

Commission Briefing Paper 5A-15

Evaluation of Private Investment and the Potential for Public-Private Partnerships for Highways, Transit, Freight Rail, and Intermodal Facilities

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Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the state-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

This paper summarizes information available on the potential for private investment through public private partnerships (PPP) in highways and transit, the potential for PPPs and direct public investment in freight rail and intermodal facilities, and an evaluation of private investment capital as a transportation revenue source.

Key Findings

- Not all public private partnerships (PPPs) involve private sector capital investment, but there is increasing interest on the part of the private sector in the potential for public infrastructure investment, including highways and transit.
- Public private partnerships do not generate new sources of revenue in and of themselves, since they require an underlying revenue stream such as tolls, fuel taxes, or other revenues that could be available to the public sector as well as the private sector. PPPs do, however, generate upfront cash that may allow projects to be accelerated and that preserves public borrowing capacity.
- There are many other potential benefits of PPPs in addition to new investment capital including efficiencies in coordinating design, construction, maintenance, and operation functions, broader experience in managing complex projects, more efficient allocation of project risk, and partial isolation from political processes.
- Highway capital investment is still dominated by public funding, but since 1993 approximately \$26 billion of investment in 44 major highway facilities nationwide has been accomplished using various public-private templates.¹ More than \$17 billion of the PPP total investment in major highway projects represents user-backed (tolls and fares) project financing, or over a quarter of the total "private" investment in U.S. highways during that time.
- There have been a number of examples of private capital being brought into transit funding and financing schemes. Among these have been private equity interests

¹ Public Works Financing, U.S. Transportation Projects Scorecard (through September 2006).

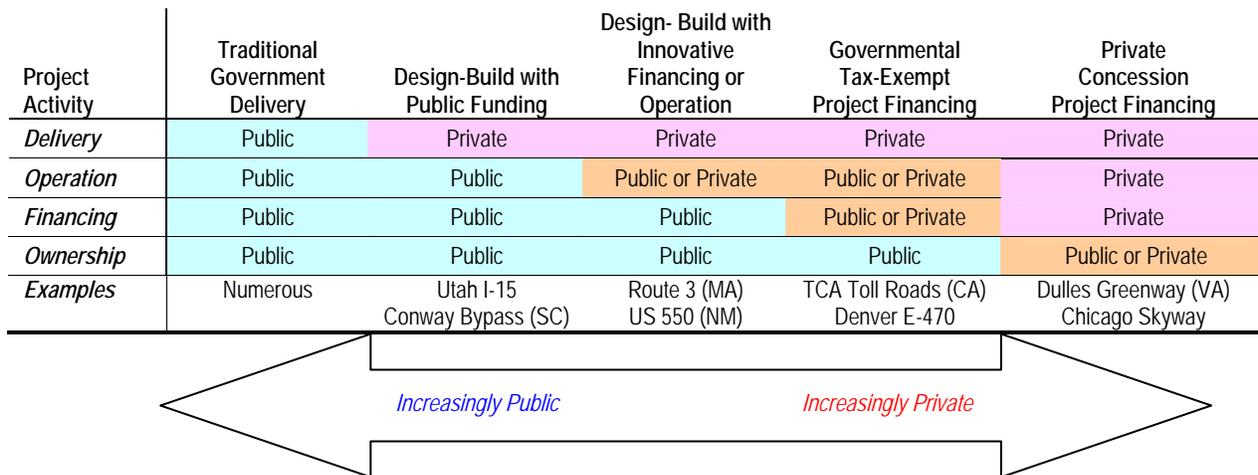
incorporated within design-build-operate-maintain (“DBOM”) type public-private ventures as well as other examples of direct private financial involvement. Joint development is another PPP example where the federally-funded property (e.g., light rail station) is jointly used for transit and private development.

- Freight rail and intermodal facilities have the potential to use both PPP and direct public investment to leverage and manage their assets.
- The potential contribution of private capital to overall transportation financing remains uncertain. Currently it has been estimated that private financing represents only 3-4 percent of total highway capital investment, but that percentage can be expected to increase, even if other sources of revenue increase.

