



The Evolution of a U.S. Concession Model

By Harold W. Worrall, P.E., PhD

It is a tried-and-true maxim that solutions of technology, finance, and management conform to the cultural, political, and business norms of the location in which they are applied. Concessions in the United States are no different. Just as we have found it difficult to transfer a computerized system from one agency to another, we will likely find it difficult to transfer the European model of concessions, or any other such model, to this country. Though several concessions currently are in various stages of agreement, mostly for existing facilities, the question remains whether they represent what will become the norm for partnerships between the public and private sectors.

The Pay-as-You-Go Model

Part of the difficulty in adopting a foreign concessions model lies in the nature of the U.S. transportation system, which has its foundation in the gasoline tax. Unlike Europe, the United States has a long tradition of funding public infrastructure on a pay-as-you-go basis. Indeed, surface transportation in the U.S. has been funded through fuel taxes ever since the 2 cents gasoline tax was established in 1916, with subsequent increases in the tax ultimately creating the Interstate Highway System.

The United States has firmly established transportation traditions associated with financial allocation, project development, and operations and maintenance involving various regulatory and program management processes that are deeply rooted in pay-as-you-go funding and the gasoline tax. The U.S. Department of Transportation, for example, for a long time

wouldn't pay interest costs associated with loans and disburses funds on a reimbursement basis, requiring states to prove they've spent the money first. Additionally, each state has a program management system that assumes pay-as-you-go funding as its primary funding vehicle.

The businesses that have been engaged in providing transportation in this country for more than a hundred years, including construction companies, engineering companies, and law firms, and the methods they use to deliver transportation facilities also assume the pay-as-you-go system. Because of this vast history, changing to a concessions model will be challenging.

Addressing the Funding Shortfall

The increasing inadequacy of the gasoline tax to fund needed infrastructure has been well-documented. There is growing recognition that tolling will be a part of the solution to address this funding shortfall. Though toll projects in the United States have traditionally used tax-exempt debt as a funding vehicle, the enormous backlog in public infrastructure has led to the realization that equity investment will also play a role in new funding. Within the past year, several applications of equity funding have occurred, and the promise exists for this technique to be greatly expanded.

The Chicago Skyway leasehold agreement last year was quickly followed by the Trans-Texas Corridor preliminary negotiations, as well as long-term lease transactions involving the Indiana Toll Road and, most recently, the Pocahontas Parkway in Virginia. Today, more than a dozen projects are under consideration for some form of equity financing, either as long-term leasehold agreements for existing projects or as proposals for new projects.

The development of an acceptable U.S. concession model appears to be evolving, driven by both financial urgency and the need to address our transportation funding shortfall. Several of the applications of equity financing in the United States thus far equate to the purchase of a future revenue stream. These agreements specify restrictions on toll rates and frequently tie toll rates to various economic indices.

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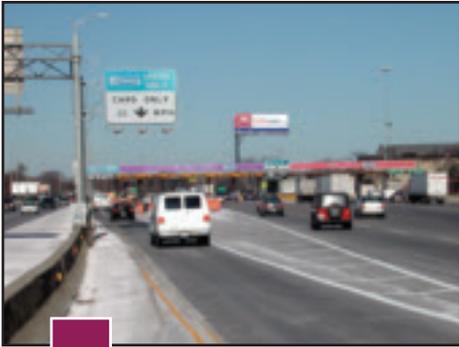
The success of these projects has led to a debate about public works being controlled by the private sector. Because the funding of transportation infrastructure through taxation is deeply engrained in U.S. transportation history, it is generally accepted that highways, airports, and transit are all inherently public facilities. It stretches the nation's cultural psyche to accept tolling as an option for funding public roadways, yet landing fees and transit fares are accepted without question for air, bus, and rail transportation. As a result, the introduction of private ownership of roadways with the high probability of tolling and increased toll rates, even for a limited time, becomes difficult for U.S. citizens to accept, even though such a solution to our funding shortfall provides a very attractive investment vehicle for funding institutions seeking a long-term reasonable return. It is this variance between the public and private perspectives on tolling that will likely lead to a new concession model based not only on finance but on the operations and maintenance of the tolling facility.

