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Report to Congressional Requesters

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HIGHWAY FINANCING

Participating States Benefit Under Toll Facilities Pilot Program

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Resources, Community, and
Economic Development Division

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The Honorable Quentin N. Burdick, Chairman
The Honorable John H. Chafee,
Ranking Minority Member
Committee on Environment and Public Works
United States Senate

The Honorable Daniel P. Moynihan, Chairman
The Honorable Steve Symms,
Ranking Minority Member
Subcommittee on Water Resources,
Transportation, and Infrastructure
Committee on Environment and Public Works
United States Senate

In response to your request and subsequent agreements with your offices, we have reviewed the progress participating states are making under the Toll Facilities Pilot Program. This program allows selected states to test the use of tolls as a means to help finance new and reconstructed federal-aid highway facilities. Tolls have generally been prohibited on federal-aid highways since 1916. Specifically, we determined (1) the status of the projects, including estimated construction costs and start and completion dates; (2) obstacles the states have encountered in starting their projects; (3) the effect that toll revenues have on project financing; and (4) states' planned use of innovative toll collection techniques. In connection with our third objective, we discuss the effect that a low federal funding share could have on the projects states select for toll financing if toll use on federal-aid highways is expanded.

We are also providing information requested on two privately financed toll road projects—Virginia's Dulles Toll Road Extension and the Chicago-Kansas City Tollway—and a California program to test toll projects funded by public-private ventures (see app. II).

Results in Brief

Three of the nine states eligible to participate in the pilot program—Delaware, Georgia, and Pennsylvania—have started constructing their toll projects. Five other states—California, Florida, South Carolina, Texas, and West Virginia—are arranging financing and conducting preconstruction activities such as environmental and engineering studies. One state, Colorado, has decided not to participate unless it

receives federal-aid highway funds for its project that are in addition to its regular apportionment.

The size and estimated cost of the pilot projects range from Florida's $61 million, 3-mile extension of an existing nonfederal-aid highway toll road to California's $2.1 billion project to build 64 miles of new toll roads in three transportation corridors. Estimated completion dates range from June 1993 for Georgia's project to December 2008 for Delaware.

Opposition to the projects because they are toll roads, rather than free-use roads, has been minimal. However, the states have had to overcome other obstacles that could be expected on any highway project, such as local groups' opposition to the disruption of their neighborhoods.

Toll financing has provided the states with an additional revenue source not only to construct but also to maintain the roads once they are completed. Funding federal-aid highway maintenance with tolls is a significant development because states have traditionally paid maintenance costs without federal assistance. The participating states expect tolls to contribute from 14 percent to 65 percent of the estimated construction costs and to finance maintenance costs over the life of the projects.

If the use of tolls on the federal-aid highway system is expanded, a low federal funding share, such as the 35 percent provided under the pilot program, should encourage states to limit toll use to high-traffic roads that generate sufficient revenue to justify tolls and help relieve congestion. Setting the funding share at the traditional 75-percent level could lead to an excessive use of tolls since the state would benefit from placing a toll on practically any project. At a 75-percent funding level, any revenue generated, in excess of the costs to construct and operate the toll collection facilities, places the state in a better position than if the road were built toll-free.

Three states plan to use an innovative technique—automated vehicle identification equipment—to collect tolls. Such equipment has the potential to alleviate what is considered to be a major disadvantage of tolls—traffic congestion at the toll collection plaza. Texas has successfully used this type of equipment on its turnpike system. According to a Texas turnpike official, the system has added the equivalent of two extra toll collection lanes during rush hour and substantially reduced traffic congestion at the toll plazas.

Background

Federal law generally prohibits toll charges on roads built with federal-aid highway funds. Exceptions permit the use of federal money to construct toll bridges and tunnels and their approaches on the federal highway network, as well as approaches to toll roads that have been incorporated into the Interstate System. However, in 1987, through the Surface Transportation and Uniform Relocation Assistance Act (P.L. 100-17), the Congress authorized a Toll Facilities Pilot Program. Under this program, nine states can test the use of tolls as an additional revenue source to help finance roads built with federal-aid highway funds. The pilot projects must be for new construction or reconstruction to increase capacity and cannot be part of the Interstate System. Eligible to participate are California, Colorado, Delaware, Florida, Georgia, Pennsylvania, South Carolina, Texas, and West Virginia.[1]

Under the pilot program, the federal government will provide the state with up to 35 percent of the funds needed to construct the project. States must use toll revenue and, if necessary, other funding sources to finance the remaining construction costs.

Generally, states fund highway construction projects with state gasoline taxes and fees for vehicle licensing and registration. Under the pilot program, states can also obtain construction funds by borrowing in the tax-exempt bond market, with anticipated toll revenues committed to repaying the principal and interest over the life of the bond, usually 20 to 35 years. Toll revenues can be used only to retire construction debts for the road and to operate and maintain it. Once the construction costs are paid, toll revenue cannot exceed the funds needed to cover maintenance and operating costs.

Status of Pilot Projects

As of November 1990, Delaware, Georgia, and Pennsylvania had started construction. California, Florida, South Carolina, Texas, and West Virginia were involved in planning and other preconstruction activities. Colorado had decided not to participate unless it receives federal funds specifically for the pilot project, in addition to its normal federal-aid apportionment. While West Virginia is proceeding with plans to participate, it may choose to build the road it originally designated for the toll pilot project as a free-use road and select another road for the pilot. The pilot project is part of the long-proposed Appalachian highway system,

[1]Georgia and West Virginia were added to the program by the Department of Transportation's 1988 and 1989 appropriations acts.

which the state would like the federal government to fund as a separate free-use road project.

None of the pilot projects was conceived of as a result of the 1987 act establishing the pilot program; they had been in the states' long-range plans as toll-free projects for a number of years. Some were well along in development by 1987. For example, Georgia started preliminary planning activities in the 1960s for the road that became its pilot project. It began preconstruction activities, such as environmental and engineering studies in 1981, and had developed much of its financing plan when the pilot program was established. Georgia, as well as Delaware and Pennsylvania, were able to start construction because their plans were further along than were other states'.

Estimated completion dates for the projects range from June 1993 for Georgia to December 2008 for Delaware. Estimated construction costs range from $61 million in Florida to $2.1 billion in California (see table 1). However, since only Georgia and Delaware had completed their project plans and funding arrangements at the time of our review, the estimates in the remaining states were preliminary and could change significantly as project and funding plans are completed. Pennsylvania, the other state with its road under construction, plans to build its project in segments; the financing plan is complete only for the segment under construction. Appendix I discusses the states' projects in more detail.

Table 1: Estimated Costs of and Completion Schedules for Toll Facilities

Dollars in millions

State	Estimated cost	Length in miles	Construction schedule	
			Start	Complete
California	$2,100	64[a]	4/91	1/97
Colorado	[b]	[b]	[b]	[b]
Delaware	493	46	8/89	12/08
Florida	61	3	12/93	10/95
Georgia	203	6	7/89	6/93
Pennsylvania	1,285	62	5/88	12/99
South Carolina	350	28	1/94	12/99
Texas	75	14	[c]	[c]
West Virginia	210	70	1/92	1/01

[a]California's project consists of roads in three transportation corridors in Orange County: San Joaquin Hills, Eastern, and Foothills.

