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WHITE PAPER

How Do You Like Your Infrastructure: Public or Private?

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The content of this white paper is related to the following SMPS Domains of Practice:

1. Marketing Research
2. Strategic/Business/Marketing Planning
3. Client and Business Development
4. Qualifications/Proposals
5. Promotional Activity

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Case studies based on projects profiled on National Council for Public-Private Partnerships. www.ncppp.org.

Executive Summary

Infrastructure, sexy? Not at all. Crowds, disrepair, and threats to safety are dampening our ardor. Infrastructure may not be so bright either, earning a D average for the second year in a row on the *ASCE Report Card for America's Infrastructure*[i] So what do a terrible reputation, less-than-stellar grades, and bad self-image add up to? An opportunity.

For everything from roads to water and electricity to schools and other public facilities, government increasingly is pressed to maintain our existing, failing infrastructure, much less fund and provide for new improvements.

The National Council for Public-Private Partnerships defines a *public-private partnership* (PPP) as a contractual agreement between a public agency (federal, state or local) and a private sector entity. 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.[ii]

Why a PPP?

The contemporary rise of PPPs (also called P3s) as a means of delivering infrastructure projects stems from:[iii]

- the dissatisfaction with traditional procurement methods
- the development and maturing of the private finance model, and
- the adoption of "partnering", as a management process.

PPPs and SMPS Members

PPP Trends among SMPS Firms

Responses to our SMPS survey open from December 17, 2009 through January 13, 2010, were particularly revealing regarding trends for infrastructure PPPs. These trends include:

- Increasing popularity
- Public sector clients welcoming the possibilities of PPPs
- Financing moving to center stage
- Perception of a lack of consistent enabling legislation
- Conflicting public sentiment regarding tolls and taxes
- Lack of understanding of PPPs by the general public

Legalities and Financing

Key elements of the infrastructure PPPs revolve around:

- Who is responsible?
- Does the law allow it?
- How will we pay for it?

Understanding the roles to be played on both sides of the partnership makes the difference between success and failure. A keen understanding of the legal landscape and financial mechanisms that make partnerships agreeable is also critical.

On the private side, the most common teaming arrangement is developer/contractor-

led with architect, engineer and operators/service/equipment providers as secondary team members. Leadership has a price—those who lead need to have a solid understanding of the time and financial commitments involved, which can range from months to years and include potential up-front risks of millions of dollars.

Each state makes its own laws. Some states such as California, Virginia, and Texas have robust PPP legislation allowing for private delivery and maintenance of infrastructure across different public sectors. Other states are just starting to enable PPPs and using pilot projects to test the waters.

Financing runs the gamut as well, from private to public, and from well-established lending, bonding and revenue-sharing programs to new models melding public and private investment at different phases.

Opportunities

Investment by the public sector is needed across the board—from national to local projects and even throughout the world. Opportunities range from highways in California to telecommunications and higher education in New York to forestry and HVAC/electrical services in Indianapolis. The "greening", of our public facilities and leadership through consulting and product/service development are also opportunities for partnerships with the public sector.

Professional Services Firms and PPPs

The evolving face of the client means that we are ALL lovers (and consumers) of infrastructure and have a vested—even imperative–interest in making it attractive and worthy of our life-long devotion. Key reasons for professional services firms to get involved with PPPs include:

- Sharing our expertise
- Implementing our creativity
- Leveraging our relationships

Improving Infrastructure Delivery through PPPs

Educating the Partners

Education and communication on both sides of the partnership needs to be improved to better our infrastructure and clarify the role of the public-private partnership.

The Public Sector Can't Do It Alone

States are facing their own budget constraints—even budget crises—and are unable to make up for financial shortfalls.

Changing Shape of Government

As government becomes flatter, and public agencies look for new ways to leverage their assets and abilities, they will continue to turn to the private sector. Increasing "marketization",[iv] of public agencies is another area of concern and opportunity. Savvy A/E/Cs could find ways to consult rather than compete.

Innovative solutions in terms of policy, products, public relations, and service delivery

are what is required of us now, so let's put our heads together and find some ways to fall in love with infrastructure, make it sexy and worthy of our life-long commitment.

The public-private partnership may just be one of those ways.

Leslie Sluger and Stephanie Satterfield

Introduction

Infrastructure, sexy? Not at all. Crowds, disrepair, and threats to safety are dampening our ardor. Infrastructure may not be so bright either, earning a D average for the second year in a row on the *ASCE Report Card for America's Infrastructure.*[v] So what do a terrible reputation, less than stellar grades, and bad self-image add up to? An opportunity.

Government is increasingly pressed to maintain our existing, failing infrastructure, much less to fund and provide new infrastructure. There is opportunity for the private and public sectors to join forces and leverage the best of our skills and abilities through partnership to help solve our infrastructure problems.

Infrastructure

Our infrastructure provides the functional foundation of our society. Infrastructure determines how our communities develop and grow, how we obtain goods and services (and what we pay for them), and even affects our international reputation.

Darrin Grimsey and Mervyn K. Lewis tried to define the characteristics of infrastructure through how basic/key/crucial[vi] it is to the economy and whether it is publicly owned and decided neither of those measures fit well. Definitions of "key", and "crucial", change over time, and not all structures such as roads, bridges, and schools are publicly owned. Grimsey and Lewis then developed a rubric to look at those elements that had once been (or are currently) considered as vital as to be publicly owned. The rubric sorted those items into "hard", or "soft", and "economic", or "social", as shown in Table 1.

Table 1: Types of Infrastructure

	Hard	Soft
Economic	▪ Roads ▪ Motorways ▪ Bridges ▪ Ports ▪ Railways ▪ Airports ▪ Telecommunications ▪ Power	▪ Vocational training ▪ Financial institutions ▪ R&D Facilitation ▪ Technology transfer ▪ Export assistance
Social	▪ Hospitals ▪ Schools ▪ Water supply ▪ Housing ▪ Sewerage ▪ Child care ▪ Prisons ▪ Aged care homes	▪ Social security ▪ Community services ▪ Environmental agencies (EPA)

"Mere husbanding of already existing resources, no matter how painstaking, is always characteristic of a declining position."
—Joseph Schumpeter 1927

Economic infrastructure provides key intermediate services to business and industry; its principal function is to enhance productivity and innovation initiatives. Social infrastructure provides basic services to households.

Grimsey and Lewis impose the distinctions between types of

infrastructure for the sake of clarity. In reality, there is considerable overlap between types with improvements in economic infrastructure leading to gains on the social side and vice versa.

As "hard", infrastructure is of the most interest to professional services firms—particularly architecture, engineering and construction (A/E/C) firms—that forms the basis for "infrastructure", as used in this paper.

Public or Private?

Goods and services—even infrastructure—are public, private, or publicly-provided.[vii] So, what's best—public or private? Both, of course.

In the United States, Europe, Japan, and increasingly throughout the world, private industry provides most of the goods and services we consume through a free market economy—our morning coffee, our clothes, the buildings in which we work, and our weekend entertainment. Purely private goods are characterized by excludability and "rivalrousness".[viii] For example, when you drink your morning coffee, enjoy those front-row concert seats, or wear your spiffy new shirt, no one else can enjoy that particular treat at that particular time.

> *"A government entity may do only what the law permits and prescribes; a private entity may do whatever the law does not forbid."*
> —*Ronald C. Moe*

It's difficult to define a purely public good—even certain aspects of tax-collecting have been contracted to private entities. A lighthouse, which is a public good[ix], could still be built or operated privately. In fact, one of the first public-private partnerships of the newly formed United States was construction of a lighthouse at the mouth of the Chesapeake Bay.[x]

The area between "public", and "private", is the land of the public-private partnership (PPP, P3 or P^3). Benefits of public-private partnerships touted by proponents include:

- Risk transfer from public to private
- Expediting of projects through private financing (moving them off the public's "balance sheet")
- Single-point of control and responsibility via concessionaire

A PPP is a complicated agreement and perhaps the above-listed "benefits", don't hint enough at the partnership aspect.

The National Council for Public-Private Partnerships defines a public-private partnership as a contractual agreement between a public agency (federal, state, or local) and a private sector entity. 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.[xi]

PPP or Privatization?

For countries with many more state-owned enterprises (SOEs) than the United States, the term privatization means the transfer from public/government control or state-ownership to private enterprise usually through the outright sale of shares or interest.[xii] In North America, we use the term privatization more liberally to define anything from the divestiture of government property to the issuance of franchises to deregulation and, finally, to the contractual relationship of the public-private partnership.

True privatization projects are rare in the United States since the government has never really owned that many enterprises (such as electric utilities) that could be privatized either at the national or local levels. While the term privatization can be (and is) applied liberally to most any type of project in which the public sector engages the private, this paper proposes that the unique characteristic of a public-private partnership is the "partnership". While privatization implies and emphasizes a change in ownership, PPPs focus more properly on the entire process and what each partner brings to the project.

Make or Buy?

Perhaps the ultimate and most complex make-buy decisions are the choices between public and private provision of infrastructure. The choice between public and private in the make/buy decision begs the following:

- What is the role of government?
- What does the public sector do best?
- What does private enterprise do best?

PPP Case Study #1

Project: Port of Galveston Cruise Terminal Development
Location: Galveston, Texas
Public Partner: Port of Galveston
Private Partner: CH2M Hill, Royal Caribbean International and Carnival Cruise Lines
Marketing: Unsolicited proposal submitted by Royal Caribbean and Carnival Cruise Lines with CH2MHill to expand cruise ship service and facilities
Privatization Structure: Design-Build-Finance PPP
Legal Structure: Third Party legal entity to hold both the cruise line contracts and the lease with the port
Financing: Fixed price contract with bridge loan terms to allow fast-track construction of the phased renovation/construction of port facilities to improve cruise line sailings. The "Legal Entity", provided up-front investment of $3 million as a Fixed Contract Price with commercial terms for its return on investment. Through the PPP, the Port conserved its capital funds for other projects and received increased revenues from employment and commercial services.
Measures of Success: The PPP was able to meet the schedule for the first phase of construction under budget while using the cost savings to fund subsequent project phases and is currently underway with the sixth phase. Additional sailings and expansions made available by this PPP contributed to a 200% increase in travelers in 2002-2003 and 1100% increase compared to the previous three years. In 2004-2005 two additional cruise ships were scheduled to sail out of Galveston.

