Private Sector Role in U.S. Toll Road Financing—Issues and Outlook

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Highway finance in the United States since 1790 has often reflected the relative strengths and attitudes of the public and private sectors at the time of construction. Presently, toll roads are enjoying a renaissance in the United States. Competing economic pressures are creating a variety of approaches to financing toll highways, and several projects are showing signs of privatized approaches to finance and management. These approaches are at once the result of the current attitudes toward project economics and the current mix of economic and fiscal forces at work on infrastructure finance. This paper analyzes apparent trends in the toll road industry through seven case studies to address several related questions: Why has U.S. toll road development increased in recent years? What are the conditions encouraging more private sector participation in toll roads? How can the private sector directly contribute to new toll roads? What role does the federal government toll road pilot program play? What is the outlook for more privatization of toll road projects? A principal conclusion is that direct private sector participation in new toll roads is real, and that such participation will continue. The extent of participation will be governed by the relative presence of growth pressures, the lack of alternative facilities, and the prioritization of projects by regional and state agencies. The federal pilot program may provide assistance to at least two proposed projects; however, it is a transition structure and will not significantly influence private involvement either way. Also, with few exceptions, full privatization of toll roads will be limited. Most private interests will secure their objectives through selective participation in project development, financing, and construction oversight, leaving final ownership and operation in public control.

The methods used to finance U.S. highways for the past 200 yr have consistently reflected the prevailing strengths and weaknesses of the public and private sectors at the time of construction, while also respecting underlying attitudes regarding the correct way to finance that particular type of infrastructure. During that period, approaches to major intercity highway finance have ranged from (a) completely private toll companies with virtually no government oversight to (b) the public agencies and authorities operating the vast majority of American roads today. Issues such as the fiscal resources of governments, the nature of travel demand, competing modes, and the state of governing law have all played a role in yielding particular solutions for particular times.

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Presently, highway development in the United States is in a state of flux, whereby severe competing pressures among forces such as government budget deficits, infrastructure investment needs in the trillions of dollars, rapid suburban growth, and a shift in preference to private sector/user fee solutions for capital project finance are yielding a variety of financing approaches for both free highways and toll roads. To be more explicit, toll roads are now enjoying a renaissance in the United States—they are being studied, designed, and constructed at rates not seen since the 1940s and 1950s. Yet, while many of these projects are being implemented in a fashion similar to that used for the post-World War II turnpikes, there are also widely scattered signs of more public-private and privatized approaches—these reflecting, as will be shown, both prevailing economic theory and a mix of economic and fiscal forces at work on infrastructure finance.

This paper will analyze apparent trends in the toll road industry, as well as the characteristics of several current toll road projects to seek answers (or reasonably informed opinions) to some interesting questions: Why has toll road development in the United States increased in recent years? Are private sector roles and responsibilities increasing in toll road development, and how do they relate to the federal government's encouragement of privatization and deregulation? What are some of the conditions conducive to increased private sector roles—particularly in capital finance—and how replicable are they in all projects?

While the facts, issues, and conclusions presented herein are obviously driven in part by U.S. law and fiscal practice, many of the basic principles addressed have potential application elsewhere in the world. Indeed, privatized, toll-revenue-financed transportation facilities can be found in many locations on every continent. Differing legal and economic traditions notwithstanding, therefore, the constraints and opportunities of an expanded private sector role in U.S. toll road development should find considerable relevance elsewhere.

A SHORT HISTORY OF TOLL ROAD DEVELOPMENT IN THE UNITED STATES

Toll roads have been a part of the transportation landscape in the United States since 1792, the year that construction

of the privately owned Philadelphia-to-Lancaster wagon road began. Public attitudes and public policy toward toll highways, however, have swung around three basic positions:

- Roads should be publicly financed and maintained (free).
- Roads should be toll financed and privately managed.
- Roads should be toll financed and managed by public corporations (authorities).

The first era of toll roads lasted 30 yr, from 1800 to 1830. During this period, the states lacked sufficient wealth to finance roads necessary for expansion from the eastern coastal areas. Drawing on British experiments, over 8,000 mi of roads were successfully completed. Financing through tolls was felt to capture more fairly a return from long-distance interregional users and not to place the whole financing burden on local users. With the coming of the railroads in the mid-1830s, many of these roads could not support themselves, and were abandoned. By and large, state and local governments did not assume responsibility for their maintenance, and so, with the exception of limited segments maintained for local use, they fell into disuse and disappeared.