[b]Colorado decided not to participate in the program.

[c]Texas had not established its construction schedule as of November 1990.

If West Virginia receives special funds to build its project as a free-use road, it has the option of selecting another pilot project. However, according to state transportation officials, if West Virginia decides to build its initial selection as a toll road, the project would not be financially feasible unless a 30-mile segment of an existing federal-aid highway is incorporated into the project and allowed to be tolled. The addition of the 30-mile segment would require congressional approval since under the pilot program an existing federal-aid highway can only be tolled if it is reconstructed as a part of a pilot project; the 30-mile segment requires no reconstruction.

Colorado's state legislature decided not to construct its pilot project unless it receives federal-aid highway funds that are in addition to its regular apportionment. According to state transportation officials, construction of the project, which encompasses 79 miles of a 105-mile beltway around Denver, would consume a substantial portion of the state's regular apportionment for a number of years. The legislature was concerned about the impact that this use of funds would have on highway projects needed elsewhere in the state. The turnpike authorities created to build the beltway are looking at other funding options that may allow them to proceed without using federal funds. At the time of our review, Colorado had no plans to select another project for the pilot program.

Opposition and Other Obstacles

The pilot program states have encountered limited opposition to placing tolls on the projects. However, they have encountered some opposition to the projects themselves for other reasons, including neighborhood disruption and environmental effects. Also, while some public and industry groups generally oppose toll roads, other groups support them.

States Encountering Limited Opposition to Tolls

Significant opposition to tolls has occurred in only one state, Delaware. Local opposition to its plan to include a new bridge as part of its project caused Delaware to move the location of toll barriers to provide free access to the bridge but to use tolls on the rest of the road. The new bridge replaces an old one that had always been free, and local citizens want the new one to be free as well.

Opposition to tolls in other states has been limited. For example, Georgia's highway department received nearly 1,900 letters opposing its project, but only 4 objected because it was to be a toll road. Pennsylvania encountered some opposition to charging a toll on individual

project segments until the entire project is completed. However, the state's Department of Transportation did not believe the opposition was significant enough for it to change plans to place a toll on each segment as it is completed.

Highway officials in California, South Carolina, and West Virginia, none of which had started construction, said they had not encountered opposition to tolls on their projects. Florida officials did not expect any opposition to tolls because their project extends an existing toll road. Texas officials encountered no opposition to tolls in public hearings on their proposed project.

Neighborhood Opposition Not Toll-Related

Two states encountered opposition to their projects that was based on concerns about disruption of neighborhoods rather than tolls. In Georgia, neighborhood groups delayed construction for several years through legal challenges to the state's environmental impact statement. Most of the delay occurred before the project was selected for the pilot program. All of the existing legal challenges had been resolved at the time of our review. In Pennsylvania, citizens of a community near Pittsburgh oppose the pilot project because of the removal of homes in its path. State officials believe the opposition will not cause a significant delay because the road has been rerouted to affect fewer homes.

Legal and Environmental Obstacles

California had to pass legislation permitting joint county-city entities to construct the pilot projects and charge tolls. Previously, only the state Department of Transportation could undertake state highway projects. Also, according to the acting executive director of the Texas Turnpike Authority, Texas state law prohibits its turnpike authority from administering federal highway funds. However, a 1988 amendment to the 1987 highway act establishing the pilot program overrode this restriction. The acting executive director said that the state law would have to be amended if toll use on federal-aid highways is expanded.

The pilot projects have also faced environmental obstacles. For example, Delaware's project is routed through an area containing hazardous waste material, which must be removed before construction begins. Also, wetlands are in the paths of the pilot roads in Delaware, California, Florida, Georgia, Pennsylvania, and South Carolina. Under Executive Order 11990, states must minimize the loss of wetlands destroyed by such projects.

Some Organizations Generally Oppose Tolls

Some organizations, such as the American Association of State Highway and Transportation Officials and the National League of Cities, support toll financing on federal-aid highways because it increases funding options for road construction and provides additional funds for highway projects. However, other groups oppose these roads. The American Automobile Association and the American Trucking Association, which represent large groups of highway users, generally oppose toll roads but have not specifically objected to the pilot projects. They believe that charging tolls constitutes double taxation since users also pay gasoline taxes, and that toll plazas can, in some cases, create traffic congestion. Their position generally reflects the objections of others who oppose toll roads.

Toll Financing Beneficial to States

Although not a financing panacea, tolls are helping the participating states to increase the total amount of state funds available for highway construction; states may issue bonds based on the projected toll revenues of the pilot highways. The amount of additional construction funds anticipated for the pilot projects ranged from 14 percent of construction costs in Delaware to 65 percent in Texas. Texas will completely finance its project with toll revenue and the 35-percent federal matching share. The remaining states will have to use other state funds to complete financing. In South Carolina, toll revenues are tentatively projected to finance 62 percent of construction costs. The other five states—Delaware, Florida, Georgia, Pennsylvania, and West Virginia—anticipate that toll revenues will finance less than 40 percent of construction costs.

Tolls also enable the states to begin project construction sooner than under traditional financing methods. That is, the state can start construction as soon as funds are available from the sale of bonds. On nontoll projects, the state usually sets aside funds over several years before it has enough money to begin construction. Georgia's Tollway administrator estimated that the use of toll financing will enable the state to complete construction 4 to 5 years sooner than would have been possible without the toll option. Georgia's experience, however, may not be typical for every state. Other factors, such as environmental concerns and neighborhood opposition, can significantly delay a project regardless of the availability of construction funds.

Tolls will also provide the states with funds to maintain the roads when completed. As a result, toll financing has an advantage over traditional federal-aid highway financing where the state pays all maintenance costs without federal assistance. The availability of toll revenue for

maintenance purposes is ensured because bonding companies, to protect their investment, generally require states to agree to use toll revenue to maintain the road. The amount needed for maintenance over the life of the bonds is subtracted from the total anticipated toll revenue before determining the amount available for financing construction costs.

Federal Funding Share Encourages Prudent Project Selection

Under the pilot program, the federal government will fund up to 35 percent of the costs to construct a toll project, versus 75 percent for a toll-free noninterstate project. Toll revenue is expected to make up the 40-percent difference in the amount provided by the federal government—assuming the state uses the maximum 35-percent federal share. The remaining 25 percent of the project costs comes from other state revenue sources. If the use of tolls on federal-aid highways is expanded, a low funding share, such as 35 percent, should generally encourage states to select for tolls roads that will have a high volume of traffic, in order to generate sufficient revenue to make up the 40-percent difference. If the state places tolls on a project that will finance less than 40 percent of the construction costs, the state will have to fund more than 25 percent of the costs, thus using funds that could be spent on other highway projects. Conversely, if toll revenues exceed 40 percent, more funds will be available for other projects.

