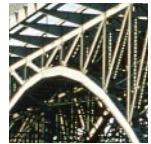


# Finding Appropriate Means to Solve Local Transportation Problems

*By Pamela Bailey-Campbell & Katharine Nees*

As new toll authorities are created around the U.S., they must understand their unique challenges and manage them with unique solutions.



You usually don't have to look further than your rearview mirror to know traffic is bad on America's roadways. Since 1982, the U.S. population has grown almost 19 percent, the number of registered motor vehicles has increased 36 percent and vehicle miles traveled jumped 72 percent, according to the American Road and Transportation Builders Association. During the same period, the nation's road capacity increased by less than five percent.

Today, more than half of the nation's roadways experience significant traffic congestion, according to the Texas Transportation Institute's Urban Mobility Report, with peak periods growing from about 4.5 hours per day in 1982 to about seven hours per day currently.

In order to address these challenges, states are seeking new solutions to manage congestion and meet the demands for new roadways with funding sources outside the traditional state highway funds which are derived primarily from gasoline taxes. As a result,

many states are looking to toll roads and encouraging the creation of new toll authorities to not only increase capacity but also to leverage all available funding. Some State Departments of Transportation (DOT) – like the new Colorado Tolling Enterprise, an arm of the Colorado DOT – are creating new organizations to develop and implement toll roads. Beyond DOTs, many states have passed legislation allowing the creation of new authorities with the power to develop and manage tollways such as the far-reaching regional mobility authorities in Texas.

New toll authorities confront many complex issues as they develop their projects. Financing, in particular, is dramatically different for agencies such as the Ohio Turnpike Commission (founded 1949) than for the Northwest Parkway Public Highway Authority (1999) and Central Texas Regional Mobility Authority (2001).

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The key for the new authorities is to understand the needs of their state or region and leverage that understanding to build a strong financing plan for their projects. Ultimately, there is no single solution to the challenges these agencies face. The variables are too many and the permutations too great to lay out a generic plan that will ensure suc-

cess for all toll authorities. However, gaining insight into key issues of how the authority is owned and governed and considering, in turn, the elements that make up successful financing for a toll authority can help pave the way to the future.

### Different Owners for Different Needs

Who owns and controls a toll project determines in large part the challenges that agency will face. States have come up with numerous ways of authorizing toll projects, sometimes with potentially competing entities within one state. In Texas, for example, toll roads can be built and operated by four types of organizations: the

Texas Turnpike Authority, a department of Texas DOT; regional toll authorities such as the North Texas Tollway Authority; regional mobility authorities such as the Central Texas Regional Mobility Authority; and county toll authorities such as the Harris County Toll Road Authority. In some cases, toll authorities even cross state lines, as with the Port Authority of New York and New Jersey.

Generally, toll authorities can be broken into five types. Each with different advantages and challenges:

*Special-purpose public agencies:* Special purpose agencies whose entire purpose is to develop, build and operate a toll project or projects include organizations such as the Transportation Corridor Agencies in California, the Miami-Dade Expressway Authority and Colorado's E-470 Public Highway Authority. Generally, each agency is regionally based, focusing on a given geographic area and with a board of directors comprised from local government officials and/or business leaders. This model makes for an agency familiar with local issues. And since toll revenues generally stay within the region, it helps the agency effectively communicate the benefits of tolling to local constituents and users.

The authority granted to these agencies varies by state law. The most successful agencies operate under legislation that provides them flexibility and control over such issues as designing the road, obtaining right-of-way, constructing the project and toll rate setting.

*Existing public agencies:* A few agencies – like metropolitan planning organizations and transit agencies – have found themselves managing toll projects though their primary purpose is not building highways. The Metropolitan Transportation Authority in New York is a well-established example of this type of agency; the San Diego Regional Planning Agency (SANDAG) and Orange County Trans-



portation Authority (OCTA) are existing agencies that only recently entered the tolling business. SANDAG, established in 1966, embarked on the I-15 FasTrak project in 1996. It is a high-occupancy toll (HOT) program that sells excess capacity to the drivers of single-occupant vehicles willing to pay a toll on eight miles of high-occupancy vehicle (HOV) lanes on I-15 through San Diego. OCTA recently purchased from the private sector developers and now manages the SR-91 Express Lanes, a project widely known for its innovative congestion management pricing program.

The purpose of these agencies is usually focused on achieving particular public policy goals; tollways are a means to that end. These agencies might emphasize HOT lanes, for example, more to encourage car pooling than to generate additional revenue.

