

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

## **Introduction**

This memo discusses public private partnerships (PPPs) in infrastructure, their benefits and risks, and factors that affect the growth of an effective U.S. PPP market.<sup>1</sup> We cover both PPP projects between procuring government agencies and private firms and the role of national PPP units that provide guidance and technical expertise to procuring agencies on project selection and related matters.<sup>2</sup> Both types of PPP organizations are necessary to support a well-functioning PPP market in which private capital and expertise are combined with public policy goals to deliver services to the public.

Under a PPP arrangement, the government contracts with a private firm to construct, operate or maintain an infrastructure asset, or take on some combination of those roles. The division of responsibilities between the government and the private firm, including the assumption of various types of risk and financing responsibility, is spelled out in the contract.

The main benefit of PPP arrangements is the transfer to the private sector of those risks it can better and more cost-effectively manage, which will enhance social welfare. Private parties will only enter into a PPP arrangement if they project that the asset can generate a profit. Moreover, if the project fails to generate the expected revenue, there is a risk that the private partner will fail, and the government will need to take on the distressed asset. For that reason, PPP projects should be kept on the public sector balance sheet to ensure transparency about future taxpayer liabilities. Well-designed bidding processes and contracts are essential to ensuring the success of PPP arrangements for both government and private partners.

The effect of PPP arrangements on government costs is ambiguous. While PPP arrangements reduce the investment, operation or maintenance costs to the government, the government also foregoes at least part of the revenue stream that the assets can generate. Embedded in the decision to do a PPP arrangement is a willingness to charge for use of the asset rather than making it a free good to the public, for example, charging a toll to cross a bridge.<sup>3</sup>

---

<sup>1</sup> This paper was authored by Neal Stolleman

<sup>2</sup> Generally, a PPP unit is not housed within a “line” agency. Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011.

<sup>3</sup> PPP contract structures can vary. For example, the government may receive revenue from leasing the infrastructure asset to the private partner who operates it as a concession for the term of the contract.

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

The remainder of the document is organized as follows:

<b>PPP arrangements between the government and the private sector – benefits</b>	<b>2</b>
<b>PPP arrangements – risks (subject to amelioration by the centralized unit)</b>	<b>4</b>
<b>The PPP Unit – functions and responsibilities</b>	<b>6</b>
<b>Benefits of PPP unit</b>	<b>7</b>
<b>PPP Unit – risks to consider</b>	<b>8</b>
<b>Why is the U.S. PPP market underdeveloped?</b>	<b>9</b>
<b>Appendix (positive and negative examples of PPP projects and centralized units)</b>	<b>12</b>

**PPP arrangements between the government and the private sector - benefits**

Setting up a PPP arrangement between government procuring agency and a private firm has several benefits. The private entity will often have more technical expertise than the government agency, e.g. in construction methods as well as expertise in project management; there is evidence that the private sector is more cost efficient at managing infrastructure construction and service delivery than the government.<sup>4</sup>

PPP arrangements also have the potential to improve the quality of maintenance by bundling construction and ongoing maintenance responsibilities into a single contract; this gives the private entity an incentive to minimize “whole of life” costs by optimizing the maintenance/construction mix.<sup>5</sup> (As indicated below, one of the key roles for the centralized PPP Unit should be the development of efficiency-enhancing, standardized contract terms such as construction/maintenance bundling).

More generally, the main benefit of a PPP arrangement arises from the transfer of appropriate risk to the private sector, specifically those risks that can be best and most cost effectively managed by the private firm.<sup>6</sup> This again is a role for the PPP unit in terms of promulgating standardized contract terms. (As discussed below, Partnerships Victoria, the state-level PPP Unit provides policy guidance to state agencies regarding the state’s risk position. However,

---

<sup>4</sup> Public-Private Partnerships - Reference Guide Version 1.0, World Bank Institute, Public Private Infrastructure Advisory Facility (PPIAF), © 2012

<sup>5</sup> Public-Private Partnerships - Reference Guide Version 1.0, World Bank Institute, Public Private Infrastructure Advisory Facility (PPIAF), © 2012

<sup>6</sup> Guidebook on Promoting Good Governance in Public-Private Partnerships, United Nations Economic Commission for Europe, 2008

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

appropriate risk-allocation is not always achieved in practice, as indicated by the UK's PFI experience of several years ago).

An example of a successful U.S. PPP arrangement is the Port of Galveston Cruise Terminal Development.<sup>7</sup> This project was undertaken to meet the growing demand for cruise ship capacity and to rapidly capitalize on the economic benefits to the local and state economy and tax base. The Port of Galveston formed a PPP with Royal Caribbean, Carnival and CH2M HILL in 2002 to expand cruise ship service and facilities, the first time a PPP was used for a port project in Texas. The formation of the PPP involved creating a third-party legal entity to hold the cruise line contracts and the lease with the Port (also, the PPP agreement allowed operating profits to be held by the Port for future investment in other expansion projects).