Although not exactly analogous, Texas' experience generally demonstrates the effect of a low federal share. Texas law prohibits the use of state tax money for toll projects. Therefore, toll revenue must cover the entire 65-percent state share. Texas' feasibility study for the pilot project showed that only a 14-mile section of its originally envisioned 30-mile project would generate enough toll revenue to cover 65 percent of the costs. Consequently, as of November 1990, Texas' officials were reconsidering their project to determine whether to build only the 14-mile segment or to select another project for the pilot.

At a higher federal funding share, such as 75 percent, a state is likely to benefit from placing a toll on any project, including low-income producers. At this share, any toll revenue generated in excess of the cost to construct and operate the toll collection facilities puts the state in a better financial position than if the road were built toll-free. Such a situation could potentially lead to an excessive use of tolls on the federal-aid highway system.

If, under a 35-percent funding share, a state has the financial capability to put more front-end money into the project, then it may be willing to

place tolls on a project that finances less than 40 percent to take advantage of the maintenance feature of toll financing. If the road was built toll-free, the state would have to pay all the maintenance costs since the federal government does not fund such costs. In its project feasibility study, Pennsylvania, which expects to finance 35 percent of construction costs from non-toll sources, pointed out that toll financing is important for its project because tolls will cover maintenance costs after the project is completed.

Toll Collection Innovations Can Help Relieve Congestion at Toll Plazas

Although toll roads are generally built to relieve traffic congestion on other roads in a transportation corridor, collecting the toll at the toll plaza can itself cause traffic congestion. Congestion wastes motor fuel; exhaust fumes pollute the air; and delays waste time.

State-of-the-art automated vehicle identification (AVI) equipment has shown that it can reduce congestion associated with toll collection. AVI is the term used for techniques that identify vehicles as they pass specific points on the highway, without requiring any action by the driver or an observer. Texas is using this technology on a nonfederal-aid highway and plans to use it on its pilot project. California and Georgia also plan to use AVI technology on their projects, and Pennsylvania is testing an AVI system. The states did not have data on how much the new technologies will affect toll collection costs. However, in reviewing its toll collection options, Georgia reported that AVI should not only expedite toll collection but also reduce operating costs.

Texas is using an AVI system in conjunction with its manual collections system on the Dallas North Tollway portion of its turnpike system. The turnpike authority fully implemented the system in July 1989, after a successful testing period. The $4 million AVI system was installed and is managed by the manufacturer at no cost to the state. The system works in the following manner. For a $40 credit card charge, the user establishes an account with a $40 balance and receives a computer chip to place inside the car windshield. As the user goes through a toll plaza, radio-frequency broadcasting and reception equipment reads the chip and debits the account for the toll charge plus a 5-cent service fee. The account also is charged a $2 system access fee each month. When the account balance drops below $10, the user's credit card is automatically charged enough to bring the account balance back to $40.

As of January 15, 1990, according to AVI vendor officials, the system had not misread a tag on the Tollway in over 2 million transactions. AVI

transactions represented about 20 percent of the toll transactions on the Tollway as of November 1990, but 41 percent of the rush-hour traffic was using the system. About 17,000 chips were sold in the first 7 months of operations; first-year sales of chips were projected to be 20,000.

The Turnpike Authority's executive director told us that the AVI system has added the equivalent of two toll collection lanes during rush hours and has attracted commuters from other congested roads. He said that backups at the toll plazas have been reduced from about one-half mile to about one-eighth mile during rush hour. If the Tollway had toll lanes for use by AVI-equipped vehicles only, the system could potentially eliminate these backups. With dedicated lanes, AVI vehicles do not have to slow down and intermingle with other traffic to go through the plaza since the equipment can read the computer chip at speeds of up to 180 miles per hour. The executive director told us that the authority plans to open dedicated lanes—one lane in each direction—in November 1990.

Conclusions

The eight states participating in the pilot program are making progress in developing their projects. The toll financing option has provided these states with access to the tax-exempt bond market to raise additional cash for road construction. In some cases, access to the bond market can also help the states complete projects sooner than under traditional financing methods because construction funds can be raised more quickly. The states will also benefit from tolls in the long run by using the toll revenue to pay maintenance costs over the life of the project.

Matters for Congressional Consideration

If the Congress decides to expand the use of tolls on the federal-aid highway system, it should consider

- setting the maximum federal funding share below that set for non-toll federal-aid highway construction. A lower federal funding share, such as the 35 percent provided under the pilot program, should generally encourage states to limit toll use to roads with a high volume of traffic that generate sufficient revenue to make them financially feasible. A high federal funding share could lead to an overuse of tolls and cause the traveling public to reject tolls on federal-aid highways; and
- encouraging the use of AVI technology in collecting tolls by requiring states to include, as part of their project feasibility study, an analysis of whether it would be appropriate and beneficial to use this technology to collect tolls.

We discussed the results of our review with Federal Highway Administration officials and incorporated their comments where appropriate. The officials agreed with the factual information as presented. As requested, we did not obtain official agency comments on a draft of this report. Our review was conducted between June 1989 and August 1990 and was performed in accordance with generally accepted government auditing standards. Appendix III contains details on our scope and methodology.

We are sending copies of this report to other interested congressional committees, the Department of Transportation, and the pilot states. We will also make copies available to other interested parties upon request.

Our work was performed under the direction of Kenneth M. Mead, Director, Transportation Issues, who can be reached at (202) 275-1000. Major contributors to this report are listed in appendix IV.

Kenneth O. Fulton /for

J. Dexter Peach
Assistant Comptroller General

Contents

Abbreviations

AVI	Automated Vehicle Identification
CALTRANS	California Department of Transportation
DelDOT	Delaware Department of Transportation
FHWA	Federal Highway Administration
FDOT	Florida Department of Transportation
GDOT	Georgia Department of Transportation
PennDOT	Pennsylvania Department of Transportation
RCED	Resources, Community, and Economic Development Division
TRCV	Toll Road Corporation of Virginia
TCAs	Transportation Corridor Agencies
VDOT	Virginia Department of Transportation
WVDOH	West Virginia Department of Highways

Information on States' Pilot Projects

This appendix discusses each state's pilot toll project, including a brief description of the project, estimated costs and source of funds, construction schedule and status of work, opposition and obstacles to completion, and the planned method for collecting tolls.

California

Project Description

The state will construct three new roads in Orange County totaling 64 miles—the San Joaquin Hills, Eastern, and Foothills highway corridors.[1] These highways have been proposed since 1974 to provide additional transportation capacity in highly congested Orange County. In 1987 the state legislature authorized the city and county governments in Orange County to establish joint transportation authorities, called transportation corridor agencies (TCA), to plan, finance, design, and construct highways.