*Divisions of State DOTs:* While some states have had toll authorities for decades (the Maine Turnpike Authority was founded in 1941, the Kansas Turnpike Authority in 1955), others have recently authorized toll authorities within their state departments of transportation.

In 1997, Texas transferred the Texas Turnpike Authority (TTA) to the DOT with the charge to seek the development of toll projects in any part of the state. Louisiana passed legislation in 2001 creating the Louisiana Transportation Authority within the DOT with full power to “promote, plan, finance, develop, construct, control, regulate, operate and maintain any tollway or transit way to be constructed within its jurisdiction.” In 2002, North Carolina established its Turnpike Authority and Colorado created its Colorado Tolling Enterprise, a government-owned nonprofit business operating within and as a division of CDOT.

Toll revenues collected by DOT agencies can often be used anywhere in a state’s toll network. This has both advantages and disadvantages. While revenue from a highly successful toll project can subsidize a struggling one, some communities might resent or even resist their toll dollars going to projects outside of their community.

The investment market tends to perceive these agencies as less risky than standalone toll authorities or private toll enterprises. The thinking in the bond market is that a DOT would not let a toll project fail; indeed, none have as of yet.

Florida’s Turnpike Enterprise provides a case study of how a statewide toll authority can leverage its funding, meet overall state goals and address transportation needs between regions, not just within urban areas. The Enterprise, a division of FDOT, operates the 265-mile Turnpike mainline, which passes through 11 counties from north central Florida down to just north of Miami, as well as nine other tollways around the state. While the original revenue bonds sold before 1989 to fund the mainline have all been paid, bonds issued from 1990 on have been used to finance intrastate highway system projects throughout Florida. By the year 2006, the agency will have added 117 miles of new roads as well as 13 new interchanges and additional lanes on the Turnpike’s mainline through toll revenues and the Turnpike Enterprise’s bonding capacity.

*Private for-profit corporations:* Private toll roads have a long history and are found throughout Europe. However, the idea of a private, for-profit tollway is still an unusual concept to most Americans. Private toll authorities cannot come into existence unless those private investors believe there is enough demand for a roadway or bridge to make the costly investment of planning, right-of-way and construction worthwhile and provide a substantial return on their investments.

Despite these challenges, private corporations often are not stifled by legislative mandates and can significantly accelerate financing, design and construction schedules. Several private projects have been developed in the U.S., with mixed results so far. The highly

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successful SR-91 Express Lanes project was originally completely private, developed by the California Public Transportation Company (CPTC). SR-91 had an advantage in that it added lanes to an existing roadway, eliminating the need to buy land. However, a controversial “non-compete” clause in the company’s franchise agreement prevented improvements that might create competition, causing a sticking point for improvements on the adjacent highway.

The CPTC actually filed a \$100-million lawsuit against the California Department of Transportation over the department’s plans for a \$31 million freeway widening project, claiming it would create competition for the Express Lanes. The suit was settled in 1999. In 2002, an agreement was reached to lift the non-compete clause and sell the toll project to the Orange County Transportation Authority.

The Dulles Greenway provides several valuable lessons for private toll roads as well. The Greenway is a privately owned 14-mile toll road that connects Washington Dulles International Airport with Leesburg, Virginia. Owned by a private consortium, Toll Road Investors Partnership II (TRIP II), opened the road in 1995, but the first years were rocky. Traffic volumes failed to meet expectations, with actual first year traffic only one-third of projected volumes. Extensive government regulation meant many adjustments to the Greenway requiring state approval for such items as raising the speed limit or restructuring the toll fees. In 1996, the roadway was not able to meet debt obligations. However, rapid population growth in Loudoun County has stimulated traffic on the Greenway. TRIP II was able to refinance the debt on the \$350 million project, allowing it to pay off initial investors. The project is now extremely successful with rapidly increasing traffic levels.

*Private nonprofit organizations:* An ownership and financing strategy that attempts to be the best of both the public and private worlds is the private nonprofit corporation. Known as 63-20 corporations after the IRS code under which they operate, these nonprofit organizations act as a vehicle for tax-exempt bond issuance when develop-

ment is occurring outside of an existing public agency. This approach is often used when the project is being developed under private leadership and the public sponsor does not have the necessary powers or wishes the project to be financed “off-balance sheet.” The use of 63-20 corporations for transportation projects is still very new. While the code has been on the books for decades, these organizations have primarily been used for the construction of public buildings such as courthouses, schools and hospitals. The governing structure of a 63-20 company must include a public sponsor and can have both public and private sector representatives.

