



## Public-Private Partnerships: A New Education for the U.S.

*By Pamela Bailey-Campbell and Katie Nees*

The emergence of public-private partnerships (PPPs) represents an important development in the United States transportation sector. In the last 15 years, PPPs have grown in many areas of the U.S. government, notably demonstrated by experiments with privately operated schools and the opening of privately owned prisons. And although PPPs for transportation were initially embraced in the late 1980s, various difficulties caused a dip in interest in the 1990s. Recent events, however, point to a growing trend: for example, the City of Chicago signed a \$1.8 billion contract in October 2004 with the Cintra-Macquarie Consortium (a Spanish-Australian partnership) to lease the Chicago Skyway for 99 years; and in December 2004, the Texas Department of Transportation (TxDOT) announced the selection of Madrid-based Cintra for a 50-year concession contract to build, operate and finance the first leg of the state's ambitious Trans-Texas Corridors, the \$6 billion portion running parallel to I-35.

Chicago reaches \$1.8B deal on first private U.S. toll road

By Herbert G. McCann

CHICAGO — Chicago has reached a \$1.8 billion deal to let a private consortium operate the Chicago Skyway toll road — a trailblazing agreement the city says will save it money on maintenance and allow it to pay off millions in debt.

The deal marks the first time a U.S. toll road has been privatized, according to Mark Florian of the investment bank Goldman Sachs, which advised the city.

"If we use the funds wisely, we can protect our taxpayers and our city's financial situation for both the short term and the long term," Mayor Richard M. Daley said Friday.

Cintra-Macquarie, a Spanish-Australian consortium, put in the winning bid to operate the Skyway for the next 99 years. Under the lease, the consortium will be allowed to double the \$2 toll to \$4 over the next decade, and keep raising it thereafter.

The city will use the receipts from the lease to pay off the Skyway's existing debt of about \$400 million and other city debt and create a reserve fund.

Formally known as the Chicago Skyway Toll Bridge System, the nearly eight miles of elevated roadway links the Indiana Toll Road with an expressway that leads into the Loop business district.

The Skyway opened in 1959 and was a money loser until the 1990s, when it became a convenient route into the city from points east.

Last year, it served 17.4 million vehicles and generated \$39.7 million in toll revenue.

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These transactions represent one aspect of PPPs – the privatization side – but the full picture involves a much greater spectrum of options, the varieties of which will be discussed below. The use of public-private partnerships, moreover, is still developing in the U.S. and best practices are evolving. In general, public transportation authorities considering the PPP solution must confront a number of challenges, including political opposition, public concerns and policy hurdles. Nonetheless, evidence shows that when critical factors are appropriately addressed, PPPs can succeed.

### What are PPPs?

The National Council for Public-Private Partnerships defines a PPP as “a contractual agreement between a public agency (federal, state or local) and a for-profit corporation. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In

addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.”

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While clearly not a panacea, PPPs can provide transportation agencies with what they sorely need: money and time. PPPs hold the promise not only to finance needed highway projects but also to get them constructed sooner than possible with traditional approaches. PPPs can also cut costs, reallocate risk and increase efficiency and innovation. We will discuss these features in more detail under the section “Advantages of PPPs in Tolling.”

The same qualities that make PPPs attractive, however, can raise public concerns because of the perception that the profit motive is at odds with the public interest. A balance must be struck between creating an appealing partner-

ship opportunity and ensuring that issues such as public involvement and the environment are addressed.

Regardless of the level of partnership, there are a number of characteristics common to all successful PPPs: a public-sector champion, a favorable investment environment, a project that solves a significant problem, an experienced developer that truly brings value to the process, and contracts that appropriately allocate risk. We will discuss these characteristics in more detail under the section “Five Success Factors for PPPs.”



### Development of PPPs in the U.S.

While private toll roads were a defining feature of Colonial America and the early United States, by 1916 (when the Federal-aid Highway Act was passed, requiring the creation of state highway agencies) the tradition of government-provided “free” roads was firmly entrenched. As the financial burden of building and maintaining tax-supported roads increased in more recent decades, however, the U.S. transportation community began watching the successful use of PPPs – primarily toll roads – around the world. France, Spain, Ireland, Norway, New Zealand, Australia and the Netherlands have taken the lead in implementing these PPPs.