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The Business Perspective

Private enterprise thrives on efficiency and profitability. Though many modern corporations recognize their responsibility as citizens of the community, their primary focus is the bottom line. When considering investments in toll roads, enterprises experienced in these projects know that such investments entail "patient" capital. Experienced concessionaires clearly understand that a greenfield project requires 8 to 12 years for the revenue stream to be sufficient to cover the cost of debt and there is always the risk that the revenue will fall short. For every year that either the project is under construction or revenues are insufficient to pay for the annual debt service and ongoing administration, operations, and maintenance, the deficits must be capitalized over a long period or subsidized by other, profitable projects. The capitalization of these early-year deficits can be significant as the value of revenues in out years is less.

Consequently, these organizations must have access to a large capital market and must have a track record of success in order to attract capital investors. The desired rate of return on investment over the life of a project leasehold



is typically in the 10- to 15-percent range. These funding models normally require solid profitability in the out years of the leasehold. When contrasted with tax-exempt debt rates of 5 percent and taxable rates of 6 to 8 percent, it becomes clear that the difference between debt and equity financing lies in construction and operations risk and profitability. The ability to efficiently perform toll operations and maintenance can be the difference between success and failure over the long term.

The acquisition of existing toll-revenue projects (brownfields) reduces the risks and negative cash flow that accompany the construction phase and the accurate projection of revenues in a new project. Although inaccurate revenue projection remains a risk in existing toll facilities, it is much less so than it would be with a new facility. Consequently, concessionaires are willing to pay handsomely for existing toll-revenue projects. Once acquired, the value of the investment is greatly enhanced through improved operations and maintenance procedures. An optimally maintained facility will continue to offer the quality experience that attracts more users, and operational-efficiency improvements will directly accrue to the project's profitability.

The Public Perspective

The public perspective on transportation infrastructure is driven by the view of the facility as a public good. The public agenda is to provide safe, efficient, economical travel to drivers, riders, and shippers. Public agencies are focused on providing the infrastructure while minimizing its environmental impact and doing so with the minimum toll rates required.

A legal framework exists to ensure that all who are affected by a construction project or a toll-rate increase are given an opportunity to provide input to elected or appointed public officials. It is a process fundamentally rooted in fairness and democracy.

It is normal for a public agency to take extraordinary measures to reduce the environmental or social impacts of a major transportation project, and testimony is regularly given on decisions to raise toll rates. In many cases, such public feedback is required by federal or state law and/or local

ordinance. The project is considered to be owned by the public and the impact of project expansion or toll-rate increases should be subject to public input. For tolled highways, public agencies must ensure that toll rates provide for the public need and a fair rate of return for the private owner and that sufficient funding is allocated to ensure that the physical asset is operated and maintained as contracted.

Consideration of the public perspective on transportation infrastructure also includes the facility's effect on the local economy. Access to the project can enhance surrounding property values enormously and is therefore of great interest to adjoining property owners. Increases in property values improve local property tax collection, and property development increases local sales tax receipts that can be used to fund other local government programs without a concomitant increase in property tax rates. Conversely, project noise, lack of access to the project, and inordinately high toll rates can hurt property values. Public-agency leaders therefore strive to balance the positive and negative impacts of new construction and toll-rate increases. The perspective is one of equitably sharing a public asset.

To limit toll rates, public agencies seek loans, grants, and other support for operations and maintenance costs. A typical debt service structure in the public sector rarely shows major increases in toll rates over the life of the project. Beyond support from outside sources, public toll agencies commonly pledge the toll revenue from other, existing projects to new projects in case revenue projections aren't realized. When a publicly owned toll road agency does consider increasing toll rates, formal public input is solicited and the outcome can be an extensive elapsed time between rate increases. When rates are allowed to remain fixed for long periods, however, the value of the asset decreases. Rather than setting toll rates for maximum revenue generation, at best the agency sets them to balance revenue with maximum utilization.