In the interest of equality, does the public side accommodate the "making", of infrastructure as in the New Deal's WPA or the Interstate Highway System of the 1950s? Or does government engage the private sector to provide as many goods and services as possible thus reducing its role to a centralized project manager or contract-holder?

Federal Acquisition Regulation (FAR) and the Federal Activities Inventory Reform (FAIR) Act (1998) require public agencies to produce inventories of "commercial activities",—those that are not "inherently governmental", or able to be acquired from the private sector—that may be put up for competitive sourcing.[xiii]

Input vs. Output

John Donahue proposes in *The Privatization Decision* that the difference between *input-based* and *output-based* contracting determines the choice between public and private. An output-based contract is defined through:

- Specifications
- Process
- Competition

Specifications require that the project be clearly and well-defined so that predetermined measurements can be applied to define and then determine success in meeting goals. Conversely, processes that are not prescribed in advance but left open play better in private industry where process is often a competitive advantage. Finally, competition guarantees that monopolies (or near-monopolies) are avoided, thus providing a fair price.

Public-private partnerships fit an output-based model. If the criteria for specifications, process, and competition can be met, a PPP may be the best solution for providing infrastructure.

History

Water and transportation have been the cornerstones of infrastructure since Roman times.[xiv] The first documented public-private partnership[xv] in colonial America dates to 1652, when the privately owned Water Works Company of Boston agreed to provide drinking water to local citizens.

> *"Nowhere was the old approach better illustrated than in Washington, DC, itself, by Mayor Marion Barry—arguably one of the worst of the big-city mayors—when he blamed the federal government for crime in his city because it was not giving him enough money."*
>
> —*E.S.Savas,* Privatization in the City

PPPs in the Late 20th Century

The 20th century defined government as an agent of change. Post-industrial, laissez-faire capitalism produced great wealth and achievement at the price of social dislocation, overcrowding, environmental pollution, and wrenching poverty[xvi] leading to reform through socialism[xvii] and government intervention in the form of regulation resulting in "big government". Across the globe, governments were quick to take over the provision of goods and services from the private sector monopolists in "the name of the people", committing

whole industries to the implied equity of government-run industry. By the end of the century, the winds had changed direction yet again.

In the 1980s, as a backlash against the failures of socialism and "big government", many countries privatized state-owned enterprises either through selling them off or partnering with the private sector. In the United States, a growing reliance on the federal government to solve local problems[xviii] along with dwindling public funds and a shift in policy at the federal level pushed government to embrace the free market economy through the private sector.

Why a PPP?

Grimsey and Lewis (of the infrastructure definition) propose that the contemporary rise of PPPs as a means of delivering infrastructure projects stems from:

- Dissatisfaction with traditional procurement methods
- The development and maturing of the private finance model, and
- The adoption of "partnering", as a management process

Table 2 illustrates the relative number of infrastructure PPPs proposed across countries and shows the number of those projects that were funded and brought into service. The table includes the following types of infrastructure projects: roads, rail, water, and buildings.

Table 2: PPPs by Country/Continent[xix]

	Planned & Funded Since 1985	Funded Projects Only	Percent Funded
United States	442	335	76%
Canada	140	68	49%
Mexico, Latin America, Caribbean	539	231	43%
Europe	859	544	63%
Africa, Mideast	128	56	44%
Asia, Far East	598	290	49%
TOTAL	***2,706***	***1,524***	***56%***

PPPs and SMPS Members

Infrastructure PPP Survey Results

A survey, sent via e-mail blast to SMPS members, was open from December 17, 2009 through January 13, 2010. The purpose of the survey was to solicit input regarding the prevalence and types of public-private partnerships and level of involvement of SMPS members' firms. The results are shown in Table 3.

Table 3: Survey Response Rate

Survey Distribution	Numbers
Email blast sent to	5,283
Email blast delivered to	5,206
Email blast opened by	1,305
Email blast forwarded	48x
Survey visited	117x
Complete responses	39

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While the information received may not be statistically relevant due to the size of the response pool, we believe it is indicative of trends and thoughts regarding PPPs and, therefore, worthy of discussion. However, we assume the survey respondents are those firms involved or familiar with public-private partnerships and therefore the data is likely skewed in a pro-PPP direction.

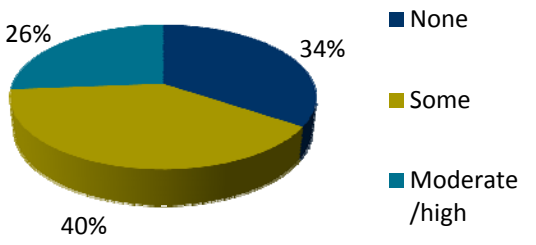
Our assumptions about PPPs when we started the survey were:

- PPPs are on the rise
- SMPS firms are becoming increasingly involved in PPPs
- SMPS members believe that infrastructure is in need of work and private investment

PPPs on the rise?

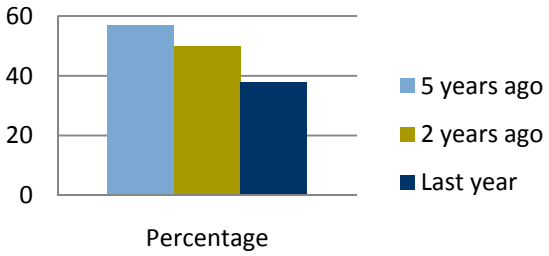
The level of PPP activity at respondents' firms is almost evenly divided into thirds where 34% see no activity, 40% see some activity, and 26% have moderate to high activity. Out of the firms who completed the survey, it is encouraging that 66% are involved in PPPs on some level.

Chart 1: Current PPP Activity Levels



The number of respondents who have seen an increase in privatization projects has dropped from 57% five years ago to 50% two years ago to 38% within the last year.

Chart 2: SMPS Member Involvement in PPPs



According to the responses, almost all respondents believe that PPPs are on the rise, but the survey data indicates that in practice, public-private partnerships are declining. The main reason that PPPs have been declining is because of the lack of financing resulting from the problems on Wall Street starting in 2008. Financing has been available, but at a steep cost.

Where are PPPs happening?

Respondents are actively involved in public-private partnerships in fifteen states including Arizona, California, Florida, Georgia, Kentucky, Maryland, Maine, Michigan, Montana, North Carolina, Nebraska, Oregon, Texas, Virginia, and Washington. PPP work for responding firms extends to Canada and the United Kingdom.

Which sectors have activity?

The sectors in which the most activity is occurring are:

- Transportation
- Water
- Maintenance/operations
- Municipal garages/service centers
- Schools

The 65 responses[xx] in Table 4 below indicate the full range of where the PPP survey respondents are investing their time in infrastructure improvements.

Table 4: Infrastructure PPPs by Sector

	Number	% of Total
Community Centers/Libraries	2	3.1%
Corrections/Judicial	4	6.2%
Cultural/Convention	1	1.5%
K12/Higher Ed	7	10.7%
Landfills/Garbage/ Recycling	2	3.1%
Maintenance/ Management of Public Facilities	9	13.9%
Medical	1	1.5%
Monetization of Public Assets	3	4.6%
Municipal Garages/ Service Centers	6	9.3%
Police/Fire	2	3.1%
Roads/Transportation	15	23.0%
Water/Utilities	13	20.0%
Totals	***65***	***100.0%***

What sectors need help?

Respondents believe that the greatest need for infrastructure[xxi] improvement over the next five years will be concentrated in:

- Transportation
- Water
- Schools
- Maintenance/operations

Interestingly, the same sectors were areas of concern over the next twenty-five years; however, respondents identified more of an immediate need for facilities, and future need for improved transportation and maintenance.

PPP Case Study #2

Project: New York Avenue Metro Station
Location: Washington, DC
Public Partner: Washington Metropolitan Area Transit Authority (WMATA) and the District of Columbia Government
Private Partner: Action 29-New York Avenue Metro Station Corporation (Action 29 Corporation). Comprised of major developers, area property owners, corporate business leaders, elected officials, and community leaders, Action 29 Corporation was a non-profit organization incorporated to leverage private investment for the New York Avenue Metro station. Upon the opening of the station, Action 29 was dissolved.
History: In 1997, President Clinton signed into law the National Capital Revitalization Act which directed the formulation of an economic development plan. Action Item 29 called for the construction of a new Metro station at New York and Florida avenues.
Financing: $35 million in private funds from area businesses, including $10 million in land, amortized over thirty years; $44 million from the District of Columbia; and $31 million from the federal government. The District also formed a Business Improvement District (BID) to continue to generate economic improvements through a special assessment to fund ongoing operations and maintenance.
Measures of Success: Assessed valuation of the thirty-five-block area increased from $535 million in 2001 to $2.3 billion in 2007. Over 15,000 jobs have been created with $1.1 billion in private investment. The public sector supplied nearly two-thirds of the funding. In retrospect, with the success of the project, it is likely the private sector should have contributed a larger portion of the funding.

Trends

In identifying trends, survey responses were particularly revealing. Trends for infrastructure PPPs included:

- Increasing popularity
- Public sector clients welcoming the possibilities of PPPs
- Financing moving to center stage

Not all trends were positive, however, with respondents noting the lack of consistent enabling legislation, conflicting public sentiment regarding tolls and taxes, and a lack of understanding of PPPs by the general public. These factors are detrimental to adoption of public-private partnerships as a mainstream method of procuring infrastructure.

A PPP is a Good Idea When…

Money may not be the ultimate aphrodisiac, but it is key to successful public-private partnerships. Private interests are courted by the public sector not only for their creativity but for their financial prowess, flexibility, and capability. Private industry is interested in undertaking infrastructure PPPs when the rewards are sufficient to compensate for the risks.

Reputation

PPPs have the reputation of being less expensive than traditional public-sector procurements and of moving faster than public-sector projects—with the potential bonus of moving the project off the public sector's books for accounting purposes.