Innovative state legislation such as AB680 in California in the late 1980s embraced PPPs for transportation and a similar program in Washington State focused on the use of toll roads. Unfortunately, the results of these programs were limited and projects were bombarded with political and legal challenges. Some success was



achieved with smaller, more localized programs such as the E-470 Public Highway Authority in Colorado and Transportation Corridor Agencies in California. The private-sector partners in such cases were predominantly large U.S. construction contractors willing to participate in up-front development activities in return for substantial design-build construction contracts.

In the 1990s, the difficulties of some of the larger state programs – along with the dramatic increase of funds made available by the last federal highway

bill (TEA-21) – precipitated a drop in PPP interest. Now interest is growing again because of an escalating funding gap for transportation projects, and legislative and policy changes expanding the ability to use toll roads. The entrance into the U.S. of long-time European concession operators such as Cintra marks a new twist on transportation PPPs. Private transportation facility operators are starting to see the U.S. as a significant growth market. In fact, a recent Cintra press release describes North America as a “priority market.” Cintra also operates the 407 Express Toll Route (407 ETR) in Toronto alongside its 17 other toll-road concessions in Spain, Portugal, Ireland and Chile.

### Types of PPPs

PPPs can take on a wide variety of forms, each with different characteristics, opportunities and challenges. They exist on a continuum – from privatization, as in a concession model, to primarily

public control with involvement of private companies in a variety of roles. Each level of public-private participation allocates a different degree of oversight, financing and risk to the major controlling party.

**Completely private control and investment: purely private projects.** Although not technically PPPs because they involve no formal contracting between a private developer and the public sector, fully private projects are an example of the private sector delivering transportation projects that have previously been the domain of government. Responsibility, risk and control lie squarely on the private sector, leaving transportation agencies largely out of the picture. The Dulles Greenway in Virginia and Camino Colombia in Texas were both purely private transportation projects. The private parties undertook these projects because of associated business interests, although owning toll roads was not their primary business.

The risk level of such projects is substantial, and the lack of coordination with other elements of public infrastructure can be perilous. In fact, Camino Colombia went bankrupt and the Texas Department of Transportation (TxDOT) recently purchased the road at a fraction of its original cost. The Dulles Greenway had a poor start, but the private investor persevered and the project is now extremely successful.

**High level of private control and investment: concession or franchise model.** The concession model makes the private sector responsible for most or all project development and financing, facility design, construction, operation and maintenance, but the project is contracted through a governmental entity. Concessionaires see infrastructure projects as potentially profitable capital assets. After making a significant upfront investment, the

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concessionaire is entitled to revenues and profits for the length of their contract up to any ceilings in the concession agreement. In the U.S., any transportation debt financing for a concession project would be taxable. The tax-exempt market does not allow private parties to have a financial interest in the success of the project.

Repayment for these projects generally comes in the form of direct user charges (tolls), although they may also include payments from the public sector. Contracts typically run at least 30 years. The first modern U.S. transportation concessions include SR-91 and SR-125 in California, developed under the AB680 legislation.

**Private development with increasing public involvement: non-profit corporation (63-20) model.** Known as 63-20 corporations after the IRS code under which they operate, these nonprofit organizations provide a means to increase private participation in transportation projects while retaining some of the financing advantages available to the public sector. 63-20 companies can be established

to develop specific transportation projects; they must include a public sponsor and can have both public- and private-sector representatives. 63-20s have been used in association with unsolicited PPP proposals where the public sector does not wish to sponsor the financing.

They differ from the concession model in several key ways. First, the corporation cannot make a profit on the transportation project. The private sector partner, therefore, has less vested interest in the longer-term performance of the project. Second, the corporation can issue tax-exempt debt under certain IRS requirements, desirable because of the unique cost advantage tax exemption offers. These benefits come with restrictions; one is that any contracts for operations and maintenance must be of a relatively short duration (from five to 15 years, depending on compensation arrangements).

Since the 63-20 project is not under direct control of either the government or a private corporation, all parties involved need to pay close attention to the actions of the corporation and their own contractual rights and obligations. Although debt is structured to be “non-recourse” to the public entity, a project that fails to meet its obligations to bond holders can have a perceived or even real negative impact on the public sponsor.



Examples of 63-20 corporations include those established to develop the Pocahontas Parkway in Virginia, the Southern Connector in South Carolina, and the Las Vegas Monorail.