The San Joaquin Hills corridor is a 15-mile extension of the Corona Del Mar Freeway (State Route 73) from the John Wayne Airport area to San Juan Capistrano. The Eastern corridor begins at the State Route (SR) 91 Freeway near the Riverside County line and parallels the Newport Freeway (SR 55) for about 6 miles, then splits into two legs near Santiago Canyon Road; the west leg, about 5 miles, ends at Jamboree Road near Interstate 5; the east leg, about 8 miles, connects with the Laguna Freeway (SR 133) at Interstate 5. The Foothills corridor connects with the east leg of the Eastern Corridor, and runs parallel to that project for about 30 miles before connecting with Interstate 5 near the San Diego County border.

Cost and Source of Funds

The project will cost at least $2.1 billion, according to California officials: $560 million for the San Joaquin Corridor, $840 million for the Eastern Corridor, and $672 million for the Foothills Corridor. A funding plan for the corridors has not been established. However, tentative plans are for less than a 35-percent federal share and rely mainly on tolls and developer fees to fund the project. According to a California Department of Transportation (CALTRANS) deputy district director, the

[1]The 1988 Budget Act (P.L. 100-202) included language that allowed Orange County's toll facility to be located in more than one highway corridor.

state will not have enough federal money to allocate 35 percent to its project.

Schedule and Status of Work

CALTRANS has not established construction schedules for the project. Preliminary plans call for construction to begin on the San Joaquin and Eastern corridors in April 1991, followed by the Foothills northern leg in May 1991, and the southern leg in August 1993. Preliminary completion dates are mid-1994 on the San Joaquin and Foothills northern leg projects, mid-1995 on the Eastern corridor, and early 1997 on the Foothills southern leg.

Environmental studies are underway in all three corridors. The anticipated timetable for environmental clearances for the corridors is January 1991 for the San Joaquin, December 1990 for the Eastern Corridor, and February 1992 for the Foothills.

Opposition to Tolls and Other Obstacles

According to Federal Highway Administration (FHWA) and CALTRANS officials, California has not experienced significant opposition to tolls. An FHWA division engineer said that the state already operates several toll bridges. The CALTRANS deputy district director added that previous toll projects had opposition, but it did not stop them from being built.

The CALTRANS deputy district director sees funding as a major obstacle. California's restrictive laws on increasing taxes have made it difficult to fund highway projects, he said. However, in June 1990, California voters supported a referendum on a state gas tax increase that could raise as much as $18.5 billion for transportation needs.

Method of Toll Collection

The TCAs plan to use both automated vehicle identification (AVI) and conventional toll collection methods on the pilot project. The 1987 state law establishing the Orange County joint powers authorities also requires that the most advanced toll collection methods available be used.

Colorado

Project Description

In late 1987 Colorado designated two sections of the 470 tollway as its pilot project. The 470 tollway is a 105-mile beltway around Denver that

is designed primarily to help relieve traffic congestion in the Denver area. The 48-mile eastern section (E-470) and the 31-mile northwestern section (W-470) constitute the pilot project. The 26-mile southwestern section of the beltway was not included in the pilot project. Its construction is nearly completed. However, as discussed below, Colorado is not going to participate in the pilot program unless it receives additional federal-aid highway funds for the project.

Colorado Decided Not to Participate

After Colorado's Highway Commission formally designated the 470 tollway as its pilot project, the Colorado legislature enacted the Public Highway Authority Act. This act created the E-470 Public Highway Authority and the W-470 Public Highway Authority to build the east and northwest sections of the beltway. The act designates these authorities as public corporations and permits them to pursue numerous local funding options.

The act also contains a provision that, in effect, prevents the project from participating in the pilot program. This provision prohibits the use of federal-aid highway funds on the project unless the state receives more federal-aid highway funds than anticipated under its normal apportionment. The Colorado Highway Commission passed a resolution supporting the legislature's position. According to the Executive Director of the state's highway department, at issue is the question of where federal funds should be spent in the state, since federal funding is currently insufficient to meet Colorado's expanding highway needs. The pilot project would have used a substantial portion of the state's federal-aid highway funds that would normally have gone to other areas of the state.

Efforts to construct the E-470 and W-470 sections of the beltway are continuing. However, under the current situation those sections will not be part of the federal-aid highway system. According to the Chief Engineer for the E-470 Public Highway Authority, the E-470 section will cost about $500 million. Construction has begun. The first segment, a 5-mile link from Interstate 25 to Parker Road, is due to open in 1991. This segment is being funded by a $10 registration on vehicles in two counties within the corridor and bonds issued by the E-470 Authority. The chairman of the board of the W-470 Public Highway Authority estimated that the W-470 section of the project will cost about $370 million. However, the authority is having difficulty raising the necessary funding to secure bond financing for construction.

Delaware

Project Description

Delaware selected Relief Route US-13 as its project. It is a north-south route from north of St. Georges to south of Dover, about 46 miles. The highway will generally run parallel to the existing US-13, a principal traffic route. It will include a new bridge across the Chesapeake and Delaware Canal and will bypass the cities of Odessa, Smyrna, and Dover. The primary purpose of the project is to relieve traffic congestion. The Relief Route would be able to handle traffic volumes anticipated in this corridor for the next 20 years, according to the environmental impact statement.

Cost and Source of Funds

The pilot project is estimated to cost about $493 million. The Delaware Department of Transportation (DelDOT) had not separately identified in its feasibility study the contribution tolls will make to funding the project. However, using data in the study, we determined that tolls will contribute about $67 million, or 14 percent of the construction costs (see table I.1). DelDOT's program administrator said that the $296 million state funding share will come from Delaware's Transportation Trust Fund.

Table I.1: Delaware Pilot Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$130	26
Tolls	67	14
DelDOT	296	60
Total	**$493**	**100**

[a]Estimated amount

Schedule and Status of Work

Construction began in August 1989 and is scheduled to be completed by the end of 2008. According to the project coordinator, the Relief Route could be completed earlier if future traffic demands dictate a shorter schedule.

Opposition to Tolls and Other Obstacles

DelDOT has encountered some opposition to its plan to use tolls on one part of the project. According to the project coordinator, local opposition to charging tolls on the new bridge in St. Georges occurred because the

new bridge will replace an existing toll-free bridge. In response, DelDOT decided to move the toll collection plaza planned for the bridge to another location and build the bridge as a toll-free facility.

DelDOT has encountered environmental obstacles on its project. Some areas within the proposed corridor contain hazardous waste materials that must be cleaned up before construction can begin. This problem had not been resolved at the time of our review, and the coordinator said that it had already delayed construction of an 18-mile segment for about 1 year. However, cleanup negotiations with the property owners are underway. The lost time is expected to be made up over the life of the construction phase, so final completion of the project may not be delayed.

Some wetlands also are within the project's path, but DelDOT does not expect any significant problems in mitigating the project's effect on the wetlands, or in obtaining the wetland permits needed to construct the project. The coordinator said DelDOT had involved the Corps of Engineers in project planning early on to minimize environmental problems.

Method of Toll Collection

DelDOT has not implemented any innovative toll collection methods and plans to have manual toll collection plazas. However, it has not ruled out the possibility of using automated toll collection methods in the future, according to the project coordinator.