The private sector provided up-front investment in exchange for commercial terms regarding the return on its investment. The public sector conserved its capital funds, while receiving increased revenues from growth in related employment and commercial revenues. The contract, financing structure, and partnering concepts used to deliver the project was unique in the U.S. cruise market. Design-build delivery was used on the project to provide singular responsibility on the private sector for risks associated with administration, design, construction quality, time savings, and early knowledge of guaranteed construction costs for bonding. The project provided for a fixed-price contract with bridge loans from the private partners to allow fast-track construction until a bond could be issued by the Port. Long-term financing for completing cruise facilities was provided through creation of the Galveston Port Facilities Corp., which could issue federal tax-exempt bonds. All debt was supported by carefully analyzed cash flows. The success of the PPP has helped the Port continue its growth, accrue benefits to the local and state economy, and take a leadership position in the cruise industry.

Another example of a successful PPP arrangement is the JFK Airport International Terminal.<sup>8</sup> When capital improvements were necessary to enhance and expand the international terminal at New York's JFK Airport in 1999, the Port Authority of New York and New Jersey had limited debt capacity to finance the improvements. A PPP allowed for concurrent operation of the old facility and construction of the improvements, which otherwise would have encountered significant delays and logistical challenges.

---

<sup>7</sup> <http://www.ncppp.org/resources/case-studies/transportation-infrastructure/port-of-galveston-cruise-terminal-development/>

<sup>8</sup> Testing Tradition – Assessing the Added Value of Public-Private Partnerships, the National Council for Public Private Partnerships, © 2012

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

Following a competitive bidding process involving international consortia of private developers, operators, and financiers, a private company (i.e. a special purpose vehicle, or Project Company) entered into a 28-year lease with the Port Authority. The arrangement allowed private partners to design, finance, build, operate, and manage the facility, and assume the associated risks. The \$1.4-billion terminal, which opened in May 2001, was financed with tax-exempt special project debt, public investment and private equity; the new terminal opened at 90% occupancy and has generated income since inception.<sup>9</sup>

**PPP arrangements – risks (subject to amelioration by the centralized unit)**

Incomplete contracts, in which contract terms or standards are ill defined, or certain contingencies are omitted, are arguably the greatest risk in PPP arrangements. An incomplete contract can lead to a premature renegotiation of the contract that can undo the competitive benefits of the initial auction that awarded the contract and lead to higher costs;<sup>10</sup> usually renegotiation takes place during the construction phase and favors the private entity.<sup>11</sup>

To ensure a robust competitive procurement process, the government needs to put forward a well-defined and well-structured project. Otherwise, bidders may make non-comparable bids (since assumption sets are not well defined) or deliberately bid too low, expecting to resolve uncertainties in post-bid negotiations that lead to higher costs. A high incidence of renegotiation soon after concession award reflects flaws in the tender process, weak regulation or opportunism.<sup>12</sup>

Inflexible contract terms may hinder the government’s ability to advance the public interest by responding to unanticipated problems, such as excess demand. For example, a binding non-compete clause can prevent the government from supplying a competitive alternative to the PPP-based service even when it would be socially beneficial. In 1995, the California Department of Transportation (CALtrans) contracted a 4-lane, 10-mile segment of SR91 between the Orange County-Riverside County line to a private firm, California Private Transportation Corporation

---

<sup>9</sup> <http://www.ncppp.org/resources/case-studies/transportation-infrastructure/international-air-terminal-4-at-john-f-kennedy-airport/>

<sup>10</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

<sup>11</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

<sup>12</sup> Public-Private Partnerships - Reference Guide Version 1.0, World Bank Institute, Public Private Infrastructure Advisory Facility (PPIAF), © 2012

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

(CPTC) for 35 years.<sup>13</sup> Commuters used these tolled express lanes to avoid congestion in the non-tolled, public lanes. CPTC had flexibility to raise tolls to relieve congestion. By the late 1990s, peak-time volume on the toll road was nearly congested and CPTC enjoyed a large revenue stream. At the same time, there was severe congestion on the non-tolled public lanes and expansion was called for; however, this was precluded by a non-compete clause. After several years of negotiations the California legislature gave the Orange County Transportation Authority (OCTA) authority to finally purchase the toll road and collect tolls.

At the other extreme, contracts that allow competitive substitutes to be built without any restraint expose the PPP partner to potential losses; private participation would be discouraged if such open-ended risks were embodied in standard PPP contracts.<sup>14</sup> In the late 1980s an investor group believed that a toll road linking Dulles International Airport with Leesburg Virginia would be profitable because projected residential and commercial growth in the area was expected to increase congestion on nearby arterial roads.<sup>15</sup> The investors financed about 10% of the project with equity and 90% by issuing privately placed taxable debt to be repaid with future toll revenue; the road opened in 1996. Commuters exhibited a strong aversion to paying tolls, however, and actual traffic volume was far below projections. At the same time, the Commonwealth of Virginia widened a nearby alternative public route. Toll rates were lowered to increase usage, bond terms were renegotiated and some investors wrote off their equity. After refinancing and extending the franchise term, the project became financially viable, but not without private investors having to absorb losses.

