, and the states did not get any additional money. They would have had to use funds for other highway projects that were eligible for a higher federal matching grants. If the state could use a dollar of its own money to get $9 (for Interstate construction) or $4 (for resurfacing, restoration, rehabilitation, and reconstruction), it would have little incentive to use the money on a toll road where a dollar would bring only 54 cents in federal matching funds.

---

57. Section 201 of the Surface Transportation Assistance Act of 1978, Amendment, 93 Stat. 800.

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

59. William A. Lipford, *Toll Road Financing with Federal-Aid Highway Funds,* CRS Report for Congress 96-130 (Congressional Research Service, February 13, 1996).