Important lessons were learned during this period on the delegation of authority and responsibility to private companies engaged in providing necessary public services. In the future, granting of statutory authority to a private concern to own and operate a toll road would require that the collection of tolls be conditioned on the maintenance of minimum operating standards, control of vehicle loads and sizes, and coordination of route locations and access.

During the mid-19th century, some toll road construction continued, primarily to service shorter hauls not appropriate for rail lines or spurs. In this period, there was some experimentation with using a combination of private capital and public (bonded) debt. These early public-private partnerships were the result of the continuing inability of governments to finance the necessary roads and became models for modern revenue bond financing for roads.

Through the remainder of the 19th century, only a very few toll roads were authorized and, as a result of the foregoing failures, many more protections were established for investors and users, including specific provisions for dissolution of the private corporations and transfer to public ownership. This was the era of free highways, where several factors contributed to the (temporary) extinction of the toll road:

- Most trips were medium or short haul.
- States had the wealth and tax base to fund roads from general revenue.
- Tolls were perceived to be excessively inconvenient and costly to collect.

During the period from 1860 to 1900, toll roads were actually bought up by states and local governments and converted to free use. This practice continued through 1940, during which local road management was replaced by state management. Besides the general elimination of toll facilities, this period also saw the creation of the first use/funding classification hierarchy, versions of which are still in use today.

The modern toll road era began with the opening of the Pennsylvania Turnpike in 1940, to be followed in 20 yr by facilities in over 30 states totaling over 4,000 miles (6,400 km). While accounting for only 0.1 percent of all roads, these tollways often connected some of the country's largest population centers, resulting in very high traffic volumes and more than ample revenue collections. The states returned to the practice of constructing toll facilities in specific situations for several related reasons, some of which are still relevant today:

- A large backlog of highway needs was confronting flattening or diminishing revenue yields from fuel and vehicle taxes.
- Debt financing secured with fuel taxes was insufficient and not in line with the "pay as you go" philosophy associated with most state road programs.
- Concern about burden equity shifted attitudes more to direct user fees, particularly where traffic levels could be self-supporting.
- It was felt that greater control could be maintained over the entire design and construction process, leading to more economical standards, techniques, and materials and to an overall faster schedule of implementation.

This modern toll road era was itself overtaken (but not eliminated) by the largest program of free roadway construction ever seen—the federal interstate highway system—begun in earnest with the Federal-Aid Highway Act of 1956. While toll road construction languished after the mid-1960s, it began once more with the planning and construction of projects in the 1980s in Virginia, Florida, and Texas, to name but three states with the most advanced projects.

U.S. TOLL ROAD DEVELOPMENT IN THE 1980s—ORIGINS AND ISSUES

It can be reasonably concluded that road financing in the United States has responded over time to changes in a few key variables, which are still important today and go the major distance in explaining the range of proposed financing and management structures currently observed. These variables are

- Need
  - –Level of demand
  - –Character of demand (local vs. intercity)
  - –Availability of competing modes
- Availability of capital
  - –Government (especially state, but also federal and local)
  - –Private (secured loans; at-risk investments)

- Cost
  - –Capital
  - –Operations and maintenance

In times when cost has outstripped the ability of government to finance roads directly, private toll-financed roads have appeared in response to market forces, and then disappeared as cheaper and/or more reliable alternatives have captured traffic (e.g., railroads). At other times, government finances have been more than sufficient to fund networks of free roads to service intercity and local traffic. In addition, the nature of demand has been an important determinant of the type of financing—whether to fund projects carrying predominantly local traffic from general tax revenues or to impose tolls for facilities carrying a large share of intercity traffic.