These examples illustrate that inappropriate risk allocation between the public and private parties can have an adverse effect on PPP performance. If the private firm assumes all of the demand risk because of an overly optimistic projection of the demand for infrastructure services, the firm will incur losses, and tax payers will have to absorb any losses that exceed the equity in the Project Company.<sup>16, 17</sup>

---

<sup>13</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

<sup>14</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

<sup>15</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

<sup>16</sup> Public-Private Partnerships - Reference Guide Version 1.0, World Bank Institute, Public Private Infrastructure Advisory Facility (PPIAF), © 2012

<sup>17</sup> If the private firm sets up a special purpose vehicle to participate in the PPP arrangement with the government, it is sometimes referred to as the Project Company. The Project Company negotiates contracts with the government, contractors, and lenders. The original private firm, the project ‘sponsor’, would hold an equity stake in the Project Company; in principle, the government can also contribute equity.

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

The private firm’s exposure to demand risk can be mitigated if the government provides a revenue floor based on a minimum amount of guaranteed demand.<sup>18</sup> However, this shifts more of the demand risk to the government in the event realized demand for infrastructure services is less than expected. In particular, there is a risk that PPP’s may create public sector fiscal contingent liabilities because project sponsors or responsible government officials may have an incentive to overestimate demand to push through projects that are not viable and ‘hide’ the need for subsidies.<sup>19</sup> PPPs can therefore give rise to excessive implicit guarantees through weak contracts.

The use of a PPP arrangement to circumvent budgetary controls simply defers a cost into the future, as in the UK experience. For instance, expressing the total public commitment for a capital outlay as a periodic payment to the PPP instead of recognizing it up front masks the total taxpayer obligation.<sup>20</sup>

**The PPP Unit – functions and responsibilities**

The key role of a centralized PPP Unit is to develop and support the management of the project preparation process, providing policy, technical and legal support mechanisms to local authorities and agencies that have project procurement responsibility, and to reduce bid times and costs with standardized contracts and procedures.<sup>21</sup>

Lack of standardization has inhibited the development of the PPP market in the United States.<sup>22</sup> Creating a set of standardized procedures and best practices will reduce the high level of transactions costs<sup>23</sup> that can characterize PPP contractual arrangements, and will increase the efficiency with which private sector capital is matched with public sector investment requirements. For example, Ontario Infrastructure developed standard payment mechanisms and

---

<sup>18</sup> Guidebook on Promoting Good Governance in Public-Private Partnerships, United Nations Economic Commission for Europe, 2008

<sup>19</sup> Public-Private Partnerships - Reference Guide Version 1.0, World Bank Institute, Public Private Infrastructure Advisory Facility (PPIAF), © 2012

<sup>20</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>21</sup> Guidebook on Promoting Good Governance in Public-Private Partnerships, United Nations Economic Commission for Europe, 2008

<sup>22</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>23</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

project performance metrics.<sup>24</sup> In a U.S. context, a centralized PPP Unit could provide technical assistance, project evaluation, policy guidance, and performance metrics to a procuring agency, which could be a federal agency or its state-level counterpart. The mix of staff support services provided by the PPP unit can vary, but one of its critical functions is to provide standardized, modularized contractual arrangements, payment mechanisms and procurement procedures to the procuring agencies.

The PPP unit also provides quality control, improves coordination at multiple levels of government, facilitates stakeholder engagement, and consolidates information on PPP opportunities that can be disseminated to reduce informational problems.<sup>25</sup>

Quality control essentially means that the PPP Unit serves as the first reviewer,<sup>26</sup> to ensure that a project is being considered for the right reason, e.g. that it is not intended as a way to circumvent legitimate budget constraints (see below); the PPP Unit can also determine if the project satisfies a set of predetermined decision criteria before it enters the formal procurement process.<sup>27</sup>

The technical assistance that a PPP unit provides to procuring agencies can take on a variety of forms, including selection of the appropriate discount rate as well as more detailed assistance with the value for money analysis.<sup>28</sup> Guidance on, and evaluation of, alternative possible contract forms may be supplied by the unit. For example, should the public entity handle the financing of the project while the private entity is responsible for the asset's design, construction, operation and maintenance, or should the private entity also be responsible for financing and receive compensation (e.g. through user fees on a toll road)?

