Toll project development and finance
An emerging solution for generating revenue

Transportation owners are experiencing considerable challenges in delivering critical new capital projects due to the uncertainty of the funding environment and the increasing maintenance needs of the existing system. Quickly it is becoming apparent that traditional tax-based funding methods cannot deliver all of the large-scale projects that our infrastructure network needs. To replace aging facilities and increase capacity, we must find and leverage additional funding sources. User fees, such as tolling, are emerging as a key solution for generating the revenue necessary to deliver large projects.

Toll finance options

Just as transportation owners have a variety of options to establish and operate a toll facility (express lanes, managed lanes/high-occupancy toll lanes, congestion pricing, all-electronic tolling and open road tolling) they have equally as many options to finance the toll facility. The type of toll facility, its revenue-generating potential and its partnership ability with other municipal entities help define its financing structure. While owners also can choose to finance a toll road with public tax-supported debt or public-private partnerships, this paper will focus on the more common form of traditional tax-exempt toll revenue financing. The common toll financing options include:

- Single asset or system approach — The facility can be financed as a single entity, where all revenues must remain on the facility, or with a system approach, where revenues from multiple facilities are pooled and financed together.

- Net or gross revenue pledge — A toll project financing can be structured to pledge to bondholders all net project revenues once the operations and maintenance costs are funded. Or it can pledge to bondholders all gross revenues collected. The net revenue pledge structure is truly a stand-alone (non-recourse) financing because the project must support its own costs before repaying its debt service obligations. The gross revenue pledge contains a commitment from a credit-worthy source, usually the state department of transportation, that it will pay the operation and maintenance costs of the facility if toll revenues are insufficient to cover debt service and operations and maintenance. Because the gross revenue pledge allows more revenue to flow to bondholders, it is able to achieve more upfront bonding capacity.

Toll project development steps

After a transportation owner identifies a project that it believes has sufficient traffic or congestion to sustain a toll facility, the next step is to evaluate its revenue potential. Initial project screening can be performed using a sketch-level traffic and revenue analysis to evaluate its high-level potential. As projects warrant a more in-depth look, a feasibility study can be commissioned from experienced toll professionals to analyze the financing capacity and feasibility percentage of the project based on forecasted revenue, capital costs and ongoing operations and maintenance expenses.

Public policy decisions also should be explored as environmental clearances and design continue in tandem with refinements to the revenue and cost forecasts. Toll facility type, business rules, legislation, toll operations, toll collection methodology, toll rate setting methodology and community outreach are critical factors that will impact the revenue, cost and financing capabilities of the facility.

Levels of traffic and revenue sophistication

Traffic and revenue forecasts and reports have several degrees of level-of-effort and complexity, and the distinction from one level to the next often can be unclear as the services can be somewhat mixed-and-matched. Sketch-level analysis is rudimentary and does not require sophistication while an investment grade report has sufficient complexity for rating agencies and investors to grade and structure debt against the forecast. The selection of the appropriate level should mirror where the project falls in the overall development cycle. For instance, a level 1 or 2 study can help an owner decide the relative feasibility of a project and help determine if the project should be advanced to the more detailed phases. The investment grade report is meant specifically for a project approaching financing.
and has a shelf life of approximately six months before it needs updating.

- **Preliminary level 1** – A broad-brush/fatal flaw investigation into revenue potential and implementation opportunities. This study provides data to support a decision to advance the project’s analysis as a toll or priced project.

- **Intermediate level 2** – Basic understanding of the forces of pricing along the study corridor. This study provides a general understanding of the magnitude of the toll revenue stream and traffic composition but is limited by the tools and data sets available.

- **“Enhanced” level 2** – Thorough understanding of the forces of pricing on the operations of the study corridor, as well as supporting and competing facilities. This study often uses a more sophisticated traffic model and can incorporate an origin and destination study, a stated preference survey and demographic analysis. Sensitivity and risk analysis also can be introduced.

- **Investment grade** – Sophisticated analysis from a reputable source that meets the expectations and scrutiny of financial market participants. The report is the vehicle to support a toll project revenue financing.

**Toll financing structure**

Toll revenue financing is a type of project finance that is substantially different from typical municipal debt programs and structures. A pure project financing does not have any outside revenue or credit support and is “non-recourse” to any sponsoring public partner. The debt for toll project financing tends to be issued with a longer final maturity (up to 40 years) and is back-loaded to align the debt with the increasing projected revenue stream. The debt is sculpted to maximize the revenue forecast and provide as much upfront bond proceeds as the market will allow. Because the goal of project financing is to generate sufficient proceeds to fund a facility’s development costs, they tend to be highly leveraged and carry lower credit ratings.