Private Investment through Public-Private Partnerships

Public-private partnerships (PPP) are contractual agreements formed between public and private sector parties, which allow more private sector participation than is traditional. The agreements usually involve a government agency contracting with a private company to renovate, construct, operate, maintain, and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party generally is given additional discretion in determining how the project or task will be completed.² Different PPP arrangements can be thought of as extending along a spectrum, from traditional governmental sponsorship at one end to essentially private provision of transportation infrastructure at the other. Figure 1 displays these arrangements in five basic categories: Traditional Government Delivery, Design-Build with Public Funding, Design-Build with Innovative Financing or Operation, Governmental Tax-Exempt Project Financing, and Private Concession Project Financing. Although not every P3 arrangement and corresponding project fits neatly into this simplified template, it is a useful way to consider the types of service provided by a PPP.

Figure 1 Spectrum of Public-Private Partnerships



Source: Mercator Advisors

This paper deals only with those PPP arrangements in which the private sector is an active participant in helping to finance projects. Financing may be in the form of either privately issued debt or private equity investment. Under other PPP arrangements, the private sector generally is

² US Department of Transportation (2004). Report to Congress on Public-Private Partnerships. Washington, DC.

paid a fee by the public sector for its services. There is no new capital generated, although other benefits of private sector involvement may be substantial.

Concession Financing

The most common form of private sector highway financing is the concession. Concession financing typically combines private equity investment and interim debt financing in the form of bank loans and/or revenue bonds to carry a project through construction and revenue ramp-up. The private sector is granted the right, through negotiated partnership agreements, to collect tolls and other project-related revenues for an agreed upon period of time. Increasingly, financial intermediaries are assembling mutual funds as the preferred vehicle to raise investment capital. In this way, participating mutual fund investors pool their risk based on the performance of a portfolio of projects. This contrasts with the municipal bond model, where investors face individual project risk in terms of full and timely debt service payments throughout the project financing period.

Private equity and taxable debt under a concession approach may require higher nominal returns than tax-exempt debt; yet private sponsorship can bring advantages in the form of development expertise and greater flexibility in structuring the plan of finance to accommodate the projects' revenue profile. For example, as we have recently seen with the Chicago Skyway and the Indiana Toll Road, a capital structure involving private equity and taxable debt may be able to monetize a larger up-front sum from a given revenue stream than a 100 percent municipal bond approach. Municipal bonds, unlike bank debt, generally require an investment grade rating and are therefore more volume-constrained by the debt service coverage levels that the project must demonstrate.

Simply put, the rationale for using concession-type approaches lies with the revenue/risk profiles of the projects being financed. Large, start-up toll projects tend to face significant construction and revenue ramp-up risks. But in the long run, these projects generally are able to generate net revenues in excess of operating and maintenance requirements. The more flexible and patient capital provided through private concessions may better match these project financing profiles than conventional municipal debt capital.

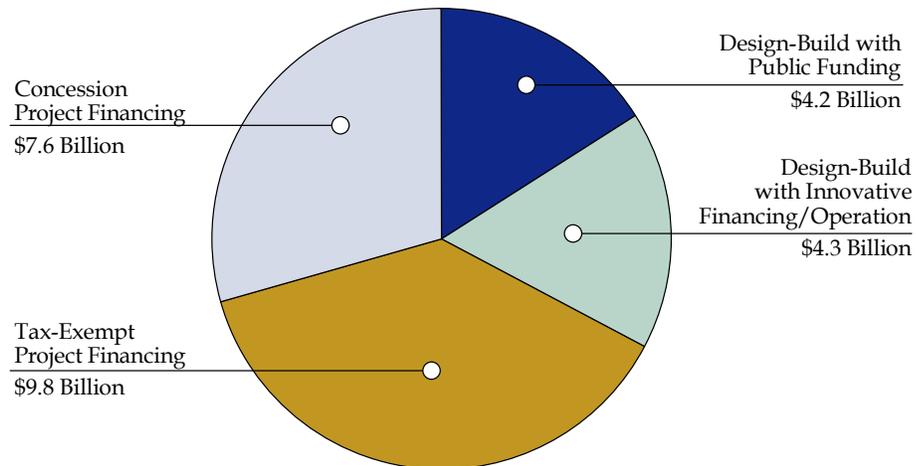
Recent History of Highway Public-Private Partnerships