Concurrent with the resurgence of interest in infrastructure needs of all types, a unique mix of conditions and attitudes have coincided in recent years to produce a new wave of toll road projects in the United States, similar to, but decidedly different from, the projects planned and built in the 1940s, 1950s, and 1960s. These conditions are

- Declining revenue availability for all government programs at all levels in response to pressures to hold taxes down.
- The specific flattening (and possible future reduction) of federal government funding of interstate facilities following a 30-yr period of unprecedented federal involvement in highways of all types. This flattening has the effect of adding responsibility to state and local governments at a time when they also are seeing unprecedented demands for infrastructure maintenance and noninfrastructure programs.
- The increasing acceptance of market-driven, user-fee-financed facilities by the public and the implicit rejection of cross-subsidies inherent in any broadly based, tax-financed program.
- The evolution of rural and urban transportation systems from auto-preferred to auto-only environments, changing urban form and land-use patterns.

This last item, representing a change from conditions existing as recently as the early 1960s, has changed toll road planning in at least two key ways: (a) toll roads are being conceived as reliever routes for other, free facilities, and (b) toll roads, in addition to limited access free highways, are being viewed as essential to unlocking extensive tracts of land for new development.

Accompanying this renewed interest in toll roads is a new cost/demand environment, where escalation in capital costs and O&M costs has outstripped growth in toll rates and revenue per trip. Where it was once possible to establish financial feasibility for a toll road with average daily traffic of only 20,000 vehicle trips, modern facilities can require as many as 100,000 daily vehicle trips and more before meeting debt service coverage and O&M costs. This effect is the combined result of public perceptions of cost not keeping with reality and the presence of many more competitive free highways. This relationship, in addition to limiting more toll roads to urban areas with high traffic volumes, is helping to motivate the search for extended revenue packages, new sources of debt security, and more direct private sector roles and responsibilities.

It can be argued that the development of toll highways in the United States is in many cases mirroring the expanded use of public/private partnerships or privatization in other types of infrastructure development. (Note that the definitions of these two terms are similar, if not virtually indistinguishable. Privatization is often viewed as the act of increasing private sector investment, risk, and control; a public/private partnership is the result.) Reasons often given for merging public and private sector roles include the following:

- Restrictions on direct government outlays and debt,
- Access to new capital markets and collateral,
- Shifting of risk to the private sector,
- Cost reductions through tax benefits (really a shift in burden to the federal government) and labor contract flexibility, and
- Acceleration of project schedules.

It is the purpose of this paper to explore the nature of public-private relationships in financing and implementing toll highways. Several projects, described more fully in the following section, are being proposed as public-private ventures or as privately owned toll roads. This new activity in capital finance and project management raises several questions of potential interest to policy makers in the toll road industry:

- What are the conditions and the stated reasons for exploring toll road financing through a more privatized structure? How applicable are these conditions to the full range of toll road projects?
- What are specific ways in which the private sector can directly contribute to toll road financing?
- What role will the federal government toll road pilot program play in moving needed projects along? Is it likely to become a permanent federal highway program element, and if so, what effect is it likely to have on private sector initiatives?
- What can one speculate on the long-term outlook for greater private sector involvement in toll road financing, development, and management?

Each of these questions is addressed following brief descriptions of several current U.S. toll road projects and a partially privatized approach in France.

CURRENT TOLL ROAD DEVELOPMENT ACTIVITY—PRIVATE AND PUBLIC

At this writing, there are at a minimum four toll road facilities under development or study in the United States involving significant private sector participation and/or

unusual capital funding structures. (Note that none of these is part of the federal toll road pilot program.) Brief summaries of these and other projects provide numerous insights into the policy questions raised in the preceding section.

E-470 Roadway—Denver, Colorado

The E-470 roadway is a proposed 48-mi half-beltway to serve the eastern half of the Denver metropolitan area. The roadway would link directly with another portion of the regional beltway (C-470) and would provide direct access to Denver's proposed new airport, interchange with the state highway system in six locations, and generally connect rapidly growing residential and commercial areas north, east, and south of Denver.

The roadway is being developed by the E-470 Authority, a consortium of four local governments in concert with principal landowners and developers within the highway corridor who collectively control over 50 percent of the required right-of-way. Initial funding for studies has been provided by the public and private sectors, although interim funding is now available through arbitrage income from tax-exempt bonds held in escrow (a mechanism no longer available under current U.S. tax law).

Toll revenue is intended to be the principal source for repayment of bond proceeds, though supplementary revenue sources are being defined, including development-related taxes and fees within a 3-mi corridor centered on the highway, and various tax mechanisms drawing on the tax base of the three counties involved in the project.