### **Benefits of PPP unit**

In order for the benefits of a centralized PPP Unit to be realized it is critical that the government specifies the division of roles and responsibilities between the public and private sectors. The government must provide clarity with respect to: market structure, regulation, pricing, subsidies,

---

<sup>24</sup> Istrate, Emilia and Robert Puentes, "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units", Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>25</sup> Istrate, Emilia and Robert Puentes, "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units", Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>26</sup> Istrate, Emilia and Robert Puentes, "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units", Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>27</sup> 6th Annual Meeting of Senior PPP Officials, Capital Budgeting and Procurement Practices, OECD April 2013  
Infrastructure UK – A New Approach to Public Private Partnerships: PF2

<sup>28</sup> Istrate, Emilia and Robert Puentes, "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units", Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

ownership and financing responsibilities.<sup>29</sup> These actions will help establish a predictable, stable and consistent framework that addresses protection of investor rights, simplifies rules, and encourages private participation.<sup>30</sup>

A key role for the PPP Unit is to impart standardized and harmonized best practices, processes, and contract terms to lower transactions costs and increase the efficiency with which private sector sources of capital are matched with public sector investment needs. This can help spur development of the PPP market in the U.S. by speeding “deal flow” and increasing the consistency of deal flow to encourage private investment.<sup>31</sup> One of the impediments to the development of a robust PPP market in the United States is that deal flow has been inconsistent and/or irregular, and that deal characteristics and contract terms vary substantially across jurisdictions and projects;<sup>32</sup> therefore, institutional investors do not have a large incentive to incur the fixed costs of increasing staffs and acquiring expertise to evaluate a patchwork of projects.

To illustrate, Australia has a Federalist system of PPP units. Created at the national level in 2008, Infrastructure Australia is not primarily focused on specific PPP procurement projects, but on the larger infrastructure system, and has created a national PPP policy framework and national standards for PPP arrangements.<sup>33</sup> This type of overarching organization with its broad strategic perspective has the added benefit of enabling project prioritization to occur at the system level, rather than the specific agency level, which helps to optimize project portfolios.

At the Australian state-level, Partnerships Victoria was one of the first sub-national PPP units, created in 2000. Partnerships Victoria was established with the goals of better infrastructure delivery, improved financing options for the government and more private competition for PPP bids. The focus was on appropriate risk transfer to the private sector rather than moving projects off the state’s budget. The state PPP unit created a policy framework for state agencies to follow and provides guidance on the procurement process, including the state’s risk position. In addition, a procurement analysis is required early in the project planning process that considers

---

<sup>29</sup> Richard Dobbs, et al, “Infrastructure Productivity: How to Save \$1 Trillion per Year”, McKinsey Global Institute, January 2013

<sup>30</sup> Guidebook on Promoting Good Governance in Public-Private Partnerships, United Nations Economic Commission for Europe, 2008

<sup>31</sup> Conversation with Mathew Vickerstaff, Citigroup

<sup>32</sup> Conversation with Mathew Vickerstaff, Citigroup

<sup>33</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

alternative project delivery methods. Due to its successful operation Partnerships Victoria became a model for other state PPP units.<sup>34</sup>

Similarly, the UK has also undergone regional devolution, so that PPP units may be established at lower government jurisdictional levels. At the municipal level, Local Partnerships is joint venture of the Local Government Association (LGA) and HM Treasury – and provides project support, gateway reviews, and is based on funding availability and priorities set by the LGA and the UK’s National Efficiency Review.<sup>35</sup>

These examples illustrate the importance of imparting standardized procedures and best practices, as well as establishing effective coordination across different governmental jurisdictions. In the U.S., states that currently lack robust PPP capacity would certainly benefit from centralized staff support, e.g. having the PPP Unit review and provide advice on business cases. And, a similar devolution of PPP responsibilities to state and local levels where projects are implemented could facilitate the PPP Market as well.

**PPP Unit – risks to consider**

The PPP unit should also play a risk management role, evaluating the long term fiscal consequences and promoting appropriate risk transfer to the private sector.<sup>36</sup> The PPP unit needs to evaluate the PPP proposals of procuring agencies from the perspective that a PPP arrangement is a financing tool and is not a new source of funding or mechanism for circumventing legitimate budget constraints.<sup>37</sup> Moreover, the PPP unit has to perform its quality control functions, such as contract enforcement or project audit, independently of its technical assistance, in order to avoid a conflict of interest (as may have occurred when accounting firms provided both audit and consulting services to clients in the pre-Sarbanes Oxley environment); therefore, the two functional areas should be undertaken by completely separate organizations (under the PPP Unit umbrella).<sup>38</sup>

---

<sup>34</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>35</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>36</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>37</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>38</sup> Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

Several years ago, concerns were raised about the UK’s Public Finance Initiative (PFI) precisely because some of these precepts were not followed. PFI is a procurement method using private sector capacity and public resources to deliver public sector infrastructure, utilizing PPP arrangements.<sup>39</sup> In 2009, 600 PPP projects were operational across diverse infrastructure sectors such as transportation, education, and defense. The original motivation for using PPPs appears largely to have been to have a source of off-budget public investment; only 23% of capital costs associated with operational projects appeared on the government balance sheet (this also helped government comply with terms of the Treaty of Maastricht). There was also a tendency to renegotiate contracts during the construction phase to re-institute project requirements that had been dropped during the bidding stage; this increased costs in 35% of the projects.

At the end of 2011, the UK government issued a fundamental reassessment of PFI to address widespread concerns, including the off-balance sheet classification of many PFI projects and the lack of transparency of future taxpayer liabilities (PFI contracts do not show up as part of the national debt).<sup>40</sup> The review also found that returns to private sector equity investors could be too high relative to the risks they assumed.<sup>41</sup> The UK has since implemented a number of reforms.

