Current Issues in State and Federal Tollway Assistance Programs

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ABSTRACT

Many revenue-producing highway development projects, although physically necessary, are not considered feasible within the framework of current U.S. regulatory and legislative machinery. These projects, which may represent hundreds of millions of dollars of new construction, are considered infeasible because their projected revenues are insufficient to cover their overall costs. In fact, projected revenues may be required to exceed the projected payment schedule by 30 to 40 percent before the full faith and credit of the state can be pledged to the project. Many state and federal agencies are providing front-end financial assistance to get such projects started. Once this "seed money" is planted to cover a portion of the overall costs, the revenue-gathering capability of a tollway can be harnessed to produce the funding for the remainder of the project. The end result can be a large project for a relatively small federal and state investment. The hypothesis in this paper is that this financing strategy, when compared with other federal and state funding strategies, can produce more public benefits per federal and state dollar than current program strategies. This hypothesis should hold even after toll collections imposed on the user are subtracted from the user-benefit stream. The impact of federal and state policies on toll facilities is traced and analyzed and new legislative and regulatory initiatives and research that can be undertaken to improve contemporary financing strategies are suggested.

Although states have supported tollway projects to some degree, the federal government has traditionally discouraged tollway construction through both policy and legislation. This policy was established by the Federal-Aid Road Act of 1916 and continued by the 1956 legislation creating the Interstate and Defense Highway System. The only toll projects eligible for federal aid under the 1956 legislation are bridges and tunnels, and then only if the tolls are eliminated after the construction costs have been repaid. Federal aid may also be used to finance the construction, up to the point of the last toll-free exit, of public facilities that connect with a tollway. Here again, the agency with jurisdiction over the tollway must agree to eliminate tolls when all debts have been paid. The Surface Transportation Assistance Acts of 1978 and 1982 made toll roads that are part of the Interstate system eligible for resurfacing, restoration, rehabilitation, and reconstruction (4-R) funds. This act also stipulates that tolls must be eliminated when all outstanding debts have been paid.

Other legislation has dealt specifically with bridges and tunnels. The first bridge legislation to mention tolls was the Bridge Act of 1906, which included a uniform standard for setting tolls. A 1926 law permitted private bridge owners to make a profit while allowing public operators to collect tolls only to the point of amortization. The General Bridge Act of 1946 applied more stringent regulations to Interstate toll bridges; however, intrastate toll bridges were left unregulated by that legislation. The last major legislation to deal specifically with bridge tolls was the International Bridge Act of 1972. As its name indicates, this law addressed only international bridges and required that toll rates be "reasonable and just."

The result of these federal legislative acts is that toll bridges are currently operated under various requirements affecting toll collection, ranging from the one that tolls be "reasonable and just" to the one that tolls be eliminated once construction debts have been paid. In addition, FHWA has the power to review bridge tolls and must approve toll increases. As stated in NCHRP Synthesis of Highway Practice 117 (1,pp.11-12), this review procedure "tends to inhibit plans for capital and safety improvements because there is always the possibility that the required toll increase . . . will be delayed or possibly denied." Long-range and contingency planning are thus restricted, and potential investors are discouraged.

STATE AND FEDERAL FUNDING RELATIONSHIPS

In past years, the number of critical, high-priority projects easily consumed the total dollars available annually for highway construction. Recent revenue increases at the federal level have given the United States an opportunity, for the first time in many years, to begin work on the backlog of critical projects. However, highway needs continue to outpace the available resources.

The FHWA uses a matching system to get more mileage from its limited dollars. With this matching system, 70 or 90 percent of the funding is provided by FHWA for various categories of projects, and the state or local government provides the remaining portion. This strategy produces more projects per federal dollar than would otherwise be created; it also entices states to generate and allocate funds toward federal objectives and programs.

With federal revenues growing as a result of re-

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cent tax increases, more pressure is being placed on the states to produce additional funds to match the increased federal funding categories. Many states have responded by increasing their taxes through various mechanisms. These have included increased pennies-per-gallon motor fuel taxes, percentage-of-cost formula taxes on motor fuel, and sales taxes related to motor fuel consumption. The net result has been a significant increase in nationwide revenues for transportation and, consequently, opportunities for making even greater financial contributions to the transportation infrastructure.

TOLLWAY OPPORTUNITIES AND NEEDS

In many fast-growing urban areas, opportunities still exist for the construction of needed limited-access highways in currently undeveloped, noncontroversial corridors on the fringe of existing urbanized areas. These opportunities must be used while they are still available. Many urban areas, particularly in the Sun Belt, are growing so rapidly that there will be no undeveloped corridors left in 5 years or less. Rapid urban sprawl is thus eliminating some of the best locations for essential limited-access facilities. Once residential development has moved into the immediate vicinity of a corridor, controversy will usually erupt if any attempt is made to plan or implement a limited-access facility within that corridor. Residents will oppose such a project, even when the right-of-way is protected in advance and the homeowners have been warned before buying their homes.