Florida

Project Description

The Florida Department of Transportation (FDOT) selected a 3-mile extension of the existing Sawgrass Expressway toll facility as its pilot project. The project runs from the Florida Turnpike to Interstate 95 in Deerfield Beach.

The proposed project is to increase capacity to serve future traffic demands within the area. FDOT intends to upgrade an existing four-lane divided highway to a six-lane controlled access facility with parallel service roads. According to FDOT's preliminary engineering report, this area's population grew 85 percent between 1970 and 1986, and is expected to increase another 38 percent by the year 2010.

Cost and Source of Funds

FDOT estimates that the project will cost about $61 million. As table I.2 shows, tolls are expected to contribute about 34 percent of the project's total cost. FDOT plans to raise another $21 million by issuing bonds that will be supported by toll revenues, but it must first gain the approval of the state legislature.

Table I.2: Florida Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$21	34
Tolls	21	34
Other state	19	31
Total	**$61**	**99[b]**

[a]Estimated amount.

[b]Does not equal 100 percent due to rounding.

Schedule and Status of Work

Construction is scheduled to start in December 1993 and be completed by December 1995. FDOT has completed the environmental assessments and over half the design work but has not started acquiring rights-of-way. Only limited acquisition is needed because the project follows an existing highway corridor.

Opposition to Tolls and Other Obstacles

FDOT has not encountered any opposition to the use of tolls on this project. Toll plazas will not be constructed on the highway because an existing toll plaza is close to the proposed extension. FDOT intends to install permanent traffic-counting loops in the roadway pavement to identify revenues generated by the extension project. FDOT overcame early local environmental opposition to the project by agreeing to erect noise barriers along the extension route and to build service roads adjacent to the extension.

The Sawgrass Extension does not have high priority in the state's highway construction plans, and another highway project could still be substituted for it, according to FDOT's district secretary. Although requested, the state legislature did not approve funding for the project in fiscal year 1990, and FDOT did not request funding in its 1991 budget request because of an expected decrease in state transportation revenues.

Georgia

Project Description

Georgia selected the Georgia 400 Extension as its project. The planned highway is a major artery that will run about 6 miles from the south end of Georgia 400 at Interstate 285 to Interstate 85. It will be a six-lane, limited-access road with a rapid transit median for heavy rail transit. The purpose of the highway is to help relieve traffic congestion in the northern Atlanta suburbs and increase opportunities for economic development in the corridor.

Cost and Source of Funds

The Georgia Department of Transportation (GDOT) estimates that the pilot project will cost about $219.3 million. Tolls are expected to pay for 27 percent of the construction costs.

Table I.3: Georgia Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$45.1	21
Toll	59.0	27
Other state	115.2	52
Total	**$219.3**	**100**

[a]Estimated amount

Schedule and Status of Work

The project has been in the planning stage since the early 1960s, long before it became Georgia's pilot project. Consequently, the state was able to move quickly to the construction phase. As of November 1990, GDOT had awarded all highway construction contracts and expects to complete the project by June 1993.

Opposition to Tolls and Other Obstacles

While opposition to the highway did delay construction, very little of the opposition was in response to toll financing. Of the 1,891 letters GDOT received commenting on the project, only 4 specifically opposed tolls, generally stating that charging tolls is double taxation.

Other opposition to tolls has occurred during project development, but according to Georgia GDOT officials, it has not been significant. One civic association encouraged a protest regarding the use of tolls; several other

civic groups countered that with letters supporting tolls. Also, the Atlanta City Council tried to block the road with a resolution prohibiting tolls, but the mayor vetoed the measure.

GDOT has had to overcome significant local opposition to the Georgia 400 Extension project, which delayed it for several years. A neighborhood association opposed constructing the highway through the residential districts it will affect. This opposition resulted in several lawsuits to stop the project. Most alleged that the state did not accurately assess the project's environmental impact. To date, GDOT has successfully overcome these legal actions. In June 1989, a U.S. District Court Judge upheld the state's environmental impact statement. The case was appealed to the 11th U.S. Circuit Court of Appeals and, in June 1990, that court upheld the district court's decision.

Method of Toll Collection

The project's toll collection system report recommends that toll plazas be designed to accommodate an AVI system. Although the report did not quantify AVI cost benefits, it stated that such a system would significantly expedite toll collection while reducing operating costs. Georgia's tollway administrator said that AVI had gained considerable support in Georgia and GDOT plans to use it on the pilot project. The administrator added that the state would award the contract for toll collection equipment for dedicated lanes in September 1991, but he did not know which system the state would use.

Pennsylvania

Project Description

Pennsylvania selected the Mon-Fayette Expressway, a 62-mile, north-south route from Interstate 376 near Pittsburgh to US-48 near Morgantown, West Virginia, as its pilot project. Plans call for a four-lane divided highway with controlled access. The project will be administered by the Pennsylvania Department of Transportation (PennDOT) and Pennsylvania's Turnpike Commission.

The project's primary objective is to support economic recovery and encourage industrial development in southwestern Pennsylvania. PennDOT's feasibility study concluded that the highway was needed to provide a better route through the Monongahela River Valley region.

According to the PennDOT deputy secretary for planning, increased interstate trucking of goods created a need for a major road in the area to be directly connected to the interstate system.

Cost and Source of Funds

PennDOT estimates that the pilot project will cost about $1.3 billion. As table I.4 shows, PennDOT's funding plan includes toll contributions totaling 30 percent of project costs and the state's transportation fund contributing 35 percent. In addition, the West Virginia Department of Transportation will reimburse PennDOT for the estimated $55 million it anticipated spending on the West Virginia segment.

Table I.4: Pennsylvania Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$449.7	35
Tolls	385.5	30
PennDOT[b]	449.7	35
Total	**$1,284.9**	**100**

[a]Estimated amount.

[b]Includes the West Virginia portion of the project.

Schedule and Status of Work

Construction on the first 3-mile phase began in May 1988, and the final phase is expected to be completed by December 1999. PennDOT's deputy secretary for planning told us that the project will be built in segments, with PennDOT building the segment currently under construction. The Turnpike Commission will be responsible for constructing most of the project, he said.

Opposition to Tolls and Other Obstacles

The state has not encountered any opposition to toll financing. PennDOT's deputy secretary said that local businesses and news media are promoting the project because they believe it is critical that the Mon Valley region be connected to the interstate system.

The state has a number of obstacles to overcome before the expressway can be completed—funding, some local opposition to the route, and environmental problems. On funding, of the approximately $900 million in federal and state non-toll funding needed for the expressway, PennDOT has committed only $66 million to the project through 1992. The Mon

Valley Progress Council, a community development corporation in favor of the project, has proposed an alternative funding plan that includes special federal funding and increasing the state's gasoline tax by 5 to 6 cents per gallon, with 1 cent of the increase earmarked for the pilot project. The governor and state legislature had not endorsed this proposal, according to the Council's executive director, at the time of our review.