There is also a local aspect to public ownership and control of public toll road facilities. Local officials are keen to ensure that any profits from the



toll road remain within the local political jurisdiction. It is interesting to note that projects can be viewed as public in nature at the local level and yet resist any sharing of project profits for public projects outside the area. Logically, it is the local users of the toll project who generate the most revenue, and thus the benefits of the project should accrue the most to those users. To the extent that a project serves statewide or interstate travelers, that perspective might logically change.

Factors Affecting Concessions

Certain political and philosophical changes in the United States have occurred that provide a fertile environment for public infrastructure concessions. For one, there is a general public perception that businesses can perform more efficiently than government agencies and that agencies are therefore encouraged to maximize the use of the private sector and generally “operate like a business.” There is also a prevalent public attitude that less government is better, which is manifested in less government employment. When these attitudes are coupled with the growing awareness that the pool of funds to support the transportation system is inadequate and that current taxing mechanisms are insufficient, significant momentum for change occurs. Traditional and historical political boundaries have



become a constraint to serving large metro areas. With urbanization and suburbanization, the U.S. population has become concentrated in large metropolitan regions that extend beyond local political jurisdictions, and the projects needed to serve urban areas are multijurisdictional. Public agencies serving one local unit of government often encounter difficulty modifying their board membership and control such as to allow the entity to serve a larger metro area. A concession agreement might more easily allow for consideration of local interests in multijurisdictional projects because concessionaires aren't bound by one constituent group and can reach a consensus with many such groups via one written agreement.

The use of the private sector in developing and managing public facilities has been slowly adopted as various techniques of construction, maintenance, and operations have matured. Techniques such as design build procurements have been widely accepted to reduce the delivery time on major projects, and asset-management contracting has been adopted by a growing number of agencies as a method of performing maintenance. These performance-based contractual relationships provide a dependable basis for minimizing long-term maintenance costs while ensuring that facilities are adequately maintained.

Use of the private sector in operations, as well, has evolved and become more prevalent. As computer technology has proliferated, transportation facilities have become instrumented, allowing for more efficient operation. Applications such as electronic toll collection, incident management, and geographic information systems have become commonplace. Further, a general awareness has developed that the operation of transportation facilities is as important as their design, construction, and maintenance.

The private sector has developed many of the technology applications used in transportation facilities today and is involved in their ongoing use. Private contracts are common for traffic management centers, toll-equipment maintenance, and even toll collection. All these factors have led to greater acceptance of private-sector operation of public facilities.

Another factor in the movement toward concessions and in their makeup is the current status of federal transportation programs. Though much of the development of the concession market has occurred at the state and local levels, the federal government historically has set the course for major transportation initiatives. A reauthorization of federal transportation law will occur in 2009 and will likely have some impact on the formulation of concessions.

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In the past, the federal government has promoted the concepts of managed lanes, high-occupancy toll (HOT) lanes, and toll facilities in general. A likely outcome of the next reauthorization will be an expansion of road pricing programs. The interstate system and some control over this, the most important highway system for U.S. commerce, will probably continue to be a particular point of emphasis. Programs have been advanced to encourage, for example, urban systems of HOT lanes, truck-only toll (TOT) lanes, and various forms of congestion pricing.

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become instrumented to optimize traffic flow and improve safety. These activities also lend themselves to private concessions for operation.

The Model to Come

As alluded to in this article's opening, the concession model that will become prevalent in the United States is the one that best fits the context of the country's cultural, political, social, and economic setting. Currently, concessions are arranged as operating agreements in exchange for ownership of the facility's revenue stream for a specified length of time. Alternatively, they are set up as franchises in exchange for the development of a greenfield project.