**Equal public and private control: various project delivery models.** This wide range of project types places more responsibility on the public sector to finance the project often through innovative financing methods such as revenue bonds, state infrastructure banks and TIFIA loans; since debt is issued by a public agency, it is tax-

exempt. Frequently some federal funds are involved. The private sector may be involved in two major risk-transfer pieces: up-front development work, in which the contractor is paid a “success fee” at financial closing; and project design and construction, in which responsibility for project delivery and associated risk is transferred largely to the private company. Since all these functions are carried out the by same team, the contractor can build improved efficiencies into the project and take advantage of life-cycle costing benefits. The private contractor is paid by the public sector rather than directly taking proceeds from the facility itself. The developer's role is primarily short-term, with ownership and operation of the facility remaining with the public sector sponsor (although some contracts include longer-term operations and maintenance elements). U.S. projects using this model include the Central Texas Turnpike and the E-470 and Northwest Parkway Public Highway Authorities in Colorado.

Other types of PPPs for transportation include asset management contracting and long-term warranty contracts. Asset management contracts assign responsibility for maintenance of existing facilities or systems to a private contractor, with the goal of improving quality of service and achieving cost savings. Similarly, long-term warranty contracts involve a combination of warranty and long-term maintenance; this approach has been used for pavement warranties.

### Advantages of PPPs in Tolling

As mentioned above, there are many advantages to pursuing PPPs in tolling. We explore some of these advantages in more detail below.

**New opportunities for financing.** The shortfall between public revenues and projects in need of funding is common knowledge in the transportation industry. TxDOT, for example, maintains that with current gas tax revenues it can only fund a third of the projects

needed in the state. The actual purchasing power of gas-tax funds, furthermore, declines each year with increases in roadway maintenance needs, inflation, and improved automobile fuel efficiency. State transportation departments publicly worry that in the next 50 years fuel-tax proceeds won't even cover maintenance expenses.

Transportation agencies are therefore casting about for new funding sources and mechanisms. The key is often to find sources of up-front funding and long-term financing. Long-term revenues for many different types of PPPs will come from one source: tolls. On the other hand, the source of the initial investment to build the project and start toll collection can vary. One option is for the private sector to fund some or all of the up-front development costs and then be paid a fee once a successful financing closing can be achieved, normally using tax-exempt bonding. For long-term financing, various innovative financing strategies can be leveraged by the involvement and commitment of private developers; these can include vehicles such as federal TIFIA loans. Private developers also generally find it easier to pull together the complex package of financing required for transportation projects that involve a wide range of nontraditional financing tools and sources.

In the concession model, both upfront investment and long-term funding come entirely from a private investor; the private company envisions the freeway or bridge as a potential asset like a piece of real estate. For a sizable initial investment, the company can realize a profitable return over a period of 30 to 100 years.

**Speedier project delivery.** The rate of traditional road building can be painfully slow, primarily due to funding constraints; projects can be on the planning books for decades before construction ever begins. An infusion of upfront funding enables projects to be built all at once rather than piecemeal as financing becomes available

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(traditional “pay-as-you-go”). One study found that innovative financing and contracting can result in as much as a 50 percent time reduction in project duration when compared to traditional design-bid-build. Another study, conducted by the Government Accountability Office, identified several transportation projects involving private-sector investment or sponsorship that were built significantly sooner than would otherwise have been possible. The

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Dulles Greenway, the South Carolina Southern Connector, SR 91 and SR 125 in California, and New Mexico State Route 44 were all considered needed and worthy by their respective state and local agencies but could not be constructed immediately due to resource constraints. Innovative financing and private involvement enabled all of these projects to be constructed on an expedited timeframe.

**Cost savings.** PPPs can result in significant project cost savings to the public sector. According to a December 2004 report by the U.S. Department of Transportation, “data gathered to date indicate that projects built using a public-private partnership almost always save taxpayer dollars.” Savings can result from various approaches, including performance-based and design-build contracting, warranties, life-cycle costing and long-term contracts. Research by the Florida Department of Transportation has found that the magnitude of cost and time overruns is significantly reduced with innovative contracts and PPPs. Traditional low-bid contracts on average had 12.4 percent cost overruns, while nontraditional contracts had only a 3.6 percent cost overrun. The Pocahontas Parkway, constructed under Virginia's Public-Private Transportation Act of 1995, came in \$10 million below the original \$324 million estimated cost, thanks to an innovative design-build-finance contract. The E-470 Toll Road in Denver, constructed for \$408 million, was estimated at nearly \$600 million if contracted using traditional design-bid-build. The PPP process that supported development work and facilitated financing

on these projects was key to being able to use the design-build approach.