### **Why is the U.S. PPP market underdeveloped?**

There are several factors impeding the development of the U.S. PPP market; several of these can be addressed by a centralized PPP Unit.

Currently, there is a patchwork of state laws, regulations, procurement processes and contract terms that lead to inconsistent and fragmented deal flow which discourage private investment.<sup>42</sup> Most states need to pass PPP enabling legislation to authorize and appropriate funds to PPP arrangements; the fiscal rules for traditional procurement are not fully applicable to more complex PPP projects.<sup>43</sup> Lack of financial expertise in state agencies/legislatures and the

---

<sup>39</sup> 6th Annual Meeting of Senior PPP Officials, Capital Budgeting and Procurement Practices, OECD April 2013: Infrastructure UK – A New Approach to Public Private Partnerships, PF2

<sup>40</sup> As of October 2007 the total capital value of PFI contracts signed throughout the UK was £68bn, compared with the commitment of central and local government to pay a further £267bn over the lifetime of these contracts [http://en.wikipedia.org/wiki/Private\\_finance\\_initiative](http://en.wikipedia.org/wiki/Private_finance_initiative)

<sup>41</sup> [http://en.wikipedia.org/wiki/Private\\_finance\\_initiative](http://en.wikipedia.org/wiki/Private_finance_initiative) and <http://anotherangryvoice.blogspot.com/2011/07/uk-government-procurement-waste.html>

<sup>42</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>43</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

inability to prioritize or set policy also represent bottlenecks to a developing PPP market.<sup>44</sup> As important, there is a need for better coordination across states to disseminate PPP-related information. Virginia, California and Michigan are among a handful of states that are implementing positive approaches.<sup>45</sup>

The lack of a consistent, regular deal flow also inhibits institutional investors from incurring the costs of building up their staffs and infrastructure expertise in order to evaluate a patchwork of projects. Moreover, institutional investors typically have a preference for investing in ‘brownfield’ projects that allow them to enter at the operational phase and to start receiving steady cash flows, as distinct from start-up or ‘greenfield’ projects that are in the construction phase, and which pose risks of cost overruns or technical difficulties; the preference for brownfield projects limits the participation of insurance companies and pension funds.<sup>46</sup>

In principle, pension funds and insurance companies should find infrastructure investment attractive. Relatively high barriers to entry coupled with inelastic demand mean stable cash flows; the quality of the payers of the cash flows is usually high<sup>47</sup>, and the investor may have recourse to the physical asset.<sup>48</sup> In addition, infrastructure assets have low correlations with traditional asset classes, which aids in optimizing the risk-return trade off that is part of strategic asset allocation.<sup>49</sup> Most importantly, longer term asset lives and cash flows better match pension fund liability profiles. However, one of the primary vehicles for infrastructure investment in the U.S. consists of various types of dated funds, i.e. funds with a specific time horizon or maturity that can be shorter than the infrastructure’s life; therefore, the investor does not get the benefit of longer term cash flows.<sup>50</sup> Moreover, a dated-fund investment is more closely aligned with volatile private equity investment where pension capital can only participate as small partners, rather than a long term corporate bond, which more closely matches pension fund investment preferences.<sup>51</sup>

---

<sup>44</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>45</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

<sup>46</sup> Infrastructure: an emerging asset class for institutional investors, Initiative for Responsible Investing, Harvard University, October 2012

<sup>47</sup> Infrastructure Needs and Pension Investments: Creating the Perfect Match, OECD Journal: Financial Market Trends, Volume 2011 – Issue 1 ©OECD 2011

<sup>48</sup> An Introduction to Infrastructure as an Asset class, UBS

<sup>49</sup> An Introduction to Infrastructure as an Asset class, UBS

<sup>50</sup> Infrastructure Needs and Pension Investments: Creating the Perfect Match, OECD Journal: Financial Market Trends, Volume 2011 – Issue 1 ©OECD 2011

<sup>51</sup> Infrastructure Needs and Pension Investments: Creating the Perfect Match, OECD Journal: Financial Market Trends, Volume 2011 – Issue 1 ©OECD 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

Appendix

Contents:

**Synopsis** 13

Examples of problems to avoid in PPP projects and centralized PPP Units

Examples of successful or innovative centralized PPP units

Successful projects

**Additional detail**

Examples of problems to avoid in PPP projects and centralized PPP Units 14

Examples of successful or innovative centralized PPP units 16

Successful projects 17

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

**Synopsis**

Examples of problems to avoid in PPP projects and centralized PPP Units

**Orange County SR91 Express Lanes (CA)**

- An inflexible non-compete clause in the contract can prevent the public authority from building a substitute to the PPP infrastructure even when in the public interest.

**Dulles Greenway (DC)**

- Not laying the proper groundwork for imposing tolls, underestimating demand, and a contract that is too flexible in terms of allowing the public authority to invest in a substitute can adversely affect the private partner.