Although they are not synonymous with privatization efforts in the United States, concessions share some similarities with these efforts, and U.S. experimentation with privatization over the past 10 years may influence the development of a concession model. The privatization experiment has involved several states in what has been essentially a bottom-up approach building upon state statutes and local ordinances. In that time, Virginia, California, and several other states have developed specific statutes for privatization, but few states have realized new privately funded roads as a result. Among them are SR-91, the Dulles Greenway, the Powhite Expressway, and a few others. Central to this discussion has been the concept of a regulated utility.

An important characteristic of the regulated-utility model is that toll rates are set through periodic petitions to a state commission. These state commissions can control toll rates in much the same way public agencies do. In this political process, appointed commission members evaluate the public efficacy of toll rate requests. Their role is similar to that of appointed public-agency board members, at least for the function of toll-rate setting. Further, the hearings for toll rate increases are a public process subject to lobbying by various interest groups.

This is in stark contrast to the rate-setting process for concessions. Rather than being presented in a rate case to a state commission, toll rates in a concession are predetermined through negotiations at the beginning of the concession and are tied to various economic indices. Interestingly, little private equity was attracted to the early privatization projects noted above because toll rates were subject to an approval process that couldn't guarantee that rates would be adjusted relative to economic conditions and thereby generate sufficient profit to attract private capital.

The emerging U.S. concession model will likely develop around a long-term view of partnering between the public and private sectors. Rather than accepting a provision for toll rates that may extend five or more decades, it may be in the interest of both parties to establish provisions for renegotiations. It is extremely difficult to anticipate all the factors that may affect a concession over a 50-year period or longer. If conditions develop that are unfavorable to the concessionaire, the result could be a default. The public entity, meanwhile, must ensure that concession profits aren't exorbitant and don't unduly restrict usage. Without a provision for reviewing the negotiated formula for establishing toll rates on a periodic basis, all assumptions about economic growth, consumer price indices, and traffic projections are fixed at the time of the original concession.

Interestingly, a typical concession term in the European model is usually 15 to 30 years depending on the sector in which the concession is awarded. More importantly, European concessions rarely lack renegotiation provisions. A mechanism must exist that allows either party the opportunity for renegotiations based on conditions outlined in the original agreement.

Europe's toll motorway network is generally owned and/or operated by the public sector. The motorway systems are either fully operated by the public sector or controlled through concession arrangements in which the public sector maintains majority ownership. Of the motorways in Europe, about 30 percent are operated through concessions, and France, Italy, and Spain account for 85 percent of the total length of motorway under concession.

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Not all of these concessions are operated by the private sector. Until France began converting its motorway system to majority ownership by the private sector, most motorway concessions in Europe (75 percent) were managed by the public sector. That is, most of the motorways were owned in the majority by government, even though concession agreements might be in force for the operation of the facility.

Where motorway control doesn't rest with the public sector, concession agreements tend to set limits on toll-rate increases or provide for toll rate increases on a frequent periodic basis. Currently, in Portugal and Spain, a maximum toll charge is specified in the concession contract. In France, toll charges are set under five-year contracts. This, once more, contrasts with the long periods of time covered by U.S. concessions wherein the toll rate is allowed to vary within limits set out in the agreement.

A major factor in the final determination of a concessions model in the United States is that there is a significant need for infrastructure expansion rather than new alignment on existing arterial or interstate highways. This will serve to amplify the importance of a close partnership between the public and private sectors, one that goes beyond a one-time agreement, and will depend even more on efficient maintenance and operations.

In summary, we are faced with a problem and an opportunity. There is general acknowledgment that we are in an unrecoverable position relative to the ability of our current tax structure to meet the capitalization, operations, and maintenance needs of our transportation infrastructure. At the same time, there is an increasing number of financial institutions willing to provide private capital to fill the gap. However, we face a general public perception that if tax dollars have been used to create a transportation facility, there should be no additional charge levied for its use. A clear

demonstration to the motoring public of increased value through tolling will therefore be necessary to gain political support. We have begun this process, and governments at all levels are learning how to partner with the private sector and simultaneously honor their stewardship responsibilities to the citizenry.

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