**Allocation of risk.** Proper allocation of risk reduces costs and accelerates project delivery. The private sector is highly concerned about risk and is most interested in investing in projects where risk is appropriately distributed. PPPs enable risk to be allocated to those parties best able to manage that risk and have control over that element. For example, quality shortfalls or defects in construction are risks under the control of the construction contractor – the team member best able to manage them.

Some risks, however, always remain with the public sector, including oversight of environmental processes, ensuring appropriate public involvement, and setting, monitoring and enforcing safety, quality and performance standards.

**Increased efficiency and innovation.** By their nature, PPPs reward innovative thinking and efficient operation. The public-private partnership approach maximizes the motivation to save costs and think creatively. PPPs often have more flexibility to capitalize on the use of forward-looking technology that promotes increased quality. When the selection process is focused on the “best value” for the public sector, the private sector must focus on finding the best solution for individual project challenges. While this aspect of PPPs may be the hardest to document and measure, proponents believe improved quality and innovation are among the greatest long-term advantages of PPPs.

### Challenges to creating successful PPPs

Despite the demonstrated advantages of PPPs in transportation and toll projects, challenges remain to their adoption and use throughout the U.S. – hardly surprising given that transportation was entirely the responsibility of the public sector for decades. Thus, any transportation agency considering the expansion of private

involvement must consider potential hurdles and develop strategies to overcome them.

**Laws and policies.** Many of the federal, state and local laws and policies concerning transportation are premised on the use of government funds and traditional contracting. State laws sometimes mandate traditional procurement, including acceptance of the lowest bid, and restrict design-build contracts. Federal laws for projects involving federal funds also place limitations on the structure and timing of construction projects.

Significant progress in opening up transportation to PPPs is underway. As of 2004, 23 states have granted legal authority for private-sector participation in transportation projects, with 21 allowing private sector involvement in highway projects. Virginia and Texas have taken the lead in promoting private partnerships:

Virginia was one of the first states to enact a comprehensive PPP law. Its Public-Private Transportation Act of 1995 enables private entities to acquire, construct, improve, maintain and operate transportation facilities. According to the state's implementation guidelines, the intent of the legislation is to "encourage public/private ventures for transportation facilities which may result in the availability of facilities in a more timely or less costly fashion." Strong public-private partnership legislation similar to Virginia's has been passed in Colorado, Oregon and Georgia.

Texas's 2003 legislation, House Bill 3588, provides numerous new tools to aid the formation of public/private partnerships, including expanded tolling authority and the use of comprehensive development agreements (CDAs). A CDA may include project design, construction, financing, right-of-way acquisition, and highway operation and maintenance.

The federal government is similarly seeking to expand opportunities for PPPs in transportation. The Federal Highway Administration



tion (FHWA) has made the promotion of PPPs a priority for the agency. Administrator Mary Peters stated in October 2004: "We are for them . . . strongly. The President is a great believer in the power of free enterprise, and DOT Secretary Mineta and I are working to make PPPs and free markets a much bigger part of U.S. transportation."

The FHWA recently announced a new program, Special Experiment Project No. 15 (SEP-15) to promote innovation and find ways to eliminate federal hurdles to PPPs. The program provides new flexibility on a project-wide basis in contracting, financing, environmental review process and right-of-way acquisition. SEP-15 was developed in direct response to requests by Texas and Virginia for more flexibility in these areas.

**Political opposition.** The resistance to PPPs is deeply rooted in some sectors of the public and cannot be ignored. Many politicians and citizens consider the private sector's profit motive not merely incompatible with but detrimental to public service. They express

concerns that private companies will sacrifice quality for the sake of profit or place the needs of stockholders over those of the public. Politicians also worry about losing control over transportation decisions, as demonstrated by the dispute over the non-compete clause on SR-91 in California and Ontario's multiple failed lawsuits seeking decision-making powers over the 407 Express Toll Route in Toronto. The U.S. public, furthermore, has come to think of highways as “free” and many contend that a toll constitutes “double-taxation.”

Effective public information and outreach is essential to address such questions and reassure the public that their needs and safety will not be sacrificed for a private partner's profits. The transportation community must educate people on all levels about current transportation funding shortfalls and make clear what is the best solution for their mobility goals. Opposition can stop a project by making private partners uncertain of the long-term feasibility of the project. Various forms of opposition have killed projects in places like California, Washington and Arizona after significant private-sector investments.