Despite the visibility of several large, high-profile, toll-backed project financings in recent years, highway capital investment in the United States is still dominated by traditional public funding. While the ability of PPPs to significantly address funding shortfalls on a nationwide scale may be limited thus far, their use in advancing particular projects, such as major corridors and urban connectors, is growing. Figure 2 summarizes PPP activity since 1993 for major highway projects costing in excess of \$25 million each and highlights the distinction between public and private revenue sources.³ Nationwide, some \$26 billion of investment in 44 major highway facilities has been accomplished since 1993 using various public-private templates. Not all of this investment came from the private sector, however. The states of California, Florida, Texas, and Virginia are leaders in this field, having accounted for nearly half of the total dollar volume (\$11.2 billion) through 19 major highway PPP projects. More than \$17 billion of the PPP total

³ Public Works Financing, U.S. Transportation Projects Scorecard (through September 2006).

investment in major highway projects represents user-backed (tolls and fares) project financing (\$9.8 billion in tax-exempt project financing and \$7.6 billion in concession project financing), or over a quarter of the total “private” investment in U.S. highways during that time.

Figure 2 Major Highway Public-Private Partnerships, 1993-2006*



* As of September 2006
Source: Public Works Financing.

PPPs appear to be particularly well suited for large, complex projects with acknowledged need and strong governmental support. However, they also may be used for smaller projects such as interchange improvements where private landowners may help with financing and right-of-way acquisition or long-term maintenance contracts. A key component of potential projects is a definable revenue stream that can be forecasted and linked to a project with an expected useful life. Attractive projects include conversion of existing toll roads or conversion of HOV lanes to high-occupancy toll (HOT) lanes, new capacity projects in high-growth, low population density areas, and express lanes built in existing rights-of-way. The projects that lead to congestion relief are by far the easiest to deliver through a PPP.

Recent History of Transit Public-Private Partnerships

There have been a number of examples of private capital being brought into transit funding and financing schemes. Among these have been private equity interests incorporated within design-build-operate-maintain (“DBOM”) type public-private ventures as well as other examples of direct private financial involvement.

- The 5.5 mile extension of the Portland, OR MAX light rail system to the airport involves a \$28 million direct investment by a development company in exchange for a long-term lease on 120 acres around a transit station. A consortium of five private companies has contributed \$50 million as part of the DBOM development of 6.4 km of the Las Vegas Monorail for the non-profit Las Vegas Monorail Corporation.
- A consortium of two private firms designed, built and operates the Hudson-Bergen light rail system for NJ Transit under a 15 year fixed-price operating contract.

- The DBOM approach was used in the NJ Transit River Line Light Rail system, as well as the JFK Air Train Light Rail System and the Newark, NJ Air Train Light Rail System carried out for the Port Authority of NY/NJ.

Another example of PPP in the transit sector involves transit-oriented development including joint development where the federally-funded property (e.g., light rail station or multi-modal terminal) is used for both transit and for private development. During the 1980's over 100 projects involving development of air rights above transit stations were undertaken. Between 1990 and 2004, over 110 projects of various sizes were planned or executed. Currently, the private development market in Phoenix, Arizona is planning \$1 Billion in investment around the light rail line that is being built.

Overseas experience with “private finance initiatives” has shown that substantial cost savings and service improvements may be possible through private operations. Private sector participation does not make transit self-supporting, but it can reduce the required level of government subsidy. Financing transit projects involves the commitment of current or future streams of revenues from various traditional and non-traditional sources to support the borrowing and investment necessary to undertake and speed the development of transit projects. To that end, common PPP mechanisms used to enhance public transportation investment are bonding and loan programs.

Potential for Public-Private Partnerships and Direct Public Investment in Freight and Intermodal Facilities

The ability of our nation's transportation system to provide for and maintain the efficient movement of freight is important to the continuing economic health of the United States. The nation's freight movement capability is provided by an interwoven, intermodal combination of public and private assets and resources. For example, apart from some publicly-owned short lines, the rail industry is privately owned and operated, and historically most railroad capital investments have been made from the constrained resources of the industry itself. Most US non-container ports are privately owned, while most US container ports are publicly owned. Trucking is a private industry, but the infrastructure required to move goods by truck is owned and financed, for the most part, by the public sector.

Governments at all levels have a critical interest in the health of the freight transportation network due to its contribution to local, state, regional and national economic growth and productivity. There has been increasing discussion over the last several years about government's role in financing freight-oriented improvements, including investments in private infrastructure where there is a public benefit and, conversely, private sector investment in public infrastructure where, once again, a public benefit is identified.