Due to projected shortfalls in toll revenue in the early years of project operation, alternative arrangements for supplementary financing are being investigated, including the commitment of private equity capital, commercial letters and/or lines of credit, government infrastructure loans, and recycling of excess revenue above that needed for debt service on the initial bond issue.

Dulles Toll Road Extension

Studies are now underway for a 17-mi extension of the very successful Dulles Airport corridor toll road, first opened to revenue service in 1983. Development pressures along the existing corridor have led to studies of widening the initial four-lane roadway to six lanes, while development beyond the corridor to the north and west of Dulles Airport has resulted in a serious proposal to privately construct, own, and operate a four-lane extension.

Dulles Airport is located approximately 26 mi west of Washington, D.C. The proposed extension would deviate from the existing toll road 1 or 2 mi from the airport terminal and proceed in a northerly and then westerly direction to the town of Leesburg, Virginia. Developers are now in the process of assembling large parcels in the area traversed by the proposed extension with an eye toward future development. In addition to providing internal circulation, the toll road would also provide access to Dulles Airport, Fairfax County, and Washington, D.C.

The Dulles toll road extension is the object of a state-sponsored environmental impact study (now scheduled for completion sometime in 1988). At the same time, a financial-engineering joint venture has been assembled to design, build, own, and operate the toll road extension, subject to regulatory control by the state corporation commission and the Virginia DOT. Capital financing would be accomplished through privately placed borrowing, while right-of-way and some interchange costs would be provided by interested developers. The state of Virginia could benefit from this approach through the ability to concentrate its resources on pressing needs elsewhere. Legislative authorization for a privately owned toll road in Virginia has been enacted. Construction under a design/build arrangement may begin as early as fall 1988 and be completed within 3 yr.

Orange County, California, Toll Corridors

As a response to continuing development pressures in the southern and eastern areas of Orange County, California, major developers, the Orange County Transportation Commission (OCTC), and a special intergovernmental agency (TCA) are investigating the feasibility of building one or more proposed freeway facilities as toll roads. The three candidate corridors are referred to as the Eastern, Foothills, and San Joaquin; and each offers critical access to developing areas under the control of three or four major developers.

All three corridors have been designated as federal toll road pilot projects under recently enacted U.S. government legislation, allowing for the first time a commingling of federal funds with toll-revenue-supported debt. Legislation to allow toll roads in California (heretofore prohibited) has now passed. At present, fees on new development are being collected and held in escrow pending implementation of one or more of the toll road projects. Preliminary funding studies indicate that these development fees could support up to 45 percent of the capital needs of one toll road. Additional funding may come from federal government sources, private investors, or both.

Bi-County Thruway—Pasco County, Florida

A major developer is promoting the concept of a new 28-mi toll highway linking I-75 with the coastal town of Tarpon Springs, Florida, just north of the major metropolitan area of Tampa/St. Petersburg/Clearwater. The project would greatly improve access to large sections of Pasco County, which is now rural in nature but which is developing rapidly. The facility would also provide an alternative route to the Pinellas County cities of Clearwater and St. Petersburg by avoiding very congested sections of I-275 through Tampa.

This project is in the very earliest stages of conception, but the institutional and financing structures are already clear. Ownership and operation would remain public, most likely through an existing county expressway authority and the Florida DOT. Development and financing, however, would rest largely in private hands, utilizing donated right-of-way and interchange costs; private, at-risk capital; and tolls.

Preliminary feasibility studies for the project will include traffic forecasts, cost estimates, environment issues investigations, and institutional/financing studies. The project is dependent on the completion of at least two other expressway facilities in the region, and its implementation date is therefore uncertain.

Harris County Toll Road Projects

Harris County, Texas, is presently constructing two toll roads using essentially standard means of revenue-backed borrowing. For the two projects in question—the Hardy Toll Road and the West Belt Toll Road—the county has departed from the otherwise standard practice of relying solely on toll revenues by issuing tax-supported bonds to cover early project costs during design and construction. Additional toll-backed revenue bonds have been issued in several series and are being tapped as necessary to cover the completion costs of the two projects. It is intended (but not guaranteed) that toll revenues will cover the debt service on both series of bonds.