These 63-20 corporations have unique challenges of liability, accountability and responsibility. Ultimately, the responsibility for the overall transportation network falls to the relevant transportation agency, but the 63-20 corporation is technically independent. Project development and operation is likely to be undertaken almost completely by a private entity. However, the project is not owned by a private developer, eliminating the kind of profit incentives that stimulate long-term, entrepreneurial, customer-serving behavior. Since the project is not under the direct control of either the government or a private corporation, all parties involved need to pay careful attention to the actions of the corporation and their own contractual rights and obligations.

While many have considered the use of 63-20 corporations for toll roads, few have actually been created. The Pocahontas Parkway (Route 895) in Virginia is one operating 63-20. The public sponsor for the roadway, the Virginia DOT, decided to take the 63-20 approach to access new sources of capital and avoid the limitations placed on debt issuance by the Transportation Board, including legislative approval and the constraints of the Commonwealth’s overall debt capacity limits. The Pocahontas Parkway Association was formed in 1998 and issued \$354 million in tax-exempt toll revenue bonds.





## Elements of a Successful Finance Strategy

Once a new toll authority understands the opportunities and limitations of its ownership and governance structure, the organization must pull together all of the elements needed to create a successful financing structure. Different solutions will work for different agencies depending on their situation. However, gaining political support, building revenue support and ensuring risk mitigation are all important elements to a strong financial structure.

*Political support:* Without the support of local and state officials and the public as a whole, toll projects have little chance of moving off the drawing board. During the financing process it is essential to demonstrate solid support for the project and the ability to mitigate opposition.

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Support comes in many forms. If a community is behind a toll project, local landowners will be more willing to donate land for right-of-way. Local cities and counties may pay to move their own utilities. Private investors look at the positive

headlines about the project and are more willing to take the risk. However, without support, projects get bogged down in delays and diversions.

When support is missing, a variety of negative results can occur:

- Without the backing of the state DOT, projects can find themselves missing critical connections to the rest of the transportation network—this was part of the challenge facing Camino Colombia, a privately financed tollway in Laredo, Texas.
- Lack of coordination of economic development plans with transportation plans can result in closed corridors or more costly right-of-way.
- Other financing mechanisms such as tax-increment financing and highway or development impact fees will not make it past the planning stage if local agencies are not on board.

Community support is particularly critical if environmental issues become a factor. Today, less land is available for transportation projects, pushing many of them into environmentally or economically sensitive areas. At the same time, environmental enforcement is growing stricter and public awareness greater. If federal money is involved, the project must undergo the environmental permitting process, which often means extended timelines. Even if federally mandated environmental permitting is not required, without the support of state and local agencies, this process can be time-consuming, costly and even result in project-halting legal action.

Building strong relationships within the community is particularly important for new toll agencies, which do not have a track record. The agency board and staff need to create connections with local government officials, city council members, county commissioners, state representatives and regional leaders. They also need to befriend the media and make the case for the project. Negative headlines make the bond market nervous. Fundamentally, the public must see the clear value of the roadway.

*Revenue support:* While it is a rare event for a toll road to fail to make timely payments to bond holders, the fact is that most revenue financings are secured only by specific revenues and not the “general obligation” of the state or other public entity. This means that the most critical aspect of these financings is demonstrating reliable revenue projections. Ultimately, projections are just that—no one can see into the future.

This makes it imperative for traffic demand studies to be conducted as rigorously as possible with an independent traffic and revenue consultant who is a demonstrated expert in that field.



Experience shows us that there are some common characteristics of projects that meet or exceed their toll revenue projections. These include:



- **Congestion.** There is substantial existing traffic in the corridors surrounding the project. Basically, the project must meet a strong underlying transportation need in the community.
- **Connections.** Necessary transportation network connections are in place or funding is guaranteed for completion. A toll road is useless if drivers cannot reach it. This is a problem more for private or special purpose toll facilities, than state-controlled authorities, which naturally focus on roads within the state's overall network.
- **Competition.** The competitive alternatives are either non-existent, inconvenient or congested. Toll roads are not a case of "if you build it, they will come." If drivers have a free, feasible alternative to a toll road, most will take it. This problem plagued both the Dulles Greenway and Camino Colombia. This challenge is particularly great for HOT lanes, which, by their nature, operate alongside existing roadways. The need must truly be present for drivers to switch their behavior and use a toll facility.
- **Value of Time.** The value of time is a key indicator for setting toll rates. The worth is impacted by both income of the user and the type of trip they are making.
- **Development.** Development projections are particularly challenging. If the project is going into an area with little development or anticipated high growth, an independent economic consultant should be on board to formulate population, household and employment projections.
- **Ramp-up.** One area that is often misdiagnosed is ramp-up. When a new facility is put in place there is a certain learning curve while the public starts to change their driving patterns. This ramp-up period is normally not a matter of months but years. If the length or steepness of the ramp-up is underestimated it can have a material impact on the revenues available

to make debt service payments. This is a particularly tricky issue where new toll roads are being introduced into communities and there is not a historical pattern to rely upon.