Elliott Sclar tackles the misconception that a PPP is always less expensive in his book *You Don't Always Get What You Pay For: The Economics of Privatization*. Sclar proposes a comparable but slightly different take on output-based contracting and cites numerous examples of private contracting run amok and where public contracting has delivered.

Sclar recommends specific tools, processes, and checks to make sure a PPP is the right solution, such as specifying the service to be provided in detail, preparing a thorough pre-proposal cost accounting[xxii] (Value for Money (VfM) over the life of the project), and performing a historical review of the publicly-provided service. He also proposes that the private sector develop a thorough understanding of the people involved to preserve employment levels, maximize historical knowledge, and meet other legal requirements (such as the prevailing wage rate).

To achieve best value, true competition is required but not always to be had. Frequently, the number of private sector firms able to perform larger infrastructure projects is limited, resulting in the potential for monopolies or near-monopolies. Sclar also points out that a PPP does not relieve the public sector of the costs and responsibility of preparing and managing the contract, sometimes resulting in hidden costs.

Solicited or Unsolicited?

Sometimes the public sector will identify the need for a public-private partnership and sometimes the private sector will see the need, conceive a solution, and approach the public entity about partnering. Whether solicited or unsolicited, like public-private partnerships themselves, the approach differs greatly from project to project.

What is the Public Sector Client looking for?

In an effort to both enlighten his public-sector peers about the benefits of public-private partnerships and to educate the private sector about what public sector clients are looking for in a PPP proposal, Eugene Schiller wrote, "Why Don't They Understand?". Schiller takes the private sector to task for not always understanding the needs of communities they propose to partner with and suggests the following homework (see Appendix A):

- Type of government (How are they organized?)
- Elected officials (Who is in charge?)
- City manager, chief financial officer and utility director (Who are the key appointed officials?)
- Financial conditions and long-range plans (Are they able to do a deal?)
- Recent bond issues (How experienced are they?)
- State and local laws (What are the ground rules?)
- Media (Can you innovate without getting beat up?)
- Economic climate (Can they afford and support a deal?)

Anyone undertaking a PPP submission to the public sector should complete Schiller's "homework", first.

What does the Public Sector Client think about PPPs?

McGraw Hill Construction's Rusty Sherwood presented the following Marketing Insight analysis at SMPS Tennessee on March 24, 2010. Below are "Tentative Insights from the Ongoing MHC Survey of Government Decision-Makers":

- 40% expect PPP work in next three years
- A third have a high opinion of PPPs
- Most important financial aspects: guarantees and default provisions
- Congestion has the highest priority in decision to use a PPP
- Lack of funding is the primary reason to use a PPP
- Biggest concern with PPP: unacceptable private profits

Expectations are high that public-private partnerships can play an increasingly important role in infrastructure delivery.

Structuring a Public-Private Partnership

Bigger is better—at least it may be in teaming to pursue an infrastructure PPP. Submitting a PPP (solicited or unsolicited) requires a substantial up-front investment as well as potentially cumbersome bonding requirements. The need for initial capital may

be difficult to obtain for smaller construction firms or developers, for architects and for engineers. Smaller firms and design/engineering firms may be not be positioned, capitalized or have the relevant expertise to lead PPPs but could be integral components of the team with strong local connections.

Matchmaking

Like most successful marriages, the PPP private sector team needs trust, creativity, and enough money to pay the bills. Having a long-term relationship and clear understanding of team members' roles and responsibilities is just as crucial internally as is the relationship with the public sector client. The creativity of the private side team also plays a role in the development of a winning bid. If there is nothing innovative about a PPP, there is less incentive for the public agency to seriously consider the proposal.

The up-front work to submit a PPP proposal is generally not compensated. Firms have to accept and mitigate the risk that may come from months or even years of courting the public sector in pursuit of a PPP with no foreseeable return on their investment. Conversely, educating the public sector about the risks encountered by private entities in pursuing PPPs and a willingness on the public side to address that exposure through grants or stipends could result in higher quality and quantity of proposals.

Who's in charge here?

In structuring the private side of an infrastructure PPP the most common teaming arrangement is developer/contractor-led with architect, engineer, and operators/service/equipment providers as secondary team members. This is by no means the only way to structure a public-private project but appears to be the most common. Certainly the flexibility of the model allows for finance-led, architect-led or engineer-led teams as the taste for PPPs grows and more projects are successfully delivered.

All Politics are Local

Local politics factor into the legal considerations of PPPs as do worker and union concerns. PPPs are sometimes viewed as a means of "union-busting", and may mean job loss to local communities.

Shifting public workers to the private side either through direct hire, "leasing", of employees, or finding a position for them in another public agency should be considered in a PPP proposal. There is little chance of closing the deal if the project becomes politically charged before the proposal is even submitted.

Types of PPPs

PPPs come in all shapes and sizes. Financing is an interesting distinction between PPP models. It also affects the types and levels of private involvement. One model more inclusive of everything from designing to operating/maintaining may be more suitable for hard economic infrastructure that can sustain "itself", (such as toll-roads or airports) while a second model requiring public infusions over time through operations support or availability payments may be more appropriate for soft infrastructure.

Listed below are NCPPP's types[xxiii] of public-private partnerships:

- O&M: Operations and Maintenance
- OMM: Operations, Maintenance & Management
- DB: Design-Build
- DBM: Design-Build-Maintain
- DBO: Design-Build-Operate
- DBOM: Design-Build-Operate-Maintain
- DBFOM: Design-Build-Finance-Operate-Maintain
- DBFOMT: Design-Build-Finance-Operate-Maintain-Transfer
- BOT: Build-Operate-Transfer and BTO: Build-Transfer-Operate
- BOO: Build-Own-Operate
- BBO: Buy-Build-Operate
- Developer Finance
- EUL: Enhanced Use Leasing or UA Underutilized Asset
- LDO or BDO: Lease-Develop-Operate or Build-Develop-Operate
- Lease/Purchase
- Sale/Leaseback
- Tax-Exempt Lease
- Turnkey

There are a lot of similarities between types of PPPs, but they differ regionally and nationally.

Perhaps of most interest in the A/E/C community are the various design-build public-private partnerships. Out of the list above, approximately 36% involve "design", 57% involve "build/construct", and 36% include "maintain." The NCPPP lists the following as benefits of design-build (DB) PPP projects:

1. Reduce time
2. Save money
3. Provide stronger guarantees
4. Provide a single point of responsibility
5. Ownership retained by public entity

The key element of defining a PPP once again comes down to the "partnership", component. If not for that, there would be little to differentiate a traditional DB project from a DB PPP.

Define (and Understand) the Terms

A basic understanding of the legal Ps and Qs should be required before planning to pursue a PPP. Because the legislation allowing public-private partnerships differs from state to state and may even exclude municipalities, it is critical to make sure that the proposed project is actually legal. For instance, PPP transportation projects in California are limited to the state Department of Transportation or regional transit authorities. Municipal projects are not enabled and buildings cannot generally be included in transportation PPPs in California.

Definitions need to be crafted and evaluated from both the legal standpoint and the marketing perspective for the public agency, the private developer, and within the developer's team. For example, the difference between "privatization", and public-private partnership, while generally glossed over in the United States, can be profound.

In a series of three blog articles during February and March of 2009, Sheppard

Mullin lawyer Edward B. Lozowicki covered the growth of PPPs, potential conflicts with prevailing wage rates, and competitive bidding laws—all good information to study prior to submitting a PPP. The issues with prevailing wage rates center on defining the term "public", with regard to usage of public assets. Legislation frequently specifies (and limits) how and where public funds can be used throughout the PPP process.

Enabling Legislation

Another aspect of PPPs unique to the United States is the lack of a national legislative standard allowing public-private partnerships. Each state makes its own laws. Some states such as California, Virginia, and Texas have robust PPP legislation allowing for private delivery and maintenance of infrastructure across different public sectors. Other states are just starting to enable PPPs and using pilot projects to test the waters. (See Table 4.)

Table 4: Sample of Enabling Legislation[xxiv]

State	Sector
AZ	Transportation: Construction and leasing of facilities
CA	Transportation (state & regional); tolling & PPPs in San Diego; local governments for "fee-producing infrastructure", and water supply infrastructure
CO	Authorizes investigation or PPPs for facilities for juvenile offenders; College savings program; Arkansas River water bank; Transportation, state and local; for study of new Major League Stadium
DE	PPPs for transportation; Revolving loan fund; Clean Water Fund for water infrastructure
FL	Tax on phosphate collection to support rural infrastructure/PPPs; Rural investment
	PPPs; Transportation, Turnpike, Rail; Regional authorities to investigate PPPs
MO	PPPs for bridges, transportation, energy and operations of public facilities (rest stops, truck stops, fueling stations)
OR	Transportation product R&D PPPs; Transportation infrastructure; Telecommunications
RI	Redevelopment adjacent to Highway
TX	PPP for Bio Park; Transportation (state and local); 2-year moratorium on tolls and superhighway project; Opens doors for collaborative studies between multiple parties/jurisdictions
UT	Transportation toll way development
VA	Information technology programs/projects; Water/wastewater systems; Transportation; Educational, technology and other public infrastructure and government facilities; Authorizes high-speed data/internet for select localities

Risks May Outweigh Rewards

One of the attractions of public-private partnerships for the public sector is in shifting project risk to the private sector, which then has to understand and account for the possible financial, managerial, and other potential liabilities of the shifted risk. Conversely, public agencies must understand the cost in shifting risk to the private sector.

Risks generally fall into these categories:

- Technical
- Construction
- Operating
- Revenue/financial
- *Force majeure*
- Regulatory/political
- Project default

The private sector will not willingly assume the risk within a PPP without the possibility of reward. What's interesting is that the risk is not created through a PPP, just reassigned and made visible where before, when borne only by the public sector, it was invisible.

Table 5 (from *Constructor Magazine*[xxv]) illustrates PPP realignment of risk. Some risks, depending on the partners and project, may be shifted differently than indicated in the table. For example, usage/travel/revenue risk can easily be transferred to the private sector. Also, unknown risks relating to hazmat and archeological may remain with the public sector or be shared. Discriminatory legal action against a PPP is most definitely a risk that remains with the public sector.