The two Harris County toll road projects are being sponsored by the Harris County Toll Road Authority. The projects are not responsibilities of either the state of Texas, the city of Houston, or Harris County itself. Aside from the normal purchasers of rated, tax-exempt debt (lenders), there is no private sector capital at risk in these projects.

Sawgrass Expressway—Broward County, Florida

The Sawgrass/Deerfield Expressway is a 23-mi project linking I-75 with Florida's turnpike in Broward County, Florida, north and west of the city of Fort Lauderdale. At this writing, most of the project is open to traffic; however, the connection with I-75 at the south end is still awaiting completion. The project is to function essentially as a bypass around Fort Lauderdale, providing significantly improved access to developing areas west of the city.

The project was financed through the issuance of toll revenue bonds backed by 80 percent of the revenue from a county fuel tax and ultimately secured by the full faith and credit of the state of Florida. Further, the Florida DOT committed to complete the project using state resources in the event that project costs ultimately exceeded available bond proceeds. The Florida DOT will operate and maintain the Sawgrass Expressway, receiving funds from tolls in excess of those required for debt service to cover its costs. The Broward County Expressway Authority will maintain ownership of the facility.

Private Concession Motorway System—France

The concept for a private venture to finance, construct, and operate a national system of limited-access highways in France was developed in 1970. Under that concept, the French government gave broad power and discretion to several private consortia of banks, engineers, and contractors to create and manage different portions of the system, subject to certain financial, design, and service requirements. While a majority of the consortia has in fact failed as private, at-risk ventures (with direct control returned to the government), at least one venture continues in private hands.

The motivation for the privatized approach to the system was the ability of the French national government to gain access to private capital and design/construction management without directly committing tax revenue. Also motivating this approach was the goal of centralizing control of the development of the system to coordinate more effectively design and construction of individual elements.

The key elements of the public-private agreements are the following:

- A concession is granted by the government for a period of time, after which control is returned to the government. The government has the right to repurchase control after 20 yr.
- The consortium is responsible for all financing, design and construction, and operations. In return, it has all rights to revenue from tolls and leases of adjoining service areas.
- Capital for the system is provided through 25 percent equity from the consortium and 75 percent government-guaranteed borrowing. The government agrees to loan funds to cover revenue shortfalls.
- The government retains ownership. The private consortium is granted the power of eminent domain.
- The government retains control over alignment, interchanges, permissible loadings, design speeds, etc. The consortium is required to coordinate designs with local authorities.
- The consortium is allowed to modify implementation timetables to account for deviations in traffic levels.
- Finally, the consortium is responsible for the maintenance of safe operations.

This approach represents a highly privatized concept for capital project financing and implementation. It benefits somewhat from the relationships between the national and local governments in France, but elements of it are clearly applicable to the United States.

ANALYSIS AND CONCLUSIONS

Conditions Encouraging Direct Private Involvement in Toll Road Financing

It has been shown that the recent increase in toll road projects in the United States has resulted from the

coincidence of growth pressures, cost increases, government tax and funding limitations, and a political shift toward user-fee financing. Many of these characteristics also help explain current interest in public-private partnerships for infrastructure and full privatization of project delivery and services.

It should be noted that any user-fee-financed project, whether public or private, involves the private sector as lender/investors. One key definition of public-private or privatized projects involves the degree of risk and the degree of control granted to private, for-profit entities. As a condition for assuming greater risk, the private sector will require greater control. Risk is present in all three project elements: (a) project cost, (b) project schedule, and (c) future traffic and toll revenue. All of these, then, can yield at least one basis for encouraging a greater private sector role.

More direct private sector involvement in toll financing will almost always occur when one or both of the following conditions are present:

- Landowner/developer interest in improved access
- Limitation or nonavailability of state and local government credit support.

As a result of changes in the development process and cost-revenue relationships in the past 30 yr, the first four examples described in the preceding section all reveal the potential for new financing structures precisely because (a) they are driven in large part by developer interests and needs, and (b) they lack the credit backing of states and (in some cases) local governments. The two examples of traditional toll road financing (Harris County and Broward County) incorporate tax revenue bonds in one case and the full faith and credit backing of a state in the other.