Freight rail and intermodal facilities have the potential to use both PPPs and direct public investments to leverage and manage their assets. In the case of freight investments, PPPs may be desirable for project implementation for several reasons. First, the private sector is heavily invested in freight transportation, whether through ownership of infrastructure, by facilitating the movement of goods, or by depending on the transportation system to move materials and finished products. Second, there are a variety of restrictions on the use of public funds for freight rail improvements. Third, the efficient movement of goods is important to both the

private and public sectors. Overall, the creation of partnerships can facilitate freight investments by leveraging scarce resources, and accelerating the benefits realized through these investments.

However, state and local governments typically have limited experience with financing freight improvements. Most freight projects to date have been delivered in the form of highway improvement projects, often requiring unique blending from multiple sources of funds and involving public-private partnership arrangements. Rail and intermodal improvements can be even more complicated. These projects often require specialized finance skills not typically available within State departments of transportation (DOTs), metropolitan planning organizations (MPOs), or local governmental units (i.e., county, city, town, etc.).

In terms of funding/financing schemes specifically for freight rail infrastructure projects, PPP projects can be grouped in the following categories:

- The public sector provides funding up-front through grants and loans and the private sector pays the loans back through user fees. Examples of successes: Sheffield Flyover/Argentine Connection, Ohio Southern Railroad Project, Shellpot Bridge.
- Investment fully paid by the public sector and the private sector provides in-kind contributions. Example of success: North Carolina Railroad Improvement Program.
- Joint public-private funding where funding shares are determined by the benefits realized by each sector. Example of success: Chicago CREATE.
- Joint public-private funding where the funding shares are determined through agreements between partners. Examples of success: Seattle FAST Corridor, Reno, Nevada, ReTRAC.
- Concessions (private sector financing and ownership). Example of success: Texas Pacifico Rail Line.
- Operations and Maintenance or warrants by private sector.

The Alameda Corridor is perhaps the best example of the potential for public-private partnerships to improve rail service to the benefit of both the public and private sectors. This freight rail project in Southern California used project revenues in the form of container and use charges to secure revenue bonds and a TIFIA-type Federal loan. Some believe the Alameda project has a relatively unique ability to capture the economic value of the infrastructure development due to the large volume of ocean-borne freight that moves that corridor. However, a different project demonstrated the PPP potential in freight infrastructure. The Shellpot Bridge rehabilitation project reinstated a freight rail connection between the Port of Wilmington, Delaware and Norfolk Southern's (NS) Edgemoor Yard and rail system. The Delaware DOT provided a \$5 million grant and an \$8.9 million loan to NS for the bridge replacement project. The payment agreement requires NS to make payments based on the number of rail cars using the bridge, with guaranteed minimum annual payment over a 20-year period. The guaranteed minimum would ensure a minimum payback of 50 percent of the loan. Payback has been faster than forecast.

Evaluation of Private Investment Capital as a Transportation Revenue Source

A major investment bank recently estimated that there is over \$200 billion of private capital currently available for investment in U.S. infrastructure projects such as toll roads, rail, airports, energy, water / wastewater and telecommunications.⁴ In the transportation field, this increased role will likely take one of two public-private partnership forms: long-term private concessions or leasing of existing assets and the construction and operation of new revenue-generating assets by private consortia. However, it will be difficult to put that money to work in the surface transportation sector without a robust pipeline of viable investment opportunities with available revenue streams to leverage this private capital.

The potential contribution of private capital to overall transportation financing remains uncertain. In a recent study, several highway financial experts were asked to evaluate the potential of PPP as a future revenue source⁵. Of those that provided an estimate (most were reluctant to do so), the percentage of capital programs with private sector involvement beyond the conventional design build ranged from one to five percent. In contrast, there may be considerably more potential for a DBOM-type approach where annual availability payments are funded from traditional state highway sources. The National Chamber Foundation report, also concluded that innovative finance tools such as PPPs can play a niche role in stimulating additional investment, but will not directly generate significant new revenue.⁶ Although the future potential and role of private investment capital is evolving, the ability of PPPs to enable projects to be built today is extremely valuable.