Community opposition, according to PennDOT's deputy secretary for planning, has come from a community near Pittsburgh. Citizens fear that over 1,000 homes would be lost, an estimate based on the homes lost on another highway project in the Pittsburgh area. However, according to the Secretary, if the preferred route is selected, only 60 homes would be displaced. To help overcome the opposition, a task force of local community leaders, PennDOT, the Turnpike Commission, and FHWA officials has been created to keep the communities along the proposed route informed about project plans and progress. PennDOT's deputy secretary and the Turnpike Commission's associate executive director believe the opposition will not significantly affect the project schedule.

Environmental concerns appear to be minimal. The project will cross some wetlands, but the associate executive director of the Turnpike Commission told us that the Commission normally replaces more wetlands than it destroys during road construction.

Method of Toll Collection

The Turnpike Commission has been studying various toll collection methods, including AVI, to reduce collection costs and traffic congestion at toll plazas. It has not decided which, if any, of these methods will be used on the pilot program, however.

The Turnpike Commission began testing an AVI system on the Pennsylvania Turnpike near Harrisburg in January 1990. The system uses a computer chip that is attached to the vehicle's windshield. When the vehicle enters the toll road, its toll charge classification and point of entry are recorded on the computer chip. When the vehicle exits through a toll plaza, the system retrieves the toll charge classification and point-of-entry data to calculate the toll charge. The test has not incorporated automatic billing procedures; tolls are collected manually after the system calculates them. The Turnpike Commission's executive director said that decisions are still pending on whether the system will be implemented. If an automated system is adopted for the state's toll roads, it will be installed on the pilot project.

The Commission has added four tandem toll collection booths at congested plazas, according to the executive director. In addition, the Commission plans to add four or five more tandem booths at other high-volume collection plazas. The tandem booths enable collection from more than one vehicle at a time, thus potentially speeding the movement of traffic through collection areas. Pennsylvania has also developed a special turnpike credit card that several large trucking firms are using to pay tolls.

South Carolina

Project Description

The South Carolina Department of Highways and Public Transportation selected the Conway Bypass as the state's pilot project. It is a proposed 28-mile route running from Conway to Myrtle Beach.

The state originally proposed a 70-mile Myrtle Beach Connector route running from Interstate 95 near Florence to the Myrtle Beach area as its project. The proposed highway consisted of three segments, one of which was the Conway Bypass. However, after further study and public meetings on the proposal, the state decided that the Conway Bypass was the most financially feasible and acceptable segment.

According to a draft environmental study, the project is needed to add capacity and relieve congestion in the east-west transportation corridor serving the Grand Strand beach area, which accommodates over 13 million visitors a year. During peak summer periods, traffic on US 501 traveling east through Conway comes to a standstill, delaying access to the beaches and hindering travel within Conway.

The added capacity is also considered vital for emergency preparedness. The draft environmental impact statement points out that additional evacuation routes from the coast are needed in the event of a major disaster such as a hurricane. Hurricane Hugo, a storm that severely damaged the South Carolina coast in September 1989, made that need clear.

The transportation corridor between Florence and Myrtle Beach has received considerable congressional interest in recent years. For example, in 1983, the Congress provided $500,000 for a feasibility study of a road between Florence and Myrtle Beach. The project received additional emphasis in the 1987 Highway Act when the Congress authorized

$32 million in demonstration project funding to construct a controlled access road.

The corridor is also one of the state's top priorities. The state's 1987 highway plan calls for increasing the state's economic growth and overall development through an improved highway system. It calls for upgrading all highways to at least four lanes. The legislation establishing the Strategic Highway Plan for Improving Mobility and Safety also raised the gasoline tax by 3 cents a gallon to fund the program and established the Myrtle Beach Connector as the program's top priority.

Cost and Source of Funds

The Conway Bypass will cost about $350 million, according to the state highway department's preliminary estimate. As shown in table I.5, tolls could potentially fund about 62 percent of the estimated construction costs.

Table I.5: South Carolina Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$32	9
Tolls	218	62
State funds	100	29
Total	**$350**	**100**

[a]Estimated amount.

The state legislature has already committed the $100 million in state funds and the 1987 Highway Act allocated $32 million in federal funds for the project.

Schedule and Status of Work

The state expects to complete the final environmental study in December 1990. The state does not have a firm construction schedule for the project. The state's pre-construction director said the state expects to decide in late 1990 on the final highway alignment. Then, there will be a 3-year design period, followed by construction between 1994 and 1999.

Opposition to Tolls and Other Obstacles

FHWA and state highway officials did not know of any opposition to the use of tolls on the proposed Conway Bypass. No opposition to tolls had surfaced as of November 1990, and state officials did not expect any.

Environmental concerns over damage to a unique wetland resource called Carolina Bays, other wetlands, and endangered species, could delay construction. The pre-construction director said the state will destroy about 140 acres of wetlands. However, it will create between 200 and 250 acres of wetlands in compensation.

In addition, building highways on wetlands is very expensive. For example, estimates show that it costs about $1.9 million to build a mile of four-lane highway on solid terrain, while a mile of four-lane, low-level trestle, like that required over much of the Conway Bypass, is estimated to cost $21.4 million.

Method of Toll Collection

Currently, the state does not have any toll projects. According to highway department officials, no decisions have been made on the location of toll plazas, toll rates, or toll collection procedures. The department will make these decisions in late 1990 after the project's environmental impact study is completed.

Texas

Project Description

Texas selected the Sam Houston Tollway-East as its project. This 30-mile project is part of an outer belt roadway that will encircle the Houston central business district at an approximate radius of 12 miles. The primary purpose of the tollway is to relieve traffic congestion and to improve access to the Jesse Jones Bridge. However, the tollway feasibility study, completed in the summer of 1990, showed that projected toll revenue would be insufficient to cover the state's costs on the entire 30-mile segment. Texas law requires that toll revenues cover all state costs and that no state tax money be used for toll projects. Only a 14-mile, four-lane segment between interstate Highway 10 and Interstate 45 to the east of Houston, which incorporates the Jesse Jones Bridge, would generate the required 65-percent share necessary under the pilot project. Because of the feasibility study results, the Texas Turnpike Authority is considering whether to build the 14-mile segment or to select another project in the state for the pilot.

Cost and Source of Funds

The pilot project is expected to cost about $75 million. As table I.6 shows, the state's funding plans call for tolls to contribute the entire 65-

percent state share of project funding. Only toll revenue bonds and federal money will be used for the project because Texas state law prohibits the use of tax money on toll roads.

Table I.6: Texas Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$26.3	35
Tolls	48.7	65
Total	**$75.0**	**100**

[a]Estimated amount.

The project's estimated cost consists primarily of construction of the main roadway and associated structures. Because the pilot toll project will incorporate some existing roadway, much of the preliminary engineering and right-of-way costs have already been paid. Other costs in the estimate include the preparation of plans and specifications, and some frontage road and interchange construction.

Schedule and Status of Work

Because of changes made in the project scope, the turnpike authority has not established a construction schedule. However, according to both the highway department's deputy director and the Turnpike Authority's executive director, toll financing will enable the state to build the project sooner.