### Five Success Factors for PPPs

The hurdles facing PPPs for transportation can be overcome with careful planning and some hard work. The first key is to form a solid commitment to pursue a PPP; a half-hearted effort is unlikely to achieve success. One of the greatest challenges for public-sector agencies embarking on PPPs is to think like the private sector. Public officials need to understand what makes a project attractive to private investors and what red flags will discourage investment.

Public agencies can look to recent research on private involvement in transportation projects (see references at the end of this article). The following list of success factors is drawn both from this research and from real-world experience with PPPs.

**1. Public-sector champion.** Without a dedicated champion on the public side, PPPs face long odds. This champion doesn't have to be an individual – it can be a team of people or a particular transportation agency. Nevertheless, this champion needs to serve as cheerleader, promoter and salesperson and must provide enough support and understanding to keep the project going through inevitable opposition and to make the necessary adjustments to navigate through complex channels.

The public sector champion serves to reassure both the public and the private sector. Other public agencies and the population in general need to see that the project has strong support and that powerful interests believe in the project and are committed to seeing it through. The private sector, meanwhile, needs to know that the project has enough backing to weather political storms. Potential private sector investors frequently spend significant time and money upfront before partnerships are even formed and must have confidence in the project's long term prospects.

**2. Favorable investment environment.** For the private sector, participating in a partnership involves making a decision as to where best to devote limited resources. The decision to invest in transportation is like investing in anything else: instability or opposition can discourage investment.

The private sector looks for predictability. Investors are willing to take on risk, but they need to understand and quantify that risk in some way. Factors such as the legal framework, the regulatory environment and the level of public oversight need to be clear up front, and overall market indicators – interest rates, currency exchange rates and other factors – need to be positive.

**3. A project that solves a problem.** A road that won't reduce congestion, a bridge that no one wants, a highway going nowhere – none will get support. Successful PPPs are formed for a purpose: to reduce congestion, improve mobility, and provide economic devel-

opment. It is also important to demonstrate that the PPP itself provides value. The public will back projects that they need and want, reassuring investors that the road will be used and drivers will be willing to pay the tolls.

**4. An experienced private partner that brings value.** The private partners in PPPs generally come in two forms: concessionaires and contractor consortiums. For many U.S. PPPs, the private-sector partner has been a large construction contractor who can offer significant experience in structuring, organizing and executing transportation projects. Projects gain value by including team members that offer expertise in working through public processes, obtaining public support and navigating political barriers.

International concessionaires, for all their experience, are still new in the U.S., as is this model. While their expertise is valuable, teams can often benefit by including a partner with more U.S. experience. The consortium awarded the first concession contract for the Trans-Texas Corridors, for example, is lead by Cintra but includes a 15% stake by San Antonio-based Zachry Construction.

In general, the private partner needs to build strong relationships with their partner public agencies, include multidisciplinary participants, and offer innovative, cost-effective technical solutions.

**5. Appropriate risk allocation.** Understanding and properly distributing risk is a critical factor for the long-term success of the partnership. Contracts need to be carefully worked out, taking into account which team members can best handle certain risks and how to entrust that risk to them. Areas of risk can include permitting, design, construction, warranties, insurance, financing, operations and maintenance. According to research reported in the “Critical Success Factors for Public-Private Partnerships in Infrastructure Development” by Xueqing Zhang, M.ASCE, *Journal of Construction Engineering and Management*, January 2005, pg. 3-14 “other important issues include the clear statement of the objectives of the con-

tract and the obligations and rights of the contracting parties, adequacy and clarity of plans and technical specifications, a formal dispute resolution process, and motivation and incentives to the contracting parties.”

The U.S. has reached a crucial point for PPPs. Once a radical idea, PPPs are entering the mainstream of methods to deliver critical infrastructure. As they become more common, many issues still in flux will become routine as best practices are identified and refined. In the meantime, public agencies need to educate themselves on the pros and cons so they can decide where PPPs can be used most effectively. The opportunity exists for PPPs to get more projects delivered sooner and more cost effectively than with traditional financing and contracting. The learning process continues.

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## References

Recent papers such as “Critical Success Factors for Public-Private Partnerships in Infrastructure Development” by Xueqing Zhang, M.ASCE in the *Journal of Construction Engineering and Management*, January 2005, pg. 3-14 and “Evaluating the Viability of Privatized Transportation Projects” by David Ashley, Richard Bauman, Jim Carroll, James Diekmann, and Frank Finlayson in the *Journal of Infrastructure Systems*, September 1998, pg. 102-110 describe elements necessary to make PPPs succeed in the long term.