A joint role for state, federal, and revenue-bond financing of tollway facilities is suggested here. A possible federal role is important for several reasons:

- Federal leadership is needed;
- Some states must use almost all their funds to match federal dollars; failure to match federal dollars would result in loss of federal revenue, and many states cannot afford to finance a project; and
- Some legislators might not take the initiative or support such initiatives because of a lack of immediate, direct benefit to their constituencies.

The policy suggested is not new: state, federal, and local governments have been combining forces and funds to pursue mutual goals for many years. However, for many reasons, the privately backed revenue-bond-funded agency has not been treated as a valid partner in the financial partnership between the federal government and state and local government.

The fact of the matter is that, for many years, state gasoline tax dollars have been used to support toll-financed systems throughout the United States, both directly and indirectly. This policy should be analyzed and, if appropriate, extended to acquire the maximum public benefits possible. This analysis should include the potential for federal, as well as state, participation in tollway programs.

COST-EFFECTIVENESS OF STATE AND FEDERAL ASSISTANCE

To examine the cost-effectiveness of a possible joint financing policy for tollway projects, a hypothetical example may be used. Assume that a state has $30 million available to spend on a major highway system improvement program in Your Town, United States. Seventy percent of these funds is provided by federal sources and 30 percent is state funds. Your Town has two projects in dire need of improvement (Table 1).

TABLE 1 Hypothetical Expressway Financing Case Study

Item	Cost ($000,000s)
Case 1: Cornerstone Expressway	
Financing and construction cost	600
Supportable bond issue	-570
Front-end shortfall	30
Construction and right-of-way cost	300
Benefit-cost (B/C) ratio	x2.5
User benefits	750
Less tolls (present worth)	-570
Net benefits	180
Net B/C ratio	6
New financing created (with attendant indirect benefits)	570
Case 2: Morningstar Highway	
Right-of-way and construction cost	30
B/C ratio	x2.0
User benefits	60

One is a major signalized arterial highway, Morningstar Highway, that needs four lanes added to its existing four-lane undivided section. The total cost of Morningstar Highway will be $30 million, and it will return $60 million (present worth) in benefits over a 20-year period (benefit-cost ratio = 2.0).

Assume also that the local expressway authority has been trying to construct a second project, the Cornerstone Expressway, for several years. The Cornerstone Expressway will cost $600 million to finance and construct. However, the revenue projection will only support a $570 million bond issue under current legislative conditions. In other words, this project is not feasible because of a $30 million front-end shortfall. Assume that 50 percent of the bond issue will be used for actual construction and that the remainder will be used for financing. (Both projects will be operated and maintained by the state.) Therefore, $300 million (50 percent of $600 million) represents the actual present-worth construction value of the project. Assume also a benefit-cost ratio of 2.5 for the expressway project, yielding $750 million in benefits over a 20-year period (2.5 x $300 million = $750 million).

If the state were to provide the $30 million to the expressway authority to provide front-end financing for the Cornerstone Expressway, a $300 million construction program and $750 million in public benefits would result as compared with the $60 million in benefits that would be derived from the Morningstar Highway project. Even if the user tolls are subtracted from the Cornerstone Expressway benefit stream (present worth = $570 million), $180 million in benefits will still be shown for the Cornerstone Expressway as compared with $60 million for Morningstar Highway. Naturally, this hypothetical analysis is sensitive to the assumptions used and is presented only to illustrate the possible existence of competitive tollway programs that could be eligible for federal and state assistance.

This hypothetical analysis also does not account for the indirect benefits that would be derived from the creation of $570 million in new revenue-bond highway funds that would otherwise never have been created for highway construction. It must also be recognized that operations and maintenance costs for the expressway might be significantly higher than those for an arterial street that already exists.

The investment strategy to assist with the construction of the Cornerstone Expressway would be potentially cost-effective if this hypothetical example is relatively accurate. It is reasonable to assume that the same would hold true for many similar real-life situations. Policies that would permit assistance to worthwhile, high-value revenue-bond programs thus appear to be superior to many current policies. A methodology for evaluating the cost-effectiveness of tollway projects should be used on a case-by-case basis to determine the public value of potential federal and state assistance on the basis of a project's relative benefit to other investment options.

OTHER ASSISTANCE MECHANISMS

Front-end construction cash assistance is not the only available mechanism for assisting high-value tollway programs. Other strategies include

- Participation in or assumption of operating and maintenance costs,
- Construction of off-system connecting facilities,
- Full-faith-and-credit backing of bonds, and
- Financing assistance for preliminary engineering.

Another proven technique involves cost-cutting strategies such as

- Relaxation of design standards from "desirable" to "minimum," with a "minimum" project considered better than no project;
- Reduction of total number of lanes to provide for opening-year traffic or 5-year traffic projections instead of 20-year traffic forecasts; and
- Staged construction.