Opposition to Tolls and Other Obstacles

No local opposition to using tolls is expected. Voters in Harris County, site of the project, have already approved other toll facilities.

State highway department and FHWA officials said there are no obstacles to completing the pilot project. The project was cleared environmentally several years ago, and public hearings already have been held.

Method of Toll Collection

The Turnpike Authority plans to use an AVI system on the toll road, as well as a combination of manual and automatic coin collection systems. The AVI system is designed to ease traffic congestion around toll plazas by allowing motorists to prepay tolls and thus avoid stopping at a toll booth. The system is already being used successfully used on the Dallas North Tollway.

West Virginia

Project Description

West Virginia selected Corridor "L" of the Appalachian Development Highway as its pilot project. Corridor "L" extends 70 miles from Interstate 77 (West Virginia Turnpike) near Beckley to Interstate 79 near Sutton.

According to the West Virginia Department of Highway's (WVDOH) acting commissioner, the primary purpose of the proposed project is to relieve traffic congestion. WVDOH's feasibility study concludes that future traffic volumes in the project area will increase by 40 to 50 percent between 1985 and 2000. The pilot project will upgrade about 40 miles of the existing two-lane US 19 to a four-lane divided highway that will connect with a 30-mile section of four-lane highway already completed. The 30-mile section would also be part of the pilot project. However, as discussed below, there are questions about whether this 30-mile section can be included. Also, there is a possibility that the state will not proceed with the project as part of the pilot program.

Cost and Source of Funds

WVDOH estimates that the project will cost about $210 million. Preliminary plans provide for tolls to contribute about 33 percent of the funds needed to construct the project.

Table I.7: West Virginia Pilot Project Funding

Dollars in millions

Source	Amount[a]	Percent of total
Federal	$57	27
Tolls	70	33
Other state	83	40
Total	**$210**	**100**

[a]Estimated amount.

WVDOH's funding plan is tentative, however, because the state may not proceed with the pilot project. WVDOH's acting commissioner said that the project's 33-percent toll funding contribution is contingent on a change in federal law to permit tolls on the 30-mile section of the pilot project completed in the late 1970s with federal-aid highway funds. The completed section will account for about $45 million of the total toll contribution. The acting commissioner said that the project cannot be built

as a toll road without that revenue. While the state is keeping the toll funding option open, he said, it planned to seek special federal funding to construct the project as a free road. He also said that a free road is preferred because the state does not have sufficient federal and state funds to finance 67 percent of project costs.

Schedule and Status of Work

WVDOH has completed the toll feasibility study and some preliminary engineering plans, and acquired about 25 percent of the project right-of-way.

If the state receives the special federal funding, construction is scheduled to start in January 1992, with completion expected in December 1996. If the special funding is not approved, and the project proceeds as part of the pilot program, the completion date will slip to about January 2001 because the state can allocate only about $6 million annually of the $57 million in federal funds needed under the toll funding plan.

Opposition to Tolls and Other Obstacles

WVDOH's acting commissioner does not expect any organized opposition to the use of tolls on the pilot project.

Funding is the primary obstacle. The state's preferred funding plan depends on the Congress' willingness to approve about $160 million in special federal funding for the project to be built as a free road. If the state uses the toll funding option, the state legislature must approve the use of tolls on the project, as well as other state funds for the project. The acting commissioner told us that the legislature considers the project a high priority, but he is unsure what the legislature will decide on funding the project with tolls. He also believes the legislature will be reluctant to authorize additional state funding through the state's general transportation fund. In addition, as mentioned, the Congress would have to allow a 30-mile segment of an existing federal-aid highway to be incorporated into the project and allowed to be tolled.

Method of Toll Collection

West Virginia does not use AVI collection methods on its turnpike system. According to the general manager of the state's turnpike authority, the state intends to use manual toll collection methods on the pilot project until an AVI system proves reliable.

Public-Private Toll Road Projects

In recent years, interest has increased in private corporations' building and operating toll highways in partnership with state agencies. This practice has raised concerns about public safety and the financial implications of such roads. This appendix discusses public-private projects in Virginia, Illinois and Missouri, and California, including approaches they are taking to address these concerns.

Virginia's Dulles Toll Road Extension

The Virginia General Assembly enacted the Virginia Highway Corporation Act of 1988 to allow public service corporations to construct, finance, and operate public roads in Virginia. The Toll Road Corporation of Virginia (TRCV) was formed in the fall of 1988 and in July 1989 received approval from the State Transportation Board to build and operate an extension to the Dulles Toll Road—a state-owned road. The TRCV project will extend that road, which currently runs from the Capital Beltway to Dulles International Airport, 15 miles to Leesburg, Virginia.

Protection of Public Safety and Financial Interests

The 1988 act contains several provisions to safeguard public safety and financial interests in the construction and operation of a private toll road. These provisions provide the following:

- The state traffic and motor vehicle laws apply to persons and motor vehicles on the highway.
- The Corporation must set maximum and minimum speed limits conforming to Virginia Department of Transportation (VDOT) and state practices, and contract with the state for enforcement of traffic and public safety laws.
- VDOT inspects and approves roadway construction and monitors TRCV's maintenance practices.
- The Corporation does not have the right of eminent domain for acquiring right-of-way.
- The Corporation is regulated essentially as a public utility company by the State Corporation Commission. The commission sets toll rates and establishes TRCV's rate of return on invested capital.
- The Corporation must secure and maintain public liability insurance sufficient to insure coverage of tort liability.

Cost, Schedule, and Status

TRCV estimates that the road will cost about $199 million. The corporation will build the toll road using short-term construction loans and equity capital. TRCV will obtain about $195 million in construction loans

and provide $4 million from the $35 million in equity capital. Construction is scheduled to begin in June 1991, with completion expected by June 1993.

When the road is completed, TRCV plans to sell it to a financial institution at cost and have the institution lease the road back to TRCV for operation. The proceeds from the sale of the road will be used to retire the construction debt. The financial institution will sell bonds to finance its investment and use TRCV's lease payments to retire the bonds. TRCV will derive its income from the toll revenues. The state will provide no funding for the project, and any TRCV profits will be considered taxable income by the state. TRCV will use its equity capital to cover the deficit in the early years of operation. When revenues exceed costs and the established rate of return, TRCV must commit the excess revenues to a fund to improve local roads around the toll road. It will also establish a lease payment reserve fund equal to about one annual lease payment.

Toll Collection Innovations

The Corporation plans to use a combination of toll collection methods on the road, including manual collection and AVI. TRCV has not decided on the specific type of AVI system it will use.

The Chicago-Kansas City Tollway

The Department of Transportation's Appropriations Act of 1988 authorized a study to determine the feasibility of building a toll expressway between Chicago, Illinois, and Kansas City, Missouri. The purpose of the Chicago-Kansas City Tollway is to stimulate development in west-central Illinois and northeastern Missouri. A draft of the study concludes that the project is feasible if built by the public and private sectors as partners.

In 1989 the Illinois and Missouri legislatures considered, but did not pass, legislation to establish private corporations to build and operate toll roads in partnership with their state highway agencies. Both state legislatures will reconsider the proposals in future sessions, according to state and FHWA officials.