**UK Private Finance Initiative (PFI)**

- Allowing PPP project capital costs to go off budget understates future taxpayer liability. Inappropriate risk allocation and poor upfront planning can lead to contract renegotiations that raise costs. Excess returns can accrue to the private firm relative to their assumed risks.

Examples of successful or innovative centralized PPP units

**Partnerships Victoria (Australia)**

- This state-level PPP unit focuses on appropriate risk transfer to the private sector, increased competition in PPP bidding, and on conducting procurement analysis early in the project planning process.

**Office for Public Private Partnerships (Michigan)**

- Employed an innovative financing structure so that it would be self-sustaining, by including its expenses in PPP closing costs; by not depending on state general funds it could enhance its performance and accountability.

**Infrastructure Ontario (Canada)**

- A government agency, but operating at arm's length from the government, it was able to increase pension fund investment in PPP projects by effectively communicating with the pension sector.

Successful projects

**Chile Road Concession Program – Concessions System**

- Key success factors included a transparent procurement process and effective communication to prepare the public for a “toll culture”; out of 21 road concessions

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

granted, only one triggered a minimum revenue guarantee because of lower than projected volume.

**JFK Airport International Terminal**

- Competitive solicitation involving an international consortia that designed, financed, built and operated the facility relieved the Port Authority’s short run debt capacity limits. The private sector received income from terminal operations that it used for lease payments to the Port Authority.

**Kicking Horse Canyon Phase II (BC, Canada)**

- The foundation of the PPP arrangement was a performance-based agreement that allowed the government to properly monitor all aspects of design, construction, maintenance and other key elements.

**Port of Galveston Cruise Terminal Development**

- Represented first time a PPP used for a port project in Texas. Agreement allowed Port to hold operating profits for future investment in other expansion projects. Short term bridge loans from the private partners were used to fast track construction until the Port issued federally tax exempt bonds. Debt was supported by careful cash flow analysis.

**Additional detail**

Examples of problems to avoid in PPP projects and centralized PPP Units

**Engel, Eduardo Ronald Fisher and Alexander Galetovic, “Public Private Partnerships to Revamp U.S. Infrastructure”, the Hamilton Project, February 2011**

[G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Eduardo Engel\\_PPP to Revamp US Infrastructure, Hamilton Project\\_Feb 2011.pdf](G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Eduardo Engel_PPP to Revamp US Infrastructure, Hamilton Project_Feb 2011.pdf)

**Orange County SR91 Express Lanes (CA)**

A potential risk facing a PPP arrangement between a procuring agency and a private firm is that the contract between the public and private parties is suboptimal in some fashion, for example containing ill defined or inflexible terms, such as a binding non-compete clause. In 1995 the California Department of Transportation (CALtrans) contracted a 4-lane, 10-mile segment of SR91 between the Orange County-Riverside County line to a private firm, California Private Transportation Corporation (CPTC) for 35 years. Commuters used these tolled express lanes to avoid congestion in the non-tolled, public lanes. CPTC had flexibility to raise tolls to relieve congestion. By the late 1990s peak-time volume was nearly congested CPTC enjoyed a large revenue stream. At the same time, congestion was severe on the non-tolled public lanes and expansion was called for; however this was precluded by the contract’s non-compete clause.

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

After several years of negotiations the California legislature gave the Orange County Transportation Authority (OCTA) authority to purchase the toll road and collect tolls (page 12).

**Dulles Greenway (DC)**

A contract may be suboptimal because it is too flexible. In the late 1980s an investor group believed that a toll road linking Dulles International Airport with Leesburg Virginia would be profitable because projected residential and commercial growth in the area was expected to increase congestion on nearby arterial roads. The investors financed about 10% of the project with equity and 90% by issuing privately placed taxable debt to be repaid with future toll revenue; the road opened in 1996. Commuters exhibited a strong aversion to paying tolls, however, and actual traffic volume was far below projections. At the same time, the Commonwealth of Virginia widened a nearby alternative public route. Toll rates were lowered to increase usage, bond terms were renegotiated and some investors wrote off their equity. After refinancing (and extending the franchise term the project became financially viable (page 13).

**6<sup>th</sup> Annual Meeting of Senior PPP Officials, Capital Budgeting and Procurement Practices, OECD April 2013: Infrastructure UK – A New Approach to Public Private Partnerships, PF2**

[G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\OECD 6th Ann Meeting PPP Officials Infrastructure UK\\_Apr 2013.pdf](G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\OECD 6th Ann Meeting PPP Officials Infrastructure UK_Apr 2013.pdf)

**UK Private Finance Initiative (PFI)**

Public Finance Initiative (PFI) is a procurement method using private sector capacity and public resources to deliver public sector infrastructure, utilizing PPP arrangements. As of 2009, 600 PPP projects were operational across diverse infrastructure sectors such as transportation, education, and defense. The motivation for introducing PPPs appears largely to have been to have a source of off-budget public investment; only 23% of capital costs associated with operational projects appeared on the government balance sheet (this also helped government comply with terms of the Treaty of Maastricht). There was also a tendency to renegotiate contracts during the construction phase to re-institute project requirements that had been dropped during the bidding stage, which increased costs in 35% of the projects.