Table 5: Risk Re-Allocation in PPPs

Potential Risk	Typical Private Sector Responsibility	Risk Shifted to Private Sector in PPP
Major environmental risks	No	Maybe
Usage rates, travel, and revenue	Never	Not likely
Conflicts, delays from unknown historical conditions	No	Yes
Conflicts, delays from unknown archaeological conditions	No	Yes
Conflicts, delays from unknown endangered-species conditions	No	Yes
Conflicts, delays from unknown utility conditions	Maybe	Yes
Cost and delays from unidentified hazardous waste not caused by contractor	No	Yes
Accuracy of design and survey data	No	Yes
Geotechnical and soil conditions	No	Yes
Differing site conditions	No	Yes
Delays from legal action against the project	No	Yes
Delays from public interference	No	Yes
Right-of-way acquisition cost, and time to procure (need the public entity's right of eminent domain)	No	Likely
Changes in zoning, laws or rules that may affect the project	No	Yes
Delays by the grantor and/or other agencies	No	Yes
Insurance coverage	Partial	Likely
Up-front costs to design and develop project	No	Likely
Long-term liability exposure for maintenance, structures	Maybe	Likely
Long-term liability exposure to litigation	Maybe	Maybe
High and unusual liquidated damages for delay	No	Likely
Extraordinary guarantees	No	Likely

Interestingly enough, though the risks shift to the private sector, the public sector generally retains ultimate authority, responsibility and ownership of the assets. The reward needs to be great enough to entice the public sector to pursue the project. If a private toll road developer does not meet revenue expectations due to lower than projected road usage, the developer may not only lose revenue, but could face possible bankruptcy. Meanwhile,

the road still exists as a physical asset of the public sector.

Financing

Variety is the spice of life and also of PPP financing. Many funding mechanisms bridging public and private are already in place and new ones are cropping up with dizzying frequency. Initial funding of an infrastructure PPP is usually provided by private sector investment when the lead entity either places its own money or the bank's money on the line to plan and develop the project. In some instances (pending appropriate enabling legislation), the public sector is also involved in financing the front end.

Capital Investment

PPPs generally have a long lead-time prior to proposal submittal during which the private entity is not compensated for their work. Firms must have the resources available to carry out the initial proposal work without compensation, which may lead to smaller firms taking a backseat or not even dipping their toes in the pool. Occasionally, stipends or grants are available to help fund proposal development. (See Table 6.)

Table 6: Results of Informal Survey of PPP Submission Costs

	Range	Who Pays?	Reimbursed ?
Proposal	$200,000 to $5,000,000	Private	Only if won

PPP Timelines

Karl Reichelt of Skanska works on greenfield transportation PPPs. He noted that the time frame for an unsolicited public private partnership from proposal to signed contract could be as long as five years and is three years on average for a transportation PPP. Once a contract is in place, the first ten years rarely return a profit thus leaving the private partner the remaining 20 years of the contract to recoup its investment.

Reichelt also stated that in the United States only three or four greenfield toll road PPPs make it to the contract phase each year.

Timelines can be shorter on other types of PPPs. For example, a solicited school partnership project could take only months to go from proposal to contract. However, before the proposal hits the streets, there has usually been a longer period of investigation by the public sector, with input from the private sector and/or community.

Most importantly, the pursuit of a PPP is risky with marketing, pre-proposal, and proposal costs uncompensated unless the project is awarded and a contract put in place. It is in the interest of all professional services firms to do their homework to reduce as much of the risk in pursuing PPPs as possible to minimize their exposure.

Return on Capital

Once the contracts are in place, the equity investment made, and the project underway or completed (depending on the nature of the PPP), it's payback time! Compensation of the private entity's equity investment generally takes one of the following forms:

- Tax/toll
- Rents and fees
- Divestiture of assets/trade-in-kind
- Bonds

Taxes and Tolls

We're all familiar with how taxes and fees work and don't generally question them. We pay a federal gas tax[xxvi] every time we fill up the car and a registration fee for the car. We pay our income taxes without really thinking about where the money goes and occasionally pay a "special", tax based on a ballot initiative to fund an infrastructure PPP. We're also used to paying tolls. Turnpikes and tolling systems have been in place for much of human history but gained momentum in the 1800s when by 1840, approximately 1,600 turnpike companies had been chartered.[xxvii]

Rents and Fees

Depending on the type of infrastructure being developed, repayment of private equity could take the form of rents or usage fees. Military housing is a great example of this type of financing. Contrary to generally held assumptions, rarely is the land under military housing conveyed to the private sector due to the sensitive nature of most military bases. Instead, the private sector developer is tasked with designing, building, maintaining and operating the housing on that government

PPP Case Study #3

Project: Hancock Geriatric Treatment Center at Eastern State Hospital
Location: Williamsburg, Virginia
Public Partner: Virginia Department of Mental Health, Mental Retardation & Substance Abuse Services (DMHMRSAS)
Private Partner: Gilbane Development Company
Privatization Structure: Design-Build PPP
Financing: Total cost of the new, state-of-the-art Hancock was $28 million. The improved staffing and operational efficiencies are anticipated to generate cost savings that will pay for the new facility within 15 years. Gilbane was responsible for all predevelopment expenses, as well as selected development expenses. The company received monthly payments from DMHMRSAS from the schematic design onward. Under this financing plan, several financing constraints were removed from the project and helped lead to an expedited delivery
Measures of Success: DMHMRSAS received the completed facility in 26 months. Gilbane delivered the facility in approximately one-third the time the project would have taken under traditional procurement and final cost of the project was less than it would have been under traditional procurement by eliminating construction escalation costs. Through the use of a PPP, DMHMRSAS was able to retain Hancock's Medicare and Medicaid compliant status, improve patient care and make serving patients more efficient.

land. While the PPP model works particularly well for single-family houses, the military is starting to use it with Bachelor housing and with hospitality facilities. Similarly, cultural developments such as community centers or sports arenas rely on fees.

Privatization, by any other name…

PPPs also mean divestiture of publicly owned assets as part of or as the final result of privatization. Frequently referred to as "monetizing assets", the public entity may elect to sell part or all of property or building or other assets to fund construction of infrastructure projects. In many instances, this takes the burden of maintaining a "white elephant", off taxpayers, allowing the private entity to develop and maintain it while providing tax revenue from the newly redeveloped asset to the taxpayers.

"The successful fund-raising underscores the particular demand for infrastructure investment, and broadly, for alternative assets that generate long-term stable cash flows."
—James Gorman
Co-President, Morgan Stanley

Selling assets may result in improved property values for the neighbors as well as a new/improved asset to be enjoyed by the entire community. An in-kind "trade", could also be considered as a divestiture.

Bonds

Bonds are another means of obtaining financing to pay for an infrastructure projects. They are instruments of debt where the public sector borrows against future revenue (taxes or income). Bonds are historically tax exempt making them an attractive and generally safe investment for large funds - unions, state pensions, etc.

Tax-exempt bonds reduce the issuer's borrowing costs because purchasers of such debt are willing to accept a lower rate of interest than that of taxable debt of comparable risk and maturity.

Public-private partnerships also offer incentives in the form of shared savings through finishing on (or before) schedule or under budget. In the case of a guaranteed maximum price contract (GMP), the contract could specify that any difference between the GMP contract amount and actual completed price be shared by the public and private sector resulting in a nice bonus for the private entity and funds returned to the public coffers for other use.

What's New?

The private sector's ability and need to innovate, develop new concepts, and bring them to market is the driving force behind the market economy. The private sector has a unique drive to incentivize and to overcome risks in the pursuit of reward. The public sector has a responsibility to provide its constituents with quality and affordable infrastructure.

Products May Reduce Costs

One way in which the public and private sector are innovating delivery of infrastructure is product technology. Private industry develops new products that then make

infrastructure less expensive to install, build, operate and maintain. How about concrete that heals itself? Or neighborhood-scale water treatment plants? Or buildings that grow their own produce and make their own energy?

A New Species of Bonds

The taxable bond expands the range of projects that can be financed to include those not eligible for federal tax-free status such as sports complexes and certain types of housing, which could expand the scope of a potential PPP as well as the creativity of proposals.

The ARRA and Infrastructure Financing

Build America Bonds (a variation on the taxable bond) were introduced as part of the American Recovery and Reinvestment Act (ARRA) of 2009. According to the White House,[xxviii] over $70 billion in Build America Bonds have been issued in 47 states since April 2009 to fund a wide array of critical infrastructure projects. Build America Bonds provide a 35% reimbursement to states. The Build America Bond Program is near the end of its authorized life, but there's a possibility it may be renewed giving states another avenue to finance public infrastructure at especially attractive rates of return.

Build a Better Mousetrap

Electronic toll collecting reduces traffic congestion at toll lanes and makes it easier for users and toll collectors. In Portugal and the United Kingdom, after flirting with different kinds of tolls on privatized highways, shadow tolls are being increasingly utilized. Shadow tolls are payments by the public sector to the private sector based on road usage, which eliminates the need for intermittent physical tolling on the highway.

An evolving approach to tolling being used in a PPP led by Fluor[xxix] for the Virginia I-495 Hot Lanes is "congestion pricing". Congestion pricing means tolls will be collected electronically on a sliding scale depending on the day of the week and time of day to compensate for traffic loads.

Equity

On the equity side, infrastructure funds[xxx] emerged in the mid-2000s with mixed success. Infrastructure funds represent the entry of finance firms into the PPP arena. Rather than developer/contractor-led teams, large financial firms are in the driver's seat. Investment funds are predicated on the need for safe returns on capital over a long period.

More and more large institutions and pension funds are adding infrastructure funds to their portfolios. The safety and reliability of infrastructure investments are known and make them ideal for large investors looking for safe, steady returns.