In addition to landowner/developer interest and the apparent lack of adequate credit support from state and local governments, the following conditions will be present, in varying combinations, as motivations for increased private sector roles in toll road financing and/or management:

- Inadequate total traffic and toll revenue in early years of operation,
- High degree of local access travel,
- Perceived need for fast-track implementation (intense development pressure coupled with inadequate access capacity),
- High degree of local consensus,
- Very limited number of controlling landowners, and
- Willingness of state to delegate or share planning control.

In all four examples discussed, local travel and access constitute the major if not majority share of travel on the proposed facilities. Projects that are viewed as fundamentally intercity connectors or congestion relievers—such as the Harris County projects or most of the pilot program projects—are generally better candidates for full public support.

As evidenced by projects such as E-470, Dulles Airport Extension, and Pasco County, an unusually high degree of local political consensus is required, as well as assemblage of adjacent land ownership by a very limited number of parties. Associated with these two conditions is the willingness of the state to work closely with local government or to cede the majority of control to local government.

A combination of (a) lack of government credit and support and (b) forecasts of inadequate traffic and revenue for the early years of a project will greatly increase the risk to passive lenders/investors. This situation, while typically leading to a failure of project feasibility and subsequent project abandonment, may instead lead to an intensified search for new classes of lenders/investors willing to undertake higher risks in return for greater financial gain.

A final, but often critical, motivation for an increased private sector role is the presence of short development timetables and/or development restrictions based on access capacity. In short, development interests perceive that a privatized approach can deliver the project sooner. This perception is definitely a factor in the Denver, Dulles, and Pasco proposals.

In the end, the progression from these conditions to public-private or privatized toll road financing must largely depend on the specific "chemistry" of the public and private sector leaders involved in a project. Examples abound where the public sector has responded rapidly to "win-win" proposals from private interests, while maintaining full control and normal risk levels throughout.

Private Sector Roles in Capital Financing

Common Approaches

The private sector has become involved in financing new transportation infrastructure in recent years through a variety of mechanisms. The most frequently used mechanisms have been the following:

- Dedication or discounted sale of land for right-of-way, and
- Voluntary participation in special taxing districts.

Both of these mechanisms are applicable to toll road projects and are present in each of the four private projects described. It should be noted that special taxing districts can be broadly defined to include any of the following:

- Developer impact fees.
- Special assessment districts—one-time assessments on holders of real property perceived to be specially benefited by construction of a public improvement. (Can be financed using tax-exempt bonds.)
- Special service or improvement districts—voluntary action by property owners to create a district to fund and/or operate a specific project or service.

All of these districts, whether imposed by government or voluntarily created, represent legally authorized actions of municipal subdivisions in states where they are permitted, and should be viewed as special taxes or fees applied to specific groups and areas. Property owners participating in these districts cannot be construed as having any capital at risk; thus, these mechanisms are among the most conservative and limited examples of private sector involvement in infrastructure finance.

Direct Contributions

More unusual, but growing in acceptance, is the situation in which an individual developer or small group of developers will contract directly with an implementing entity to finance the construction of a specific interchange or segment of highway. This approach appears to be most viable where the facility to be financed is an enhancement of a larger project.

Private Partnership

It is considered difficult to finance an entire $100+ million facility through contractual agreements with participating property owners. However, there is at least one example of a non-toll-highway project financed entirely through voluntary contributions by a group of six property owners. The Sun Valley Parkway, located northwest of Phoenix, Arizona, is being financed with tax-exempt debt, with repayment pledged from annual assessments on the six property owners, all agreed to voluntarily.

Subordinated Loans

The concept of pledging real property as collateral for otherwise unsecured loans is a true innovation which may see greater use in projects perceived as essential by developer interests. It may be most applicable in situations where the entire cost of a toll road project cannot be borne through toll-backed debt financing. In that situation, a second, subordinated loan may be negotiated with lenders/investors who are willing to assume higher risk and a delay in repayment in exchange for greater rates of return. Further incentives might come from key benefiting property owners sharing a percentage of net proceeds from land sales or income from developed property—providing, in effect, an equity kicker to those lending in a subordinated position.

Private Ownership/Operation

A total approach to private sector involvement is the concept of private ownership and control of a toll facility, with capitalization provided at risk, secured only by tolls and possible collateral arrangements with property owners. This approach shifts early operating risk to the private sector, but requires the standby assumption of risk by the public sector in the event of financial difficulty or insolvency by the owner/operator. The Dulles Toll Road Extension is planned as a private project controlled in this manner. The Cofiroute concession approach in France also represents one possible model for a more fully privatized toll road program in the United States.