Barriers to Private Investment in Transportation

Transportation providers, policy makers, and project sponsors in many parts of the country are seeking to better understand PPPs, especially their potential to supplement existing sources of investment capital. But the use of PPPs for transportation in the United States is still evolving, and many would say it is still in a stage of infancy. An evaluation of PPPs across the nation reveals that several potential barriers need to be addressed:

Political and Public Support: Political and public support for PPPs (or any other type of project) is essential. However, many state and local elected officials are wary of tolls and private (especially foreign) ownership of transportation facilities. While polls show that drivers generally prefer tolls to increases in the fuel tax, there still is resistance to tolls in many parts of the country. Education of both political leaders and the public is important to create understanding and support for PPPs.

Statutory Authority: As of August 2006, fewer than half the States -- 21 states and Puerto Rico -- had adopted enabling legislation authorizing some form of public-private partnership with regard to the delivery of transportation projects. Even among the States that do have enabling legislation, many are quite limited in what they can do. Acquiring legislative authority often results from the approval of a specific PPP project or program, with legislative authority being

⁴ JP Morgan presentation, Texas Transportation Forum, June 2006. Estimate is based on purchasing power of private equity and pension funds seeking investment opportunities in infrastructure-related businesses and assets. .

⁵ Cambridge Systematics and Mercator Advisors (2005). FHWA Future Directions of Innovative Finance. Federal Highway Administration: Washington, DC.

⁶ National Chamber Foundation, *Future Highway and Public Transportation Financing – Phase II*, November 2005.

expanded over time as success is realized and as state legislatures and the public became more comfortable with PPPs. Successful PPP legislation tends to be written broadly, not prescriptively, allowing transportation agencies to quickly and seamlessly adjust when undertaking a PPP.

Consistency With and Consideration Of Local Planning Processes: With the use of public-private partnerships increasingly becoming a tool for the provision of transportation infrastructure and services, the role of traditional planning processes has also taken on more significance. Concern has been expressed about PPP projects being developed outside the traditional metropolitan and statewide planning processes. Engaging local agencies in the PPP planning process is an *essential* ingredient to a successful PPP; achieving local buy-in early in PPP project development can help to mitigate future risk.

Support from Federal Government: FHWA and USDOT have supported PPPs through technical assistance, removal of legal and regulatory barriers, and credit assistance to support large projects of national significance. However, different requirements across federal agencies (e.g., Federal Transit Administration (FTA) and FHWA) can result in additional complications, especially when coupled with intricate state guidelines.

Private Investment Through Investment Tax Credits⁷

Investment tax credits represent another form of tax incentive to stimulate capital investment. Several proposals have been advanced in recent years to help finance freight and intermodal projects through this mechanism (e.g., Senate Bill 3742, the “Freight Rail Infrastructure Capacity Expansion Act”) The potential of investment tax credits to generate new infrastructure depends on the level of financial subsidy and the extent of investments made and credits claimed. The National Chamber Foundation report, concludes that a program modeled after the draft proposal developed by Representative Sam Graves (R-Missouri) could offer substantial support to freight infrastructure.⁸ By authorizing investors in eligible projects to claim up to \$500 million annually in tax credits over a 20-year period, it is estimated that such a program could generate new private investment capital of about \$6 billion over a five-year period. At \$1.2 billion per year, this mechanism could generate as much as \$13 billion over the 2007 to 2017 period. In the past the U. S. Department of the Treasury has opposed tax credit or other types of special purpose Federal bonds on the grounds that they are more expensive to taxpayers than the issuance of regular Treasury debt.

Conclusions

Public-private partnerships for surface transportation run the gamut from simple design-build projects to full private development of transportation infrastructure. They can play an important role in helping to finance and accelerate the construction of projects that will generate tolls or other project revenues. Public-private partnerships have other benefits in addition to the private funding they provide, most notably the acceleration of project completion, the improved allocation of project risk, and the efficiencies that can be realized through coordination of project

⁷ Further coverage of this topic is addressed in Paper 1-15, “Evaluation of Tax-Preferred Investment Products as a Transportation Financing Mechanism

⁸National Chamber Foundation, *Future Highway and Public Transportation Financing – Phase II*, November 2005.

design, construction, operation and maintenance. While PPPs have been controversial, the use of PPPs can be expected to increase as State and local transportation agencies explore alternative ways to meet the challenges of increasing congestion, growing volumes of freight transportation, and the needs to maintain our transportation infrastructure in a state of good repair.