Dedicated Infrastructure Banks

Unlike elsewhere[xxxi] in the world, the United States does not have a national bank dedicated to funding infrastructure projects. However, legislation introduced in 2007 is starting to gain traction and the US National Infrastructure Bank (NIB) may soon become reality. Similar to the Federal Deposit Insurance Corporation (FDIC), the NIB would leverage private dollars to invest in and help improve the nation's infrastructure,

internet, smart grid, broadband network, and schools.

For transportation projects, the Transportation Infrastructure Finance and Innovation Act (TIFIA) operates in a similar manner to an infrastructure bank. According to the government, TIFIA provides a maximum of 33% of eligible project costs through Federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. TIFIA can help advance qualified, large-scale projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. Many surface transportation projects—highway, transit, railroad, intermodal freight, and port access—are eligible for assistance. Each dollar of Federal funds can provide up to $10 in TIFIA credit assistance and leverage $30 in transportation infrastructure investment.[xxxii]

While there is no National Infrastructure Bank yet, states are starting to develop their own banks dedicated to infrastructure. California has the Infrastructure and Economic Development Bank (I-Bank). The bank's mission is "to finance public infrastructure and private development that promote economic growth, revitalize communities and enhance quality of life for Californians. The I-Bank has extremely broad statutory powers to issue revenue bonds, make loans and provide credit enhancements for a wide variety of infrastructure and economic development projects and other government purposes. As we approach $30 billion in various financings, we continue to be motivated by the financing challenges faced by infrastructure projects throughout our State."

Vertical Integration

Brien Desilets, an expert in project finance of Claret Consulting, LLC, an economic and project finance consulting firm specializing in developed and emerging markets, discussed the European model of "bundling", projects during an enlightening phone conversation on February 17, 2010. In the United Kingdom, individual projects under £20 million (about $30 million US) aren't considered for PPP projects. Per Desilets, the PPP finance baseline justifies the lengthy procurement process and transaction costs.

Grimsey and Lewis further explore the concept of "bundling", and vertical-integration where project size is maximized for economy of scale and PPP structure includes as many aspects of design/build/finance/operate and maintain as possible.

Instead of doing one school in a district, all schools could be bundled into a vertically integrated turnkey project where everything but the teaching would be supplied by the private sector. The idea of broadening scope and increasing size could lead to different models in the United States involving new structures, teaming arrangements and financing vehicles.

Getting the Right Information on the Right Line…and Using It!

"Investing for Success", an article by Emilia Istrate and Robert Puentes, proposes a realignment of the federal capital budget by separating capital expenditures (funding for building infrastructure and projects) from other expenses—like operating and maintaining the infrastructure.

While the private sector and most US states employ some version of a capital budget, the US federal budget currently functions on a consolidated basis where capital and consumption expenditures (operations and maintenance) are commingled. This makes it doubly difficult to pin-down the true numbers for maintaining our infrastructure, much less building new projects.

Where is the Need?

Failure?

The American Society of Civil Engineers (ASCE) has published the Infrastructure Report Card, which analyzes the overall ability of infrastructure to meet our needs, since 1988. In that time, the average grade has fallen from a C to a D. ASCE puts the dollar amount needed to improve that D to a B at $2.2 trillion dollars.

Highly publicized infrastructure failures only serve to underscore the point that we're failing in delivering and maintaining our infrastructure.

Examples include:

- The 2007 I-35 bridge collapse in Minneapolis, Minnesota, resulting in loss of life
- The 2005 catastrophic flooding of New Orleans
- The 2008 fracture of a 66" water pipe in Bethesda, Maryland, resulting in helicopter rescues of stranded motorists

The World Bank cites the following startling statistics for the developing world:

- 1.6 billion people have no power
- 1.2 billion people lack access to safe and potable drinking water
- 2.4 billion people are affected by inadequate sanitation and the diseases it spreads

Conventionally provided infrastructure is not able to keep up. It just costs too much to procure, procurement takes longer due to current laws, or the public money to pay for it is just not there.

Areas of infrastructure need based on the ASCE Report Card are as follows:

- Transportation – $1.4 trillion
- Water – $255 billion
- Schools – $160 billion

Of the $1.8 trillion dollars of need listed above, the ASCE Report Card shows $824 billion as funded, leaving close to a trillion dollars needed for infrastructure maintenance and improvement.

Resources

International

International P3 advisory agencies have been established in such diverse places as the United Kingdom, South Africa, Asia, and Canada to promote, support, and vet public-private partnership projects such as roads, ports, airports, power plants, water/wastewater systems, public buildings, schools, and hospitals.

These agencies have proliferated over the last ten years and form the model for new statewide agencies within the United States. P3 advisory agencies are divided into review or approval bodies; responsibilities range as follows:

- Business planning
- PPP approval
- Procurement process
- Project implementation
- Market development

Almost all are government-funded and a few (such as Infrastructure Ontario, Partnerships BC, and Partnerships UK) are also fee-for-service.

National

There is no national comparison to Partnerships UK in the United States although some private sector entities such as the Council of Project Finance Advisors (CPFA) are proposing such models. It remains to be seen if such a model would ever gain traction within the decentralized government of the United States.

In the tradition of the international models, the CPFA,[xxxiii] proposed and promoted by former Governor Howard Dean and former Mayor Stephen Goldsmith (both with the international law firm McKenna Long & Aldridge LLP), seeks to "recommend and advocate for a center of excellence on public-private partnerships."

The CPFA has the following goals:

- Center of expertise/best practices
- P3 market development
- Transparency/fairness support
- Communications
- Training/education programs
- Innovation information sharing
- Value for money assessments
- Project support

Opportunities

International

PPPs are most effective when the private sector firm has ties to the local community. Firms considering PPP projects should be prepared to start "locally", (or where they've established a relationship with the end users). Conversely, firms with specific expertise may find themselves in great demand whether they have a local presence or not.

Established Economies

The P3 advisory bodies are a great source for learning about international opportunities, developing projects and resources.

For example, a quick review of Partnerships BC[xxxiv] yields the following information:

- PPP project threshold raised to $50 million from $20 million
- One fixed-deadline opportunity

- Four no-fixed-deadline opportunities
- News on recent healthcare PPPs and financing
- Project listings for those awarded, in construction, and completed

A quick review of Partnerships BC gives one an immediate idea of the kinds of PPPs involved, the financial considerations, the types of projects that are completed as partnerships, and the outlook of the public sector about public-private partnerships.

Emerging Markets

Within emerging markets, the link between economic and social and "hard", and "soft", infrastructure are even more pronounced and intertwined. This is frequently the arena of NGOs (non-governmental organizations), which are also quasi-PPPs.

The World Bank and the United Nations[xxxv] both have centers for public-private partnerships. One program highlighted by the United Nations is the India Solar Loan Programme to support finance of solar home systems in India.

PPPs in emerging markets have potential commercial and social rewards and are generally concentrated in the transportation, energy, and defense sectors.[xxxvi] Some benefits include:

- Financing not reliant on public debt
- Technology transfer
- Formation/reforming of public sector to accommodate PPP model
- "Cherry", picking projects to maximize competition and market-based strengths.

However, working with the public sector in undeveloped countries can have additional risks[xxxvii] such as:

- Availability of cost-effective financing
- Limited financial flexibility of the public sector
- More complex and time-consuming transaction costs (primarily in the initial stages)
- Absence of reliable commercial and legal framework.

National

Very little infrastructure is controlled at the national level outside of transportation (Federal Highway System), national parks, federal buildings, homeland security and the military. The United States Department of Transportation does have resources for PPPs[xxxviii] and there is also the National Council for Public-Private Partnerships, which has a database of case studies across multiple sectors and states.

While the American Recovery and Reinvestment Act (ARRA) included funding for infrastructure projects, most of that work was classified as "shovel-ready". Since PPPs generally take years to get to the contract stage, most infrastructure work under the ARRA does not include PPPs.

Transportation

The federal government distributes funds to the states to be implemented "locally". Additionally, emphasis on particular infrastructure sectors has a lot to do with goals of the current administration. The Obama administration has put a premium on

transit programs. Therefore, more money for transportation infrastructure will potentially be heading for regional and municipal transit programs than for roads.

Maintenance/Management

Other forms of PPPs such as property maintenance or "greening", federal buildings (see following section on Private Sector Models) could introduce PPPs at the highest level(s). However, there is also the perception of more ,"density", to the federal bureaucracy, which may then slow down the PPP process, negating one of its primary benefits—reduction in schedule.

Regional, Statewide and Local

State and local budget shortfalls that have been caused by the evaporation of the tax base mean a partnering opportunity for the private sector. However, defining the opportunities is complex and ranges from available capabilities within the public and private sectors to availability of financing to, perhaps the most important element, enabling legislation.

However, states have recognized that they cannot meet the needs of infrastructure alone and are willingly exploring and adopting enabling legislation to accommodate alternate means for providing infrastructure.

Finding PPP opportunities means doing some work. Start with local agencies or with people familiar with land use or infrastructure needs to get a sense of how the public sector views PPPs and how solicited or unsolicited proposals are considered. A review of enabling legislation will also give private sector firms an idea of where opportunities may be waiting.

In an effort to get non-revenue (tax) producing assets off their books, many public sector agencies are shedding properties as quickly as possible. While improving cash flow in the short-term, hopefully these properties will then be developed into community assets.

Where the PPPs Are

Brien Desilets of Claret Consulting documents the emergence of local PPP entities in California, Michigan, and New York in a presentation entitled "US State & Local PPP Opportunities."[xxxix]

The Public Infrastructure Advisory Commission

California has established The Public Infrastructure Advisory Commission as an auxiliary unit of Business, Transportation and Housing Agency.[xl] Effective May 21, 2009, The Public Infrastructure Advisory Commission allows public agencies to partner with the private sector in creating innovative solutions to California's vast infrastructure needs. The web site for The Public Infrastructure Advisory Commission lists opportunities as well as tools and resources for PPPs (alternatively labeled Performance-Based Infrastructure).