Role of the Federal Government Toll Road Pilot Program

The recently reauthorized U.S. surface transportation program (HR 2) contains provisions allowing, for the first time, the use of federal highway funds in conjunction with toll-financed projects. It is indeed a pilot program, in that federal contributions are limited to 35 percent of the total cost of the project, and they may be applied to only eight projects in eight designated states. Since the program does not add funds to the federal allocation any state would normally receive, it is most beneficial to a state where the candidate toll road project is already given a high priority, and therefore provides for the release of at least some nontoll local revenues for other projects—provided that toll coverage is at least 45 percent of cost. In a situation where the pilot project is not currently programmed, use of federal funds for that project requires diversion of those funds from other projects.

While predicting the future of U.S. federal government participation in toll roads must be pure speculation at this time, the high level of interest in the pilot program to date suggests that the program will be extended and enlarged during or before reauthorization of the highway program in 1991. To the extent that tolls are a new revenue source for state governments, their presence may free other scarce tax revenues for projects not eligible for federal matching funds or for maintenance.

The likely effect of increased federal participation in toll roads on public-private partnerships and privatized projects is exceedingly difficult to forecast. On the incentive side, the availability of federal funds may enhance the feasibility of projects not viable with toll revenue alone, and thereby increase the number of project opportunities for private sector involvement. By the nature of the reviews and approvals accompanying the use of federal funds, however, the focus of project management and control will necessarily shift more to the state level. This change, along with the significant amount of additional time required to complete environmental and design reviews, will dilute the effectiveness of private financing and control in achieving the key goals of fast-track implementation and internally managed cost control. As a result of these conflicting influences, it is possible to foresee the evolution of two separate streams of projects—one with state-federal management and one with local-private management.

Future Private Sector Involvement in Toll Road Financing

A review of the factors influencing toll road development in the United States suggests a mixed outlook for private sector participation in the future. A toll road, by the very nature of its financing structure, can and should be viewed as a business, for which the benefits of the private sector—efficiency and innovation—should be tapped. Alternatively, a toll road is also a public service, with complex, interactive effects on multiple private entities and public resources, often involving numerous political jurisdictions governed under varying and sometimes conflicting values and goals. While the public will indeed benefit from maximizing the efficiency and effectiveness of a given project, the public will also rely on guarantees of service (e.g., access to land) in the face of threats to a project's viability.

After consideration of these complementary and conflicting toll road attributes, one can broadly conclude that public-private partnerships are likely to remain a force in U.S. toll road development in selected situations, as large, statewide roadway capital programs will not always be responsive to small area transportation needs and desires. These partnerships, including the potential for fully privatized operations, will work most effectively in developing areas where traditional state roles of regional and interregional service are less applicable. Further, economic and budgetary pressures on all levels of government will complement local development forces and desires for local control to shift management and financial responsibility to the private sector. Toll roads will, in many cases, represent the only path for early relief of inadequate access and roadway capacity; private control of those projects may, in many cases, represent the best way of ensuring timely project implementation through assumption of additional financing risk in exchange for management control.

The likelihood of a significant private sector presence notwithstanding, there appears to be more limited potential for a large number of truly private highways, such as the Dulles Toll Road or the Cofiroute system in France. Given the number and diversity of parties affected by a toll road project, there may be limited benefit to all parties (as a whole) from taking the final step of total private ownership and control, even though this structure may operate as equitably as a special purpose authority or nonprofit corporation. The issue of public-private partnership really applies to the process requirements of implementation and operations management. Given that the private sector can apply capital and risk in ways not permitted the public sector, and that it can typically bypass many of the process requirements of the public sector in managing implementation and operations, the private sector will, in most cases, be able to channel the majority of benefits to a project without the ultimate step of independent ownership and control.

In summary, therefore, those planning new toll roads in the coming years should be alert to the potential benefits of private sector participation in project finance, implementation management, and operations management. Economic, fiscal, and political conditions within the foreseeable future should continue to support public-private approaches which, if structured properly, will benefit all project participants.

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