*Risk mitigation:* Toll projects will always be risky—no one can guarantee their success. But it is not just the risks of meeting toll revenue projections. In order to secure the financing for a toll project, two key elements must be covered to complete the construction phase:

- **Right-of-way.** To meet time schedules and complete construction on time, toll agencies count on the necessary right-of-way being available when they need it and for the expense estimated. If negotiations with owners take too long or the land costs too much, project success is threatened. Proper planning and the appropriate powers of eminent domain are essential to provide the necessary comfort levels to secure financing.
- **Construction.** Construction always poses a risk in terms of cost overruns, schedule delays, excessive change orders, etc. If the toll project is without additional revenue sources, financing requirements dictate a construction contract that has a guaranteed fixed price and a single source of responsibility. This can be accomplished by using the design-build delivery method as a construction risk mitigation approach. In addition, when a project can only repay its debt after revenue collection starts, it is imperative that the construction contract also provide guaranteed completion dates and significant penalties for failing to meet those dates.

*Strong financial structure:* A variety of financing approaches are available today to help get projects on the ground, and most toll agencies will need to assemble a structure unique to their needs. Federal interest in toll roads has sparked the creation of several new funding mechanisms to assist in making projects feasible. Different states have passed legislation authorizing different options. The following strategies are being used in combination with toll-backed revenue bonds to create successful financing strategies.



- **TIFIA loans.** The Transportation Infrastructure Finance and Innovation Act (TIFIA) of 1998 expanded the role of federal credit by enabling the U.S. DOT to provide up to \$10.6 billion in credit assistance through direct loans, loan guarantees and standby lines of credit. TIFIA helps advance expensive projects that otherwise might be delayed or deferred because of size, complexity or uncertainty over the timing of revenues. The purpose of the TIFIA Program is to help projects gain market access through the provision of secondary or subordinate capital. One of the most valuable aspects of the TIFIA program is its role as a flexible and patient investor.

TIFIA loans work well for tollways since toll revenues in the first years of a project can be unpredictable. TIFIA loans can have lengthy payback periods (up to 30 years), and the first principal and interest payments can be deferred for up to five years after a project's completion. Currently \$3.5 billion in TIFIA loans have been issued for projects including \$140 million for the SR 125 Toll Road in San Diego and \$917 million for the three Central Texas Turnpike projects in the Austin area.

- **Section 129 loans.** Section 129 loans allow states to lend apportioned Federal highway funds to transportation projects with dedicated repayment sources such as tolls. Like TIFIA, Section 129 loans can be made subordinate to debt service payments on revenue bonds, enabling these senior bonds to secure higher ratings and better investor acceptance.

Financing for the President George Bush Turnpike includes a low-interest, long-term Section 129 loan for \$135 million of the project's total \$940 million cost. The loan ensured the affordability of the project's senior bonds as well as enabled the project to be completed at least a decade sooner than would otherwise have been possible.

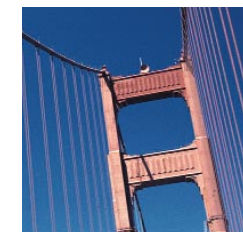
- **SIBs.** State Infrastructure Banks (SIBs) provide flexible transportation funding in the form of loans, lines of credit, loan guarantees and other non-grant assistance. As loans are repaid, the SIB's capital is replenished and can support new projects.

As of March 2004, 32 states have authorized SIBs, entering into 373 loan agreements with a total value of \$4.8 billion. Florida, for example, has both a federal-funded and a state-funded SIB which together have contributed toward almost 50 projects ranging from the purchase of trolleys to the construction of major interchanges.

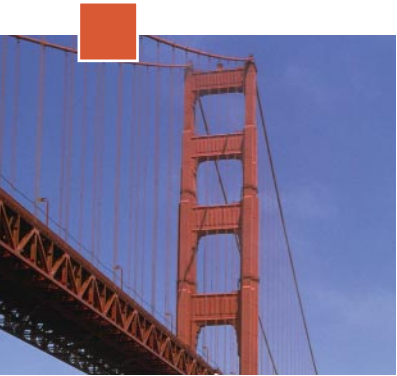
- **Shadow or Pass-through tolls.** A repayment approach rather than financing mechanism, shadow or pass-through tolls are per-vehicle amounts paid to a facility operator or sponsoring government entity not by users but rather by another source such as the state. Shadow tolls spread out the payment for a transportation project over a set period and place the initial financial responsibility on the developer/operator, often a public-private partnership.