The preferred route begins in the Chicago area, proceeds southwest through Peoria to Quincy and Hannibal, Missouri. At Hannibal, the preferred route proceeds west on US Route 36 to Interstate 35 and south to Interstate 435 in the Kansas City area, a distance of about 521 miles. Under this proposal, some existing highways would be combined with

new construction to form the alignment. The newly constructed segments and US 36 would have tolls, but the remainder would be toll-free.

Protection of Public Safety and Financial Interests

Proposed legislation in both states would establish private corporations to plan, design, build, and operate toll roads. The proposed legislation also contains provisions to safeguard public safety and financial interests, as well as provisions that alter those responsibilities. Specifically, Illinois' proposed legislation

- calls for the state Department of Transportation to inspect a project during construction and to monitor the toll road for proper maintenance;
- allows the private toll corporation to set "reasonable" speed limits and gross weight and size limits for trucks, but does not identify who will determine what is reasonable. All other state traffic and motor vehicle laws and enforcement authority would apply to the privately constructed toll road;
- allows the corporation to establish toll rates and control access to a project, as long as it certifies that the rates are being uniformly applied in a nondiscriminatory fashion to the different vehicle classifications;
- gives the corporation the power of eminent domain, upon approval of the Illinois Commerce Commission; and
- allows the corporation to construct and maintain toll roads according to appropriate standards of the American Association of State Highway and Transportation Officials, the American Society of Automotive Engineers, and the National Safety Council.

In Missouri, proposed legislation

- allows the state highway department to approve project plans and designs;
- provides for law enforcement on toll roads but is silent on who would establish speed and weight limits;
- allows the private corporation to establish toll rates and control access to a toll road; and
- gives the corporation the power of eminent domain, with approval from the state highway department.

Cost, Schedule, and Status

The draft feasibility study concludes that it will cost about $3.1 billion to construct the project. That cost does not include the transfer of some existing highways to the builder through FHWA's highway abandonment

process or the construction of interchanges by state and local governments.

The draft study did not establish a project schedule but concluded that the project could be completed about 8 years after the states authorize the private development of the tollway project.

Obstacles to Progress

The Chicago-Kansas City Tollway faces many obstacles that must be overcome before construction could begin. Among other things, federal and state laws would have to be amended, environmental problems resolved, and local opposition to tolls overcome.

Changes Needed in Federal and State Laws

The draft feasibility study suggests a weight limit of 120,000 pounds to make the tollway compatible with the adjoining private Indiana Tollroad and Kansas Turnpike. This limit would require changes in federal law and laws in Illinois and Missouri, which all limit gross weight to 80,000 pounds. According to the draft study, the federal weight limit would not have to apply since federal funds would not be used to build the tollway. However, Illinois FHWA officials agree that federal laws would need to be changed to allow vehicles with gross weights in excess of 80,000 pounds because some sections of the proposed highway would include existing interstate highways.

The draft study also recommends allowing speeds in excess of the federal 65-miles per hour (mph) limit. A speed limit of 80 mph has been suggested for a portion of the project to attract more trucks. However, FHWA officials said that federal law would have to be amended before speeds above 65 mph could be permitted.

Environmental Problems

According to the draft feasibility study, the proposed route includes state and local parklands, prime agricultural lands, rivers, wetlands, endangered species habitat areas, archaeological sites, and historic places. The study assumes that a full environmental impact statement will be conducted.

Opposition to Tolls

The draft study predicts that local residents will oppose the toll road if it incorporates the portion of US-36 from Hannibal to Cameron, Missouri, as proposed in the preferred alignment. These residents object to having free travel taken away from them and to the toll road's planned limited access, which might require longer trips to get to their destinations. The draft study also said that parallel service roads in this same

area would be necessary to serve the local users whose needs would not be served by the tollway.

Privatization in California

California recently passed legislation to test public-private funding ventures for building roads. The legislation establishes a demonstration program allowing four toll projects funded by public-private ventures. At least one project must be in Northern California and one in Southern California. This program is not a part of the federal pilot program.

Under the demonstration program, roads will be built and operated by private companies. Once built, ownership will be transferred to the state, which will lease the road back to the private corporation to operate until the construction costs are recovered. The maximum term of the lease is 35 years.

The law that established the demonstration has several provisions to safeguard public safety and financial interests. First, plans and specifications for the projects must comply with state standards. The road will be a part of the state highway system while it is under lease to the private operator.

Second, toll rates will be negotiated with the state. The maximum profit allowed would be negotiated into the contract between the state and the private entity. The total profit available to the private operator will be controlled but not the toll rates, according to privatization officials. The operator would be allowed to retire debt earlier if desired; otherwise, excess profits would go into the State Highway Account. Also, according to state highway officials, under the demonstration program, existing state laws regarding speed limits, law enforcement, and state liability for public safety will be enforced.

Objectives, Scope, and Methodology

In a May 8, 1989, letter, the Chairman and Ranking Minority Member, Senate Committee on Environment and Public Works, and the Chairman and Ranking Minority Member of its Subcommittee on Water Resources, Transportation, and Infrastructure, requested that we review the experiences of the nine states eligible to participate in the Toll Facilities Pilot Program. As subsequently agreed with their offices, we determined (1) the status of the projects, including estimated construction costs, start and completion dates, and work completed; (2) obstacles the states have encountered in getting the projects underway; (3) the effect that toll revenues have on project financing; and (4) states' planned use of innovative toll collection techniques. In connection with the third objective, we discuss the potential impact of the 35-percent federal funding share on project selection if toll use on federal-aid highways is expanded.

We also agreed to review two proposed toll projects that were not part of the pilot program—one in Virginia and another planned to run from Chicago to Kansas City, Missouri. The Committees were particularly interested in whether plans for including private financing on these two projects had any implications for public safety.

We gathered data on all nine states' pilot projects and on the two proposed privately financed projects. We discussed project status and problems with state highway and toll authority officials and with FHWA headquarters and division office officials in each of the 11 states where the projects are located. We examined pertinent state, toll authority, and FHWA project records. To obtain views on the use of tolls on highway facilities, we talked to representatives of organizations for and against the use of tolls. We also examined information presented on toll financing by transportation industry officials at a GAO-sponsored transportation infrastructure seminar in Washington.[1] We also visited a toll road in Dallas to observe state-of-the-art collection equipment in operation and discuss system benefits and problems with Texas Turnpike Authority and equipment vendor officials.

Data presented on project costs and schedules are based primarily on officials' preliminary estimates and could change substantially after project plans are completed. We conducted the review between June

[1]Transportation Infrastructure: Reshaping the Federal Role Poses Significant Challenge for Policy Makers (GAO/RCED-90-81A, Dec. 1989), and Transportation Infrastructure: Panelists' Remarks at New Directions in Surface Transportation Seminar, (GAO/RCED-90-81B, Dec. 1989).

1989 and August 1990 in accordance with generally accepted government auditing standards.

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