Other innovative assistance mechanisms that could be explored include

- Creative financing, such as balloon-payment series, graduated increasing-payment series, and so on;
- An increase in the number of years available to repay the bond;
- Assumption of more risk by the state by reducing debt-service-coverage requirements and operating-reserve requirements;
- Establishment of revolving-fund accounts for tollway program assistance;
- Advanced right-of-way (R/W) acquisition; and
- Advanced construction of frontage-road systems to protect the corridor's right-of-way.

These and other financing techniques should be explored in depth. Particularly worthy of examination are alternatives to the standard equal-payment-series mechanism. A variable payment series would take advantage of the fact that tollway projects always produce more revenue through time. There is often difficulty in getting past the first 5 years of payments, when revenues are at their lowest; however, payments during the early years of operation are often identical to those required in the 30th year of the project. Not surprisingly, some tollways experience revenue surpluses in their later years. Graduated or balloon-payment financing could be used to design a payment plan that provides a better fit for the revenue profile.

Another way to increase a tollway project's feasibility would be to lower reserve requirements and debt-service-coverage ratios, which can be critical to a project's success. Legislation to lower reserve requirements or debt-service-coverage ratios, or both, would significantly reduce front-end cash-flow requirements and could thus enable an otherwise infeasible project to get started.

ADDITIONAL RESEARCH NEEDED

Much information must still be compiled and analyzed in order to develop more workable strategies for state and federal tollway assistance. For example, how many tollway projects nationwide are now considered infeasible and by what margin? How many projects would be activated by increased state and federal assistance and what level of assistance is needed? How many dollars are involved? What package of assistance mechanisms would produce the best results? What is the magnitude of the nationwide benefits that could be realized if all or part of the major policy changes suggested in this paper were implemented? The state and federal governments should address these and related questions and then undertake appropriate legislative and administrative actions to create broader opportunities and more flexible policies for assisting in tollway program implementation.

SUGGESTED POLICY FRAMEWORK

If a potential expressway project has wide support and is a legitimate high-priority public need, the state and federal governments should undertake measures to assist in that project. This assistance should be contingent on need and relative public benefits. A policy framework is suggested here as the basis of debate, discussion, and future analysis. It is not the author's intent to imply that these suggestions constitute an optimum plan at this time. Further research is needed to support the concept of optimality. However, it is believed that the following policies would be superior in many respects to the inflexible policies in place today:

- The state should have the flexibility to participate in up to 100 percent of the project's operating and maintenance costs, if needed.
- FHWA and the state highway agencies should continue to support tollway programs by constructing toll-free connecting facilities, as appropriate.
- The state should continue to pledge full faith and credit to support bonds.
- The states should relax their debt-service-coverage ratio to the 1.0 level and stiffen the qualifying requirements for revenue projection consultants.
- The states should extend the debt retirement period to 50 years and permit flexible bond repayment plans that more closely reflect the multiyear revenue profile.
- The state and federal governments should provide up to 50 percent of the front-end construction costs for a tollway program, if needed. Existing state and federal matching relationships should be used in providing this 50 percent share.
- The state and federal governments should provide up to 100 percent of the funds necessary for the definition and protection of clearly defined rights-of-way of future tollways and expressways. This should be accomplished through revolving fund accounts or other devices.
- The states and FHWA should permit design policies to be relaxed in order to reduce project costs, where appropriate. Strict adherence to federal-aid Interstate design standards, although desirable, should not be mandatory for tollway facili-

ties, even though federal funding may be involved. The minimum design criteria of the American Association of State Highway and Transportation Officials should be allowable under difficult circumstances. Once again, a "minimum" project is better than no project.

SUMMARY

The objective of this paper has been to initiate discussion around a tangible, visible target and to crystallize the issues concerning federal and state assistance for revenue-bond tollway programs. A number of potential policy issues have been raised; they require much more discussion, research, and analysis. However, certain policy changes that will improve the existing methods of providing federal and state assistance for tollway programs can be implemented now, without further analysis. In short, higher levels of federal and state assistance to tollway projects appear to be justified without endless research being conducted as a prerequisite. The issue is to determine how much more federal and state assistance is appropriate or optimal. For the time being, case-by-case studies can be used to determine the rate of return and justification of federal and state investments in tollway programs. However, a consistent nationwide policy should be formulated.

At the same time, additional research should be conducted as the basis of optimal policies on tollway assistance. Federal and state policymakers should begin now to develop interim policy plans that increase levels of state and federal participation and to collect more data for fine-tuning the ultimate policy package.

REFERENCE

1. W.A. Rusch. Toll Highway Financing. NCHRP Synthesis of Highway Practice 117. TRB, National Research Council, Washington, D.C., 1984.

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