Texas embraced pass-through tolls in House Bill 3588 of 2003, which provides reimbursement of per-vehicle fees to regional mobility authorities by TxDOT for construction of state highways or as compensation for the cost of maintaining toll facilities.

- **Impact Fees.** Impact fees seek to charge those who benefit from transportation projects for their construction and maintenance. These approaches tax new development surrounding the project. Financing for Colorado's E-470 in suburban Denver, a 50-mile beltway around the eastern Denver metropolitan area, includes a Highway Expansion Fee imposed on new construction within 1.5 miles on each side of the corridor. The fee is designed to address the amount of new traffic a development will place on the highway.



- **Start-up Financing Challenges.** In financing toll projects, debt payments are matched to the revenue stream. Therefore, if no revenue is possible in the first several years of the project while design and construction are underway, a start-up project must borrow funds for any debt payments required during that time. Even more challenging are funding project development costs for new authorities, since they lack the revenue of existing toll projects to fund new ones. Some other type of funds must be found to hire staff, pay consultants and conduct the environmental process. It is often necessary to create “success fee” arrangements where private developers fund these up-front costs and then are repaid with a premium at financial closing. Texas’ approach with its new regional mobility authorities is for TxDOT to help fund engineering, project start-up costs and construction. Other toll authorities have worked with local governments, who chipped in start-up funds or used other revenue sources such as development impact or vehicle registration fees.



New toll projects require higher coverages and contingencies for their projects. Coverages are requirements of the bond market to demonstrate higher income than needed to service the debt; a coverage ratio of 1.3 would require the toll authority to have net revenues (after operations and maintenance expenses) of 30 percent more than their debt service. Existing, proven toll authorities could have coverages as low as 1.15, while new projects will most likely face numbers in the 1.7 – 2.0 range. That means the new entity must generate significantly more revenue than an existing agency.

Other risk mitigation strategies that must be included in the financing plans include additional reserve funds and contingencies. These are also more stringent for new entities. Reserve funds may either be funded with borrowed proceeds (such as Debt Service Reserve Funds) or funded over time (such as Operating or Maintenance Reserves.) Contingencies are funds

placed aside during construction in case of unexpected costs. New authorities must have contingency fees as high as 10 percent of their entire capital costs.

## Alternative Financing and Public-Private Ventures

Tollways provide funds for transportation projects, but the tolls only start rolling in after the project is constructed. Millions if not billions of dollars must be spent to get to that point. To get over the start-up hurdle of planning, design, permitting, right-of-way and construction, communities are also turning to a combination of public-private ventures and alternative financing mechanisms.

One role of public-private partnerships is in project delivery methods. The SH130 project of the Central Texas Turnpike, for example, is being delivered under an experimental public-private comprehensive development program in which TTA contracted with one entity (Lone Star Infrastructure LLC) to oversee everything from construction and design to potentially operations and maintenance. As a tollway project, the turnpike is financed from a variety of sources: tolls, state highway funds, community contributions and a TIFIA loan. The Northwest Parkway Public Highway Authority in Colorado partnered with the private sector to provide the funds to develop their project and bring it to construction in record time. Also, as a start-up project with only tolls available for debt payments, the Northwest Parkway required a quick turnaround design-build contract with a guaranteed price and completion date in order to secure their financing.

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## The Forward March of Toll Projects

The move toward tolling seems irrevocable. Barring a new political environment in which fuel or other taxes could be significantly raised, new revenue sources must be found for transportation.



Other creative funding approaches have been proposed—including one in Oregon for cars to pay a fee for their vehicle miles traveled along with their gasoline—but most seem years away. No one formula for the ownership and management of toll projects seems to be rising above the rest—numerous strategies are being adopted around the country to meet the unique needs of each region. Project managers and authority boards must understand and address the opportunities and constraints, risks and rewards of their own form of agency.

Similarly, no single approach to project financing will work for every project. The politics, revenue sources, and finance strategies for each toll project must be worked out under local conditions. In fact, the primary key to success will lie in thoughtful development of policy objectives that meet the public needs and implementation of a combination of approaches and tools that deliver a cost-effective project on the quickest timeline. Not a simple task but one that can go a long way to solving our transportation problems.

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