The Public Infrastructure Advisory Commission project pipeline includes projects that:

- Meet a high-priority transportation need
- Enjoy significant public and political support

- Have or soon will have achieved sufficient environmental readiness
- Show the promise of greater value—including speed of delivery—than conventional procurement
- Have the potential to generate revenue or enhance program capacity through better cash flow or other means

Projects are listed on the pipeline in order of readiness and include, at the time of writing, nine projects with a total cost of $26 billion dollars. Projects include:

- North Coast I-5 HOV/Managed Lanes – $810 million
- Otay Mesa East Port of Entry / Attendant SR-11 – $700 million
- Schuyler Heim Bridge and SR-47 Expressway – $700 million
- High Desert Corridor – $2.5 billion
- I-710 North – $4.5 to $9 billion
- I-710 Freight Corridor – $6.7 billion
- Bay Area Express Lane Network – $6 billion

Commission on State Asset Maximization

The NY State Commission on State Asset Maximization (SAM), a subsidiary of public agency Empire State Development, "was established by Executive Order 11 in 2008 to study potential public-private partnerships for the State of New York. SAM's mission is to more efficiently leverage the State's physical and human capital resources to better serve its citizens."[xli] Unfortunately, as reported in May 2010 in *Infrastructure Investor Magazine,* any actual projects resulting from the SAM program are "on-hold", at least until the next administration takes control.

The ambitious State Asset Maximization final report highlights the following potential PPP projects:

- Package several separate bridge projects as one overall bridge improvement program through a public-private partnership
- Transit-Oriented Development through PPPs
- Pilot program to enable school districts with major anticipated capital construction programs to utilize alternative delivery approaches currently unavailable through existing legislative authority
- Examine and define the conditions under which new sources of private capital might be accessed to support needed capital construction programs for healthcare facilities
- Initiate a targeted pilot program for a select number of SUNY schools, such as five, to lease campus lands to private entities
- Support and encourage public-private partnerships in the development of electricity transmission and distribution infrastructure, including "smart-grid", technologies, using State-owned lands and right-of-ways
- Utilize long-term power purchase contracts with renewable energy developers to incentivize green businesses to locate in New York
- Support the development of a process for installing renewable energy technologies on State facilities, particularly those that are energy intensive, and have open space and/or compatible roofing
- Evaluate the potential for reducing the energy use and costs of aging properties,

which may not be currently optimized for energy efficiency, through the implementation of energy management strategies
- Pursue a public-private partnership with the telecommunications industry in which the State identifies and leases building rooftops, land holdings, and other fixed assets for all wireless carriers to expand their commercial network
- Finance new construction and consolidation of the State's data centers
- Disposition of surplus property should not be the only option for revenue enhancement from underutilized assets. Creative public-private partnerships, which utilize joint ventures, license agreements, ground leases, and other transaction alternatives, should be advanced to fulfill the State's short-term needs while building long-term value.

Michigan Office for Public-Private Partnerships

Governor Jennifer Granholm's administration established a new Office for Public-Private Partnerships within the state Treasury Department in 2008. The office is "responsible for coordinating, facilitating, and providing financial standardization and accountability for state PPP projects across a variety of sectors, including transportation, educational facilities, energy water/wastewater, corrections, public safety, and information technology."[xlii]

Initiatives include:
- Signing a three-year, $3.2 million contract with KPMG for privatization advisory services
- KPMG providing the state with 12 PPP proposals each year (only a handful will likely be implemented).

At an April 2009 conference of the National Council for Public-Private Partnerships, office director Joe Pavona told attendees Michigan is considering a wide range of PPP procurement options, including full concessions (asset leases), shadow tolling, availability payments, design-build, design-build-operate-maintain, and design-build-finance. [xliii]

Other PPP Opportunities

Within specific sectors or locales, Desilets' presentation targets the following opportunities:

Los Angeles:
- Airport
- Residential solid waste collection
- Water/wastewater facility operation
- Fleet maintenance services
- City-owned golf courses
- Animal shelters
- Parking facilities

Indianapolis:

- Grounds maintenance
- Pool and plumbing maintenance
- Forestry operations
- Towing services
- Water maintenance
- Payroll management
- Fleet services
- Landscaping
- HVAC
- Electrical services
- Procurement

Research and Development

The need for infrastructure is not limited simply to what can be built, but extends to the development of new products, services and ways of doing things.

Metropolis, *Popular Science,*[xliv] and *The Plan: Urban Development*, all featured articles on Infrastructure in January/February of 2010. The articles range in focus from products to urban planning, but they all illustrate a belief that new products and systems will not only make infrastructure less expensive to install or maintain, but will change its reputation from mundane to mystical, inviting a new level of client and community interaction and new models of infrastructure delivery.

From sexy bullet trains to buildings that grow food to wastewater systems that return drinkable water—new solutions are constantly emerging. Pothole sensing cars are three years to a working prototype. Self-healing concrete is already being tested. A neighborhood-sized saltwater purifier will be on the commercial market within a year. The

PPP Case Study #4

Project: Tampa Bay Water Desalinization Plant
Location: Tampa Bay Region, Florida
Public Partner: Tampa Bay Water
Private Partner: American Water-Pridesa
History: Tampa Bay Water first commissioned the construction of a seawater desalination plant in 1998. Due to bankruptcies of the contracted development and construction firms and inefficiencies of the filtering process, Tampa Bay Water re-acquired the facility and contracted with American Water-Pridesa in 2005 for complete overhaul and management of the treatment facility.
Financing: The initial unsuccessful 1998 project cost totaled $110 million, but remediation of the plant cost an additional $48 million, bringing the total project cost to $158 million. American Water-Pridesa entered into a contract for remediation, construction and operation with Tampa Bay Water in 2004 for $29.1 million. The contract also included an owner's allowance of $2.5 million. December 2007, Tampa Bay Water accepted the plant, taking over full ownership duties, per the agreement. American Water-Pridesa no longer operates the plant. The cost Tampa Bay Water charges its member governments is revenue neutral and only covers expenses. Members may determine the per gallon price to charge their customers.
Measures of Success: The Tampa Bay Seawater Desalination Plant now supplies the region with ten percent of its drinking water.

military takes delivery of its first broadband blimp this year for areas where hardwiring would be difficult. These and other new products and systems can help change the game and make infrastructure more affordable and likeable.

Private Sector Models

Firms interested in pursuing PPPs should consider non-traditional models such as greening our large portfolio of public buildings. The value of public-private partnerships is evaluated over the entire life of the project—not just the first costs. A model could be developed whereby, either through a solicited or unsolicited proposal, teams propose a design/build/finance/operate/maintain project for existing aging buildings where sustainability is the key driver.

The greening[xlv] of the Empire State Building (strictly a private project) through the combined efforts of the Clinton Climate Initiative, Johnson Controls Inc., Jones Lang LaSalle, and the Rocky Mountain Institute is an example. The project includes "a major sustainability retrofit", being undertaken in an effort to reduce energy consumption by 38 percent, reducing energy costs for the building by $4.4 million annually. By making the investment in the building, tenants should be easier to attract and retain.

"Infrastructure isn't sexy. But, we all need it, we all rely on it, our safety depends on it, and it's time that people start talking about it."

--Ed Rendell
Governor of Pennsylvania

Planning and Development Trends

On a local level, planning dramatically impacts infrastructure needs. By producing more goods and services locally, living closer to work, and rethinking our urban and suburban development, there will be less of a need to build and maintain large interstate highway systems. Instead, funds can go to local projects.

PPPs and Professional Services Firms

Now that we've defined our terms, taken a look at how infrastructure is (not) performing, considered how and under what circumstances a PPP can work, and investigated P3 opportunities… what does that mean for the future of public-private partnerships to address the failing of our infrastructure? How are we going to use PPPs to get infrastructure's grades up, improve its reputation, and most importantly, just make it better?

Qualifications

We are no longer simply seeking to partner with the public sector as a separate entity—we are the public sector. The evolving face of the client means that we are ALL lovers (and consumers) of infrastructure and have a

vested—even imperative—interest in making it attractive and worthy of our life-long devotion.

Expertise

Professional services firms are well positioned to put public-private partnerships to work for our infrastructure. Potential private sector PPP partners need to understand:

- Local/state/country enabling legislation
- Public sector and community expectations
- Financial terms, means of financing, and cash flows
- Up-front costs for preparing and submitting a public-private partnership proposal
- Teaming and expertise needs across different sectors and project types
- Team member roles
- Risk allocation and costs

Creativity and Relationships

There are ways for smaller firms or for architects and engineers to be involved in the process without breaking the bank. Perhaps their value comes in the form of client relationships and development or in conceiving and proposing creative solutions.

Infrastructure and PPPs

Reputation

Education and communication on both sides of the partnership need to be improved—possibly through a four-pronged approach including:

- Educating the public through public-sector executives and committed, lifetime bureaucrats
- Educating our neighbors, communities and states
- Lobbying for appropriate legislation
- Policing and educating ourselves to use the terminology and concepts consistently

There seem to be misunderstandings of public-private partnerships that a first-rate, high-profile marketing effort can eradicate. The public sector sometimes thinks PPPs are a way for the private sector to steal jobs while raking in obscene profits. On the other hand, the private sector believes their PPP will always cost less than if the public sector performed the same work.

Professional services marketers are uniquely qualified to take on this task and time is of the essence! Like a PPP proposal, educating the nation about PPPs is an enormous undertaking with uncertain rewards, but definitely a labor of love and an opportunity to let our creativity shine. Basic familiarity with financial and legal structures can only enhance our abilities to effectively communicate and put together a PPP.

The Public Sector Can't Do It Alone

According to the Center on Budget and Policies Priorities,[xlvi] approximately 3 percent (or $108 billion) of the federal budget went for transportation infrastructure in 2008—far short of the unfunded $1.4 trillion the ASCE asserts is needed to improve our transportation grade.

States are facing their own budget constraints—even budget crises—and are unable to make up for these shortfalls. Our infrastructure needs must be addressed; this is

an open opportunity for the private sector to step up to the plate and make a contribution.

In our February 18, 2010 phone conversation, David Birtwistle, Vice President of Business Development for Balfour Beatty's[xlvii] Washington division suggested that the public sector's constituents (i.e., you and me) have started questioning the public sector's ability to meet our common infrastructure needs and that public-private partnerships could be part of the solution. Birtwistle senses a change coming in the culture of public procurement.