At the end of 2011, the UK government issued a fundamental reassessment of PFI to address widespread concerns with the program, including the off-balance sheet classification of many PFI projects and the related lack of transparency of future liabilities to the tax payer (PFI

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

contracts do not show up as part of the national debt).<sup>52</sup> The review also found that returns to equity investors could be too high relative to their assumed risks, partly because taxpayers had no right to share in the gains from project refinancing.<sup>53</sup>

Examples of successful or innovative centralized PPP units

**Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011**

[G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Istrate, Emilia\\_Moving Forward on PPPs Brookings Rockefeller\\_Dec 2011.pdf](G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Istrate, Emilia_Moving Forward on PPPs Brookings Rockefeller_Dec 2011.pdf)

**Partnerships Victoria (Australia)**

Australia has a Federalist system of PPP units. At the national level Infrastructure Australia was created in 2008, it is not primarily focused on PPPs but on the larger infrastructure system; however, it created a national PPP policy framework and national standards for PPPs in late 2008. Partnerships Victoria was one of the first sub-national PPP units, created in 2000. With the UK PFI experience in mind, Partnerships Victoria was established with the goals of better infrastructure delivery, improved financing options for the government and more private competition for PPP bids. The focus was on appropriate risk transfer to the private sector rather than moving projects off the state’s budget. The state PPP unit created a policy framework for state agencies to follow and provides guidance on the procurement process, including the state’s risk position; there must be a procurement analysis done early in the project planning process that considers alternative project delivery methods. Due to its successful operation Partnerships Victoria became a model for other state PPP units (page 11).

**Office for Public Private Partnerships (Michigan)**

Similar to international PPP units, the state-level organization was set up in 2008 to help state agencies procure projects across all infrastructure sectors, in recognition of the fact that the state had to build capacity to handle PPP projects. It is located in the state’s Treasury department, and affects policies and best practices for PPP management. The office was set up with the goal of becoming self sustaining, by including its expenses in the closing costs of PPP projects; as

---

<sup>52</sup> As of October 2007 the total capital value of PFI contracts signed throughout the UK was £68bn, compared with the commitment of central and local government to pay a further £267bn over the lifetime of these contracts [http://en.wikipedia.org/wiki/Private\\_finance\\_initiative](http://en.wikipedia.org/wiki/Private_finance_initiative)

<sup>53</sup> [http://en.wikipedia.org/wiki/Private\\_finance\\_initiative](http://en.wikipedia.org/wiki/Private_finance_initiative) and <http://anotherangryvoice.blogspot.com/2011/07/uk-government-procurement-waste.html>

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

reported in 2011, until it has operational projects it is funded through a loan from the Michigan Economic Development Corporation. The purpose of this arrangement is so that the unit does not depend on state general funds show performance and accountability.

**Infrastructure Needs and Pension Investments: Creating the Perfect Match, OECD Journal: Financial Market Trends, Volume 2011 – Issue 1 ©OECD 2011**

[G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Infrastructure needs and pension investment OECD Journal Financial market Trends\\_2011.pdf](G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Infrastructure needs and pension investment OECD Journal Financial market Trends_2011.pdf)

**Infrastructure Ontario (Canada)**

Infrastructure Ontario was created in 2005, in part to improve communication between the public sector and the pension and insurance sector, to facilitate better cooperation between the sectors. It is a government organization (“crown agency”) but operates at arm’s length from the government, and is modeled on the UK PPP approach. Infrastructure Ontario allows consortia to bid on highly detailed, fixed price contracts, transfers virtually all risks to the consortia and allows it to raise capital (usually 90% debt, 10% equity); the consortia is paid an annual service payment for the next 30 years or so. Although pension funds usually look for higher than the 11% return typical of these projects, a growing number of private and public pension funds have been investing in these projects over the last year (reported in December 2011). This has been largely because Infrastructure Ontario has been communicating effectively with the pension/insurance sector. PPP Canada, the country’s federal-level PPP unit was created in 2008, choosing its institutional structure based in part on Infrastructure Ontario’s example; it is a crown agency owned by the government but functions as a business.<sup>54</sup>

Successful projects

**Successes and Failures of PPP Projects, World Bank, Europe and Central Asia Region, June 2008**

<G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Success and failures of World Bank 2008.pptx>

**Chile Road Concession Program – Concessions System**

Between 1993 and 2001 Chile awarded 21 road concessions worth \$5 billion on a competitive basis. 27 consortia and more than 40 Chilean and foreign companies participated in the bidding

---

<sup>54</sup> Istrate, Emilia and Robert Puentes, “Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units”, Brookings-Rockefeller Project on State and Metropolitan Innovation, December 2011

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

(bidding started with smaller projects to test the market and reduce risk to the private sector). The program was viewed as transparent and competitive; only one minimum revenue guarantee was triggered. Surveys of users, local and national government officials ranked Concessions System 6 on a 1-7 scale. Key success factors included having a transparent procurement process and effective communication with the public (to creating a ‘tolling culture’). In addition, the Government learned and made adjustments as the program developed.