Startup toll facilities usually are rated in the BBB category, which is at the bottom of the investment grade spectrum. Startup toll roads are lower rated because they typically have construction (schedule and cost) risk, revenue ramp-up risk and rely on forecasted cash flows.

Toll projects typically use more than one debt product. Bonds sold in the capital markets are the most common form and a federal TIFIA loan can offer additional enhancements to a financing. Brief descriptions of the bond products follow:

- **Current interest bonds** – CIBs are the most common form of bonds. Interest is paid semiannually. If CIBs are used for a startup facility that requires upfront construction, the interest during the construction period must be “capitalized” or borrowed upfront as part of the bond proceeds to bridge the period until revenues commence.

- **Capital appreciation bonds** – CABs, also called “zeros”, do not pay interest on a regular basis but rather “accrete” (grow) the interest and pay it upon maturity of the bond. For this reason, CABs are sold at a deep discount (below the traditional $100 par price) because the investor is owed principal and interest upon maturity. CABs are common in project financings to maximize the amount of debt that can be issued because revenues are constrained during the ramp-up phase but grow over time.

- **The Transportation Infrastructure Finance and Innovation Act** – The TIFIA program enables the U.S.DOT to offer credit assistance to large projects of regional and national significance through a competitive application process. TIFIA assistance is most commonly in the form of a direct loan and offers attractive terms and flexibility to more efficiently finance projects. TIFIA credit assistance can fund up to 33 percent of the project’s total development cost and contains a maximum term of 35 years. The TIFIA loan rate is fixed for the life of the loan at the 30-year Treasury rate and offers flexible repayment terms*. The attractive loan rate combined with the U.S. DOT’s willingness to offer the TIFIA loan on a subordinate lien (project revenue bonds can occupy the senior lien and achieve higher ratings) provides a greater amount of debt and upfront proceeds for a project. The federal government acts as a “patient lender” with regards to repayment terms and also allows for a deferral of interest for five years while a project matures and advances beyond the ramp-up period.

**Toll bond covenants**

Project revenue bonds have a specific asset’s revenue stream pledged to pay back the bonds and have volume/demand/traffic revenue risk that rely on professional third-party reports to forecast. Because these revenues tend to be riskier than bonds backed by a general obligation or sales taxes, bond covenants are critical to protect the investor’s interests. A few key terms are discussed below:

- **Coverage ratio** – A calculation of annual revenue divided by annual debt service. Higher coverage ratios are required for projects with higher perceived risk. A debt service coverage ratio of 1.0x, for example, would not leave any room for uncertainties should they
arise. However, with a 2.0x ratio, ($2 of revenue for every $1 of debt service), revenue could drop by 50 percent and the agency still could pay off its debt.

• **Rate covenant** – A covenant that requires the toll owner to increase toll rates if coverage levels fall below the stated point. Rate covenants are intended to protect investors by mandating owners generate revenue sufficient to pay debt service.

• **Additional bonds test** – The ABT governs future bond issuance and requires the owner to certify after a new issuance of bonds that the stated minimum coverage level is met.

A project’s rating largely will depend upon the characteristics of the facility, as well as the structural covenants above.

**Toll project implementation**
The development of a toll project frequently is a multistage, multiyear process with the policy and operational decisions defining the financing and implementation. Toll projects increasingly are gaining the public’s acceptance as tolling is becoming a primary delivery mechanism for new capacity and traffic management.

Most new toll projects cannot deliver the upfront proceeds to support their total development and construction costs solely through a toll project financing. A public subsidy of some form typically is necessary to supplement the toll revenue financing and complete the financing package. This subsidy can come in the form of upfront capital during construction, annual monetary payments, operations and maintenance support or credit enhancement. Credit enhancement raises the credit rating of the toll revenue financing and involves a pledge of a governmental entity to provide support and contractual assurances to bondholders that it will provide assistance if toll revenues are insufficient.

Collaboration between the sponsoring toll authority and other governmental agencies (local, state and federal) is critical in funding a project. It also can be advantageous to have an additional public official as a project champion outside of the sponsoring toll agency to assist with partnerships because most of these financings use multiple funding sources.

* Actually based on the 30-year State and Local Government Services (SLGS or slugs) Treasury Rate.

**Additional resources**
For more information about the TIFIA program and other innovative financing solutions, contact:

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**United States Department of the Treasury**

**TIFIA**
http://www.fhwa.dot.gov/ipd/tifia/

**AASHTO Center for Excellence in Project Finance**
http://www.transportation-finance.org/

**Federal Highway Administration**
Innovative Program Delivery
http://www.fhwa.dot.gov/ipd/

**International Bridge, Tunnel and Turnpike Association**
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