Changing Shape of Government

Government is changing shape from tightly structured hierarchy to loosely affiliated networks.[xlviii] As government becomes flatter, and public agencies look for new ways to leverage their assets and abilities, they will continue to turn to the private sector who should be shoring up and building new relationships. The increasing "marketization", (when public agencies make themselves over in the image of their private counterparts) of public agencies is another area of opportunity. Savvy A/E/Cs could find ways to consult, model, or publish "how-to's", on service innovation to be utilized in the public sector.

Where Do We Go From Here?

With a renewed commitment from both the public and private sectors in "legalizing", and financing infrastructure PPPs, we may be able to chip away at the huge deficit in maintenance we're now facing and undertake new projects.

Private equity has been waiting in the wings. As confidence grows and banks require lower rates of securitization, projects will start moving forward at a greater pace. Brien Desilets of Claret Consulting said he strongly believes that not only is United States equity waiting in the wings, but international as well—just waiting to invest in the safe bet that is American infrastructure.

The more we invest, the faster we're able to pull our economy out of the unprecedented joblessness that has affected the United States since 2008. The public sector can't do it without us; it is time to make our own opportunities. We can foster innovation and new ways of doing things. Sustainability, innovation of products and services are all areas where professional services firms can lead.

Innovative solutions in terms of policy, products, public relations and service delivery are what is required of us now, so let's put our heads together and find some ways to fall in love with infrastructure, make it sexy and worthy of our life-long commitment.

The public-private partnership may just be one of those ways.

Authors and Liaison

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wals communications is the first studio launched by wals and combines Leslie's passions for art, design, and business through strategic marketing consulting. wals communications' primary focus is the architecture, engineering and construction (A/E/C) industry. The business of "building", is Leslie's first love. Bachelor degrees in Fine Arts and Architecture from the Rhode Island School of Design and an MBA from the University of Maryland; 15 years working within A/E firms as an intern, registered architect, project manager, and marketer; and close to two years in the trenches with wals communications give Leslie a unique perspective on the business of "buildings", and the people and processes behind the business.

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Appendix A – Private Sector Homework for PPP Research

Type of Government
(How are they organized?)

- Strong or weak city mayor with a city/county manager, and full- or part-time council. Who is really in charge?
- Homerule charter; look at the state enabling legislation to understand who has what authority or no authority.
- What is the economic history of the community(ies) involved? What are they proud of?

Elected Officials
(Who is in charge?)

- How long have the mayor and council/commission members served?
- When will the officials be up for election again? Nothing kills a project faster than a new mayor or council with no "buy in".
- Read six months of council or commission minutes to identify hot issues.
- Former Massachusetts Congressman Tip O'Neil was correct: "All politics is local." So are all the deals.
- Is there a crisis, i.e., regulatory order or court proceedings creating an opportunity for collective focus and leaps of faith to try new ideas and solve problems?

City Manager, Chief Financial Officer and Utility Director
(Who are the key appointed officials?)

- How long have they held their jobs (history)? Is the community's political/professional infrastructure stable? Experienced elected officials rely on their professional staff. Staff endorsement for a public-private project often carries more weight than an outside private company proposal. And, with term limits, the professional staff may be around long after the elected officials are replaced.
- Xenophobia (fear of foreigners) is rampant in local governments (e.g., no company office in state is viewed with suspicion).

Financial Conditions and Long-Range Plans
(Are they able to do a deal?)

- Comprehensive Annual Financial Report (CAFR)
  - Get the latest audit and financial reporting regarding infrastructure capacity (debt loads; asset management, and accounting).
  - Does the local government receive the important Government Finance Officers Association's Certificate of Achievement for Excellence in Financial Reporting?
- Budget Summaries
  - Is there an annual plan? Is it a program or performance-based budget?
  - Does the local government have a five-year capital budget?
  - Does the local government receive the Government Finance Officers Association's Distinguished Budget Presentation Award?
- Strategic Plan/Plan of Development
  - Do they have a long-range economic plan of development and sustainable growth planning option?

Recent Bond Issues
(How experienced are they?)

- Have you seen the last disclosure-offering statement provided the lending community?
- What kind of distracting and potentially expensive litigation activities exist in the local government or region preventing opportunities for solutions (i.e., water wars)?

State and Local Laws
(What are the ground rules?)

- Review state and local procurement and acquisition laws; avoid conflicts of interest.
- Review state ethics and sunshine laws to avoid putting yourself or the elected officials above the fold on the first page of the local newspapers. You don't want to be in an exposé. Mike Wallace or his local eye team equivalent may not be your friend.
- Review labor laws (e.g., mandatory union participation like Minnesota or right-to-work like Florida). The more local stakeholders the more hoops to get a deal done in the public interest.

Media
(Can you innovate without getting beat up?)

- Local media—read at least six months of the local newspapers and editorials to see the issues and strengths of the media on the issues. At some point, you will need to visit with reporters and editorial boards to address concerns and develop local support.

Economic Climate
(Can they afford and support a deal?)

- Attend Chamber of Commerce programs (business community interests and strengths).
- Review Committees of 100 proposals and visions.
- Any special stakeholder economic development advisory committees the mayor and council will listen to about projects?
- Is the local business community engaged in addressing local government issues?

Appendix B – Public-private partnership descriptions as provided by the National Council for Public-Private Partnerships (NCPPP)

O&M: Operations and Maintenance

A public partner (federal, state, or local government agency or authority) contracts with a private partner to provide and/or maintain a specific service. Under the private operation and maintenance option, the public partner retains ownership and overall management of the public facility or system.

OMM: Operations, Maintenance & Management

A public partner (federal, state, or local government agency or authority) contracts with a private partner to operate, maintain, and manage a facility or system providing a service. Under this contract option, the public partner retains ownership of the public facility or system, but the private party may invest its own capital in the facility or system. Any private investment is carefully calculated in relation to its contributions to operational efficiencies and savings over the term of the contract. Generally, the longer the contract term, the greater the opportunity for increased private investment because there is more time available in which to recoup any investment and earn a reasonable return. Many local governments use this contractual partnership to provide wastewater treatment services.

DB: Design-Build

A DB is when the private partner provides both design and construction of a project to the public agency. This type of partnership can reduce time, save money, provide stronger guarantees and allocate additional project risk to the private sector. It also reduces conflict by having a single entity responsible to the public owner for the design and construction. The public sector partner owns the assets and has the responsibility for the operation and maintenance.

DBM: Design-Build-Maintain

A DBM is similar to a DB except the maintenance of the facility for some period of time becomes the responsibility of the private sector partner. The benefits are similar to the DB with maintenance risk being allocated to the private sector partner and the guarantee expanded to include maintenance. The public sector partner owns and operates the assets.

DBO: Design-Build-Operate

A single contract is awarded for the design, construction, and operation of a capital improvement. Title to the facility remains with the public sector unless the project is a design/build/operate/transfer or design/build/own/operate project. The DBO method of contracting is contrary to the separated and sequential approach ordinarily used in the United States by both the public and private sectors. This method involves one contract for design with an architect or engineer, followed by a different contract with a builder for project construction, followed by operation of the project by a separate concessionaire. A simple design-build approach creates a single point of responsibility for design and construction and can speed project completion by facilitating the overlap of the design and construction phases of the project. On a public project, the operations phase is normally handled by the public sector under a

separate operations and maintenance agreement. Combining all three phases into a DBO approach maintains the continuity of private sector involvement and can facilitate private-sector financing of public projects supported by user fees generated during the operations phase.

DBOM: Design-Build-Operate-Maintain

The design-build-operate-maintain (DBOM) model is an integrated partnership that combines the design and construction responsibilities of design-build procurements with operations and maintenance. These project components are procured from the private sector in a single contract with financing secured by the public sector. The public agency maintains ownership and retains a significant level of oversight of the operations through terms defined in the contract.

DBFOM: Design-Build-Finance-Operate-Maintain

With the Design-Build-Finance-Operate-Maintain (DBFOM) approach, the responsibilities for designing, building, financing, operating, and maintaining are bundled together and transferred to private sector partners. There is a great deal of variety in DBFOM arrangements in the United States, and especially the degree to which financial responsibilities are actually transferred to the private sector. One commonality that cuts across all DBFOM projects is that they are either partly or wholly financed by debt-leveraging revenue streams dedicated to the project. Direct user fees (tolls) are the most common revenue source; however, others range from lease payments to shadow tolls and vehicle registration fees. Future revenues are leveraged to issue bonds or other debt that provide funds for capital and project development costs. They are also often supplemented by public sector grants in the form of money or contributions in kind, such as right-of-way. In certain cases, private partners may be required to make equity investments as well. Value for money can be attained through life-cycle costing.

DBFOMT: Design-Build-Finance-Operate-Maintain-Transfer

The Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) partnership model is the same as a DBFOM except that the private sector owns the asset until the end of the contract when the ownership is transferred to the public sector. While common abroad, DBFOMT is not often used in the United States today.

BOT: Build-Operate-Transfer

The private partner builds a facility to the specifications agreed to by the public agency, operates the facility for a specified time period under a contract or franchise agreement with the agency, and then transfers the facility to the agency at the end of the specified period of time. In most cases, the private partner will also provide some, or all, of the financing for the facility, so the length of the contract or franchise must be sufficient to enable the private partner to realize a reasonable return on its investment through user charges. At the end of the franchise period, the public partner can assume operating responsibility for the facility, contract the operations to the original franchise holder, or award a new contract or franchise to a new private partner. The BTO model is similar to the BOT model, except that the transfer to the public owner takes place at the time that construction is completed, rather than at the end of the

franchise period; the private partner continues to operate the facility for the duration of the contract.

BOO: Build-Own-Operate

The contractor constructs and operates a facility without transferring ownership to the public sector. Legal title to the facility remains in the private sector, and there is no obligation for the public sector to purchase the facility or take title. A BOO transaction may qualify for tax-exempt status as a service contract if all Internal Revenue Code requirements are satisfied.