**Testing Tradition – Assessing the Added Value of Public-Private Partnerships, the National Council for Public Private Partnerships, © 2012**

<G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\Assessing PPP Value Natl PPP Council 2012.pdf>

**JFK Airport International Terminal**

When capital improvements were necessary to enhance and expand the international terminal at New York’s JFK Airport, the Port Authority of New York and New Jersey had limited debt capacity to finance the improvements. A PPP allowed for concurrent operation of the old facility and construction of the improvements, which otherwise would have encountered significant delays and logistical challenges.

Following a competitive solicitation involving international consortia of private developers, operators, and financiers, a private company entered into a 28-year lease with the Port Authority. The arrangement allowed private partners to design, finance, build, operate, and manage the facility. Project debt was secured by the private sector, while the private partner received income from terminal operations (gate fees and retail activity), which it could use for lease payments to the Port Authority. Value added by construction of the new terminal included additional passenger arrival capacity, a retail concourse, and profit during construction of the terminal (the old terminal operated continuously and profitably during construction of the new terminal).

The \$1.4-billion terminal, which opened in May 2001, was financed with tax-exempt special project debt, public investment and private equity; the new terminal opened at 90% occupancy and has generated income since inception.<sup>55</sup>

**Key Performance Indicators in Public Private Partnerships, A state-of-the Practice Report, sponsored by U.S. DOT Federal Highway Administration, in cooperation with American**

---

<sup>55</sup> <http://www.ncppp.org/resources/case-studies/transportation-infrastructure/international-air-terminal-4-at-john-f-kennedy-airport/>

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

**Association of State Highways and National Cooperative Highway research program,  
March 2011**

<G:\EconPol\Policy Coordination\Infrastructure\Literature\PPP conference\US DOT PPP performance summary March 2011.pdf>

**Kicking Horse Canyon Phase II (BC, Canada)**

The Kicking Horse Canyon Phase II project is located in Golden, British Columbia, Canada. This phase of the project involved the design, construction, and financing of 5.8 km (3.6 mi) of highway and the replacement of the Park Bridge. It also included a subcontracted agreement for HTMC Services Inc. to maintain, operate, and rehabilitate the entire project (phases I, II, and III), a total of 26 km (16.1 mi) of highway, for 25 years. The cost of Phase II is CA \$143 million.

The PPP agreement between the British Columbia Ministry of Transportation and the Trans-Park Highway Group is a performance-based agreement used to govern the phases of design, construction, maintenance, and operations. The foundation of this system is the proper monitoring of performance, which for Kicking Horse Canyon was done by the province of British Columbia represented by the British Columbia Ministry of Transportation. The ministry monitored all aspects of the design, construction, completion, commissioning, testing, and maintenance of the works through inspections, testing, surveys, certifications, and review.

**The National Council for Public Private Partnerships**

<http://www.ncppp.org/resources/case-studies/transportation-infrastructure/port-of-galveston-cruise-terminal-development/>

**Port of Galveston Cruise Terminal Development**

To meet the growing demand for cruise ship capacity and to rapidly capitalize on the economic benefits to the local and state economy and tax base (calculated at \$10 million in direct economic impact on the Galveston community and \$15 million in indirect impact per year-round operation of one cruise ship). The Port of Galveston formed a PPP with Royal Caribbean, Carnival and CH2M HILL in 2002 to expand cruise ship service and facilities. This was the first time a PPP was used for a port project in Texas. The formation of the PPP involved creating a “third party” legal entity to hold the cruise line contracts and the lease with the Port (and would allow operating profits to be held by the Port for future investment in other expansion projects).

The private sector provided up-front investment in exchange for commercial terms regarding return on its investment. The public sector conserved its capital funds, while receiving increased revenues from growth in related employment and commercial revenues. The contract, financing

Public Private Partnerships – Benefits and Risk Factors  
Affecting the U.S. PPP Market  
U.S. Department of the Treasury  
Office of Economic Policy  
October 2013

---

structure, and partnering concepts used to deliver the project was unique in the U.S. cruise market. Design-build delivery was used on the project to provide singular responsibility for administration, design/construction quality, time savings, and early knowledge of guaranteed construction costs for bonding. The project provided for a fixed-price contract with bridge loan terms to allow fast-track construction until a bond could be issued by the Port. Short-term cash to provide facilities for the first cruise ship was provided through negotiated bridge loans from Royal Caribbean and Carnival. Long-term financing for completing cruise facilities was provided through creation of the Galveston Port Facilities Corp., which could issue bonds paying interest exempt from federal income taxes. All debt was supported by carefully analyzed cash flows from cruise line contracts. The success of the PPP has helped the Port continue its phenomenal growth, accrue benefits to the local and state economy, and take a leadership position in the cruise industry.