BBO: Buy-Build-Operate

A BBO is a form of asset sale that includes a rehabilitation or expansion of an existing facility. The government sells the asset to the private sector entity, which then makes the improvements necessary to operate the facility in a profitable manner.

Developer Finance

The private party finances the construction or expansion of a public facility in exchange for the right to build residential housing, commercial stores, and/or industrial facilities at the site. The private developer contributes capital and may operate the facility under the oversight of the government. The developer gains the right to use the facility and may receive future income from user fees.

While developers may in rare cases build a facility, more typically they are charged a fee or required to purchase capacity in an existing facility. This payment is used to expand or upgrade the facility. Developer financing arrangements are often called capacity credits, impact fees, or extractions. Developer financing may be voluntary or involuntary depending on the specific local circumstances.

EUL: Enhanced Use Leasing or Underutilized Asset

An EUL is an asset management program in the Department of Veterans Affairs (VA) that can include a variety of different leasing arrangements (e.g. lease/develop/operate, build/develop/operate). EULs enable the VA to long-term lease VA-controlled property to the private sector or other public entities for non-VA uses in return for receiving fair consideration (monetary or in-kind) that enhances VA's mission or programs.

LDO or BDO: Lease-Develop-Operate or Build-Develop-Operate

Under these partnership arrangements, the private party leases or buys an existing facility from a public agency; invests its own capital to renovate, modernize, and/or expand the facility; and then operates it under a contract with the public agency. A number of different types of municipal transit facilities have been leased and developed under LDO and BDO arrangements.

Lease/Purchase

A lease/purchase is an installment-purchase contract. Under this model, the private sector finances and builds a new facility, which it then leases to a public agency. The public agency makes scheduled lease payments to the private party. The public agency accrues equity in the facility with each payment. At the end of the lease term, the public agency owns the facility or purchases it at the cost of any remaining unpaid balance in the lease. Under this arrangement, the facility may be operated by either the public agency or the private developer during the term of the lease. Lease/purchase arrangements have been used by the General Services Administration for building federal

office buildings and by a number of states to build prisons and other correctional facilities.

Sale/Leaseback

This is a financial arrangement in which the owner of a facility sells it to another entity, and subsequently leases it back from the new owner. Both public and private entities may enter into sale/leaseback arrangements for a variety of reasons. An innovative application of the sale/leaseback technique is the sale of a public facility to a public or private holding company for the purposes of limiting governmental liability under certain statutes. Under this arrangement, the government that sold the facility leases it back and continues to operate it.

Tax-Exempt Lease

A public partner finances capital assets or facilities by borrowing funds from a private investor or financial institution. The private partner generally acquires title to the asset, but then transfers it to the public partner either at the beginning or end of the lease term. The portion of the lease payment used to pay interest on the capital investment is tax exempt under state and federal laws. Tax-exempt leases have been used to finance a wide variety of capital assets, ranging from computers to telecommunication systems and municipal vehicle fleets.

Turnkey

A public agency contracts with a private investor/vendor to design and build a complete facility in accordance with specified performance standards and criteria agreed to between the agency and the vendor. The private developer commits to build the facility for a fixed price and absorbs the construction risk of meeting that price commitment. Generally, in a turnkey transaction, the private partners use fast-track construction techniques (such as design-build) and are not bound by traditional public sector procurement regulations. This combination often enables the private partner to complete the facility in significantly less time and for less cost than could be accomplished under traditional construction techniques.

In a turnkey transaction, financing and ownership of the facility can rest with either the public or private partner. For example, the public agency might provide the financing, with the attendant costs and risks. Alternatively, the private party might provide the financing capital, generally in exchange for a long-term contract to operate the facility.

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[ii] public-private partnership. www.ncppp.org/howpart/index.shtml#define, (accessed: December 17, 2009).
[iii] As proposed by Grimsey and Lewis in their book *Public Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance*.
[iv] Marketization is when public agencies make themselves over in the image of their private counterparts—and then frequently compete with them for work.
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[vi] Pages 20-21, *Public Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance.*
[vii] Page 23, *You Don't Always Get What You Pay For: The Economics of Privatization* and from "Privatization and the Federal Government: An Introduction."
[viii] Page 23-24, *You Don't Always Get What You Pay For: The Economics of Privatization* and from "Privatization and the Federal Government: An Introduction." Excludability means others cannot be prevented from using it. Rivalrousness means one person's use of something does not diminish another person's use of the same thing.
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[xvi] page 1, *You Don't Always Get What You Pay For: The Economics of Privatization.*

[xviii] E.S. Savas begins his book *Privatization in the City* with an explanation of how big-city mayors were looking to the Federal Government to "pay", them out of their problems. Coupled with the shift in economic policy accompanying the Reagan era and the rush to privatize in Great Britain and Europe, privatization through the public-private partnership began to gain traction in the US.
[xix] www.pwfinance.net/pwf_major_projects.pdf

[xx] Response number includes full and partially completed responses where this question was answered in its entirety.
[xxi] The areas listed for infrastructure privatization included: roads/transportation, water/utilities, K-12 schools/higher education, police/fire, community center/library, municipal garages/service centers, maintenance/operations, monetization of public assets. Respondents added the following: energy, landfills/solid waste, corrections/detention, convention centers, medical, and environmental protection.
[xxii] Sclar recommends activity-based cost accounting as a means of reviewing public costs and private costs to get more of an apples-to-apples comparison.
[xxiii] From NCPPP definition of PPP types and referencing "Public-Private Partnerships: Terms Related to Building and Facility Partnerships," Government Accounting Office, April 1999. The National Council for Public-Private Partnerships was a resource used in developing the GAO report. Full descriptions of all terms are included as Appendix B. www.ncppp.org/howpart/ppptypes.shtml (accessed: February, 19, 2010.)
[xxiv] Information excerpted from "A Survey of PPP Legislation Across the United States" by Michael E. Pikiel, Jr. and Lillian Plata of Fulbright & Jaworski, LLP for Global Infrastructure, Volume 1
[xxv] "Focus on Insurance: New Alignments, New Risks." www.construction.com. From the Association of General Contractors *Constructor Magazine* May-June 2009. www.constructor.construction.com/mag/2009_5-6/features/0905-60.asp (accessed on 1/22/2010).
[xxvi] The federal gas tax goes to maintain the interstate highway system as well as other transportation projects.
[xxvii] page 45, *Public Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance.*
[xxviii] www.whitehouse.gov/the-press-office/recovery-numbers (accessed: February 18, 2010).
[xxix] www.fluor.com (accessed: 2-16-2010).
[xxx] JP Morgan (www.jpmorgan.com), Morgan Stanley (www.morganstanley.com) Goldman Sachs (www.goldmansachs.com), and US Global Investors (www.usfunds.com) to name just a few.
[xxxi] reference the European Investment Bank www.eib.org (accessed: 2-11-2010) and the Private Finance Initiative (PFI) www.hm-treasury.gov.uk/ppp_index.htm from the UK (accessed: February 20, 2010).
[xxxii] www.fhwa.dot.gov/ipd/tifia/ (accessed May, 3, 2010).
[xxxiii] www.mckennalong.com/news-1617.html (accessed: April 19, 2010).
[xxxiv] www.partnershipsbc.ca (accessed: April 19, 2010).
[xxxv] www.un.org/partnerships/undf_news.html (accessed: April 19, 2010).
[xxxvi] page 221, *Public Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance.*
[xxxvii] page 223, Ibid.

[xxxviii] www.fhwa.dot.gov/ipd/p3/index.htm (accessed: April 19, 2010).
[xxxix] www.claretconsult.com (accessed: April 19, 2010).
[xl] www.publicinfrastructure.ca.gov (accessed: April 19, 2010).
[xli] www.esd.ny.gov/resources/sam.html (accessed: April 19, 2010).
[xlii] www.reason.org/blog/show/michigan-lege-passes-budget-ad (accessed: April 19, 2010).
[xliii] ibid.
[xliv] pages 38 through 45, "Rebuilding America: 25 New Technologies to Transform Our Crumbling Infrastructure."
[xlv] Website for greening of the Empire State Building (ESBS) www.esbsmtainability.com/SocMe/?Id=0 (accessed: February 17, 2010).
[xlvi] www.cbpp.org, based on Congressional Budget Office numbers from 2008, (accessed: February 18, 2010).
[xlvii] (www.balfourbeatty.com) (accessed multiple times in February 2010).
[xlviii] Goldsmith, Stephen and Eggers, William D. *Governing by Network: The New Shape of the Public Sector.*

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"Wake Up, Recover, and Grow in 2011"

OCTOBER 11 – 12
WASHINGTON, DC

MONDAY, OCTOBER 11

6 – 7:30 pm **Networking Reception** (included in Think Tank registration)

TUESDAY, OCTOBER 12

7:30 – 8:30 am **Registration and Continental Breakfast**

8:30 – 8:45 am **Welcome**

8:45 – 11:45 am **Panel Discussion: A/E/C Firm Success Stories**
Top executives from innovative A/E/C firms will share their success stories and advice for growth in 2011.

- David L. Richter, President and COO, Hill International
- Thomas Z. Scarangello, P.E., Chairman, Thornton-Tomasetti
- Jim Slack, CEO, Slack and Company
- John Tarpey, Regional CEO-North Region, Balfour Beatty

Noon – 1:30 pm **Luncheon Keynote Presentation: "Fast Forward—Marketing for Changing Demographics"**
by James Chung, President, Reach Advisors

1:30 – 4:15 pm **Panel Discussion: Owner and Client Expectations for 2011**
Owners and clients from various industries and government agencies will discuss their expectations for the coming year.

- American Association of State Highway and Transportation Officials *(Invited)*
- US Army Corps of Engineers *(Invited)*
- Federal Highway Administration *(Invited)*
- Robert Peck, Commissioner of Public Buildings, General Services Administration *(Invited)*
- Steve Thweatt, VP, Design and Construction, Emory University *(Invited)*

4:15 – 4:30 pm **Wrap-Up**

Program Moderators:

- Thomas D. Boogher, CPSM, Executive Vice President/CMO, Professional Service Industries (PSI)
- Janice Tuchman, Editor-In-Chief, *Engineering–News Record*

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